



CoolTShirts Capstone

Learn SQL from Scratch

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1. Get familiar with CoolTShirts

1. Get familiar with CoolTShirts

How many campaigns and sources does CoolTShirts use?

- # of campaigns = 8
- # of sources = 6

The table to the right shows the relationship between the CoolTShirts marketing campaign and the source used to move traffic to the CoolTShirts website.

- A campaign is a targeted outreach created to appeal to a specific group of customers.
- A source is the type of communication used to relay the campaign to the customer.

```
SELECT COUNT(DISTINCT utm_campaign) AS '# of Campaigns'  
FROM page_visits;
```

```
SELECT COUNT(DISTINCT utm_source) AS '# of Sources'  
FROM page_visits;
```

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

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

1. Get familiar with CoolTShirts – Part 2

What pages are on the CoolTShirts website?

- There are 4 page classifications on the company website. (Shown on the table to the right.)
- Each page describes the stage of purchase the customer resided in during the respective time stamp.

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

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

2. What is the user journey?

2.1 What is the user journey?

How many first touches is each campaign responsible for?

- In order to find first touches, count the number of **earliest** time stamps associated with each customer by joining a temporary table with the page_visits table.
- To associate the correct number of time stamps to a campaign, create an additional table containing a campaign and column and join it with the page_visits and first_touch table.
- The result is found in the table below.

Source	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 AS 'ft'  
    JOIN page_visits AS '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 'Count'  
FROM ft_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2.2 What is the user journey?

How many last touches is each campaign responsible for?

- In order to find last touches, count the number of **latest** time stamps associated with each customer.

NOTE: Notice that all 8 campaigns have associated last touches while only 4 campaigns had first touches.

Source	Campaign	Count
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

```
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,  
         pv.page_name  
  FROM last_touch AS 'lt'  
  JOIN page_visits AS '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 'Count'  
FROM lt_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```


2.3 What is the user journey?

How many visitors make a purchase?

- Of the 1979 distinct users, 361 visitors made it to the purchase page.

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

- The table below shows the count of users associated with each campaign whose last touch was on the purchase page.

Campaign	Count
weekly-newsletter	115
retargeting-ad	113
retargeting-campaign	54
paid-search	52
ten-crazy-cool-tshirts-facts	9
getting-to-know-cool-tshirts	9
interview-with-cool-tshirts-founder	7
cool-tshirts-search	2

```
SELECT COUNT(DISTINCT user_id)
FROM page_visits
GROUP BY 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),
lt_attr AS (
    SELECT lt.user_id,
           lt.last_touch_at,
           pv.utm_source,
           pv.utm_campaign,
           pv.page_name
    FROM last_touch AS 'lt'
    JOIN page_visits AS 'pv'
        ON lt.user_id = pv.user_id
        AND lt.last_touch_at = pv.timestamp
)
SELECT lt_attr.utm_campaign AS 'Campaign',
       COUNT(*) AS 'Count'
FROM lt_attr
GROUP BY 1
ORDER BY 2 DESC;
```

2.4 What is the *typical* user journey?

Based on the first touches from CoolTShirts website, the typical user is drawn to the website based on mere curiosity about the company through the company's founder, description of the company, and facts regarding the company. This can be seen by noting that 91% of all first touches were lured by specific company related writing pieces.

However, based on the last touches from the website, first touch marketing did not entirely account for the ultimate sale. 69% of the final touches were associated with non-writing entries (all campaigns excluding the campaigns noted above.) An overwhelming 93% of final sales were attributed to non-writing entries, as evidenced by the count of final sales per campaign.

The typical user journey begins with a curious reader but is drawn back to the site after signing up for and receiving the weekly newsletter or being drawn in by a retargeting ad or campaign, as these three campaigns make up 78% of final sales.

3. Optimize the campaign budget

3.1 Optimize the campaign budget

In optimizing the campaign budget, it is important to keep in mind that although it is the final sale that generates revenue, the first touch grabs the attention creates brand awareness. Optimizing the budget requires balance and a blend of revenue and brand awareness.

Notice in the table below taken from the first touch data that an overwhelming majority (91%) is associated with the top three campaigns. Without these first touches, there would be no final sale or user journey.

In order to optimize the campaign budget, these three campaigns should be preserved.

Campaign	Count	
interview-with-cool-tshirts-founder	622	91%
getting-to-know-cool-tshirts	612	
ten-crazy-cool-tshirts-facts	576	
cool-tshirts-search	169	9%

3.2 Optimize the campaign budget

In analyzing the final touch (left table) and final sale (right table), weekly newsletter and retargeting ad campaigns account for 45% of final touches and 63% of final sale. The next highest counts contain almost half as many touches/sales, a major drop off.

In order to keep the first touches coming back for final touches and final sales, the weekly newsletter and retargeting ad will generate the most last touch volume and revenue.

Campaign	Count	Percentage
weekly-newsletter	447	23%
retargetting-ad	443	22%
retargetting-campaign	245	12%
getting-to-know-cool-tshirts	232	12%
ten-crazy-cool-tshirts-facts	190	10%
interview-with-cool-tshirts-founder	184	9%
paid-search	178	9%
cool-tshirts-search	60	3%

Campaign	Count	Percentage
weekly-newsletter	115	32%
retargetting-ad	113	31%
retargetting-campaign	54	15%
paid-search	52	14%
ten-crazy-cool-tshirts-facts	9	2%
getting-to-know-cool-tshirts	9	2%
interview-with-cool-tshirts-founder	7	2%
cool-tshirts-search	2	1%

3.3 Optimize the campaign budget

Which 5 campaigns should CoolTShirts to re-invest in?

- interview-with-cool-tshirts-founder
- getting-to-know-cool-tshirts
- ten-crazy-cool-tshirts-facts
- weekly-newsletter
- retargeting-ad