codecademy

Project Capstone:

First- and Last-Touch Attribution

Learn SQL from Scratch

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Example Table of Contents

Get Familiar with CoolTshirts

1.1 Getting to Know CoolTshirts

CoolTshirts has 8 distinct campaigns with 6 distinct sources used to promote each campaign.

Campaign	Source	Total Visits
Getting-to-know-cool-tshirts	nytimes	1,349
Ten-crazy-cool-tshirts-facts	buzzfeed	1,198
Interview-with-cool-tshirts-founder	medium	1,178
weekly-newsletter	email	565
Retargetting-ad	facebook	558
Cool-tshirts-search	google	313
Retargetting-campaign	email	300
Paid-search	google	231

```
select count(distinct utm_campaign) as campaigns
from page_visits;

select count(distinct utm_source) as source
from page_visits;

select utm_campaign as 'campaign',
    utm_source as 'source',
    count(*) as 'visits'
from page_visits
group by 1, 2
order by 3 desc;
```

1.1 Getting to Know CoolTshirts, cont.

CoolTshirts has 4 landing pages.

Campaign	Source	Total Visits
Getting-to-know-cool-tshirts	nytimes	1,349
Ten-crazy-cool-tshirts-facts	buzzfeed	1,198
Interview-with-cool-tshirts-founder	medium	1,178
weekly-newsletter	email	565

```
select count(distinct utm_campaign) as campaigns
from page_visits;

select count(distinct utm_source) as source
from page_visits;

select utm_campaign as 'campaign',
    utm_source as 'source',
    count(*) as 'visits'
from page_visits
group by 1
order by 3 desc;
```

What is the user journey?

2.1 What is the User Journey?

CoolTshirts has 4 primary campaigns that generate first touch.

Campaign	Source	Total Visits
Interview-with-cool-tshirts-founder	medium	622
Getting-to-know-cool-tshirts	nytimes	612
Ten-crazy-cool-tshirts-facts	buzzfeed	576
Cool-tshirts-search	google	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_campaign,
    pv.utm_source,
    pv.page_name
  FROM first_touch ft
  JOIN page_visits pv ON
    ft.user_id = pv.user_id AND
    ft.first_touch_at = pv.timestamp)

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

2.2 What is the User Journey, cont.

Chart below shows how many last touches each campaign generated.

Campaign	Source	Total Visits
Weekly-newsletter	email	447
Retargetting-ad	facebook	443
Retargetting-campaign	email	245
Getting-to-know-cool-tshirts	nytimes	232
Ten-crazy-cool-tshirts-facts	buzzfeed	190
Interview-with-cool-tshirts-founder	medium	184
Paid-search	google	178
Cool-tshirts-search	google	60

```sql
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_campaign,
    pv.utm_source
   FROM last_touch lt
   JOIN page_visits pv ON
     lt.user_id = pv.user_id AND
     lt.last_touch_at = pv.timestamp)

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

2.3 What is the User Journey, cont.

Of the 5,692 visitors that visit CoolTshirts, 361 make a purchase. The chart below demonstrate which campaigns generated a purchase where their last touch on the site was the purchase page.

Campaign	Source	Total Visits
Weekly-newsletter	email	115
Retargetting-ad	facebook	113
Retargetting-campaign	email	54
Paid-search	google	52
Getting-to-know-cool-tshirts	nytimes	9
Ten-crazy-cool-tshirts-facts	buzzfeed	9
Interview-with-cool-tshirts-founder	medium	7
Cool-tshirts-search	google	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),

 lt_attr AS
   (SELECT lt.user_id,
    lt.last_touch_at,
    pv.utm_campaign,
    pv.utm_source
 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,
    lt_attr.utm_source,
    COUNT(*)
FROM lt_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```

2.3 What is the User Journey, cont.

The chart below shows a typical user journey for someone interested in CoolTshirts.

The majority of users will find out about CoolTshirts from one of four main sources:

- interview-with-cool-tshirts-founder
- getting-to-know-cool-tshirt
- Ten-crazy-cool-tshirts-facts
- Cool-tshirts-search

After their initial interaction with the site, visitors will be engaged with various activities to bring them back to the site. The campaigns that effectively convert visitors to customers are:
- Weekly-newsletter
- Retargetting-ad
- Retargetting-campaign
- Getting-to-know-cool-tshirts

Utm_campaign	First_touch	Last_touch	Purchase
Interview-with-cool-tshirts-founder	622	184	7
Getting-to-know-cool-tshirts	612	232	9
Ten-crazy-cool-tshirts-facts	576	190	9
Cool-tshirts-search	169	60	2
Weekly-newsletter	0	447	115
Retargetting-ad	0	443	113
Retargetting-campaign	0	245	54
Paid-search	0	178	52

Optimize the budget

3.1 Optimize the Campaign Budget

- Based on the first touch attribution model, there are three campaigns that CoolTshirts should re-invest in because of the volume of visitors they bring to the site for the first time. (See highlighted box in **red** on next slide.)
- These three campaigns are effective at bringing new visitors to the site that result in an eventual purchase.
- Based on the last touch attribution model, there are three campaigns that CoolTshirts should re-invest in because of the number of purchases that resulted from the last touch. (See highlighted box in **blue** on next slide.)
- These three campaigns are effective at keeping the visitors that came to the site to guide them down to the path to purchase.
- The majority of purchases are generated by 3 campaigns, highlighted below in **green**. These three campaigns are high priority for re-investment.

Utm_campaign	Purchase	% of Purchase Generated
Interview-with-cool-tshirts-founder	7	1.93%
Getting-to-know-cool-tshirts	9	2.49%
Ten-crazy-cool-tshirts-facts	9	2.49%
Cool-tshirts-search	2	0.55%
Weekly-newsletter	115	31.85%
Retargetting-ad	113	31.30%
Retargetting-campaign	54	14.96%
Paid-search	52	14.40%

3.1 Optimize the Campaign Budget

Utm_campaign	First_touch	Last_touch	Purchase
Interview-with-cool-tshirts-founder	622	184	7
Getting-to-know-cool-tshirts	612	232	9
Ten-crazy-cool-tshirts-facts	576	190	9
Cool-tshirts-search	169	60	2
Weekly-newsletter	0	447	115
Retargetting-ad	0	443	113
Retargetting-campaign	0	245	54
Paid-search	0	178	52