

# MARKETING ATTRIBUTION

MODELS, FRAMEWORKS, & METHODOLOGY

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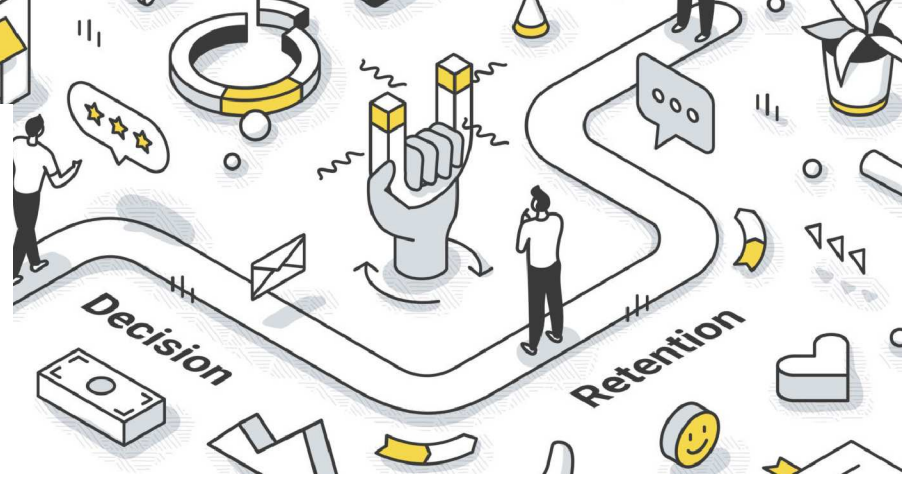
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ABOUT LOCATION3

# MARKETING ATTRIBUTION

## MODELS



Marketing attribution is the process of assigning credit to specific marketing channels and tactics for the conversions they generate. It helps businesses understand which marketing efforts are driving the most value and making the biggest impact on their bottom line. There are several different attribution models that businesses can use to understand the role that each marketing channel plays in the conversion process.

**Some of the most common models include:**



### **First Interaction**

In this model, all value generated with the conversion is attributed to the first touchpoint of the conversion. This model is extreme and favors specific types of campaigns, but it works well in campaigns that work to raise awareness.



### **Linear Attribution**

In this model, the value generated by the conversion is evenly distributed over all campaigns that played a role in the conversion funnel of the customer.

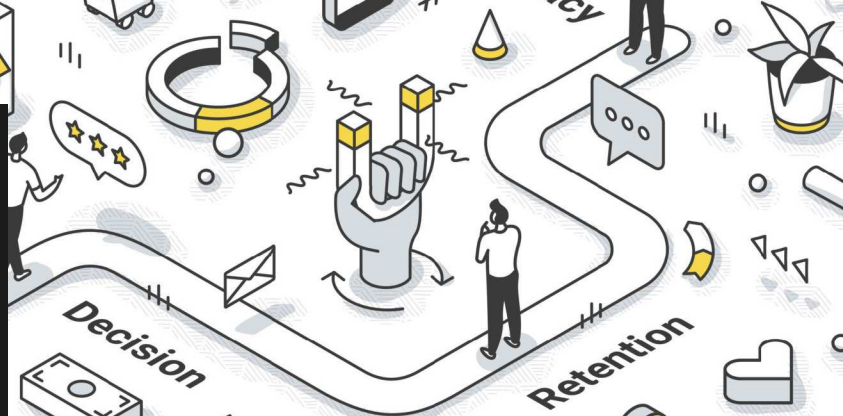


### **Time Decay**

In this model, all touch-points get a share of the conversion value. In addition, the closer a customer is to the conversion moment, the higher the percentage value it will be assigned.

# MARKETING ATTRIBUTION

## MODELS



### U-Shaped

In this model, set percentages are assigned to the first and last touchpoint, while the rest are evenly distributed.



### Last Non-Direct Click

In this model, attribution is used to redistribute the conversion value generated by campaigns that run in a specific period. Direct visits in this model do not have any campaign assigned to them and are instead seen as the baseline segment. However, if a direct visit was their last means of visiting the website before a campaign was a touchpoint, all value should go to the last campaign touchpoint.



### Logistic Regression Model

This data-driven model calculates the probability of conversion to occur and gives the outcome of the probability of conversion for each channel. The Logistic Regression Model is accurate and intuitive, but actionability is low for this model, and the predictive value of results is limited. Data-driven attribution models are much more complex than those listed above, but they provide significant benefit over baseline models when implemented properly. We'll dive deeper into some of the more prominent data-driven models later in this series.

There are pros and cons to each of these attribution models, and the right model for a business will depend on its specific goals and needs. It's important for businesses to experiment with different models and see which one provides the most accurate and actionable insights. Overall, marketing attribution is an important tool for businesses looking to understand the ROI of their marketing efforts and optimize their strategies for maximum impact. By understanding which channels and tactics are driving the most value, businesses can make more informed decisions about where to allocate their resources and how to improve their marketing efforts.

# MARKETING ATTRIBUTION

## BUILDING A FRAMEWORK



One of the biggest questions many marketers face when it comes to attribution is..... where do I begin? While it seems relatively obvious, the first step to developing a successful marketing attribution plan is making sure your business is actually measuring baseline KPIs related to the effectiveness of your current marketing campaigns. Ask yourself these questions first:

1

### Have we set clear goals?

Before you launch any campaign, it's important to have a clear understanding of what you want to achieve (and alignment with your marketing team). Do you want to increase website traffic, generate leads, or boost sales? Setting specific, measurable, achievable, relevant, and time-bound (SMART) goals will help you determine the success of your campaign.

2

### Are we using the right technology and measurement tools?

There are plenty of tools and tech available to help you track the performance of your marketing and advertising programs. While Google Analytics is a powerful and free option that provides insights on website traffic, conversion rates, and basic attribution models mentioned previously, there have been significant advancements in technology that allow you to also integrate data from your CRM, POS, and other sources to give you a more robust view of how customers interact with your brand and business. The last few years have seen significant growth in adoption of customer data platforms by brands and marketers alike. A customer data platform (CDP) is a software system that collects, consolidates, and manages data from various sources, such as website interactions, email communications, and purchase history. The goal of a CDP is to create a unified view of each customer across all channels and touchpoints, which can be used to improve the customer experience and inform marketing and sales strategies. CDPs typically include features such as data integration, identity resolution, and segmentation capabilities, and can be influential in developing your attribution model.

3

### Are we tracking the right baseline metrics?

It's important to track metrics that are directly related to the SMART goals you've previously established. In a simple example, if your goal is to increase website traffic, you might track metrics like page views, unique visitors, and bounce rate. If your goal is to simply generate more qualified customer leads, you might track baseline metrics like digital form submissions and lead conversion rate. Taking it a step further, segmenting simple conversions from actual qualified leads that enter your sales pipeline will start you on the path toward establish clear metrics for KPIs like cost-per-acquisition (CPA) and customer acquisition cost (CAC). Having your most important metrics clearly defined and measured will be critical to the success of your marketing attribution model.

# MARKETING ATTRIBUTION

## CUSTOMER JOURNEYS



Once you've established clear answers to these core questions, you can begin to evaluate which attribution model is likely to prove most beneficial to your marketing strategy and tactics.

When determining which attribution model and framework makes the most sense for your business, it's also critical to give consideration to your prospective customers and their buying journeys. For example, if your business is relatively transactional (i.e., customer conversion is equal to the purchase of a cup of coffee) then a last-click attribution model and framework may be your ideal choice, as we can infer that a large percentage of your marketing budget is focused on lower-funnel tactics designed to engage the customer during an immediate moment of need. However, if your coffee shop has only recently opened its doors in your local market, then a position-based model may make more sense, since we can infer that a good portion of your marketing budget and tactics are also dedicated to driving brand/location awareness to generate upper-funnel customer awareness.

For brands and businesses that feature a much longer customer buying journey, one in which target audiences conduct a lot of research over a longer time period regarding your value prop, cost, competitors, personal preferences and much more, first-click and last-click attribution models do not provide much value. The decision-making processes and customer journeys for purchasing a new car, sending a child or loved one to college, or determining the best option for in-home care are most often very complex and involve a significant number of touch points, information and data prior to any purchase decision being made. In these examples, a data-driven attribution model that leverages machine learning, automation and incredibly large amounts of data will not only provide a window into the complexity of the customer journey but help you identify which marketing tactics and channels are most influential in moving your target audience down the path to conversion.

# MARKETING ATTRIBUTION

## DATA-DRIVEN METHODOLOGY



Our goal is to help you establish a methodology for implementing a data-driven attribution model that makes the most sense for your business, and how to think more broadly about the relationship between data analytics and marketing decision making. At this stage, let's assume that we have already established the following:

- We're tracking the right data and metrics
- Our data is organized and collected using the right tools and technology
- We've established clear goals and corresponding KPIs for measurement

With the above elements in place, it's important to determine your ideal marketing attribution window. A marketing attribution window is a specific period of time during which you assign credit to a particular marketing activity for a desired action or conversion. The attribution window is the time frame in which you identify which marketing channel or touchpoint was most effective in influencing a consumer to take a particular action, such as making a purchase or filling out a lead form. For example, if a consumer clicks on a paid search ad, visits a website, and then makes a purchase, the attribution window is the period during which the marketer assigns credit to the paid search ad for influencing the purchase. The length of the attribution window can vary depending on the marketing channel, the industry, and the specific marketing goal. Related to our previous example, if your business is mostly transactional in nature then a good standard attribution window to begin with is a timeframe of 7 days. Businesses that feature longer customer journeys and lifecycles (i.e., B2B) are likely to require larger attribution windows. Tools like Google Analytics, which features a 30-day "lookback" window as a default setting for conversion analysis, can also help you determine the right attribution window.



# **BUILDING DATA-DRIVEN MODELS**

## **ATTRIBUTION MODELS**

Earlier in this white paper, we introduced some commonly-used attribution models that have been widely tested and implemented with success (*i.e., first-click, last-click, linear, time decay, position-based*). If your business has yet to experiment with marketing attribution in any way, we recommend beginning with one of those before diving deeper into data-driven modeling. At a minimum, you'll be able to identify gaps in data and information that may exist within your organization and determine the steps needed to make sure your data is logged and organized properly to truly power a data-driven attribution model.

For those businesses with significant volumes of historical data and a strong technology infrastructure in place, developing a data-driven attribution model is much more realistic and will ultimately prove more beneficial. Building an in-house, data-driven model is no easy task and requires significant commitment in both time and resources. So where do you begin? There are two methodologies that have produced prominent data-driven models that have been widely adopted in the fields of data science and information measurement.

### ***The Markov (Chain) Model***

The Markov data-driven attribution model (or Markov Chain model) is a method of assigning credit to different marketing channels by using a mathematical algorithm that considers the sequence of touchpoints a user has with a brand before converting. In the Markov model, each touchpoint is considered a state in a sequence, and the probability of moving from one state to the next is calculated based on historical data. The model uses a matrix of transition probabilities, known as a Markov chain, to calculate the credit assigned to each touchpoint.

To illustrate how this model works, let's say a customer sees a Facebook ad, then clicks on a Google search ad, and finally makes a purchase. The Markov model would consider each of these touchpoints as a state, and it would calculate the probability of moving from one state to the next based on historical data. For example, it might find that 30% of people who see a Facebook ad then click on a Google search ad, and 10% of people who click on a Google search ad then make a purchase. Using this information, the model assigns credit to each touchpoint based on how much it contributed to the final conversion event. For example, if the total credit assigned to all touchpoints is 100, the model might assign 25% credit to the Facebook ad, 50% credit to the Google search ad, and 25% credit to the purchase itself.





# **BUILDING DATA-DRIVEN MODELS**

## **ATTRIBUTION MODELS**

### ***The Markov (Chain) Model (continued)***

The advantage of the Markov model is that it takes into account the entire customer journey, rather than just the last touchpoint before a conversion. This can help businesses make better decisions about which marketing channels to invest in and how to optimize their campaigns for maximum impact.

### ***The Shapley Valued-Based Model***

The Shapley value-based data-driven attribution model is a method where credit is assigned to each marketing channel based on the incremental value it adds to the actual conversion event. Named after its creator, Nobel Prize-winning mathematician Lloyd Shapley, this model works by comparing the value of each channel when it is used in combination with other channels, versus when it is used alone.

To illustrate how this model works, let's say that three marketing channels are involved in a customer journey: email marketing, social media advertising, and search engine marketing. The Shapley model would first calculate the value of each channel when used in combination with the other two channels, then compare that to the value of each channel used alone.

For example, the model might find that when all three channels are used together, the conversion rate is 10%. When email marketing and social media advertising are used together, the conversion rate is 6%. When social media advertising and search engine marketing are used together, the conversion rate is 8%. And when email marketing and search engine marketing are used together, the conversion rate is 7%. Finally, when each channel is used alone, the conversion rate is 2% for email marketing, 3% for social media advertising, and 4% for search engine marketing. Based on these calculations, the Shapley model would assign credit to each channel based on its incremental value in the conversion event. In this example, social media advertising would be assigned the most credit, followed by search engine marketing, email marketing, and then any remaining credit would be assigned to interactions that were not attributed to any specific channel.



# BUILDING DATA-DRIVEN MODELS

## ATTRIBUTION MODELS

### ***The Shapley Valued-Based Model (continued)***

The advantage of the Shapley model is that it takes into account the interdependence of marketing channels and the incremental value each channel adds to the conversion event. This can help businesses make better decisions about which marketing channels to invest in and how to optimize their campaigns for maximum impact. However, it can be more computationally intensive than other attribution models, especially when dealing with a large number of marketing channels.

### ***In Summary***

By basic definition, the primary goal of implementing a marketing attribution model is to better understand the buying journey of your customers so that you can better align your marketing strategy and tactics to positively influence that journey and maximize conversion potential. As we know, the customer journey itself continues to grow more complex with time. Depending on your source, the average number of touchpoints in a typical customer journey varies quite a bit. For example, Salesforce says that 6-8 touchpoints is a good average, HubSpot settles on 8 touchpoints as a good benchmark, and data from Google suggests that it may be as many as 20 touchpoints prior to purchasing a candy bar and more than 500 touchpoints for customers purchasing a flight. The important thing to remember is that each touchpoint can make or break a customer experience and a conversion for your business. As a marketer, if you're able to apply the information garnered by proper data collection on how customers are interacting with your paid, earned, or owned media, that information can ultimately be used to turn an interested consumer into a paying customer. Whether you decide to implement and test a proven attribution model like the Time-Decay model as a baseline, or you possess the data and capabilities to develop a more complex data-driven model, there is no question that some form of marketing attribution model will be necessary to ensure your marketing and advertising tactics properly align with the respective buying journey of your target audience today, and in the future.

# A FINAL WORD



When developing this white paper on marketing attribution, one research paper that we found quite useful is titled "Bridging marketing theory and big data analytics: The taxonomy of marketing attribution" by Dimitrios Buhalis and Katerina Volchek, originally published in the International Journal of Information Management in February 2021. The research and subsequent findings of the authors was motivated by their attempt to create a more universal theory and practice of attribution models through data collection and analysis, taxonomy development, and refined terminology. The final product is quite dense, but it offers a conceptual framework of marketing attribution while organizing models into Attribution Capabilities and Attribution Facilitators, which may be of further use in developing your own attribution model.

At Location3, we've been testing marketing attribution since the initial launch of GA360 and have successfully implemented a variety of attribution models on behalf of our partners since then. Today, we're leveraging data analytics tools like Google Analytics 4 and Campaign Manager 360 to help a cross-section of our partners implement baseline attribution models. As the digital marketing and ad tech industries continue to enhance protection of consumer privacy and move away from third-party audience tracking and toward first-party data, we're optimizing our own technology stack accordingly. We're also actively supporting partners with implementation of technology like Customer Data Platforms (CDP) and other powerful data analytics tools that will provide better marketing attribution, while empowering our teams to create more sophisticated measurement systems, better understand incrementality and diminishing returns in marketing, optimize media budgets and properly align with every customer journey we aim to positively impact.

If you're as fascinated by marketing attribution and data science as we are at Location3, we welcome the opportunity to speak with you and learn more about your data goals, success stories, challenges, and ideas for the future.

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# ABOUT LOCATION3



At Location3, we help our partners drive growth through digital transformation.

**We focus on driving business outcomes**

Our team of digital experts and data analysts help you transform your brand and business by developing robust strategic roadmaps that go beyond marketing to drive critical business outcomes.

**Optimizing for today's customer journey**

We work with you to break down barriers between your technology stack, data sets, media plans, creative and more, to create holistic full-funnel strategies that align with today's customer journey.

**Innovation and future-proofing**

From identifying new opportunities in media and technology, to developing closed-loop reporting systems and marketing attribution models, we make sure you stay ahead of the competition and your brand stays top-of-mind in the marketplace.

We've been helping brands and businesses successfully connect the dots between strategy, data, creative, media and technology since 1999. We can help you too. Contact us directly if you'd like to speak with someone on our team.

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