



Attribution

Learn SQL from Scratch

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1. Get familiar with CoolTShirts

1.1 No of Campaigns and Sources

How many campaigns does CoolTShirts use?

Campaigns : A campaign is a marketing strategy used to appeal to a certain section of prospective buyers. Example being the famous Mac vs PC ads by Apple.

```
-- Query to find the number of Campaigns  
SELECT COUNT(DISTINCT utm_campaign) AS 'Number of  
Campaigns'  
FROM page_visits;
```

Number of Campaigns

8

How many Sources does CoolTShirts use?

Sources : A source is a medium that provides an organization to pitch their campaigns. Email, Social Network and Websites are some of the mediums or sources.

```
-- Query to find the number of Sources  
SELECT COUNT(DISTINCT utm_source) AS 'Number of Sources'  
FROM page_visits;
```

No of Sources

6

1.1 Source and Campaign Relation

Which Source is used for which Campaign?

A source can be used to run any number of campaigns. Email Source was used to run the weekly newsletter and retargeting campaigns. In a similar way a single campaign can run on multiple sources.

```
--Query to find the relationship btw Campaign and Source
SELECT DISTINCT utm_campaign AS 'Campaign',
    utm_source as 'Source'
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

1.2 Different Pages on CoolTShirts

What are the different pages on the CoolTShirts Website?

There are about four different types of pages on the CoolTShirts Website. The following sql statement provides the different types of pages on the website. The dataset shows that not all pages might be listed in the table.

```
--Query to find the number of pages  
SELECT DISTINCT page_name AS 'Page'  
FROM page_visits;
```

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

2. What is the User Journey

2.1 First Touches

How many first touches is each campaign responsible for?

First touches gives the first time where people were exposed to the CoolTShirts website. To identify the first touches we gather the MIN date of the timestamps for each user and this provides us the campaign and source that contributed to the first touches.

Source	Campaign	Number of 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

```
/* Query for finding the campaigns responsible for the
first touches */
WITH first_touch AS (
    SELECT user_id,
        MIN(timestamp) AS first_touch_at
    FROM page_visits
    GROUP BY user_id)
SELECT
    pv.utm_source AS 'Source',
    pv.utm_campaign AS 'Campaign',
    COUNT(*) AS 'Number of First Touches'
FROM first_touch ft
JOIN page_visits pv
ON ft.user_id = pv.user_id
AND ft.first_touch_at = pv.timestamp
GROUP BY 1,2
ORDER BY 3 DESC;
```

2.2 Last Touches

How many last touches is each campaign responsible for?

- Last touches provides us the sources and campaigns that last drove the user to the site. To identify the last touches we gather the MAX date of timestamps for each user.

Source	Campaign	Number of Last Touches
email	weekly-newsletter	447
facebook	retargetting-ad	443
email	retargetting-campaign	245
nytimes	getting-to-know-cool-tshirts	232
buzzfeed	ten-crazy-cool-tshirts-founder	190
medium	interview-with-cool-tshirts-founder	184
google	paid-search	178
google	cool-tshirts-search	60

```
/*
 * Query to find the Campaigns responsible for Last
 * Touches*
WITH last_touch AS (
    SELECT user_id,
        MAX(timestamp) AS 'last_touch_at'
    FROM page_visits
    GROUP BY user_id)
SELECT
    pv.utm_source AS 'Source',
    pv.utm_campaign AS 'Campaign',
    COUNT(*) AS 'Number of Last Touches'
FROM last_touch lt
JOIN page_visits pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at = pv.timestamp
GROUP BY 1,2
ORDER BY 3 DESC;
```

2.3 Purchases

How many visitors make a purchase?

- A total of 361 visitors make a purchase, that is about 18% (361/1979)

```
/* Query for finding the visitors who make a purchase */
SELECT COUNT (DISTINCT user_id) AS 'No of Visitors who
made a Purchase'
FROM page_visits
WHERE page_name = '4 - purchase';
```

No of Visitors who made a Purchase
361

2.4 Last Touches Responsible for Purchase

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

Previously we have identified the last touches by using the MAX of Timestamp, in order to identify the last touches that are responsible for purchase we take the MAX of timestamps where the page is a purchase page.

Source	Campaign	Number of Last Touches
email	weekly-newsletter	115
facebook	retargetting-ad	113
email	retargetting-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

```
/*
 * Query to find the Last Touch Count for Purchase Page */
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
    pv.utm_source AS 'Source',
    pv.utm_campaign AS 'Campaign',
    COUNT(*) AS 'Number of Last Touches'
FROM last_touch lt
JOIN page_visits pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at = pv.timestamp
GROUP BY 1,2
ORDER BY 3 DESC;
```

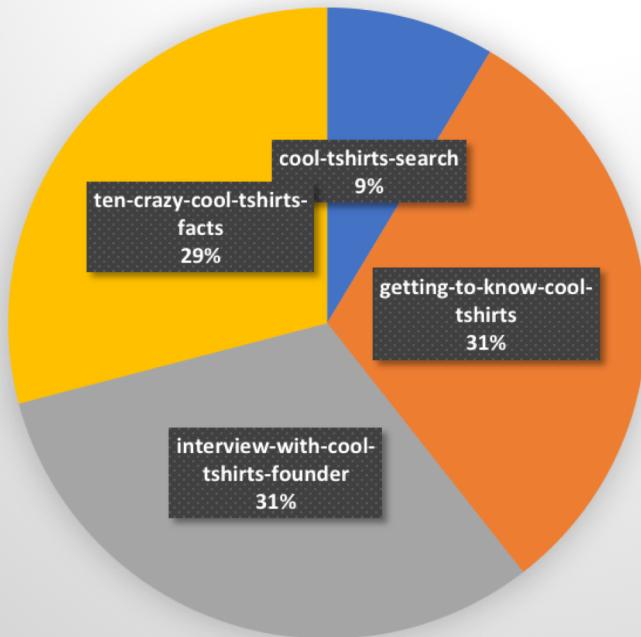
2.5 Typical User Journey – First Touches by Campaign

Campaigns that draw the users to the site

The following campaigns amount to 91% of the users coming to the site for the first time

- getting-to-know-cool-tshirts
- interview-with-cool-tshirts-founder
- ten-crazy-cool-tshirts-facts

First Touches by Campaign



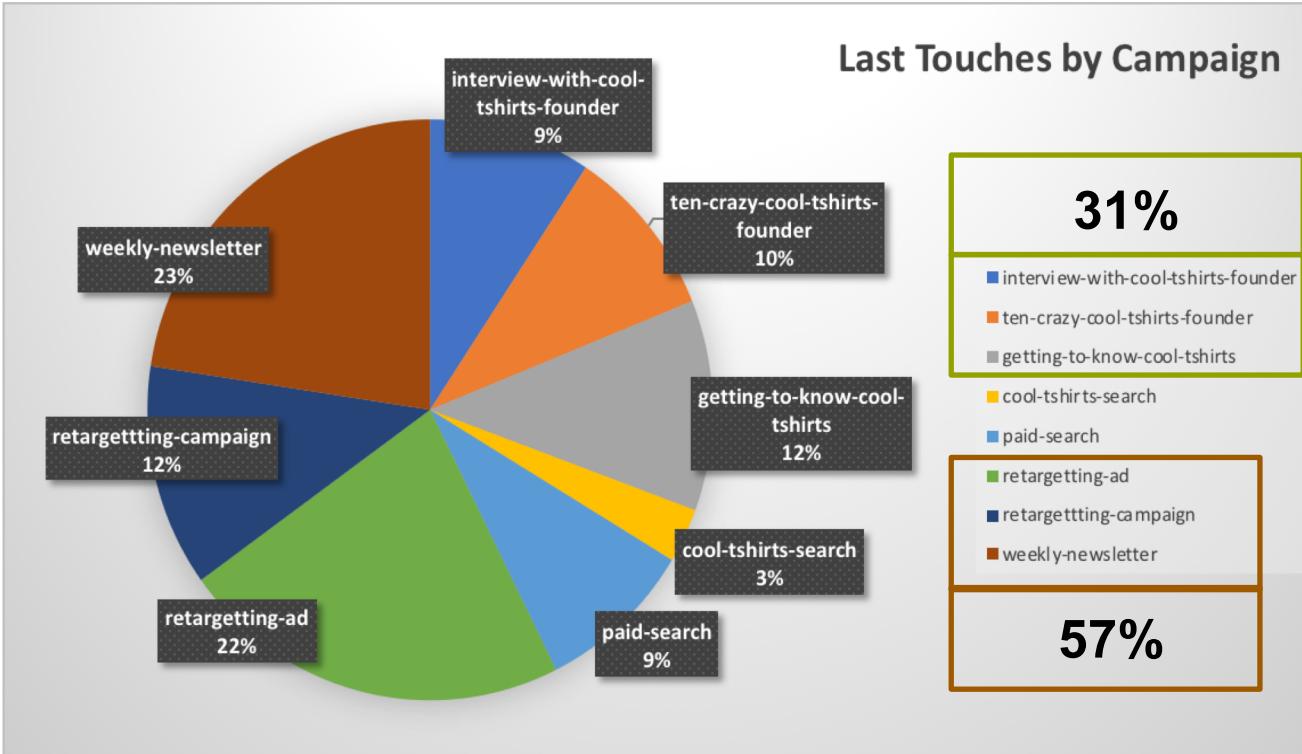
2.5 Typical User Journey – Last Touches by Campaign

Campaigns that are responsible for last touches

Re-targeting campaigns like below have worked the most in bringing the users again to the site.

- retargeting-ad
- retargetting-campaign
- weekly-newsletter

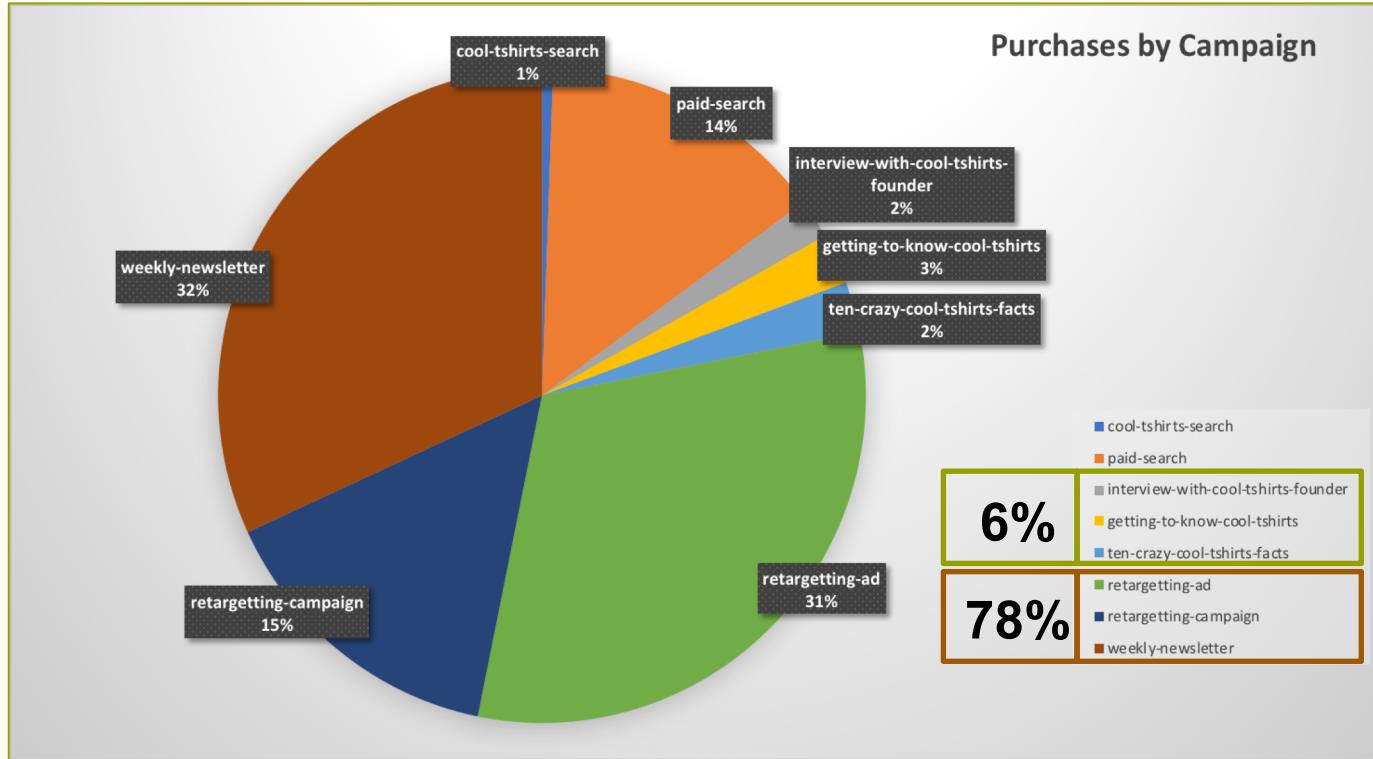
Story campaigns contributed to 31% of the last touches.



2.5 Typical User Journey – Purchases by Campaign

Campaigns that are responsible purchases

- The clear winner here are the retargeting campaigns as they contribute to 78% of the purchases.
- On the other hand Story Campaigns do not contribute much to purchases. They only account for 6% of the purchases.



3. Optimize the Campaign Budget

3.0 Optimizing the Campaign Budget

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

The following six campaigns will make the cut for re-investment

- All three Story Campaigns generate interest in the users. They bring the users to the site.
- The retargetting campaigns convert into purchases. They bring the money.

If I had to pick only 5 campaigns then I'll lose one of the retargetting campaigns like the **retargeting-campaign** as it becomes redundant with **weekly newsletter**. The source is the same for both and weekly newsletter contributes more to the purchases.

Campaigns for Re-Investment
interview-with-cool-tshirts-founder
getting-to-know-cool-tshirts
ten-crazy-cool-tshirts-facts
weekly-newsletter
Retargetting-ad