

CAPSTONE PROJECT

CODECADEMY

Learn SQL from Scratch : First and Last Touch Attribution

J I H Y E K E U M | 2 0 1 8 0 7 2 3

INDEX

01. Get familiar with the company
 02. What is the user journey?
 03. Optimize the campaign budget
-

01. GET FAMILIAR WITH THE COMPANY

- 1) How many campaigns and sources does CoolTShirts use and how are they related? Be sure to explain the difference between `utm_campaign` and `utm_source`.
- 2) What pages are on their website?

1) How many campaigns and sources does CoolTShirts use and how are they related? Be sure to explain the difference between `utm_campaign` and `utm_source`.

- `Utm_source` is a kind of tools/channels such as Email, The New York Times, BuzzFeed, Facebook, Medium, and google that CoolTShirts is using for marketing activity.
- `Utm_campaign` is a marketing activity that CoolTShirts is doing with marketing sources (Channels).
- CoolTShirts uses email and facebook for retargeting; retargeting-campaign with email and retargeting-ad with facebook.
- CoolTShirts uses Google AdWords.

```
---1-1-1. Number of campaign and source---  
SELECT  
  COUNT(DISTINCT utm_campaign) AS 'No. of Campaigns',  
  COUNT(DISTINCT utm_source) AS 'No. of Sources'  
FROM page_visits;
```

```
---1-1-2. Type of campaign and source---  
SELECT  
  DISTINCT utm_campaign AS 'Campaigns',  
           utm_source AS 'Sources'  
FROM page_visits;
```

No. of Campaigns	No. of Sources
8	6
Name of Campaigns	Name of Sources
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

2) What pages are on their website?

- CoolTShirts's website is designed only with four pages; one for landing and the other three pages for purchasing (shopping cart, check out, and purchase).
- Customers will have many problems with checking the details from CoolTshirts's website as there aren't any pages of information for company, product, users, and order history.

---1-2. Name of page on Website---

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

Name of Page
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

02. WHAT IS THE USER JOURNEY?

- 1) How many first touches is each campaign responsible for?
- 2) How many last touches is each campaign responsible for?
- 3) How many visitors make a purchase?
- 4) How many last touches on the purchase page is each campaign responsible for?
- 5) What is the typical user journey?

1) How many first touches is each campaign responsible for?

- Total first touches: 1979
- Most of customers visit CoolTShirts's website for the first time via storytelling article from online publishing platform or news site such as Medium, The New York Times, and BuzzFeed.
- Only 9% of customers visit CoolTShirts's website by googling.
- CoolTShirts is doing 8 campaigns, but customers visit CoolTShirts's website with only 4 campaigns.

---2-1. No. of first touches of each campaign---

WITH

```
first_touch AS (  
  SELECT user_id, MIN(timestamp) as first_touch_at  
  FROM page_visits  
  GROUP BY user_id),
```

```
ft_resp 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_resp.utm_source AS 'Source',  
       ft_resp.utm_campaign AS 'Campaign', COUNT(*) AS 'First touch'  
FROM ft_resp  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

Source	Campaign	First touch
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

2) How many last touches is each campaign responsible for?

- Total last touches: 1979
- Most of customers' last visit to CoolTShirts's website is via newsletter or retargeting activity from customers' Email or Facebook.
- Storytelling campaign from online publishing platform or news site which takes 91% of the first touches dropped to 31% of the last touches.

```
---2-2. No. of last touches of each campaign---  
WITH  
  last_touch AS (  
    SELECT user_id, MAX(timestamp) as last_touch_at  
    FROM page_visits  
    GROUP BY user_id),  
  
  lt_resp AS (  
    SELECT lt.user_id, lt.first_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.first_touch_at = pv.timestamp)  
  
SELECT lt_resp.utm_source AS 'Source',  
       lt_resp.utm_campaign AS 'Campaign', COUNT(*) AS 'Last touch'  
FROM lt_resp  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

Source	Campaign	Last touch
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

3)How many visitors make a purchase?

- Total 18% of visitors ($361/1979=18.24\%$) make a purchase.

```
---2-3. No. of visitors make purchase---  
SELECT page_name AS 'Page', COUNT(*) AS 'No. of visitors'  
FROM page_visits  
WHERE page_name = '4 - purchase'  
GROUP BY page_name;
```

Page	No. of visitors
4 - purchase	361

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

- Total last touches: 1979
- Total purchase: 361
- 18% of visitors purchase from CoolTShirts's website.
- 78% of customers who purchased something from website was via newsletter or retargeting activity from customers' Email or Facebook.

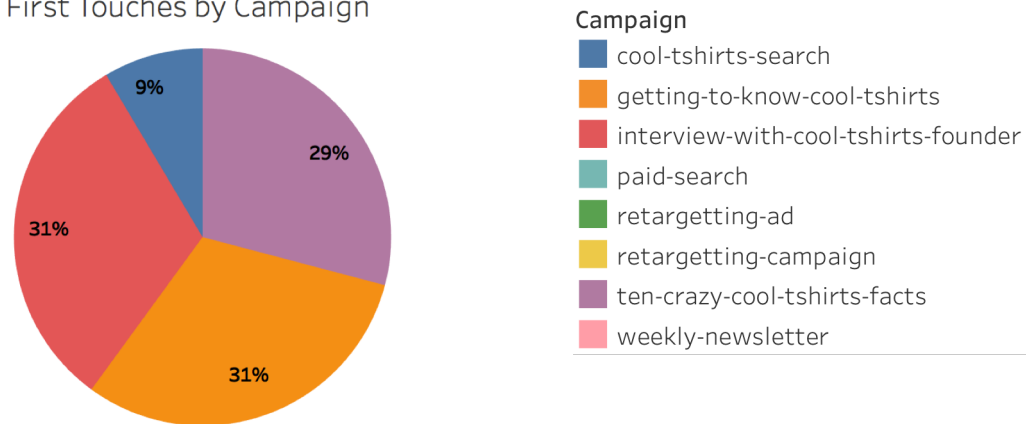
```
---2-4. No. of last touches of campaign make purchase---  
WITH  
  last_touch AS (  
    SELECT user_id, MAX(timestamp) AS last_touch_at  
    FROM page_visits  
    WHERE page_name = '4 - purchase'  
    GROUP BY user_id),  
  
  lt_resp AS (  
    SELECT lt.user_id, lt.last_touch_at, pv.utm_source, 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_resp.utm_source AS 'Source',  
       lt_resp.utm_campaign AS 'Campaign', COUNT(*) AS 'Purchase'  
FROM lt_resp  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

Source	Campaign	Purchase
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

5)What is the typical user journey?

- a. Storytelling article from online publishing platform or news site leads customers to visit CoolTShirts's website.

First Touches by Campaign

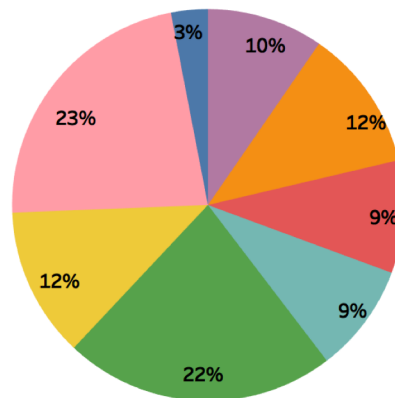


Name of Sources	Name of Campaigns	First Touches
medium	interview-with-cool-tshirts-founder	622
nytimes	getting-to-know-cool-tshirts	612
buzzfeed	ten-crazy-cool-tshirts-facts	576
google	cool-tshirts-search	169
email	weekly-newsletter	0
email	retargeting-campaign	0
facebook	retargeting-ad	0
google	paid-search	0

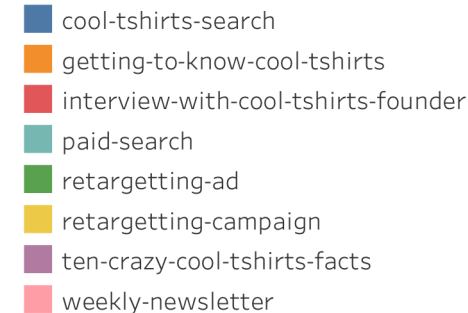
5) What is the typical user journey?

- b. Most of last visit was made with newsletter or retargeting activity from customers' Email or Facebook.
- c. Storytelling campaign from online publishing platform or news site which takes 91% of the first touch dropped to 31% of the last touch.

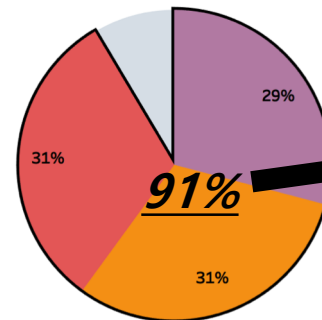
Last Touches by Campaign



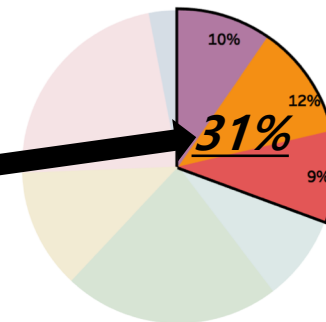
Campaign



First Touches by Campaign



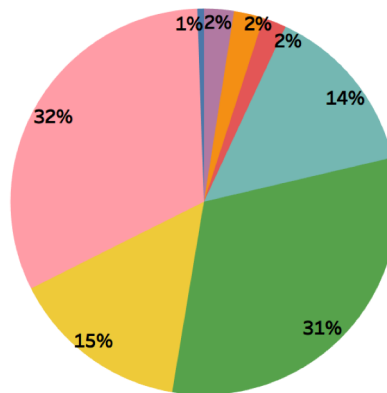
Last Touches by Campaign



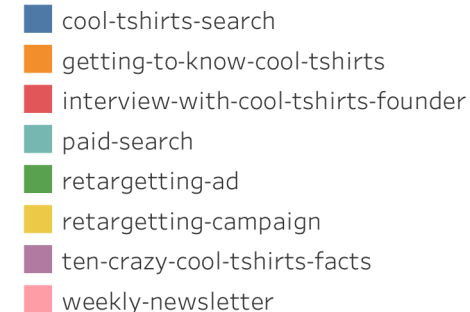
5)What is the typical user journey?

- d. Top 3 campaigns, which lead to 78% of purchase was via newsletter or retargeting activity from customers' Email or Facebook, and two of them are retargeting.

Purchase by Campaign



Campaign



Source	Campaign	Purchase
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

03. OPTIMIZE THE CAMPAIGN BUDGET

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

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

- I will choose the following 5 campaigns.
 - **From the result of first touch & purchase:** As it is important to attract customers and be exposed to customers for the first time, I will choose Top 3 campaigns based on the result of 'first touch'. Also, those campaigns are Top 3 campaigns that lead customer to purchase among the rest of campaigns of the first touch.
 - ten-crazy-cool-tshirts-facts (buzzfeed)
 - interview-with-cool-tshirts-founder (medium)
 - getting-to-know-cool-tshirts (nytimes)
 - **From the result of last touch & purchase:** Even though we had 169 customers with 'cool-tshirts-search' campaign for the first touch, the rate of last touch and purchase is lower than other campaigns. Also, 'retargeting-campaign' via email looks effective, but will choose Top 2 campaigns which are apparently ranks high.
 - weekly-newsletter (email)
 - retargeting-ad (facebook)

Name of Sources	Name of Campaigns	First touch	% of First touch	Rank of First touch	Last touch	% of Last touch	Rank of Last touch	Purchase	% of Purchase	Rank of Purchase
buzzfeed	ten-crazy-cool-tshirts-facts	576	29%	3	190	10%	5	9	2%	5
email	retargeting-campaign				245	12%	3	54	15%	3
email	weekly-newsletter				447	23%	1	115	32%	1
facebook	retargeting-ad				443	22%	2	113	31%	2
google	paid-search				178	9%	7	52	14%	4
google	cool-tshirts-search	169	9%	4	60	3%	8	2	1%	8
medium	interview-with-cool-tshirts-founder	622	31%	1	184	9%	6	7	2%	7
nytimes	getting-to-know-cool-tshirts	612	31%	2	232	12%	4	9	2%	5
Grand Total	Total	1,979	100%	-	1,979	100%	-	361	100%	-

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

