## Analytics

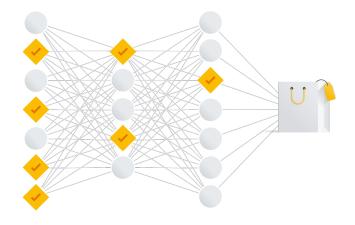
# Data-driven attribution methodology in Attribution (Beta)

## <u>Attribution (beta)</u> 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: <u>Conversion paths</u>, <u>Conversion Lag</u>, <u>Conversion Path Length</u>, <u>Model Comparison</u>, and <u>Google Ads Performance Report</u>.

## 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.

Conversion spath member   Anthone member   Path length 2 bouckpaths 0     Conversion spath member   Restaurance of the state state of the state of t	Attribution <sup>MEX.</sup>	① The Data-driven model is not available for one or more of the selected conversion types Lee Where the data-driven model is not available, conversion credit has also been removed for rules-based models so they are comparable. Check the conversion types drop-down at the top of the table for more information.					
Conversion parts 2 conversion parts 2 conversion parts 2 conversion parts   Conversion parts Conversion parts Conversion parts 2 conversion parts   So conversion parts Conversion parts Analysis of shared a load-adventile (Parts) 1 conversion parts   Project settings 1 conversion parts Conversion parts 1 conversion parts 1 conversion parts   Conversion parts 2 forget frame of the conversion parts 1 conversion parts 1 conversion parts 1 conversion parts   Conversion parts 1 conversion parts 2 forget frame of the conversion parts 1 conversion parts 1 conversion parts   Conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts   Conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts   Conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts   1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts   1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion parts 1 conversion pa	II, Explore						
Convertion ig   Article model     Convertion path length   Article model   Data schweiß   Path length 2.2 loadsplatels. <sup>1</sup> Convertion path length   Article model   Data schweiß   Path length 2.2 loadsplatels. <sup>1</sup> Data schweiß   D	Conversion paths	Conversion paths a					
Model comparison   Annual power   D   1 - 20 # 35     Sector power   Andress of Self channel groups   1   1 - 20 # 35     Project settings   1   1 - 20 # 35   1 - 20 # 35     Project settings   1   1 - 20 # 35   1 - 20 # 35     Conversion types   2   1 - 20 # 35   1 - 20 # 35     Conversion types   3   0 - 20 # 35   1 - 20 # 35     Conversion types   4   0 - 20 # 35   1 - 20 # 35     Conversion types   4   0 - 20 # 35   2 - 20 + 20 # 35     Conversion types   4   0 - 20 # 20 # 35   2 - 20 + 20 # 35     Conversion types   4   0 - 20 # 20 # 20 # 35   2 - 20 # 20 # 35     Conversion types   4   0 - 20 # 20 # 20 # 35   2 - 20 # 20 # 35     Conversion types   6   0 - 20 # 20 # 20 # 35   2 - 20 # 20 # 35     Conversion types   9   0 - 20 # 20 # 20 # 35   2 - 20 # 20 # 35     Conversion type   0 - 20 # 20 # 20 # 20 # 35   2 - 20 # 20 # 35   2 - 20 # 20 # 35     Conversion type   0 - 20 # 20 # 20 # 20 # 20 # 20 # 20 # 2	Conversion lag	13 conversion types selected 👻					
• such mede   1 - StardsS     • Configure   Andpics default dammit grouping   • Conversions 11,1410   • Conversions 11,1410     Project settings   1 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     Conversion types   2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     1 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time     2 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time   1 1 terce * 2 time	Conversion path length	Attribution model = Data-driven 0 Path length 2 2 touchpoints 0					
Sector model   Analysis default daturel groupped   Indianal     Image: consent groupped and interfault daturel groupped and interfault da	Model comparison		Terre per paper 30 *	1 - 30 of 955			
Contrare   Table of an and any and any and any and any and any any and any	🗘 Switch model			1 100 10			
Conversion types   1   (20/10.04)     2   feeting 300 (net)   (20/10.04)     3   (20/10.04)   (20/10.04)     4   (20/10.04)   (20/10.04)     6   (20/10.04)   (20/10.04)     6   (20/10.04)   (20/10.04)     7   (20/10.04)   (20/10.04)     8   (20/10.04)   (20/10.04)     9   (20/10.04)   (20/10.04)     10   (20/10.04)   (20/10.04)     11   (20/10.04)   (20/10.04)     12   (20/10.04)   (20/10.04)     13   (20/10.04)   (20/10.04)     14   (20/10.04)   (10/10.04)	Configure	Analytics default channel grouping	11,410 ①	\$8			
3   Topic Search (10) (100)   680 (710)     4   Description (100)   640 (710)     5   Merring (100) Description (100)   770 (200)     6   Description (100)   770 (200)     7   Description (100)   770 (200)     8   Description (100)   770 (200)     9   Oppose Search (100)   770 (200)     10   Description (100)   770 (200)     11   Description (100)   770 (200)     10   Description (100)   770 (200)     10   Description (100)   770 (200)     10   Description (100)   770 (200)	Project settings	1 Direct × 2 100	1,225 (10.74%)	\$8,82			
Conversion typest   4   Evers 1 (201)   545 (4750)     5   Mercel 330 (2012)   370 (2013)     6   Mercel 330 (2012)   397 (2013)     7   Mercel 7 (460)   397 (2013)     8   Mercel 330 (2012)   377 (2013)     9   Operation (2012)   227 (2013)     9   Operation (2012)   227 (2013)     9   Operation (2012)   222 (2013)     10   Mercel 330 (2014)   220 (2013)     11   Operation (2012)   222 (2013)     11   Operation (2012)   221 (1453)     11   Operation (2012)   221 (1453)     12   Operation (2012)   221 (1453)     13   Operation (2012)   221 (1453)     14   Employ (2012)   151 (1450)	Connected properties	2 Referral (1933) Direct	887 (7.77%)	\$7,			
2   Termin (33) Direct #2   379 (3.253)     4   Direct #2   370 (3.253)     7   Direct #2   370 (3.253)     8   Direct #2   370 (3.253)     9   Ogene Search (35) Direct #2   272 (2.353)     10   Direct #2   270 (3.253)     11   Direct #2   270 (3.253)     12   Ogene Search (35) Direct #2   270 (3.253)     13   Direct #2   270 (3.253)     14   Direct #3   271 (1.853)     15   Ogene Search (35) Direct #3   271 (1.853)     14   Direct #3   185 (1.364)	Conversion types	3 Organic Search (1006) Direct	820 (7.19%)	\$5,			
6   Enter:   Point (1)   347 (3.225)     7   Direct 4 (105)   247 (3.95)   247 (3.95)     8   Marrier 4 (105)   247 (3.95)   248 (3.95)     9   Oppose fracts 4 (105)   242 (3.95)   248 (3.95)     10   Inform (205)   Direct 2   258 (2.95)     11   Direct 2   258 (2.95)   241 (1.95)     12   Direct 4 (105)   149 (1.96)   149 (1.96)     13   Direct 5 (105)   149 (1.46)   149 (1.46)     14   Direct 5 (105)   Direct 5 (105)   149 (1.46)		4 Direct × 3 (100)	545 (4.78%)	\$4,			
7   Detet 4 (19)   227 (2.55)     8   Referrit 2 (19)   222 (2.15)     9   Organization (19)   222 (2.15)     10   Referrit 3 (19)   222 (2.15)     11   Signify 2 (100)   221 (2.15)     12   Organization (19)   221 (2.15)     13   Signify 2 (100)   221 (2.15)     14   Digging (10)   Detet 4     14   Digging (10)   Detet 5			379 (3.32%)	\$3,			
Image: Search (SS) / Description   222 (2.316)     Image: Search (SS) / Description   222 (2.316)     Image: Search (SS) / Description   222 (2.306)     Image: Search (SS) / Description   222 (2.306)     Image: Search (SS) / Description   221 (1.365)     Image: Search (SS) / Description   231 (1.365)     Image: Search (SS) / Description   181 (1.365)     Image: Search (SS) / Description   185 (1.365)				\$3			
6   Organe Starch (1000)   Detect + 2   252 (2.11)     10   Indertal (130)   Detect + 3   228 (2.00)     11   Detect + 3   228 (2.00)   211 (1.05)     12   Organe Starch (2000)   211 (1.05)   211 (1.05)     13   Detect + 3   Medmal (130)   151 (1.05)     14   Detect + 3   Detect + 3   155 (1.355)				\$2,			
10   Inderni (15)   Date:+3   228 (2.05)     11   Display.52 (05)   211 (2.83)     12   Organic Sauch (15)   Referil (15)     13   Direct-3   185 (12.75)     14   Display (15)   Date:				\$2,			
11   Englay 2 (202)   201 (1.855)     12   Organic Reard (202)   1890 (1.855)     13   Ower 54   1890 (1.957)     14   Englay (202)   Energi     14   Englay (202)   Energi				\$1,			
12   Copunc Stevent (13)   185 (1.6.15)     13   Detect 5 (130)   164 (1.6.15)     14   Espany (2000)   Detect   155 (1.3.15)				53.			
13   Detect × 5 (100)   104 (1.4/h)     14   Despin (2005)   Detect   155 (1.3/h)				\$1,			
		14 Display (1003) Direct	155 (1.36%)	\$			
15 Direct ) Organic Search (1003) 144 (1.26%)		15 Direct ) Organic Search (1000)	144 (1.26%)	\$			
15 Direct )) Organic Search (1997) 144 (1.26%)		14 Display (1028) Direct	155 (1.36%)	\$1,613 \$170 \$820			

#### 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.

Display	> Social	> Affiliate	> Search	3% conversion probability
			incrementa	
Display	> Social	> Affiliate	> No Ad Exposure	2% conversion probability

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

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

### Google