code|cademy

CoolTShirts

Attribution Analysis

Learn SQL from Scratch
Melinda Hows
Cohort 18/9/2018

Table of Contents

1. CoolTShirts' Marketing Strategy

1.1 Campaigns

CoolTShirts, an innovative apparel store, is promoting their online business by running multiple concurrent marketing campaigns. A **campaign** is a call to action used to encourage a specific response from the recipient/s.

- CoolTShirts is currently running **8 campaigns**, via multiple sources.
- The campaigns can be further classified as **regular**, *story, retargeting* and *search*.

```
1    -- CoolTShirts Campaigns
2    SELECT DISTINCT (utm_campaign) AS Campaign
3    FROM page_visits
4    ORDER BY 1;
```

Campaign	
cool-tshirts-search	Search
getting-to-know-cool-tshirts	Story
interview-with-cool-tshirts-founder	Story
paid-search	Search
retargetting-ad	Retargeting
retargetting-campaign	Retargeting
ten-crazy-cool-tshirts-facts	Story
weekly-newsletter	Regular

1.2 Sources

CoolTShirts campaigns are being running via several sources. A **source** is the channel by which a call to action is communicated to a campaign recipient/s.

- CoolTShirts is currently running 8 campaigns, via **6 sources**.

```
7   SELECT DISTINCT (utm_source) AS Source
8   FROM page_visits
9   ORDER BY 1;
```

Source
buzzfeed
email
facebook
google
medium
nytimes

1.3 Marketing Campaigns

CoolTShirts marketing campaigns consist of a campaign and a source.

CoolTShirts is running **8 distinct marketing campaigns**.

```
12   SELECT utm_campaign AS Campaign,
13   utm_source AS Source
14   FROM page_visits
15   GROUP BY 1
16   ORDER BY 2;
```

Campaign	Source
ten-crazy-cool-tshirts-facts Story	buzzfeed
retargetting-campaign Retargeting	email
weekly-newsletter Regular	email
retargetting-ad Retargeting	facebook
cool-tshirts-search Search	google
paid-search Search	google
interview-with-cool-tshirts-founder Story	medium
getting-to-know-cool-tshirts Story	nytimes

1.4 Pages

Each CoolTShirts marketing campaign directs users to the CoolTShirt website. The website pages visited form the customer journey.

- CoolTShirts customer journey for all campaigns includes 4 website pages.

Page_Names
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

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

2. The CoolTShirts Customer Journey

2.1 First Touches

The first touch is the first time a user visited the CoolTShirts website, as the result of interaction with a marketing Campaign. First touch can be analyzed by isolating the Min(timestamp) for each user ID.

Each first touch can be attributed to a marketing campaign. Four marketing campaigns can be attributed with first touches. **91.46%** of first touches are attributed to *story* marketing campaigns.

Source	Campaign	Count 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
Count First Touch		
1979		

```sql
WITH ft 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,
        page_visits.utm_source,
        page_visits.utm_campaign
  FROM ft
  JOIN page_visits
    ON ft.user_id = page_visits.user_id
    AND ft.first_touch_at = page_visits.timestamp
)
SELECT ft_attr.utm_source AS Source,
        ft_attr.utm_campaign AS Campaign,
        COUNT(*) AS 'Count First Touch'
FROM ft_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```

2.2 Last Touches

A last touch is the last time a user visits the CoolTShirts website. Last touch can be analyzed by isolating the Max(timestamp) for each user ID.

Each last touch can be attributed to a marketing campaign. *Retargeting* campaigns resulted in **57.35%** of last touches.

Source	Campaign	Count Last Touch
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
Count Last Touch		
1979		

```
55  WITH lt AS (
56      SELECT user_id,
57          MAX(timestamp) as last_touch_at
58      FROM page_visits
59      GROUP BY user_id),
60  lt_attr AS (
61    SELECT lt.user_id,
62          lt.last_touch_at,
63          page_visits.utm_source,
64          page_visits.utm_campaign
65    FROM lt
66    JOIN page_visits
67      ON lt.user_id = page_visits.user_id
68      AND lt.last_touch_at = page_visits.timestamp
69  )
70  SELECT lt_attr.utm_source AS Source,
71          lt_attr.utm_campaign AS Campaign,
72          COUNT(*) AS 'Count Last Touch'
73  FROM lt_attr
74  GROUP BY 1, 2
75  ORDER BY 3 DESC;
```

2.3 Purchasers

A website visitor is deemed a purchaser when the last touch occurs on the purchase page. The number of purchasers can be calculated by isolating the Max(timestamp) for each user ID, where the page is the purchase page.

```sql
87    SELECT COUNT(DISTINCT(user_id)) AS Purchasers
88    FROM page_visits
89    WHERE page_name ="4 - purchase";
```

Purchasers
361

2.4 Purchase Attribution

The purchase attribution is the Marketing Campaign attributed with the user visiting the purchase page of the CoolTShirts website.

Four campaigns are attributed with 92% of purchases.

Source	Campaign	Count Purchase Attribution
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

Purchasers
361

```sql
83  WITH lt AS (
84      SELECT user_id,
85          MAX(timestamp) as last_touch_at
86      FROM page_visits
87      WHERE page_name = '4 - purchase'
88      GROUP BY user_id),
89  lt_attr AS (
90      SELECT lt.user_id,
91          lt.last_touch_at,
92          page_visits.utm_source,
93          page_visits.utm_campaign
94      FROM lt
95      JOIN page_visits
96          ON lt.user_id = page_visits.user_id
97          AND lt.last_touch_at = page_visits.timestamp
98  )
99  SELECT lt_attr.utm_source AS Source,
100         lt_attr.utm_campaign AS Campaign,
101         COUNT(*) AS 'Count Purchase Attribution'
102 FROM lt_attr
103 GROUP BY 1, 2
104 ORDER BY 3 DESC;
```

3. Maximizing CoolTShirts' Advertising Budget

3.1 Marketing Analysis

- **91.46%** of first touches can be attributed to *story* marketing campaigns.

Story campaigns drive traffic to be website.

- **57.35%** of last touches can be attributed to *retargeting* marketing campaigns.

Typically a visitor requires retargeting before they purchase.

- **92.50%** of purchases can be attributed to a *regular* or *retargeting* marketing campaign.
- **18.24%** of visitors purchased a CoolTShirts product.

Type	Campaign	Source	First Touch	Last Touch	Purchase Attribution	Conversion, First Touch to Purchase	Conversion, Last Touch to Purchase
Regular	Weekly Newsletter	Email	0	447	115	n/a	25.73%
Retargeting	Retargetting Campaign	Email	0	245	113	n/a	46.12%
Retargeting	Retargetting Ad	Facebook	0	443	54	n/a	12.19%
Search	Cool Tshirts Search	Google	169	60	2	1.18%	3.33%
Search	Paid Search	Google	0	178	52	n/a	29.21%
Story	Ten Crazy Cool Tshirt Facts	Buzzfeed	576	190	9	1.56%	4.74%
Story	Interview With Cool Tshirts Founder	Medium	622	184	7	1.13%	3.80%
Story	Getting to Know Cool Tshirts	NY Times	612	232	9	1.47%	3.88%
			1979	1979	361		

3.2 Marketing Re-Investment

In order to maximise marketing efforts, reinvestment should focus on driving traffic to the website and retargeting campaigns.

Story campaigns once published do not require further investment until republished. New story campaigns could be trialed on Facebook and Email, as both of these sources have strong conversion rates.

I recommend CoolTShirts **re-ivest** in marketing campaigns that prompt the majority of last touches being:
- Weekly Newsletter – Email
- Retargetting Campaign - Email
- Retargetting Ad – Facebook
- Paid Search – Google

I further recommend CoolTShirts **invest** in a ***story*** marketing campaign on Facebook.