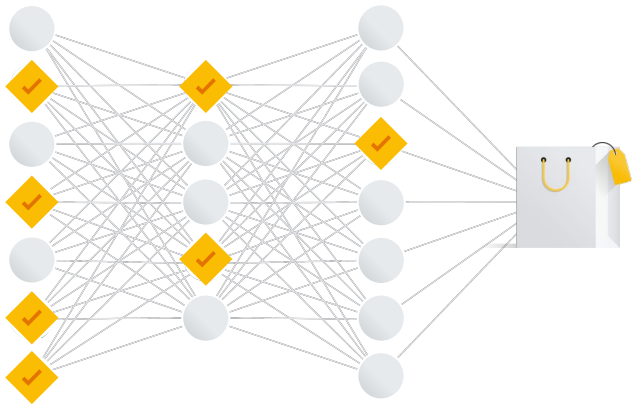
# Data-driven attribution methodology in Attribution (Beta)

## Attribution (beta) in Google Analytics brings free, cross-channel data-driven attribution to all customers.

An Attribution project allows you to view data-driven attribution in five reports: Conversion paths, Conversion Lag, Conversion Path Length, Model Comparison, and Google Ads Performance Report.

## There are two main parts to the data-driven attribution methodology:

- Analyzing the available path data to develop conversion rate models for each of your conversion types
- Using the conversion rate model predictions as input to an algorithm that attributes conversion credit to click events.



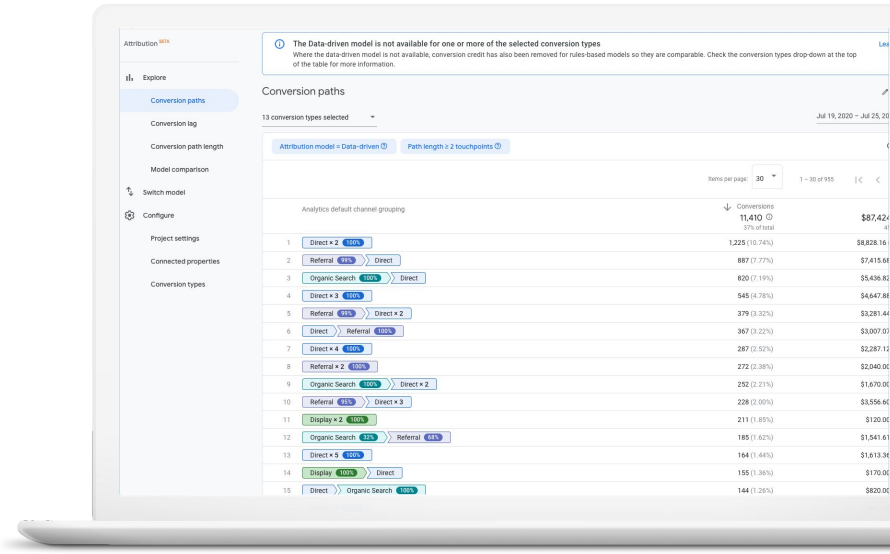
## Develop conversion probability models from available path data

Data-driven attribution in Attribution (beta) uses path data—including data from both converting and non-converting users—to understand how the presence and timing of particular marketing touchpoints may impact your users' probability of conversion. The resulting models assess how likely a user is to convert at any particular point in the path, given exposure to a particular click event.

In addition, for Google ads exposures, the data-driven attribution algorithm estimates the timing and probability of a conversion using an adaptation of "survival analysis", an approach commonly used in biostatistics and clinical trials. It computes the counterfactual gains of these Google ad exposures by training on data from randomized controlled trials—that is, it compares the conversion probability of users who were exposed to the ads, to the conversion probability of similar users in a holdback group.

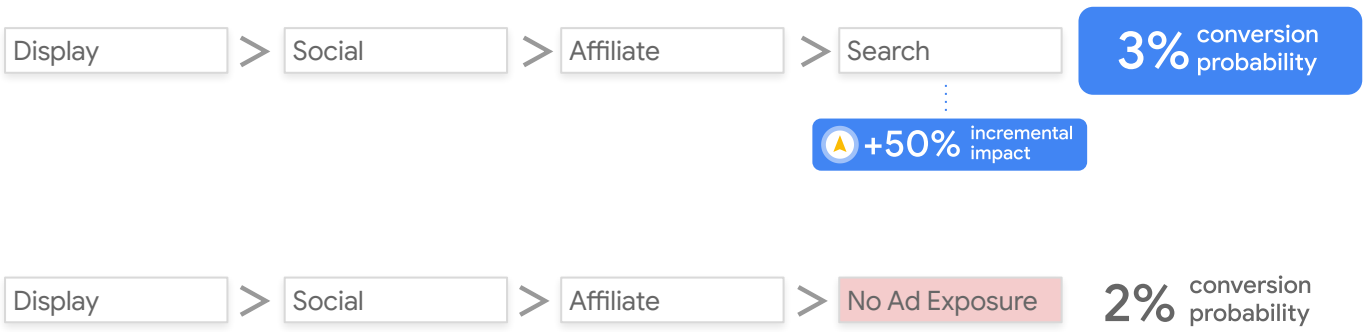
## Algorithmically assign fractional conversion credit to marketing touchpoints

The data-driven attribution model assigns credit based on how the addition of each click event to the path changes the estimated conversion probability. The data-driven attribution algorithm uses features including time between the click event and the conversion, format type, and other query signals to calculate this credit.




## Example

In the following high-level illustration, the combination of Ad Exposure #1 (Display), Ad Exposure #2 (Social), Ad Exposure #3 (Affiliate), and Ad Exposure #4 (Search) leads to a 3% probability of conversion. When Ad Exposure #4 does not occur, the probability drops to 2%, so we know that Ad Exposure #4 drives +50% conversion probability. We repeat this for each click event and use the learned contributions as attribution weights.




## Explore your data-driven attribution model and select it for reporting

Use the Model Comparison report and Google Ads Performance Report to compare attribution models and identify optimization opportunities. You can update the attribution model to calculate conversion credit in the Conversion Paths and Conversion Lag reports.