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First and Last Touch Attribution

Learn SQL from Scratch - Capstone Project
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August 28, 2018

CoolTShirts – First and Last Click Attribiutuon

CoolTShirts, an innovative apparel shop, is running a bunch of marketing campaigns. In this capstone, you'll be helping them answer these questions about their campaigns:

1. Get familiar with CoolTShirts

2. What is the user journey?

3. Optimize the campaign budget

1. Get familiar with CoolTShirts

Getting Familiar With CoolTShirts

Set out to answer 2 questions:

- How many campaigns and sources does CoolTShirts use and how are they related?

- What pages are on their website?

1.1 Campaigns and Sources

Campaign	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

```
-- How many campaigns and sources does CoolTShirts
use and how are they related? --

-- Number of Unique Camapigns –

SELECT COUNT (DISTINCT utm_campaign) AS 'Number of
Camapigns'
FROM page_visits;

-- Number of Unique Sources –

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

-- Campaign and Source –

SELECT DISTINCT utm_campaign as Campaign,
utm_source as Source
FROM page_visits;
```

Campaign Count	Source Count
8	6

- A source is the type of media from which on which a campaign is shared with customers
- A campaign is a specific message designed to elicit a specific response from a specific group of prospective customers.
- A source, like email, can run multiple campaigns, like 'retargeting' or 'weekly newsletter'.
- The same campaign could be run across multiple sources, although that is not represented in this dataset.

1.2 What pages are on their website?

Script

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

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

2. What is the User Journey?

Understanding the User Journey

Set out to answer 5 questions:
- How many first touches is each campaign responsible for?
- How many last touches is each campaign responsible for?
- How many visitors make a purchase?
- How many last touches on the purchase page is each campaign responsible for?
- What is the typical user journey?

2.1 How many first touches is each campaign responsible for?

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

Script

```
-- Create Table that identified first touch-

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

-- Join page visits --

ft_att AS (
SELECT ft.user_id, ft.first_touch_at,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)

-- # Users by Campaign Type [First Touch] --

SELECT ft_att.utm_campaign as campaign,
ft_att.utm_campaign as source,
  COUNT(*) AS COUNT
FROM ft_att
GROUP BY 1
ORDER BY 2;
```

2.2 How many last touches is each campaign responsible for?

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

```
-- Find Last Touch by User ID—

WITH last_touch AS (
  SELECT user_id, MAX(timestamp) as last_touch_att
FROM page_visits
WHERE page_name = '4 - purchase'
GROUP BY user_id),

-- Joins with Page visits-

lt_att as (
  SELECT lt.user_id,lt.last_touch_att,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_att = pv.timestamp

-- Count of number of Users-

SELECT lt_att.utm_campaign as campaign,
lt_att.utm_campaign as source,
          COUNT (*) as Number of Users
  FROM lt_att
  GROUP BY 1
  ORDER BY 2;
```

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

Number of Purchases Made
361

Source	Campaign	Count of Purchases
email	weekly-newsleter	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

Script

```
-- Table to idenfitify Last Touch—

WITH last_touch AS (
SELECT user_id,
 MAX(timestamp) AS last_touch_att
FROM page_visits
WHERE page_name = '4 - purchase'
GROUP BY user_id),

-- Join Last Touch and Page Visits—

lt_att as (
 SELECT lt.user_id,
            lt.last_touch_att,
            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_att = pv.timestamp)

-- Count number of users by last touch attr.--

SELECT lt_att.utm_campaign,
     COUNT (*) as Number of Users
 FROM lt_att
 GROUP BY 1
 ORDER BY 2;
```

2.3 What is the typical User Journey?

First Touch by Campaign

- 91% of users first come from news articles
- 9% of users first come through organic search
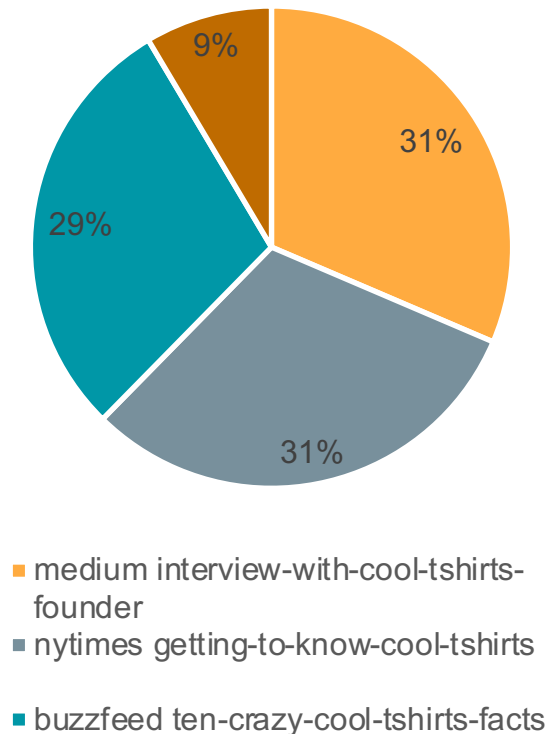
Last Touch by Campaign

- 35% of users last visit from an email source
- 28% of users last visit from an article
- 34% of users last visit from a paid platform
- 3% of users last visit from an organic search
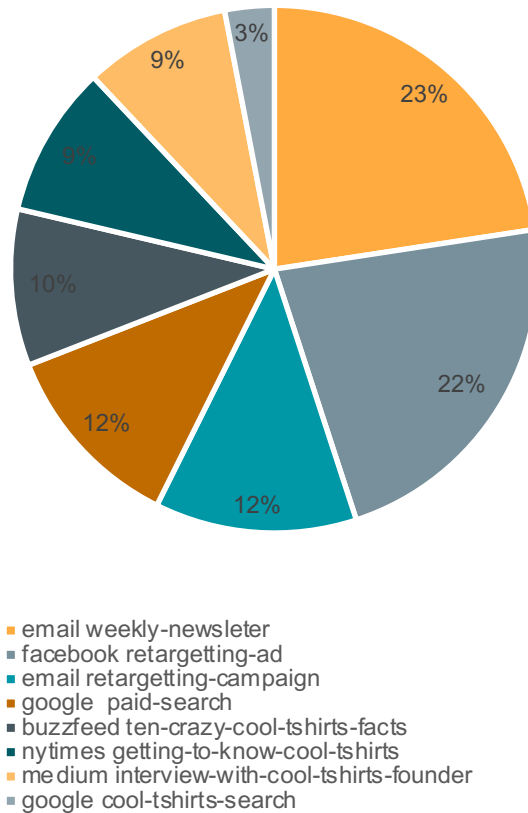
Purchases by Campaign
- 47% of purchases come from email source
- 46% of purchases come from paid traffic
- 7% of purchases come from articles
- 1% of purchases from from organic
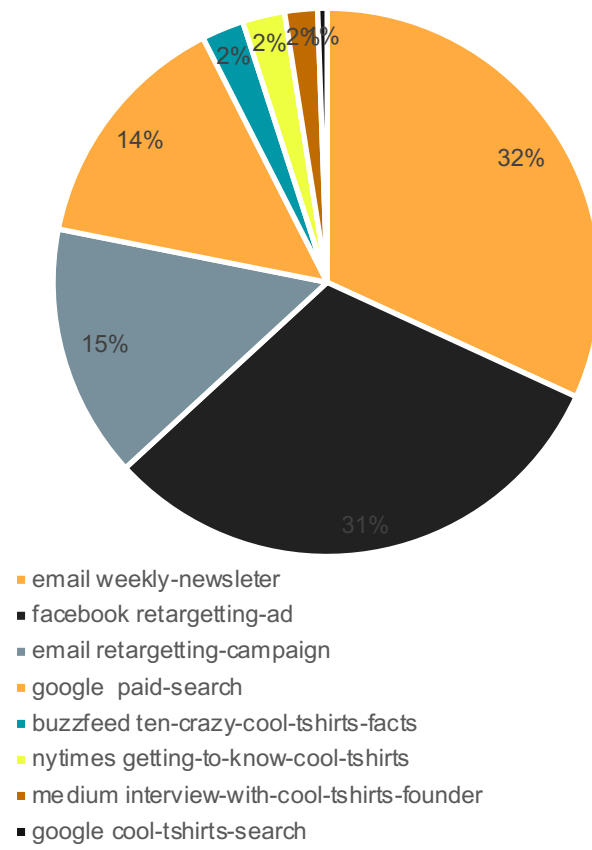
2.3 What is the typical User Journey?

First Touch Attr.

Last Touch Attr.

Attr. of Purchases

First Touch Attr. legend:
- medium interview-with-cool-tshirts-founder
- nytimes getting-to-know-cool-tshirts
- buzzfeed ten-crazy-cool-tshirts-facts

Last Touch Attr. legend:
- email weekly-newsleter
- facebook retargetting-ad
- email retargetting-campaign
- google paid-search
- buzzfeed ten-crazy-cool-tshirts-facts
- nytimes getting-to-know-cool-tshirts
- medium interview-with-cool-tshirts-founder
- google cool-tshirts-search

Attr. of Purchases legend:
- email weekly-newsleter
- facebook retargetting-ad
- email retargetting-campaign
- google paid-search
- buzzfeed ten-crazy-cool-tshirts-facts
- nytimes getting-to-know-cool-tshirts
- medium interview-with-cool-tshirts-founder
- google cool-tshirts-search

3. Optimize campaign budget

Campaign Optimization

- CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?
- If CoolTShirts can only invest in 5 campaigns they should focus on two key areas, driving upper funnel traffic and closing sales
- Upper Funnel tactics (first touch) – continue the ten-crazy-cool-tshirts-facts, getting-to-know-cool-tshirts, and interview-with-cool-tshirts-founder campaigns
- Lower Funnel tactics (last touch) - continue weekly-newsletter and retargeting ads

Campaign	First Touch	Last Touch	Purchases	First Touch (%)	Last Touch (%)	Purchases (%)
weekly-newsletter	0	447	115	0%	23%	32%
retargetting-ad	0	443	113	0%	22%	31%
retargetting-campaign	0	245	54	0%	12%	15%
paid-search	0	232	52	0%	12%	14%
ten-crazy-cool-tshirts-facts	576	190	9	29%	10%	2%
getting-to-know-cool-tshirts	612	184	9	31%	9%	2%
interview-with-cool-tshirts-founder	622	178	7	31%	9%	2%
cool-tshirts-search	169	60	2	9%	3%	1%
Total	1979	1979	361			