

Measure Channel Effectiveness With The Attribution Model



Introduction

Attribution Model measures the effectiveness of digital marketing spend in driving business outcomes. Depending on the business model, these outcomes are often milestones along the marketing funnel.

Marketing campaigns are tailored to each stage of the funnel and each channels' effectiveness for driving outcomes will be different in each stage.



Here are some important questions marketers try to answer:



This document describes how a marketer can attempt to answer these questions. We establish the current landscape of attribution and then explain an approach towards attribution analysis.

Multi-Touch Attribution (MTA)

Multi-touch attribution realizes that users may interact with the marketing messaging several times across channels. MTA operates at the lowest possible granularity and promises insights into complex user journeys.

User interactions are often referred to as "touchpoints," and the key question is how to credit conversion events to each touchpoint that was involved. Rule-based models like First or Last Click tend to be biased towards certain touchpoints.

Most marketers want a more data-driven approach. However, the main challenge with a journey-based approach is **data collection and identity resolution.**

Click-Through Attribution

Data is only available for touchpoints that result in a click and visit to the website. Click-stream data from the website is processed and stitched together to create journey data for each user. If all touchpoints have been tagged with adequate information, then each channel, and tactic, can be mapped to the user journey.

Once we have this data we can apply data-driven models, like Markov Model or Shapley Value, to understand the contribution of each channel towards conversions.

The primary drawback here is that users are often exposed to several marketing efforts before they click.

View-Through Attribution

View-through attribution includes all interactions (impressions and clicks) with users. This is a complete view of the user journey across ad-serving platforms. Once touchpoints for a user are sequenced and mapped with campaign metadata, we have an ideal dataset on which data-driven models can be built. Marketers can be highly confident that both click and view channels have been correctly accounted for in the attribution model.

However, data availability can make it difficult to build view-through attribution. With growing concerns around privacy, most platforms have decided not to make data available to marketers in its most granular form. Identity resolution across platforms is practically impossible in this scenario.

Attribution Reported by Ad-Serving Platforms

Platforms often use a conversion pixel to report on the conversions that have taken place in a specific period called the attribution window. However, in most cases, when these numbers are aggregated, they don't match with the true conversion numbers.

One possible reason for this is that more than one platform takes credit for the same conversion. So, we still need a sensible mechanism to assign credit for conversion events to all channels involved in a user journey.

Attribution using a Marketing Mix approach

In absence of complete granular data, one alternative approach that can be pursued is the Marketing Mix framework and working with aggregated data. While MMMs are widely used to encompass both offline and online marketing channels, we focus here on digital marketing channels.

In the simplest form, one can use the following first-party data aggregated at a daily level to build an attribution model:

- 1. Spend by each channel
- 2. Key outcomes (e.g., website visits, lead submissions, and revenue)
- 3. Promotions and discounts
- 4. Pricing decisions

It is possible to build more comprehensive models by using additional information like offline media spend, competitor's media spend, macro-economic factors, or geo-specific factors.

Data can be prepared for each stage of the funnel separately with one key outcome for each stage. We then build time series regression models to understand the association of channel spends with the outcome.

For example, we can build four models to understand each channel's impact on.



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Insights from an Attribution model with Revenue as an example of an outcome

1. Contribution of Channels

The attribution model can be used to estimate each channel's contribution to revenue.



2. Return-on-Ad Spend (ROAS)

Once we have an estimate of the revenue contribution, spend can be included to understand the efficiency of the channel. We can see how the ROAS compares with rule-based attribution models like Last-Click.

Channel	MMM ROAS	Last Click ROAS
Facebook	8.4	7.1
YouTube	7.2	6
Twitter	5.4	7
Adwords	4.2	4.7

Further, using this model, we can estimate how each channel's ROAS has changed over time.



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Days with unusually high or low ROAS can be investigated further by looking at campaign metadata such as CPM, impressions, tactics, creatives, or messaging deployed.

3. Marketing Response Curves

Each marketing channel is unique in terms of the relevant audience size available to it — i.e., they have a finite reach. Returns from channels usually diminish with continued spend because, as the audience exhausts, only the frequency of messaging to a unique user increases.

These curves can be used to identify saturation levels for each channel as well as optimize future media spend.



Validation of Attribution Model

Validation is a good practice before using the attribution model to recommend marketing decisions. We can design experiments and run randomized tests to see how close the model estimates are to the ground truth.

Experiments come with an opportunity cost and, usually, multiple tests must be conducted over a long enough period to gain high confidence of the results. A good middle ground would be to identify channels for which the attribution model shows high variance in its estimates and then run experiments for those channels.

The development and interpretation of the attribution model is a useful process to generate hypotheses that can be tested by marketers.

Deployment of Attribution Model

Attribution models should be a continuous source of information on marketing channels. To enable this, the model should be a deployed solution that gets updated with the latest marketing data.

1. The model results can be connected to an attribution dashboard that reports on channel performance over time.





2. The model can be used for planning and optimizing future channel spend. This can be done by building an optimization layer on top of the model and allowing marketers to access it via a simple front-end application.

Media Spend Planner			
Historic Budget Overall Budget Daily Budget			
Date Range for Planner Model last updated on data till 2021-01-17			
Start Date Feb 21, 2021 🗰 End Date Feb 25, 2021 🕮			
Specify your Budget for Every Day			
Feb 21, 2021 Feb 22, 2021 Feb 23, 2021 Feb 24, 2021 Feb 25, 2021			
Amount Amount Amount Amount			
Enter Spend Proportion for in-Channel Tactics (between 0-1) +			
Set Spend Thresholds Per Channel +			
Optimize			







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