



# First- and Last-Touch Attribution with CoolTShirts.com

Learn SQL from Scratch

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# 1. Get familiar with CoolTShirts

By running queries given in example bellow we can see that CoolTShirts website is running total of 8 campaigns by using 6 sources for that, including websites such as Facebook, BuzzFeed, NYTimes, Google. There are also two campaigns that are done by sending email.

We also can see that the website has 4 pages: landing\_page, shopping\_cart, checkout, purchase.

```
select count(distinct utm_campaign) as total_campaigns
from page_visits;
```

```
select count(distinct utm_source) as total_sources
from page_visits;
```

```
select distinct utm_campaign, utm_source
from page_visits;
```

```
Select distinct page_name
from page_visits;
```

Campaign	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

## 2. User journey

By looking at the spreadsheet below we can tell that campaigns ran on medium, nytimes and buzzfeed sites drove most of the users to the website. The biggest number of first touches is attributed to “interview-with-cool-tshirts-founder” campaign.

total_first_touch	utm_source	utm_campaign
169	google	cool-tshirts-search
576	buzzfeed	ten-crazy-cool-tshirts-facts
612	nytimes	getting-to-know-cool-tshirts
622	medium	interview-with-cool-tshirts-founder

```
WITH first_touch AS (  
  SELECT user_id,  
         MIN(timestamp) as first_touch_at  
  FROM page_visits  
  GROUP BY user_id)  
SELECT  
  count(ft.first_touch_at) as  
  total_first_touch,  
  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  
group by utm_campaign  
order by 1;
```

Although, by analyzing data of user's last touches we can see that majority of it is attributed to facebook "retargetting-ad" campaign and "weekly-newsletter" campaign sent via email. In total those campaigns had 890 last touches which led to 228 purchases. See the spreadsheet on the next slide.

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

```
WITH last_touch AS (  
    SELECT user_id,  
           max(timestamp) as last_touch_at  
    FROM page_visits  
    GROUP BY user_id)  
SELECT count(lt.last_touch_at) as  
total_last_touch,  
       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  
group by utm_campaign  
order by 1;
```

```
SELECT count(distinct user_id) as total_users,  
       page_name  
from page_visits  
where page_name = '4 - purchase'  
group by page_name;
```

Total of 361 users made a purchase. Here is a breakdown of how many users made a purchase and what campaign it was attributed to.

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

```
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 count(lt.last_touch_at) as  
total_last_touch,  
       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  
group by utm_campaign  
order by 1;
```

### 3. Optimize the campaign budget

By analyzing data of user journey for CoolTShirts website we can come to a conclusion that company should surely re-invest in “Paid search” campaign as it’s resulted in 29% of the users ended up making purchase.

Also, “retargeting-ad” and “weekly-newsletter” campaigns demonstrated good results out of all campaigns and have ~25% conversion rate.

“Retargeting-campaign” can be another candidate for reinvestment as it had 22% conversion rate.

“Interview-with-cool-tshirts-founder” and “getting-to-know-cool-tshirts” had largest numbers of first touches but it ended up only in 1% of all users ended up their journey by doing actual purchase, so I would not include it to the list.

Thanks!