



Attribution Queries

Learn SQL from Scratch

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May 12, 2019

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1. Get familiar with CoolTShirts

1.1 Campaigns & Sources and How are they related?

- How many campaigns and sources does CoolTShirts use and how are they related?

Answer: 8 campaigns are run by 6 distinct sources.

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

```
SELECT COUNT(DISTINCT utm_campaign)
FROM page_visits;
```

```
SELECT COUNT(DISTINCT utm_source)
FROM page_visits;
```

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

1.2 Website Details

- What pages are on their websites?

Answer: 4 different pages are on their website.

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

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

2. What is the user journey?

2.1 First Touches

How many first touches is each campaign responsible for?

Answer : First touches for each campaign is described bellow

user_id	first_touch_at	utm_source	utm_campaign	COUNT(utm_campaign)
99990	2018-01-13 23:30	medium	interview-with-cool-tshirts-founder	622
99933	2018-01-25 00:04	nytimes	getting-to-know-cool-tshirts	612
99765	2018-01-04 05:59	buzzfeed	ten-crazy-cool-tshirts-facts	576
99684	2018-01-13 13:20	google	cool-tshirts-search	169

```
WITH first_touch AS (  
  SELECT user_id,  
         MIN(timestamp) as first_touch_at  
  FROM page_visits  
  GROUP BY user_id)  
SELECT ft.user_id,  
       ft.first_touch_at,  
       pv.utm_source,  
       pv.utm_campaign, COUNT(utm_campaign)  
FROM first_touch ft  
JOIN page_visits pv  
  ON ft.user_id = pv.user_id  
  AND ft.first_touch_at = pv.timestamp  
GROUP BY 4  
ORDER BY 5 DESC;
```

2.2 Last Touches

How many last touches is each campaign responsible for?

Answer : last touches for each campaign is described bellow

user_id	last_touch_at	utm_source	utm_campaign	COUNT(utm_campaign)
99933	2018-01-26 06:18	email	weekly-newsletter	447
99928	2018-01-24 05:26	facebook	retargeting-ad	443
99990	2018-01-16 11:35	email	retargeting-campaign	245
99589	2018-01-15 04:55	nytimes	getting-to-know-cool-tshirts	232
99765	2018-01-04 05:59	buzzfeed	ten-crazy-cool-tshirts-facts	190
99838	2018-01-02 07:40	medium	interview-with-cool-tshirts-founder	184
98840	2018-01-10 04:58	google	paid-search	178
99344	2018-01-18 21:36	google	cool-tshirts-search	60

```
WITH last_touch AS (  
  SELECT user_id,  
         MAX(timestamp) as last_touch_at  
  FROM page_visits  
  GROUP BY user_id)  
SELECT lt.user_id,  
       lt.last_touch_at,  
       pv.utm_source,  
       pv.utm_campaign, COUNT(utm_campaign)  
FROM last_touch lt  
JOIN page_visits pv  
  ON lt.user_id = pv.user_id  
  AND lt.last_touch_at = pv.timestamp  
GROUP BY 4  
ORDER BY 5 DESC;
```


2.3 Purchases & Campaign

How many visitors make a purchase?

Answer : 361 users make a purchase

How many last touches *on the purchase page* is each campaign responsible for?

Answer : Please see bellow table

user_id	last_touch_at	utm_source	utm_campaign	COUNT (utm_campaign)
99933	2018-01-26 06:18	email	weekly-newsletter	115
99897	2018-01-06 09:41	facebook	retargeting-ad	113
99285	2018-01-24 09:00	email	retargeting-campaign	54
94567	2018-01-19 16:37	google	paid-search	52
92172	2018-01-16 15:15	nytimes	getting-to-know-cool-tshirts	9
98651	2018-01-15 04:17	buzzfeed	ten-crazy-cool-tshirts-facts	9
83547	2018-01-10 18:20	medium	interview-with-cool-tshirts-founder	7
95650	2018-01-18 00:25	google	cool-tshirts-search	2

```
SELECT COUNT(DISTINCT user_id)
FROM page_visits
WHERE page_name = '4 - purchase';
```

```
WITH last_touch AS (
  SELECT user_id,
         MAX(timestamp) as last_touch_at
  FROM page_visits
  WHERE page_name = '4 - purchase'
  GROUP BY user_id)
SELECT lt.user_id,
       lt.last_touch_at,
       pv.utm_source,
       pv.utm_campaign, COUNT(utm_campaign)
FROM last_touch lt
JOIN page_visits pv
  ON lt.user_id = pv.user_id
  AND lt.last_touch_at = pv.timestamp
GROUP BY 4
ORDER BY 5 DESC;
```

2.4 User Journey

What is the typical user journey?

- 63% of users make a purchase through a weekly newsletter e-mail or an ad campaign via facebook.
- 14% of users make a purchase through paid-search by google
- 47 % of users make a purchase when they are contacted by e-mails
- 46% of users make a purchase through retargeting ad or campaign

3. Optimize the campaign budget

3. Five Campaigns to Re-Invest

CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

utm_source	utm_campaign
email	weekly-newsletter
email	retargeting-campaign
facebook	retargeting-ad
google	paid-search
google	cool-tshirts-search

- 63% of users made a purchase through a personalized campaign such as e-mail through a weekly newsletter or retargeting ad campaign via facebook.
- 14% of users make a purchase through paid-search by google
- 47 % of users make a purchase when they were contacted by e-mails
- 46% of users make a purchase through retargeting ad or campaign
- medium, nytimes and buzzfeed was the top 3 sources which had the most first touches but neither of them lead to a purchase. It was a good campaign to get aware of the company, but since we are re-investing for additional campaign, it is best to choose from ones lead to final purchase.