



THE ULTIMATE GUIDE TO CALCULATING MARKETING CAMPAIGN ROI

Unifying customer data is the starting point for building powerful attribution models.



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EXECUTIVE SUMMARY

Marketing attribution is key to determining how various channels, messages, and offers impact customers' decisions. Successful ROI measurement can result in optimized marketing spend, higher conversion rates, improved personalization, optimized creative assets, and improved product development.

The more customer data you have, the more powerful and precise your attribution models can be—and the more ROI you can drive from them. In this ebook, you will learn how to calculate the ROI of your marketing campaigns by harnessing attribution models and mastering three phases of a successful attribution implementation:

- Eliminating data silos and unifying customer data
- Activating data science to maximize ROI
- Fostering cross-functional collaboration



WHY ADVANCED MARKETING ATTRIBUTION IS WORTH THE INVESTMENT

How can marketers determine which tactics contribute to sales or conversions and the size of the contribution? The answer is marketing attribution, the systematic practice of evaluating how consumers interact with each touchpoint as they move from initial encounter to final purchase. By determining the impact that various channels, messages, and offers have on customers' decisions, marketers can optimize future campaigns.

Here are the five core benefits of marketing attribution:

- **Optimized marketing spend:** Attribution models provide granular insight into how marketing dollars are best spent by showing how each touchpoint performs with various audience segments. This enables marketers to reduce their customer acquisition costs.
- **Higher conversion rates:** By optimizing their strategy based on insights from attribution models, marketers can improve the performance of their campaigns, leading to more conversions and revenue.
- **Improved personalization:** Attribution models help marketers understand which messages and channels are most effective at reaching audience segments at each point in the customer journey. For example, they can differentiate the messaging for an apparel retailer's trendsetters segment (made up of people who buy popular products at full price early in the retail cycle) and bargain shoppers, who wait for end-of-season clearances and sales.

- **Optimized creative:** By showing digital marketing teams how different versions of creative assets (for example, the copy or image in a display ad) perform in A/B testing, marketers can select the version that drives the best results with each audience.
- **Improved product development:** Insights from attribution models can also inform product development. For example, they can be used to optimize the first-time user experience for each touchpoint.

More customer data makes your attribution models more powerful and precise, which drives increased ROI. But this is contingent on having a comprehensive data strategy that starts with establishing a single source of truth for customer data. Today, many marketing organizations store their CRM data, clickstream data, paid media data, email and mobile app data, campaign performance data, and other data sets in separate silos, which makes it difficult to obtain the holistic view of customers that sophisticated attribution modeling requires.

A recent report from 451 Research found that 39% of organizations that identified as being "highly data-driven" had more than 50 data silos¹ —a staggering number. The problem of data silos is poised to get even worse in many organizations due to media fragmentation and the ever-increasing number of touchpoints across the customer journey.

Organizational silos can also be a hurdle when it comes to building a data culture. Marketing teams are often sealed off from engineering and IT departments, interacting only when they have a request for a specific feature or report. They don't collaborate on an ongoing basis.



UNDERSTANDING MARKETING ATTRIBUTION MODELS

Marketing organizations use a variety of models to assign credit for sales or conversions to each touchpoint on the customer journey, though finance teams are sometimes skeptical about the accuracy of these methods. According to a 2019 McKinsey survey, 45% of CFOs said they had rejected or declined to fully fund marketing proposals because they hadn't shown a clear line to value.²

Here are some of the most common approaches:

- **First-touch attribution:** This model assigns 100% of credit to the first known touchpoint on the customer journey. If a customer saw a Facebook ad and eventually made a website purchase, Facebook would be given all the credit for the sale. This model overemphasizes awareness initiatives that build top-of-funnel demand.
- **Last-touch attribution:** This assigns 100% of credit to the final touch before a sale or conversion. For example, if a prospect downloaded a case study or clicked on a search ad just before opening an account, that would be designated as the last touch and given full credit for the sale. This is the simplest attribution model to run, but it's an oversimplified view of the customer journey.
- **Even spread/linear attribution:** This is the simplest of multi-touch attribution models. It apportions credit evenly for sales and conversions to every known touchpoint. If a prospect saw a programmatic display ad, a search ad, a connected TV ad, and a Facebook ad before converting, each of those channels would be credited 25%. The drawback of this model is that it doesn't account for unknown touchpoints (for example, media outside of the home) or the disproportionate influence one channel might have over other channels.
- **W-shaped model:** This model attempts to give more credit to the most meaningful touches along the customer journey. The first touch, lead creation touch (when the prospect becomes a viable lead), and last touch are each given 30%. The remaining 10% is evenly apportioned between the other touches.
- **Custom multi-touch attribution (MTA) models:** Built by an organization's data scientists, these models require a unified view of customer data and can be the most powerful and accurate of attribution models.



No two customer journeys are the same, and an attribution model that assigns fixed weights to touchpoints won't account for the nuances of how customers learn about your products and services and engage with your brand. Marketers should aim to build custom MTA models that are dynamic and evolve over time, which requires eliminating data silos.

Accomplishing the goal of creating dynamic MTAs isn't easy. The impending deprecation of third-party cookies on Google's Chrome browser³ has serious implications for multi-touch attribution. (By enabling the tracking of consumers from website to website, cookies have historically been the lifeblood of the digital ad ecosystem and many attribution models.) The bottom line is that it will be harder to link touchpoints and assign them to specific individuals in 2022 and beyond. This highlights the importance of bringing together all available customer data in one secure platform to facilitate the most complete view possible of customers and prospects.

Implementing successful marketing attribution can have three phases:

- **Eliminating data silos and unifying customer data**
- **Activating data science to maximize ROI**
- **Fostering cross-functional collaboration**



UNIFY YOUR CUSTOMER DATA

The starting point for consistent analysis and attribution is bringing together siloed customer data, but most organizations still struggle with this. According to a 2019 survey of 200 marketing and customer experience professionals, 39% are unable to unite data across channels like websites and mobile apps.⁴

Data sets from third-party platforms are difficult to join with other customer data for queries, which makes it nearly impossible to have a holistic view of customers and prospects. To run sophisticated attribution models, data scientists need to be able to view and analyze all data pertaining to customers and prospects from one central location. If data remains in silos, they can't complete the picture of what happened in the days or weeks leading up to a purchase, let alone attribute the value of each purchase across touchpoints.

Due to the length and complexity of their sales cycle, unifying customer and campaign data is especially important for B2B marketers. The data from all customer touches needs to be in one place to facilitate adjustments while campaigns are running.

In recent years, marketing organizations' solution to the problem of rising data volumes has been to implement a data lake, which can handle huge

amounts of raw data in any format, including JSON weblogs. Deriving insights from that data was more problematic, however. Data scientists often had to rely on aggregated data extracts, and marketing teams couldn't get a real-time view of campaign performance to drive optimization.

Marketers would benefit from moving their customer data to an elastically scalable cloud platform that uses standard SQL for both data ingestion and query activities. It should also natively support unstructured, semi-structured, and structured data in the same system. This infrastructure will support an up-to-date 360-degree view of customers and ensure that teams can access and query data in real time instead of being at the mercy of nightly data loads.

Campaign data shouldn't be used in isolation. To ensure that campaigns are having bottom-line impact, attribution models need to tie that data back to business-centric metrics, such as sales and customer lifetime value. Organizations that fail to do this may end up focusing their attention—and spend—on less profitable customers.



CASE STUDY Why DoorDash Uses Snowflake to Power Its Attribution Model

DoorDash's legacy data architecture could not keep pace with its data-driven culture. Consumer, merchant, and Dasher data were spread across data silos, creating challenges for operational reporting and business decision-making. Resource contention caused by 70,000 dashboard queries and 3,000 ad hoc queries per day led to missed SLAs and stale data. Data modeling was time-consuming and complex.

Realizing the need for a modern data environment, DoorDash turned to Snowflake's platform. Snowflake's multi-cluster shared data architecture scaled to handle all of DoorDash's data, users, and workloads with speeds twice as fast as before. ETL jobs finished 23% faster, enabling the BI team to meet its reporting SLAs 99.7% of the time. Snowflake's fully managed infrastructure with near-infinite scalability kept the team focused on data analytics and modeling.

"Snowflake's elasticity keeps us on track no matter what life brings," said Marta Vovchenko, DoorDash's Director of Business Intelligence.

DoorDash's marketing attribution model, powered by Snowflake, analyzes advertising data from Facebook, Google, and other platforms to optimize campaigns and budgets. Meanwhile, machine learning algorithms use data stored in Snowflake to make personalized product recommendations to customers at scale.



ACTIVATE DATA SCIENCE TO MAXIMIZE YOUR DATA PLATFORM'S ROI

After marketing organizations have unified their data, they need to ensure it's accessible and actionable.

The first step is to clean the data by normalizing data fields, such as addresses. From there, organizations can inject third-party data to enhance their view of customers and prospects. For example, a retailer might have a customer's email address, browsing history on their own website, and purchase history, but it wouldn't know what other sites they browse, the kind of music they like, or the other brands they regularly purchase. By appending third-party data from data brokers, identity solutions providers, and data exchanges to their first-party customer data, their view of the customer can be more robust.

Since these raw data sets will be difficult for most users in their organization to work with, the next step is providing well-documented, high-quality, and easily accessible versions that everyone can query. This single source of truth will enable marketing, data science, IT, and engineering teams to access and query the same data and have a common understanding.

To create consistency across business intelligence and machine learning use cases, organizations should also implement a feature store. This ensures that features such as customer lifetime value are calculated the same way for every query. After features have been defined and calculated centrally, they become the single source of truth that's referenced in all queries and reporting.

Taking these steps helps to unlock granular, audience-level insights required for custom attribution models, such as average touches on a website before purchase, average purchase value by channel, and return on ad spend (ROAS) by channel.



FOSTER CROSS-FUNCTIONAL COLLABORATION

Long gone are the days of a six-month planned cycle for each major marketing initiative. Instead, organizations emphasize agility with tighter integration across data science, IT, and engineering teams. Tight feedback loops between launching campaigns, gathering real-time feedback, and using insights from data science enable organizations to optimize and build better marketing programs, which is only possible when teams work together. The problem is that many marketing teams today still work in isolation, each with their own goals and campaigns.

Ultimately, attribution modeling won't drive significant ROI unless there's meaningful cross-functional collaboration. Data scientists should build the models with significant input from marketing, and then engineers should implement them on websites and other brand touchpoints in close collaboration with data scientists to ensure the right data is being collected and stored. From there, digital marketers can optimize their campaign strategy based on results from those models—but only if cross-functional counterparts have played their role.

Ideally, marketing and data science should also collaborate on the design of new features to inform the product roadmap. For example, those two groups

might hypothesize that a customer's iPhone version is correlated to that customer's wealth. From there, data science would need to work closely with IT and engineering to implement the new analysis and validate its correctness.



NEXT STEPS

By harnessing machine learning to build custom multi-touch attribution models, organizations can optimize their marketing spend, improve conversion rates and personalization, optimize their creative, and build better products. But adoption of MTA has lagged in recent years due to the perceived difficulty of running effective models. The Marketing Attribution Think Tank estimated that in 2019 only 45% of U.S. companies were leveraging multi-touch attribution.⁵

In summary, marketing organizations that are committed to maximizing the ROI of their campaigns through custom attribution models should approach it in three phases:

- 1. Unification of customer data:** Organizations must eliminate silos and consolidate their customer data sets in a single platform.
- 2. Activation of data for advanced analytics:** Organizations must provide clean, merged data sets so that cross-functional stakeholders are working from a single source of truth.
- 3. Ongoing cross-functional collaboration:** Marketing, data science, and engineering teams must work in lockstep to design and build models and leverage the results for campaign optimization.

Having a single unified location for customer data is critical. Without it, multi-touch attribution, advanced personalization, and other machine learning initiatives won't be possible. Creating a 360-degree view of customers has numerous applications and should be a core focus for marketing organizations in 2021 and beyond.





ABOUT SNOWFLAKE

Snowflake delivers the Data Cloud—a global network where thousands of organizations mobilize data with near-unlimited scale, concurrency, and performance. Inside the Data Cloud, organizations unite their siloed data, easily discover and securely share governed data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single and seamless experience across multiple public clouds. Snowflake's platform is the engine that powers and provides access to the Data Cloud, creating a solution for data warehousing, data lakes, data engineering, data science, data application development, and data sharing. Join Snowflake customers, partners, and data providers already taking their businesses to new frontiers in the Data Cloud. **Snowflake.com**



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