



CoolTShirts

Capstone Project

Learn SQL from Scratch

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(please watch this video)

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

1. Get familiar with the company

- Be sure to explain the difference between `utm_campaign` and `utm_source`.

CoolTShirts wants to increase sales. They decided to improve their marketing and online presence. They want to know how customers initially discovered their website and how many visitors are drawn back to the website to make a purchase.

Users arrive at CoolTShirts' website through a variety of sources, including advertising campaigns, search engines, and social networks.

- A **campaign** identifies the specific ad or email blast (e.g. retargeting-ad or weekly-newsletter)
- A **source** identifies which touchpoint (sometimes called channels) sent the traffic (e.g. google, email, or facebook)

If an ad campaign drives a lot of visits to their site, then they know that source is working!

1.1 Get familiar with the company

- How many campaigns and sources does CoolTShirts use and how are they related?
- What pages are on their website?

CoolTShirts uses 8 campaigns and 6 sources. Sources can be used in multiple campaigns. CoolTShirts uses email for 2 campaigns and google for 2 campaigns. We will find out if this paid off and drove \$ALE\$!!!

There are 4 pages on CoolTShirts' webpage. There are times a customer may add items to cart, but not check out during that visit. Page 4-purchase is the final conversation from browsing to sale.

Page Names
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

Query Results	
Campaign Count	
8	
Source Count	
6	
Campaigns	Sources
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

```
SELECT COUNT (DISTINCT utm_campaign) AS 'Campaign Count'  
FROM page_visits;
```

```
SELECT COUNT (DISTINCT utm_source) AS 'Source Count'  
FROM page_visits;
```

```
SELECT DISTINCT utm_campaign AS 'Campaigns', utm_source  
AS 'Sources'  
FROM page_visits;
```

```
SELECT DISTINCT page_name AS 'Page Names'  
FROM page_visits;
```

2. What is the user journey?

- **How many first touches is each campaign responsible for?**

First touch is identified by the MIN timestamp. This is the user's first click on the website. Although email and google were used in 2 campaigns, they did not drive the most first touch traffic. The campaign that drove the most traffic is "interview-with-cool-tshirts-founder" used medium as it's source. Only 4 out of 8 campaigns were successful in driving first touch.

ft_attr.utm_source	ft_attr.utm_campaign	COUNT (*)
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

```
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,  
       ft_attr.utm_campaign,  
       COUNT (*)  
FROM ft_attr  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

2.1 What is the user journey?

- How many last touches is each campaign responsible for?

Not everyone completes a purchase on their first visit to a site. This is where last touch comes in. The last touch is identified by the MAX timestamp, it's the last time a user visited the website.

Email and Facebook were the most successful sources of last touch. These are different results than first touch. The most successful campaigns are also different than first touch results.

lt_attr.utm_source	lt_attr.utm_campaign	COUNT (*)
email	weekly-newsletter	447
facebook	retargeting-ad	443
email	retargeting-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

```
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,  
       lt_attr.utm_campaign,  
       COUNT (*)  
FROM lt_attr  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

2.2 What is the user journey?

- **How many visitors make a purchase?**

361 visitors made a purchase.

Conversion rate is 18%

This is calculated by taking the # of purchases and dividing by count of first touch visitors.

$$361 / 1979 = 18\%$$



Customers That Purchase
361

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


2.3 What is the user journey?

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

Weekly email newsletters and Facebook retargeting-ad campaigns resulted in the most purchases.

Interestingly, these were not the sources or campaigns that drove the most initial traffic.

Source	Campaign	Count
email	weekly-newsletter	115
facebook	retargeting-ad	113
email	retargeting-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

```
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),
ft_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 ft_attr.utm_source AS 'Source',
ft_attr.utm_campaign AS 'Campaign',
COUNT(*) AS 'Count'
FROM ft_attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

2.3 What is the user journey?

- **What's the typical user journey?**

Let's think about how users found the CoolTShirt website

CoolTShirts most successful first touch campaigns were blog type campaigns where a story was being told. These elicited a reaction from the user where they wanted to learn more about the company. These campaigns were successful in driving traffic to the site, but not the final page, the purchase page!

First Touch Campaigns



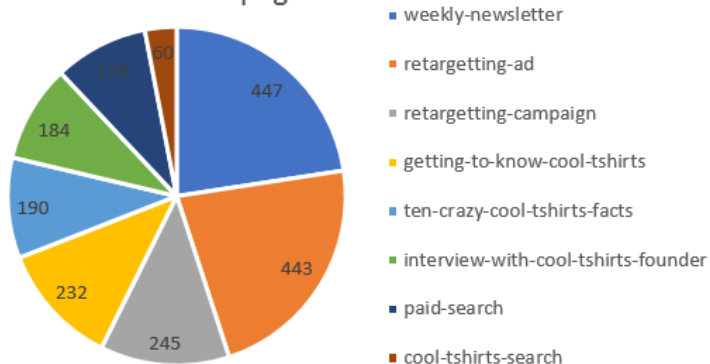
2.3 What is the user journey?

- **What's the typical user journey?**

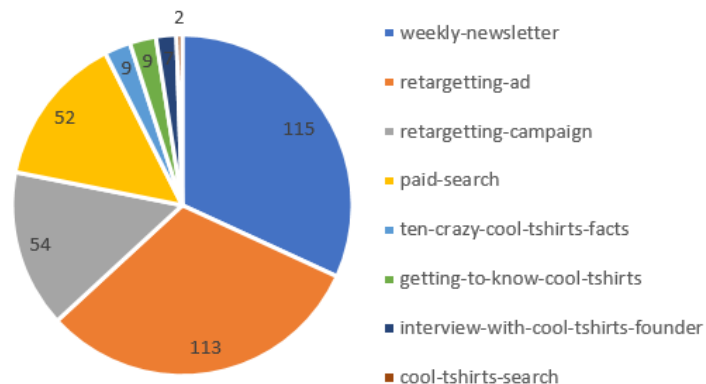
Now let's think about how users completed their purchase on the CoolTShirt website

The majority of users had to be drawn back to the site to complete their purchase. This can be traced using last touch and purchases by campaign analysis since not all last touches equate to a sale. Weekly-newsletter and retargeting-ad were the most successful campaigns to draw users back to the site and finalize a purchase.

Last Touch Campagins



Purchases by Campaign



3. Optimize the campaign budget

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

Let's identify the top performing campaigns. To do this, we have to consider first touch as well as last touch. This will give us the best outcome for exposure and re-engagement.

Circled in the chart below are the top performing campaigns in each category. In order to get a good mix of campaign strengths, a combination of these top performers should be chosen. Re-engagement was crucial to CoolTShirt's success. Therefore, heavier emphasis should be placed on those campaigns going forward.

Source	Campaign	Purchases	% Purchases	First Touches	% First Touches	Last Touches	% Last Touches
email	weekly-newsletter	115	32%	0	0%	447	23%
facebook	retargeting-ad	113	31%	0	0%	443	22%
email	retargeting-campaign	54	15%	0	0%	245	12%
google	paid-search	52	14%	0	0%	178	9%
buzzfeed	ten-crazy-cool-tshirts-facts	9	2%	576	29%	190	10%
nytimes	getting-to-know-cool-tshirts	9	2%	612	31%	232	12%
medium	interview-with-cool-tshirts-founder	7	2%	622	31%	184	9%
google	cool-tshirts-search	2	1%	169	9%	60	3%

3. Optimize the campaign budget

CONCLUSION

Based on this data, CoolTShirts should continue with the top 2 first touch campaigns, in addition to the top 3 campaigns for purchases to elicit re-engagement which leads to sales.

Note - it's not a surprise that 2 of the top 3 campaigns used email. Using email as the source for re-engagement is key. Attracting new customers may be rewarding, but it also involves expense. Customer retention and repeat sales is less expensive. This is why email campaigns are a great way to continue to interact with your current customer base.

Source	Campaign	Purchases	% Purchases	First Touches	% First Touches	Last Touches	% Last Touches
email	weekly-newsletter	115	32%	0	0%	447	23%
facebook	retargeting-ad	113	31%	0	0%	443	22%
email	retargeting-campaign	54	15%	0	0%	245	12%
google	paid-search	52	14%	0	0%	178	9%
buzzfeed	ten-crazy-cool-tshirts-facts	9	2%	576	29%	190	10%
nytimes	getting-to-know-cool-tshirts	9	2%	612	31%	232	12%
medium	interview-with-cool-tshirts-founder	7	2%	622	31%	184	9%
google	cool-tshirts-search	2	1%	169	9%	60	3%