



First- and Last-Touch Attribution with CoolTShirts.com

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1. Get Familiar with CoolTShirts

1.1 Campaigns & Sources

- CoolTShirts has **8** different marketing campaigns running to drive traffic to the website
 - Campaigns are placed throughout **6** different external sources
 - One source may house multiple campaigns
 - Each campaign only utilizes one source
- utm_campaign – identifies the ad or email blast used
- utm_source – identifies which touchpoint sent the traffic

-- Question 1a: 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.

```
SELECT COUNT (distinct utm_campaign)
FROM page_visits;
```

```
SELECT COUNT(distinct utm_source)
FROM page_visits;
```

```
SELECT distinct utm_campaign, utm_source
FROM page_visits;
```

utm_campaign	utm_source	utm_campaign	utm_source
getting-to-know-cool-tshirts	nytimes	retargeting-ad	facebook
weekly-newsletter	email	interview-with-cool-tshirts-founder	medium
ten-crazy-cool-tshirts-facts	buzzfeed	paid-search	google
retargeting-campaign	email	cool-tshirts-search	google

1.2 Website Pages

- Once the user is on the website, data is recorded regarding which pages they visit
- There are 4 distinct pages (page_name) in the funnel
 - 1 - landing_page
 - 2 - shopping_cart
 - 3 - checkout
 - 4 - purchase
- Ultimate goal is to get user to purchase page
- Information can still be used to determine which campaigns drive users furthest through the funnel
- The table to the right reflects the number of users that have visited each page

-- Question 1b: What pages are on their website?

```
SELECT distinct page_name  
FROM page_visits;
```

```
SELECT distinct page_name, COUNT (*) AS  
number_visits  
FROM page_visits  
GROUP BY 1;
```

page_name	number_visits
1 - landing_page	2000
2 - shopping_cart	1900
3 - checkout	1431
4 - purchase	361

2. What Is The User Journey?

2.1 First Touches Per Campaign

- First touch attribution refers to the the first time a user visited CoolTShirts.com
- The table below shows how many first touches each campaign is responsible for
- Sponsored content is responsible for 91% of first touches
- User driven searches are responsible for 9% of first touches

Campaign	First_Touches	% of First touches
interview-with-cool-tshirts-founder	622	31%
getting-to-know-cool-tshirts	612	31%
ten-crazy-cool-tshirts-facts	576	29%
cool-tshirts-search	169	9%

-- Question 2a: How many first touches is each campaign responsible for?

```
WITH first_touch AS (  
    SELECT user_id,  
           MIN(timestamp) AS first_touch_at  
    FROM page_visits  
    GROUP BY user_id)  
SELECT pv.utm_campaign AS Campaign,  
       COUNT( ft.first_touch_at) AS 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  
ORDER BY 2 desc;
```

2.2 Last Touches Per Campaign

- Last touch attribution refers to the campaign page visit that prompted the user to purchase the product

Campaign	Last_Touches	% of Last Touches
Weekly-newsletter	447	23%
Retargetting-ad	443	22%
Retargetting-campaign	245	12%
getting-to-know-cool-tshirts	232	12%
ten-crazy-cool-tshirts-facts	190	10%
Interview-with-cool-tshirts-founder	184	9%
Paid-search	178	9%
cool-tshirts-search	60	3%

-- Question 2.b: How many last touches is each campaign responsible for?

```
WITH last_touch AS (  
    SELECT user_id,  
           MAX(timestamp) AS last_touch_at  
    FROM page_visits  
    GROUP BY user_id)  
SELECT pv.utm_campaign AS Campaign,  
       COUNT( lt.last_touch_at) AS 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  
ORDER BY 2 desc;
```


2.3 How Many Visitors Make A Purchase

- Of the 1,979 visitors to the CoolTShirts website, 361 or 18% make a purchase

page_name	visitor_count
4 - purchase	361

-- Question 2c: How many visitors make a purchase?

```
SELECT page_name, COUNT (distinct user_id) AS  
visitor_count  
FROM page_visits  
WHERE page_name = "4 - purchase";
```

2.4 Last Touches On Purchase Page

- The weekly newsletter and retargeting ad are responsible for the majority of purchases at 226 or (63%)

Campaign	Last_Touches	% of Last Touches
Weekly-newsletter	114	32%
Retargeting-ad	112	31%
Retargeting-campaign	53	15%
Paid-search	52	14%
getting-to-know-cool-tshirts	9	2%
ten-crazy-cool-tshirts-facts	9	2%
Interview-with-cool-tshirts-founder	7	2%
cool-tshirts-search	2	1%

--Question 2d: How many last touches on the purchase page is each campaign responsible for?

```
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_campaign AS Campaign,  
       COUNT(lt.last_touch_at) AS 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  
ORDER BY 2 desc;
```

2.5 Typical User Journey

- The largest drop-off of the user journey occurs between the checkout and purchase page

page_name	User_Visits	purchases
landing_page	1979	n/a
shopping_cart	1881	95%
checkout	1431	76%
purchase	361	25%

--Question 2e: What is the typical user journey?

```
SELECT COUNT (distinct user_id) as User_Visits,  
page_name  
FROM page_visits  
GROUP BY page_name;
```

3. Optimizing The Campaign Budget

3.1 Campaign Optimization Selections

- To determine which campaigns CoolTShirts should re-invest in, we will look at 2 elements
- Which campaigns are driving visitors to the site?
- Which campaigns are converting visits to purchases?
- Based on those 2 questions, the following campaigns have been selected as the optimal re-investments

Campaign	Source
interview-with-cool-tshirts-founder	medium
getting-to-know-cool-tshirts	nytimes
weekly-newsletter	email
retargetting-ad	facebook
retargetting-campaign	email

3.2 Campaign Optimization Justification

- To justify the selected optimal campaigns, all data regarding first touch and purchases has been compiled in the table to the right
- The **weekly newsletter** and **retargeting ad** are prompting most of the purchases, which is the end goal
 - However, we do not know how many users are sent to the site through the campaign so their overall impact is unknown
- There is a complete data set for **getting-to-know-cool-tshirts**, **ten-crazy-cool-tshirts-facts**, and **interview-with-cool-tshirts-founder**. All of which are driving the most users to the website, but have low purchase volume
 - Utilize opportunities these numbers present to redirect users to more successful campaigns (sign up for weekly newsletter), or inform them of promotions such as company sales or first time purchaser discounts

Campaign	Purchases	First Touches
weekly-newsletter	114	n/a
retargeting-ad	112	n/a
retargeting-campaign	53	n/a
paid-search	52	n/a
getting-to-know-cool-tshirts	9	612
ten-crazy-cool-tshirts-facts	9	576
interview-with-cool-tshirts-founder	7	622
cool-tshirts-search	2	169