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Cool TShirts Budget Analysis

Learn SQL from Scratch
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1. Get familiar with the company.

   • 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.

   • What pages are on their website?

2. What is the user journey?

   • 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?

3. Optimize the campaign budget
   • CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

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* WHAT IS THE USER JOURNEY?

* OPTIMIZE THE CAMPAIGN BUDGET

1.1 Getting familiar with CoolTShirts

1.1 How many campaigns and sources does CoolTShirts use?
Which source is used for each campaign?

- Campaigns are the different marketing messages used by CoolTShirts to reach prospective customers, i.e. ads and newsletters.

- Sources are the different mediums that CoolTShirts use to communicate their campaigns, i.e.. email and Facebook.

- Sources can run different campaigns, i.e. email is used for "weekly newsletter" and "retargetting".

```
1    /*
2    1. How many campaigns does CoolTShirts use - query counts
     the number of campaigns
3    */
4    SELECT COUNT(DISTINCT utm_campaign) AS 'Campaign Count'
5    FROM page_visits;
6    /*
7
8    2. How many sources does CoolTShirts use - query counts
     the number of sources
9    */
10   SELECT COUNT(DISTINCT utm_source) AS 'Source Count'
11   FROM page_visits;
12   /*
13
14   3. Which source is used for each campaign - query finds
     the relationship between campaigns and the sources
15   */
16   SELECT DISTINCT utm_campaign AS Campaign,
17                   utm_source AS Source
18   FROM page_visits;
```

Campaign Count	
8	

Source Count	
6	

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 Getting familiar with CoolTShirts

1.2 What pages are on the CoolTShirts website? Find the distinct values of the page_name column.

- A simple query lists the unique Page names as it appears assigned from the individual campaigns. The page names are labeled to show the customer's journey as they progress through each campaign.

```
1   /*2 - Find unique pages on the CoolTShirts website */
2   SELECT DISTINCT page_name AS 'Page'
3   FROM page_visits;
```

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

2. What is the User Journey

2.1. How many first touches is each campaign responsible for?

- By identifying where and how customers first reach the CoolTShirts website the company can focus their campaigns.

- With 8 different campaigns, only 4 result in first touches and 4 out of the 6 sources are utilized for first touches.

Source	Campaign	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

First Touches
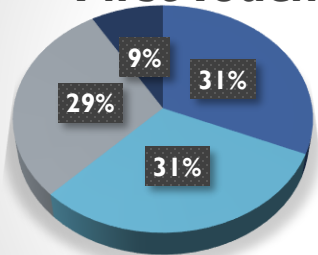
- Interview With Cool Tshirts Founder — 31%
- Getting to Know Cool Tshirts — 31%
- Ten Crazy Cool Tshirts Facts — 29%
- Cool Tshirts Search — 9%

```sql
1   /*
2   - Count the number of first touches by Campaign,
3   listing the Source associated with the first touch is
    beneficial.
4   */
5   WITH first_touch AS (
6       SELECT user_id,
7           MIN(timestamp) AS first_touch_at
8       FROM page_visits
9       GROUP BY user_id),
10  ft_attr AS(
11      SELECT ft.user_id,
12          ft.first_touch_at,
13          pv.utm_source,
14          pv.utm_campaign
15      FROM first_touch ft
16      JOIN page_visits pv
17      ON ft.user_id = pv.user_id
18      AND ft.first_touch_at = pv.timestamp
19  )
20  SELECT ft_attr.utm_source AS Source,
21      ft_attr.utm_campaign AS Campaign,
22      COUNT(*) AS First_Touches
23  FROM ft_attr
24  GROUP BY 1, 2
25  ORDER BY 3 DESC;
```

2. What is the User Journey

2.2. How many last touches is each campaign responsible for?

- By identifying where and how customers last touch the CoolTShirts website the company can focus their campaigns.

- With 8 different campaigns, the weekly newsletter and retargetting ad resulted clearly with the highest number of last touches.

Source	Campaign	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-facts	190
medium	interview-with-cool-tshirts-founder	184
google	paid-search	178
google	cool-tshirts-search	60

Last Touches

- Percent
- Last Touches

Bars: 23%, 22%, 12%, 12%, 10%, 9%, 9%, 3%

20%, 0%, 500, 0
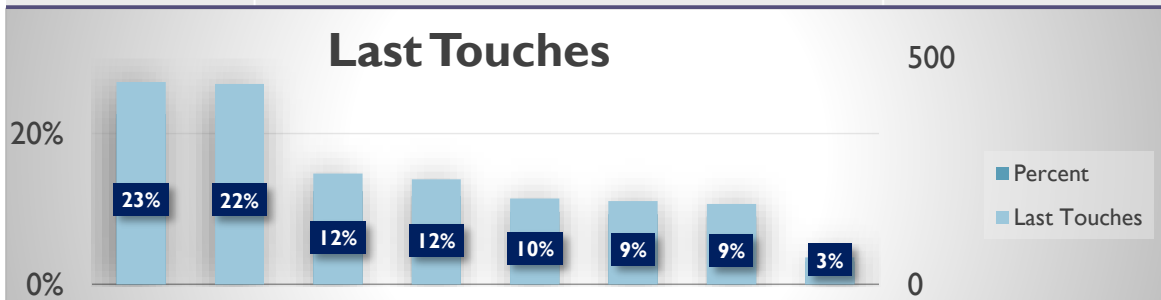
```
1   /*
2    - Counting the CoolTShirts last touches per campaign,
     including the source helps to identify which campaigns
     work best
3   */
4   WITH last_touch AS (
5       SELECT user_id,
6           MAX(timestamp) as last_touch_at
7       FROM page_visits
8       GROUP BY user_id),
9       lt_attr AS(
10      SELECT lt.user_id,
11          lt.last_touch_at,
12          pv.utm_source,
13          pv.utm_campaign
14      FROM last_touch lt
15      JOIN page_visits pv
16        ON lt.user_id = pv.user_id
17        AND lt.last_touch_at = pv.timestamp
18  )
19  SELECT lt_attr.utm_source AS Source,
20         lt_attr.utm_campaign AS Campaign,
21         COUNT(*) AS Last_Touches
22  FROM lt_attr
23  GROUP BY 1, 2
24  ORDER BY 3 DESC;
```

2. What is the User Journey

2.3 How many visitors make a purchase?

- By analyzing the number of customers who made purchases against the number of visitors with first touches CoolTShirts and evaluate their marketing campaigns.

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

- By using the MAX(timestamp) we are able to determine the last touches by campaign and source, isolating the page name 4 - purchase.
- By comparing this information with the first touch results it's clear that the campaigns attracting first touches are not the campaigns where customers are making their purchases.

Number of Customers Who Made Purchases
361

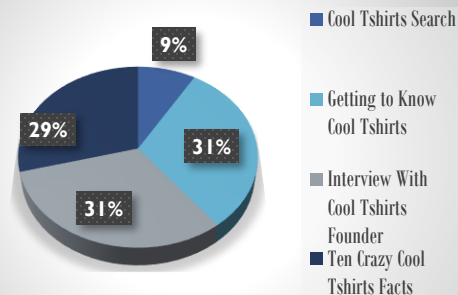| Source	Campaign	Last Touches
email	weekly-newsletter	115
facebook	retargetting-ad	113
email	retargetting-campaign	54
google	paid-search	52
buzzfeed	ten-crazy-cool-tshirts-facts	9
nytimes	getting-to-know-cool-tshirts	9
medium	interview-with-cool-tshirts-founder	7
google	cool-tshirts-search	2

```sql
/*
5 - Count the unique number of customers that make
purchases from  CoolTShirts
*/
SELECT COUNT(DISTINCT user_id) AS 'Number of Customers Who
Made Purchases'
FROM page_visits
WHERE page_name = '4 - purchase';
```

```sql
/*
  6 - Count the last touches by campaign that resulted in
a purchse for CoolTShirts
*/
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_source,
        pv.utm_campaign
    FROM last_touch lt
    JOIN page_visits pv
      ON lt.user_id = pv.user_id
      AND lt.last_touch_at = pv.timestamp
)
SELECT lt_attr.utm_source AS Source,
    lt_attr.utm_campaign AS Campaign,
    COUNT(*) AS 'Last Touches'
FROM lt_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```
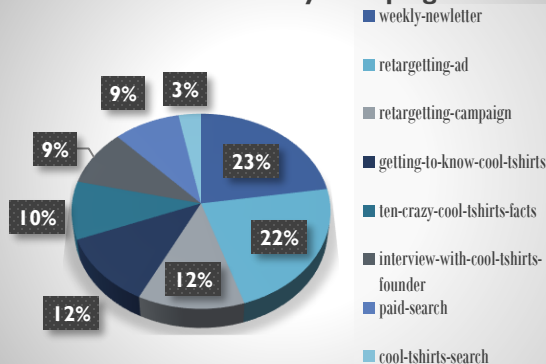
2.5 What is the typical User Journey

- What draws the customer to the website?
  - ❖ It's clear that people are drawn to the website because of *articles*, not random web searches. 91% found CoolTShirts through:
    - ❖ Interview With the CoolTShirts Founder
    - ❖ Getting to Know Cool TShirts
    - ❖ 10 Crazy TShirt Facts

- Customers don't usually purchase from the first glance and may need a reminder to return.
  - ❖ 74% of customers had last touches by campaigns other than the four first touch campaigns.
  - ❖ 50% of last touches came through weely_newletter and retargetting_ad campaigns.

- Knowing the last touches campaigns that are working, Cool Tshirts can focus those campaigns through different mediums.
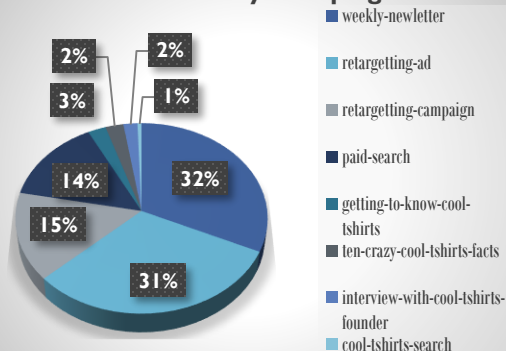 - ❖ 79% of the campaigns where purchases are made are from email or FaceBook *retargeting campaigns*.

First Touches By Campaign

- Cool Tshirts Search
- Getting to Know Cool Tshirts
- Interview With Cool Tshirts Founder
- Ten Crazy Cool Tshirts Facts

9% / 31% / 31% / 29%

Last Touches By Campaign

- weekly-newletter
- retargetting-ad
- retargetting-campaign
- getting-to-know-cool-tshirts
- ten-crazy-cool-tshirts-facts
- interview-with-cool-tshirts-founder
- paid-search
- cool-tshirts-search

23% / 22% / 12% / 12% / 10% / 9% / 9% / 3%

Purchases By Campaign

- weekly-newletter
- retargetting-ad
- retargetting-campaign
- paid-search
- getting-to-know-cool-tshirts
- ten-crazy-cool-tshirts-facts
- interview-with-cool-tshirts-founder
- cool-tshirts-search

32% / 31% / 15% / 14% / 3% / 2% / 2% / 1%

3. Optimizing the Campaign Budget

- Cool Tshirts needs to limit it's campaigns down to 5 *campaigns to optimize their budget. They should look at the effectiveness of each all they way through the customer journey to decide which ones to focus on.
  - ❖ *Articles* brought in 91% of first touches, as indicated by the green highlighting. *Retargetting-ad* could be used on the sources where these campaigns are launched, as they are the most successful means of purchases with 78%, highlighted in blue.
  - ❖ If any campaigns need to be eliminated it looks like the paid and random searches would be the first to go, as there are many other T-Shirt companies that are out in that space.
  - ❖ The money spent on the retargetting-campaign, though somewhat effective, could be put towards retargetting-ads in medium, nytimes and buzzfeed as that's where there the most first touches and a good portion of the last touches are, 31% highlighted in pink, so *retargeting-ads* might bring customers to the purchase page.

Campaign	First Touches	% 1st Touches	Last Touches	% Last Touches	Purchases	% of Purchases	Sources
* interview-with-cool-tshirts-founder	622	31%	184	9%	7	2%	Medium
* getting-to-know-cool-tshirts	612	31%	232	12%	9	2%	nytimes
* ten-crazy-cool-tshirts-facts	576	29%	190	10%	9	2%	buzzfeed
cool-tshirts-search	169	9%	60	3%	2	1%	google
paid-search		0%	178	9%	52	14%	google
* retargetting-ad		0%	443	22%	113	31%	facebook
retargetting-campaign		0%	245	12%	54	15%	email
* weekly-newletter		0%	447	23%	115	32%	email
Totals	1979	100%	1979	100%	361	100%	

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3. Optimizing the Campaign Budget Conclusion

- In conclusion; as we can see below the *article* sources (NY Times, Buzzfeed and Medium) generate the majority number of overall touches. It would be wise to spend our budgeting dollars to retarget these sources, bring the reader back to our site and to our products.

#Visits

■	Article
■	email
■	FaceBook
■	Google
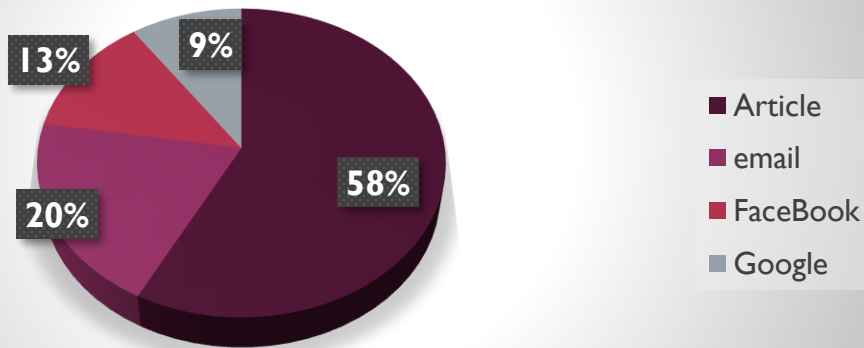
```sql
1   /* Conclusion show traffic on the different sources*/
2   SELECT utm_source AS 'Source',
3     COUNT(DISTINCT user_id) AS '# of Visits'
4   FROM page_visits
5   GROUP BY 1
6   ORDER BY 2 DESC;
```

Source	# Visits	% of Visits
NY Times	747	21%
email	696	20%
Buzzfeed	648	19%
Medium	625	18%
FaceBook	445	13%
Google	339	9%