



CoolTShirts Campaign Analysis

Learn SQL from Scratch Intensive

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1. Gettin' Familiar

Campaigns, Sources, and Pages

CoolTShirts uses a variety of ways to reach prospective customers. We can use the `page_visits` table to leverage the data from their visitor's journeys on their site. It holds the following data:

page_visits	
A table describing each time a user visits the CoolTShirts website	
Column	Description
<code>user_id</code>	A unique identifier for each visitor to a page
<code>timestamp</code>	The time at which the visitor came to the page
<code>page_name</code>	The title of the section of the page that was visited
<code>utm_source</code>	Identifies which site sent the traffic (i.e., google, newsletter, or facebook_ad)
<code>utm_campaign</code>	Identifies the specific ad or email blast (i.e., june-21-newsletter or memorial-day-sale)

Number of Campaigns

We can run a simple query to count the number of campaigns that CoolTShirts runs. Here, we come up with 8 campaigns.

We'll see each one described later on.

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

Query Results	
count (distinct utm_campaign)	
8	

Number of Sources

The query we use to find the number of sources that CoolTShirts uses is extremely similar to the one we use for number of campaigns.

count (distinct utm_source)
6

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

How Campaigns and Sources Relate

```
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

Sources describe the place that visitors of CoolTShirt's site came from, such as the New York Times site, BuzzFeed, and Facebook.

Campaigns describe more specific ad or email that the visitor clicked on in order to arrive at CoolTShirt's site.

CoolTShirts uses email and Google for much of their traffic, but also leverages popularly visited sites like BuzzFeed and Facebook for additional reach.

Pages on CoolTShirts' Site

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

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

Like most e-commerce sites, CoolTShirts has a clear funnel that leads visitors from viewing to their purchase.

The four pages here are:

- Landing Page
- Shopping Cart
- Checkout
- Purchase

2. The User Journey

First-Touches

As the name suggests, first-touches are what brings users to CoolTShirts. They might not be looking to purchase a shirt right away, but they get the ball rolling and get eyes on CoolTShirts' site.

Query Results				
user_id	first_touch_at	utm_source	utm_campaign	count (utm_campaign)
99990	2018-01-13 23:30:09	medium	interview-with-cool-tshirts-founder	622
99933	2018-01-25 00:04:39	nytimes	getting-to-know-cool-tshirts	612
99765	2018-01-04 05:59:46	buzzfeed	ten-crazy-cool-tshirts-facts	576
99684	2018-01-13 13:20:49	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 utm_campaign  
ORDER BY count(utm_campaign) DESC;
```

Here, we can see that the the interview with the company's founder leads to the highest attribution of first-touches (he or she must be pretty cool, too).

Last-Touches

```
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 utm_campaign  
ORDER BY COUNT(utm_campaign) DESC;
```

Last-touches help us understand what draws visitors back to sites, and where they land before making a purchase.

user_id	last_touch_at	utm_source	utm_campaign	count (utm_campaign)
99933	2018-01-26 06:18:39	email	weekly-newsletter	447
99928	2018-01-24 05:26:09	facebook	retargeting-ad	443
99990	2018-01-16 11:35:09	email	retargeting-campaign	245
99589	2018-01-15 04:55:43	nytimes	getting-to-know-cool-tshirts	232
99765	2018-01-04 05:59:47	buzzfeed	ten-crazy-cool-tshirts-facts	190
99838	2018-01-02 07:40:34	medium	interview-with-cool-tshirts-founder	184
98840	2018-01-10 04:58:48	google	paid-search	178
99344	2018-01-18 21:36:32	google	cool-tshirts-search	60

Looks like those weekly newsletters and retargeting campaigns are paying off for CoolTShirts.

Total Purchases

Lots of people might visit the site, but we certainly want to know if they end up buying anything from CoolTShirts.

We can simply check how many users reach the 'purchase' page of CoolTShirt's site. 361!

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

Query Results
COUNT (DISTINCT user_id)
361

Last Touches – Purchase page

It's useful for us to figure out which campaign was the last that a visitor viewed prior to making a purchase from CoolTShirts. Here, we can tell that the weekly newsletter and both retargeting campaigns, helped influence a sale for CoolTShirts!

Query Results				
user_id	last_touch_at	utm_source	utm_campaign	count (utm_campaign)
99933	2018-01-26 06:18:39	email	weekly-newsletter	115
99897	2018-01-06 09:41:19	facebook	retargeting-ad	113
99285	2018-01-24 09:00:58	email	retargeting-campaign	54
94567	2018-01-19 16:37:58	google	paid-search	52
92172	2018-01-16 15:15:29	nytimes	getting-to-know-cool-tshirts	9
98651	2018-01-15 04:17:36	buzzfeed	ten-crazy-cool-tshirts-facts	9
83547	2018-01-10 18:20:21	medium	interview-with-cool-tshirts-founder	7
95650	2018-01-18 00:25:00	google	cool-tshirts-search	2

```
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 utm_campaign  
order by count(utm_campaign) desc;
```

Typical User Journey

After looking at the data unearthed by the queries we've used, many of CoolTShirt's customers find their site casually, by watching an interview with the company's founder or reading interesting facts about the company.

They're drawn back to the website, and eventually to make a purchase, by CoolTShirt's retargeting or weekly email campaigns.



3. Campaign Optimization

5 Campaigns to Reinvest in

- Weekly-Newsletter: With 115 last touches before purchases, the weekly newsletter has definitely been a successful campaign for CoolTShirts, and must help keep them top of mind with their customers!
- Retargeting-Ad: This campaign also led to several purchases for CoolTShirts, and should continue to run.
- Retargeting-Campaign: Delivered via email, this campaign also helped influence more than 50 purchases from CoolTShirt's site
- Interview-with-Cool-TShirts-Founder: Though this campaign hasn't led to that many last touches or purchases, it brings the largest amount of visitors to the site initially, which starts getting customers interested in making purchases.
- Getting-to-know-CoolTShirts- This campaign also drove a significant amount of visitors to the site.