Attribution Queries

Learn SQL from Scratch
Stephanie Sharp
2.25.2019

—

TABLE OF CONTENTS:

BUILDING FAMILIARITY

CoolTShirts is an innovative apparel company looking for information about how their online campaigns are affecting sales.

The company will use this information to form an investment decision about which campaigns they will choose to move forward funding.

1.1 BUILDING FAMILIARITY: BASICS

- CoolTShirts has engaged 8 types of online campaigns, identified as 'utm_campaign'

utm_campaign
getting-to-know-cool-tshirts
weekly-newsletter
ten-crazy-cool-tshirts-facts
retargetting-campaign
retargetting-ad
interview-with-cool-tshirts-founder
paid-search
cool-tshirts-search

CODE:

```
SELECT DISTINCT utm_campaign
FROM page_visits;
```

CODE:

```
SELECT DISTINCT utm_source
FROM page_visits;
```

- CoolTShirts has chosen to place these campaigns in specific online websites or platforms, identified as 'utm_source'

utm_source
nytimes
email
buzzfeed
facebook
medium
google

1.1 BUILDING FAMILIARITY:

BASICS

- CoolTShirts has chosen to chart the path of user movement from the 'landing_page' to 'purchase' pages.

page_name
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

CODE:

```
SELECT DISTINCT page_name
FROM page_visits;
```

Thus, we are looking for campaigns and their placements which result in the higher numbers of purchases

1.2 BUILDING FAMILIARITY: RELATIONSHIP

CODE:

```
SELECT *
FROM page_visits
LIMIT 10;
```

New timestamps are issued for each new page transition

One source can have more than one specific campaign

page_name	timestamp	user_id	utm_campaign	utm_source
1 - landing_page	2018-01-24 03:12:16	10006	getting-to-know-cool-tshirts	nytimes
2 - shopping_cart	2018-01-24 04:04:16	10006	getting-to-know-cool-tshirts	nytimes
3 - checkout	2018-01-25 23:10:16	10006	weekly-newsletter	email
1 - landing_page	2018-01-25 20:32:02	10030	ten-crazy-cool-tshirts-facts	buzzfeed
2 - shopping_cart	2018-01-25 23:05:02	10030	ten-crazy-cool-tshirts-facts	buzzfeed
3 - checkout	2018-01-28 13:26:02	10030	retargetting-campaign	email
4 - purchase	2018-01-28 13:38:02	10030	retargetting-campaign	email
1 - landing_page	2018-01-05 18:31:17	10045	getting-to-know-cool-tshirts	nytimes
2 - shopping_cart	2018-01-05 21:16:17	10045	getting-to-know-cool-tshirts	nytimes
3 - checkout	2018-01-09 03:05:17	10045	retargetting-ad	facebook

One user ID can have multiple campaigns/ sources

Highlight which sources and campaigns result in purchase

1.2 BUILDING FAMILIARITY:
RELATIONSHIP

How are campaigns related to sources?

CODE:

```
SELECT DISTINCT
utm_campaign,
utm_source
FROM page_visits;
```

utm_campaign	utm_source
getting-to-know-cool-tshirts	nytimes
weekly-newsletter	email
ten-crazy-cool-tshirts-facts	buzzfeed
retargetting-campaign	email
retargetting-ad	facebook
interview-with-cool-tshirts-founder	medium
paid-search	google
cool-tshirts-search	google

What we know:

- Users have multiple touch-points measured by 'timestamp' and both utm_source and utm_campaign

- Through this, we can chart the course of each user who has made it to the 'purchase' page

What we want to know:

- Which campaigns are most effective for first touches? And how effective are they?
  - The value of first touch expresses itself in the retarget outcome.

- Which campaigns are most effective for last touches? And how effective are they?

- Which campaigns result in the most purchases?
  - Identifying this will help the client focus energy and attention toward campaigns that work

DISCOVERING USER JOURNEY

2.1 USER JOURNEY: FIRST TOUCHES

What we've learned:

- Lots of traffic through medium, nytimes, and buzzfeed

- Very significant drop in traffic via google search

source	campaign	first_touch_total
medium	interview-with-cool-tshirts-founder	622
nytimes	getting-to-know-cool-tshirts	612
buzzfeed	ten-crazy-cool-tshirts-facts	576
google	cool-tshirts-search	169

CODE:

```
WITH first_touch AS (
SELECT user_id,
  MIN(timestamp) AS 'first_touch_at'
  FROM page_visits
  GROUP BY user_id),
ft_attr AS (
SELECT ft.user_id,
       ft.first_touch_at,
       pv.utm_source,
       pv.utm_campaign
FROM first_touch ft
  JOIN page_visits pv
ON ft.user_id = pv.user_id
AND ft.first_touch_at =
pv.timestamp)

SELECT ft_attr.utm_source AS
'source', ft_attr.utm_campaign AS
'campaign', COUNT(*) AS
'first_touch_total'
FROM ft_attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

2.2 USER JOURNEY: LAST TOUCHES

What we learned:

- Re-targetting campaigns drive more purchasing

- nytimes, buzzfeed, and medium dropped in last touch versus first

source	campaign	last_touch_total
email	weekly-newsletter	447
facebook	retargetting-ad	443
email	retargetting-campaign	245
nytimes	getting-to-know-cool-tshirts	232
buzzfeed	ten-crazy-cool-tshirts-facts	190
medium	interview-with-cool-tshirts-founder	184
google	paid-search	178
google	cool-tshirts-search	60

CODE:

```
WITH last_touch AS (
SELECT user_id,
  MAX(timestamp) AS
'last_touch_at'
  FROM page_visits
  GROUP BY user_id),
lt_attr AS (
SELECT lt.user_id,
       lt.last_touch_at,
       pv.utm_source,
       pv.utm_campaign
FROM last_touch lt
  JOIN page_visits pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at =
pv.timestamp)
SELECT lt_attr.utm_source AS
'source', lt_attr.utm_campaign AS
'campaign', COUNT(*) AS
'last_touch_total'
FROM lt_attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

2.2 USER JOURNEY: TOTAL PURCHASES

source	campaign	lt_purchases
email	weekly-newsletter	115
facebook	retargetting-ad	113
email	retargetting-campaign	54
google	paid-search	52
buzzfeed	ten-crazy-cool-tshirts-facts	9
nytimes	getting-to-know-cool-tshirts	9
medium	interview-with-cool-tshirts-founder	7
google	cool-tshirts-search	2

RECOMMENDATIONS

THE VALUE OF FIRST TOUCH

While first touches do not seem to result in a great deal of purchases, it highlights the effectiveness of retargetting campaigns and emails.

Therefore, it is imperative to invest in:

- Medium
- Nytimes
- Buzzfeed

WHY?

- The impressive reach in numbers of first touch data - should that increase due to strategic marketing - will equally increase the effectiveness the direct retargetting strategies.

THE EFFECTIVENESS OF RETARGETTING

As slides 11 and 12 demonstrate, retargetting based on first touches should result in more purchases and more revenue

By retargetting more through
- Email
- Facebook

CTS can expect to:
1) lower cost of paid advertising in other places
2) divert funds to a greater number of retargetting campaigns
3) expect greater return

FOR EXAMPLE:
- emails selected for retargetting can be excluded from weekly newsletters
- more attention to specific measurements on weekly newsletters can make retargetting via email more effective for repeat business

Combining in-house effort typically lessens overall costs for marketing/advertising

In-house emails are company information: no sharing, purchasing data required

thank you for your time.

—