Using Customer Behavior Analytics to Increase Revenue

A Start to Finish Guide
Customer behavior analytics maximizes the value of customer relationships by identifying actionable insights that drive valuable outcomes. Whether to acquire new customers, better engage or retain existing ones or increase loyalty, customer behavior analytics is the fundamental core to make those initiatives successful.
The Opportunity

The 2016 Deloitte study, "Navigating the New Digital Divide", examined the impact of the digital age on customer behavior and found three very revealing insights:

- The use of digital as an influence factor in shopping is increasing worldwide, and has reached 49 percent in the United States
- Consumers who use social media to shop convert at a significantly higher rate than non-users — a 26 to 33 percent increase in conversion in mature markets
- Consumers who use Buy Online, Pick Up in Store (BOPUS) are more than twice as likely to spend more than non-BOPUS shoppers

The digital age has dramatically changed customer behavior and presents many new opportunities for organizations to engage with their customers.

Source: Deloitte Navigating the New Digital Divide (2016)
Defining Customer Behavior Analytics

Customer behavior analytics is about understanding what your customers do and how they act across each channel and interaction point — digital or non-digital. A deep grasp of customer behavior enables your organization to better identify a specific audience for the right message at the most opportune time.

Given a detailed customer behavior model, your organization can make your marketing, sales and services more effective and profitable by:

- Targeting and acquiring customers with specific profiles that will respond positively to your messages and incentives, and will have high lifetime value
- Creating the right personalized offers at the most opportune time to increase the existing customer purchase rate
- Identifying customers who may churn and creating the right incentives to retain them, increasing their lifetime value
- Delivering the right rewards programs and incentives to increase the loyalty of customers and gain greater wallet-share

Not only can customer behavior analytics drive more revenue, but it will also increase your competitiveness in the market as you vie with other organizations for customer wallet-share.

The Role of Customer Behavior Analytics

Customer behavior is the centerpiece of a good customer analytics program. A strong program will perform three critical items:

- Identify specific patterns of how customers act
- Isolate common characteristics of customers who follow different patterns and segments
- Classify customers into these groups — customer segmentation

The behavior patterns, segments and customer segmentation is then used by a number of downstream analytics in specific business units, as seen in Figure 1:

- Customer acquisition: Marketing will use behavior analytics to target prospects from high-value segments and study behavior patterns to determine the best potential offers
- Customer engagement: The behavior patterns will be used to generate personalized next-best, cross-sell and up-sell offers, while segments and customer segmentation will be used for more general customer marketing offers
• Customer retention: The behavior patterns will be used to detect possible customer churn and generate next-best retention offers

Critical Aspects of Customer Behavior Models

To date, most organizations have used the Recency, Frequency and Monetary value (RFM) model for understanding customer behavior. This model uses the following assumptions:

• Customers who have spent at a business recently are more likely than others to spend again
• Customers who spend more frequently at a business are more likely than others to spend again
• Customers who have spent a higher amount at a business are more likely than others to spend again

When all you have is purchase data, RFM is a good behavior model with which to start. However, in the new digital age with all this big data, RFM becomes far less accurate than other methods.

In addition, RFM models suffer from two other issues:

(a) It only describes what a customer has done in the past with no predictability for the future
(b) RFM only examines specific points in time and does not take into account other interaction dimensions

A holistic customer behavior model that analyzes all interactions over time along with outcomes is far more accurate and predictable.
Customer behavior analytics should incorporate the following key best practices:

- Use as much of your interaction data as possible from every channel to derive a complete view on customers, their interactions and behavior
- Examine detailed, actual behavior data (versus aggregated data which can hide important aspects of individuals) and segment customers to address individual customers
- Analyze customers as they move between segments over time, which can provide a more holistic view as customers move through their lifecycle
- Model the customer lifetime value of each customer and use that data to drive specific actions, rather than projections for the next transaction
- Generate the specific next-best marketing actions for each customer, making decisions based on the long-term value of that customer
- Use machine learning to continuously improve customer marketing approaches in ways analysts may not identify during data discovery

This more holistic approach to customer behavior analytics will deliver more accurate and actionable results. It is big data analytics that allows organizations to get to this level of depth and personalization.

**How a Modern BI Platform Helps**

Modern BI platforms like Datameer are designed to help you understand your customers and their journey more precisely. By adding more data to your analysis and using increasingly sophisticated techniques to analyze it, modern BI gives you a more diagnostic and predictive examination of customer attributes and behavior so you can better align your actions to customer needs.

Datameer’s self-service platform allows your organization to dig deeper into customers and what makes them tick, with three important benefits:

- **Answer new questions** – Datameer helps you integrate and use more data, whether structured or unstructured, and makes it easy to apply advanced analytics to find undiscovered patterns and trends. Through this, Datameer allows your team to answer the deeper behavioral questions that lead to highly actionable customer insights.

- **Deliver more results** – Customer analytics is a deep discipline, covering many different departments and areas of the business. Datameer dramatically increases the productivity of your business analysts so they can deliver results for the many customer analytics use cases.

- **Put your insights to work** – Insights aren’t valuable to the business unless they reach the business teams that need them on a regular basis. Datameer makes it easy to operationalize your analytics, execute them regularly, deliver results to the business teams and continuously improve the processes.
Datameer takes your customer analytics to an entirely different level. The analytical results can reveal totally new patterns and insights you never knew existed — and aren’t even conceivable with traditional analytics. The possibilities are endless.

Creating Customer Behavior Analytics in Datameer

Datameer makes it easy to answer the deeper questions you have about customer behavior and put those new insights to work with your marketing, sales and services teams. Here are the seven steps to how you can create customer behavior analytics with Datameer.

1. Gather the Data

The digital era supplies us more data about interactions with and behavior of customers. The long list of new digital data sources includes:

- Websites or e-commerce sites
- Mobile sites or applications
- Kiosks, ATMs or other automated devices
- Loyalty program applications
- Call center interactions
- Internet advertising
- Social media
- Email campaigns
- Third-party demographics
- Offer redemption

In addition, you likely have existing analytic data about purchases and other customer behavior in your data warehouse.

The first step is to identify and audit the sources for this data, and bring it into the big data analytics platform. The more data you can gather about your customers, the greater the accuracy and depth you will gain from those insights.

Datameer allows you to work with the tremendous volume of data, and easily synthesize and integrate it across the varying formats from these sources — structured, semi-structured or unstructured from applications, databases, files and other sources.

2. Ensure Privacy & Security

It is essential to ensure the privacy and security of customer Personally Identifiable Information (PII) and other sensitive information such as credit card data. This is not only important to ensure you have the trust of your customers, but also to comply with regulations that mandate customer data be properly secured.
Where needed, sensitive data should be encrypted, both in-flight (sent into and out of the analytic platform) and while at-rest (inside the analytic platform). Sensitive fields should also be masked (obfuscated) while being used by analysts. Lastly, role-based security should be applied to the customer data and analytic worksheets to ensure access is only allowed by the proper personnel.

Datameer provides all the critical encryption, masking and security features you need to ensure customer data remains private and secure.

3. Prepare Your Data

Once you have gathered your raw data, the next steps are to prepare the data for analysis. Preparation involves standard tasks including cleaning and transforming the data as needed, then organizing it in a meaningful way for your analysis.

There are different ways to organize the data based on the type of data and analysis:

- Sessionization for web or clickstream data
- Time windowing for time-series analysis
- Path generation to examine sequences of events
- Statistical grouping to bin by arithmetic functions

Datameer provides instantaneous data profiling with Flipside™ and a number of built-in functions so you can easily cleanse, transform and organize data as needed for customer behavior analytics.

4. Rapidly Discover Answers From Data

While you may know the general topic you want to explore, such as behavior, the detailed questions you want to ask and certainly the answers you are looking for may not be obvious. This is where data exploration and discovery come into play.

Data discovery is an iterative process where you integrate and prepare data, analyze it by looking for patterns and trends, visualize the results and then examine it more. Once you see certain results, you may decide to apply more data, organize the data differently, or apply different analytic functions, iterating through various steps in the process until you find the answers you want.

Datameer provides the ideal, fluid data discovery process to speed your path to finding answers. Instead of the linear process offered by other platforms, Datameer allows you to interactively work with any step in the analytic process, make adjustments and immediately see downstream results in your analysis.
5. Apply Advanced Analytics

Identifying the key customer behavior patterns and trends inside voluminous big data is challenging. It typically will involve applying advanced analytic functions and algorithms to identify the signal from the noise.

Customer behavior will take on various forms depending upon the outcome you are examining, and requires advanced techniques such as:

- Time series analysis to identify key purchase patterns
- Path analytics to ascertain customer purchase paths
- Text analytics to determine sentiment
- Clustering to determine segmentation attributes
- Decision trees and dependencies to map influences to outcomes
- Recommendations to identify ways to increase purchases

Datameer provides simple, point-and-click operations for these more advanced analytic techniques, making it easy to incorporate them in your customer behavior models.

6. Collaborate with Other Analysts

Customer behavior analytics is a cross-department discipline, covering different groups in marketing, sales and customer service. Each department has analysts with subject matter expertise on their domain, datasets and customer behavior inside their channel.

It’s critical for customer behavior analytics to be a collaborative effort. The process should tap into the skills and knowledge across this virtual team, with data and worksheets (containing models) shared as appropriate with the virtual team. Team members must have the ability to extend the analytics as appropriate to their specific customer interaction channel.

Datameer enables collaboration by allowing analytic components to be shared between analysts in varying modes, with full security. Analysts can collaborate directly on analytics, or downstream analysts can link to models in read-only mode and create derivatives for their domain, maintaining the integrity of the core model. Datameer tracks full lineage so the calculations remain consistent, and regulatory compliance is maintained.

7. Operationalize the Results

The last critical step for your customer behavior analytics is operationalizing the results — putting them to work in the departments and business units. This step is essential to drive appropriate actions — automated or in person — and generate the business Return On Investment (ROI).
There are three essential ingredients to operationalizing customer behavior analytics:

- **Mapping behavior to actions**: Mapping behavior to actions is critical to operationalizing the analytics. Actions can be specific types of outreach or offers. Perform these actions as a final stage in the analytic process, or in downstream applications that are fed results — marketing automation, CRM, call center, etc.

- **Integration with operational applications**: To facilitate the actions as outlined above, the analytic results need to be delivered to downstream applications or business teams. This requires the analytic platform to integrate with the business applications, and with local visualization tools used by the business teams.

- **Intelligent job execution**: Customer behavior analytics needs to be executed regularly — weekly, daily or even as data changes — to look for specific behavior with the customers and determine next actions to take. This requires a job execution engine that can scale to the voluminous amount of data and analytic number crunching, as well as have flexible job execution parameters.

To meet these needs, Datameer offers easy integration with downstream applications, business process tools, and visualization platforms including Salesforce.com, Marketo, Tableau and PowerBI and a powerful Smart Execution™ platform that intelligently executes analytic jobs.
Use Cases

Using Behavior Analytics to Increase Customer Lifetime Value

Surfdome, a leading European specialty retailer, needed to fuel growth through targeted marketing, customer cross-selling and higher repeat purchases. They had a large volume of data about their products, customers, transactions and purchases in different silos, and needed to bring this data together to gain deeper insights.

The company used Datameer to integrate their data, and then analyze it to identify deeper customer segmentation and customer behavior. Surfdome used the analytic results to drive highly targeted marketing to acquire new customers, offer cross-sell offers in the purchase funnel and use customer marketing offers to spur additional purchases.

Results: Surfdome boosted their customer acquisition rates by targeting the most valuable segments, raised the average purchase size through improved cross-sell offers and increased the average lifetime value of customers through greater customer loyalty and repeat purchases.

Using Behavior Analytics to Reduce Customer Churn

A leading financial services retirement planning firm wanted to reduce customer churn, particularly among clients who were approaching retirement age. In order to do so, the firm wanted to better understand their customers’ behavior to identify warning signs so they could then launch customer retention programs.

The company had a lot of data, but it was fragmented and spread across their CRM platform, website, call center, customer profiles and other places. Using Datameer, the firm compiled all of this data and then identified behaviors that indicated which particular customers were more likely to leave. The firm found that clients that exhibited a combination of the following behavior were more likely to leave:

- Called in with a financial advisor or other party on the line
- Changed their addresses
- Moved to a new employer
- Browsed the company website looking for forms

Results: The firm reduced churn by 50 percent, increasing the lifetime value of their customers and regaining lost revenue.
Next Steps

Customer behavior analytics using big data helps drive business value to many parts of your organization, helping improve existing processes and create new strategies. Big data analytics can discover key insights, as well as new opportunities.

Getting your big data customer analytics initiative off the ground requires buy-in from many parts of the organization and alignment from the four key stakeholders — management, the business teams, analysts and IT. Examine the impact of following metric improvements to start calculating the value of big data customer behavior analytics:

- Higher customer acquisition rates at a lower cost of acquisition
- Higher average purchase sizes from cross-sells and up-sells
- More frequent purchases from customers
- Higher customer lifetime value
- Saved revenue from customer retention

The Datameer eBook, *Defining the Value of Big Data Customer Analytics* provides a guide and template to build your business case for customer behavior analytics and an entire suite of customer analytics for your organization.

To learn more about creating value with big data customer behavior analytics, and how modern BI and Datameer can help you achieve this goal, please visit our website at [www.datameer.com](http://www.datameer.com).