

PAULA STEINKUEHLER

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# CAPSTONE: ATTRIBUTION QUERIES

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# GET FAMILIAR WITH COOLTSHIRTS

## 1. How many campaigns and sources does CoolTShirts (CTS) use? Which source is used for each campaign?

**Campaign** identifies the ad or email blast that brought customers to the CTS site (weekly newsletter, retargeting ad, etc.)

**Source** identifies the touchpoint, or interaction, that sent customers to the CTS site (Google, email, Facebook, Buzzfeed, etc.)

CTS employed **8 campaigns** across **6 sources**

The **source for each campaign** is shown in the table to the right

```
1 --1.How many campaigns and sources does
2 CoolTShirts use, and which source is used
3 for each campaign?
4
5 --Count of distinct campaigns
6
7 SELECT COUNT(DISTINCT utm_campaign) AS
8   'Distinct Campaigns'
9   FROM page_visits;
10
11 --Count of distinct sources
12
13 SELECT COUNT(DISTINCT utm_source) AS
14   'Distinct Sources'
15   FROM page_visits;
16
17 --Source used for each campaign
18
19 SELECT DISTINCT utm_campaign AS 'Campaign',
20       utm_source AS 'Source'
21   FROM page_visits;
```

Distinct Campaigns	8
Distinct Sources	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

# GET FAMILIAR WITH COOLTSHIRTS

## 2. What pages are on the CoolTShirts (CTS) website?

The CTS website contains

**4 unique pages:**

1. **Landing Page**
2. **Shopping Cart**
3. **Checkout**
4. **Purchase**

While these website pages are the only ones applicable to this attribution analysis, it is a reasonable assumption that additional pages exist outside of this data set for specific CTS product pages, company information, FAQs, etc.

```
1 --2.What pages are on the CTS website?  
2  
3 --Query for distinct website pages  
4 SELECT DISTINCT page_name AS 'CTS  
    Website Pages'  
5 FROM page_visits;
```

### CTS Website Pages

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

# WHAT IS THE USER JOURNEY?

## 1. How many first touches is each campaign responsible for?

**First touch** refers to the first time a potential customer was exposed to CTS

- Only considers the first source per customer
- Insight into how a visitor initially discovered the website

Temporary tables are used in the query to identify first touch by user, and then to join that data with source and campaign information from the original data set

```
1 --3.How many first touches attributed to each
2 campaign?
3 --a.Temp table of first touches by user_id
4 WITH first_touch AS (
5     SELECT user_id,
6         MIN(timestamp) AS first_touch_at
7     FROM page_visits
8     GROUP BY user_id),
9 --b.Temp table joining first_touch with
10    page_visits
11    ft_attr AS (
12        SELECT ft.user_id,
13            ft.first_touch_at,
14            pv.utm_source,
15            pv.utm_campaign
16        FROM first_touch ft
17        JOIN page_visits pv
18        ON ft.user_id = pv.user_id
19        AND ft.first_touch_at = pv.timestamp
20
21 --c.Count of first touches by campaign
22 SELECT ft_attr.utm_source AS 'Source',
23         ft_attr.utm_campaign AS 'Campaign',
24         COUNT(*) AS 'Count'
25     FROM ft_attr
26     GROUP BY 1, 2
27     ORDER BY 3 DESC;
```

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

100% of first touches are attributed to 4 campaigns, shown above

The top 3 campaigns account for 91.5% of initial CTS site visits

# WHAT IS THE USER JOURNEY?

## 2. How many last touches is each campaign responsible for?

**Last touch** refers to a visitor's last exposure to CTS

- Insight into how a potential customer is drawn back to a website, particularly for making a final purchase

Our existing first touch query is simply modified for max timestamp values per user to yield last touch data by campaign

```
1 ---4.How many last touches attributed to each
2 campaign?
3 --a.Temp table of last touches by user_id
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 --b.Temp table joining last_touch with
10    page_visits
11    lt_attr AS (
12        SELECT lt.user_id,
13            lt.last_touch_at,
14            pv.utm_source,
15            pv.utm_campaign
16        FROM last_touch lt
17        JOIN page_visits pv
18        ON lt.user_id = pv.user_id
19        AND lt.last_touch_at = pv.timestamp
20    )
21 --c.Count of last touches by campaign
22 SELECT lt_attr.utm_source AS 'Source',
23     lt_attr.utm_campaign AS 'Campaign',
24     COUNT(*) AS 'Count'
25 FROM lt_attr
26 GROUP BY 1, 2
27 ORDER BY 3 DESC;
```

Source	Campaign	Count
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

The top 2 campaigns above are credited with 45% of last touches

“Getting to know CTS” is the only campaign to appear in the top 50% of both first and last touch tables

# WHAT IS THE USER JOURNEY?

3. How many visitors make a purchase?

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

This query assumes that last touches to the purchase page resulted in a purchase.

361 of 1,979 visitors, or 18%, completed a purchase

```
1 --5.How many visitors make a purchase?
2
3 --Count of distinct users who visited the
4 purchase page
5 SELECT COUNT(DISTINCT user_id) AS
6 "Purchasing Customers"
7 FROM page_visits
8 WHERE page_name = '4 - purchase';
```

Purchasing Customers

361

```
1 ---6.How many purchase page last touches is each
2 campaign responsible for?
3 --a.Temp table of last touches by user_id
4 WITH last_touch AS (
5     SELECT user_id,
6         MAX(timestamp) AS last_touch_at
7     FROM page_visits
8     WHERE page_name = '4 - purchase'
9     GROUP BY user_id),
10 --b.Temp table joining last_touch with page_visits
11 lt_attr AS (
12     SELECT lt.user_id,
13         lt.last_touch_at,
14         pv.utm_source,
15         pv.utm_campaign
16     FROM last_touch lt
17     JOIN page_visits pv
18     ON lt.user_id = pv.user_id
19     AND lt.last_touch_at = pv.timestamp
20 )
21 --c.Count of last touches by campaign
22 SELECT lt_attr.utm_source AS 'Source',
23         lt_attr.utm_campaign AS 'Campaign',
24         COUNT(*) AS 'Count'
25 FROM lt_attr
26 GROUP BY 1, 2
27 ORDER BY 3 DESC;
```

Source	Campaign	Count
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

The 3 **campaigns with the most purchases above** are also those with the highest number of last touches, in the same order

# WHAT IS THE USER JOURNEY?

## 5. What is the typical user journey?

- A. Visitors come to CTS through a targeted email, medium or media website campaign that sends them to the landing page
- B. The typical visitor leaves CTS at some point in the site journey prior to making a purchase, but returns after encountering one of the 8 CTS campaigns
- C. Over 70% of visitors explore the CTS site well enough to place items in their shopping cart and begin the checkout process
- D. 75% of potential customers abandon the checkout process before completing their purchase

```
1 --Count distinct users that went to each  
2 of the 4 site pages in the data set  
3 SELECT COUNT(DISTINCT user_id) AS '# of  
4 Users', page_name  
5 FROM page_visits  
6 GROUP BY page_name  
7 ORDER by 2 ASC;|
```

# of Users	page_name
1979	1 - landing_page
1881	2 - shopping_cart
1431	3 - checkout
361	4 - purchase

# OPTIMIZE THE CAMPAIGN BUDGET

## 1. CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

- CTS Reinvestment Strategy

### A. Retargeting campaigns resulting in purchase

- Over 70% of visitors reach checkout but of those, only 25% complete a purchase. Consumers are hesitant to “close the deal.” Retarget these potential buyers, and consider added incentives such as discounts for first-time orders, free shipping and returns, or complimentary promotional items.

### B. Social media and/or email campaigns

- Facebook and email sources are attributed with the highest number of last touches and they account for 78% of purchases.

### C. Content-rich campaigns

- Campaigns that provide context and make CTS relatable to consumers are extremely successful in generating first touch visits. In contrast, search engines generate only 8.5% of initial visits.

# OPTIMIZE THE CAMPAIGN BUDGET

## 1. CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

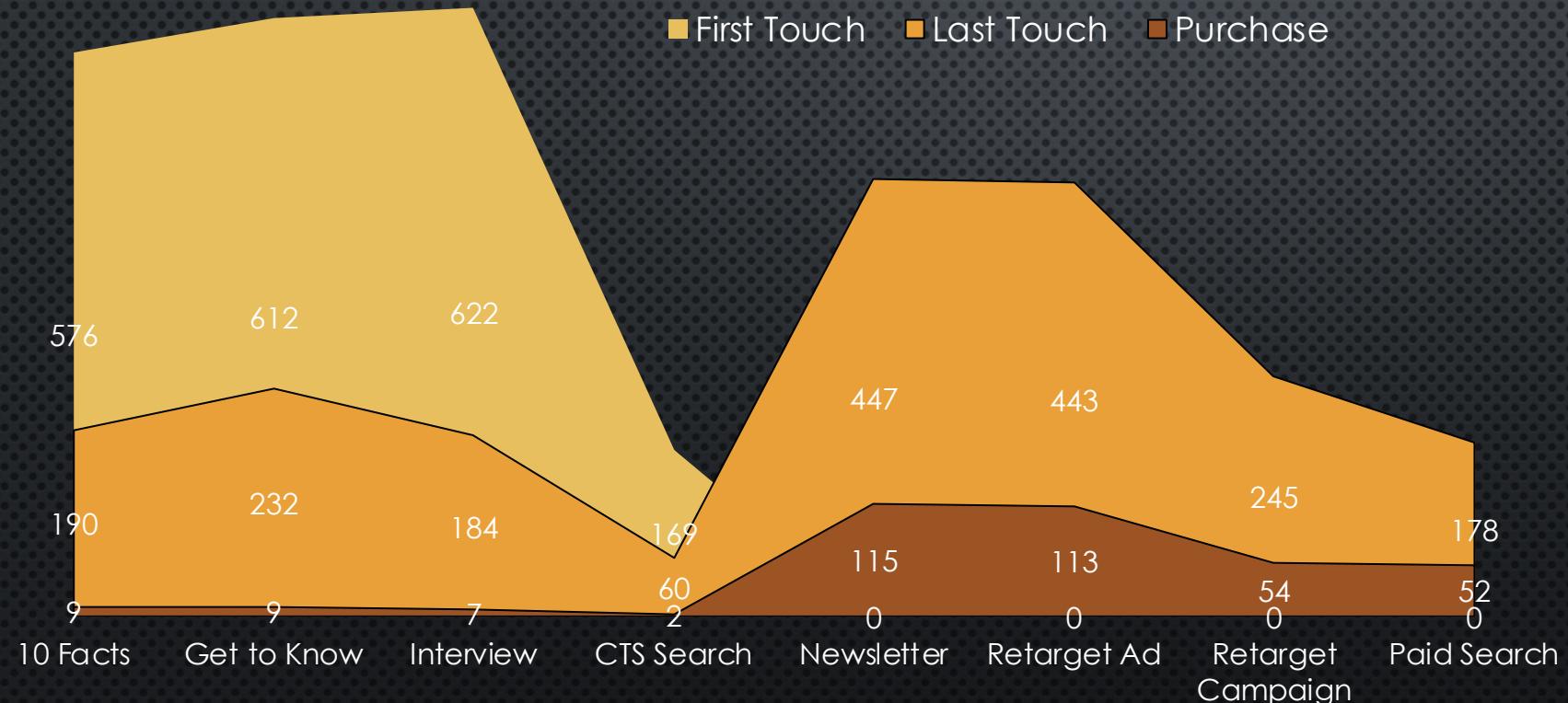
- Retargeting Campaigns Resulting in Purchase
- Social Media and/or Email Campaigns

This stacked area chart plots the count values for each campaign from first touch, last touch and purchase queries on previous slides.

CTS reinvestment strategy points to optimization of retargeting campaigns resulting in purchases to drive increased sales. The leading campaigns in last touches and purchases, in order of success, are:

- ✓ Weekly newsletter
- ✓ Retargeting ad
- ✓ Retargeting campaign
- ✓ Paid search

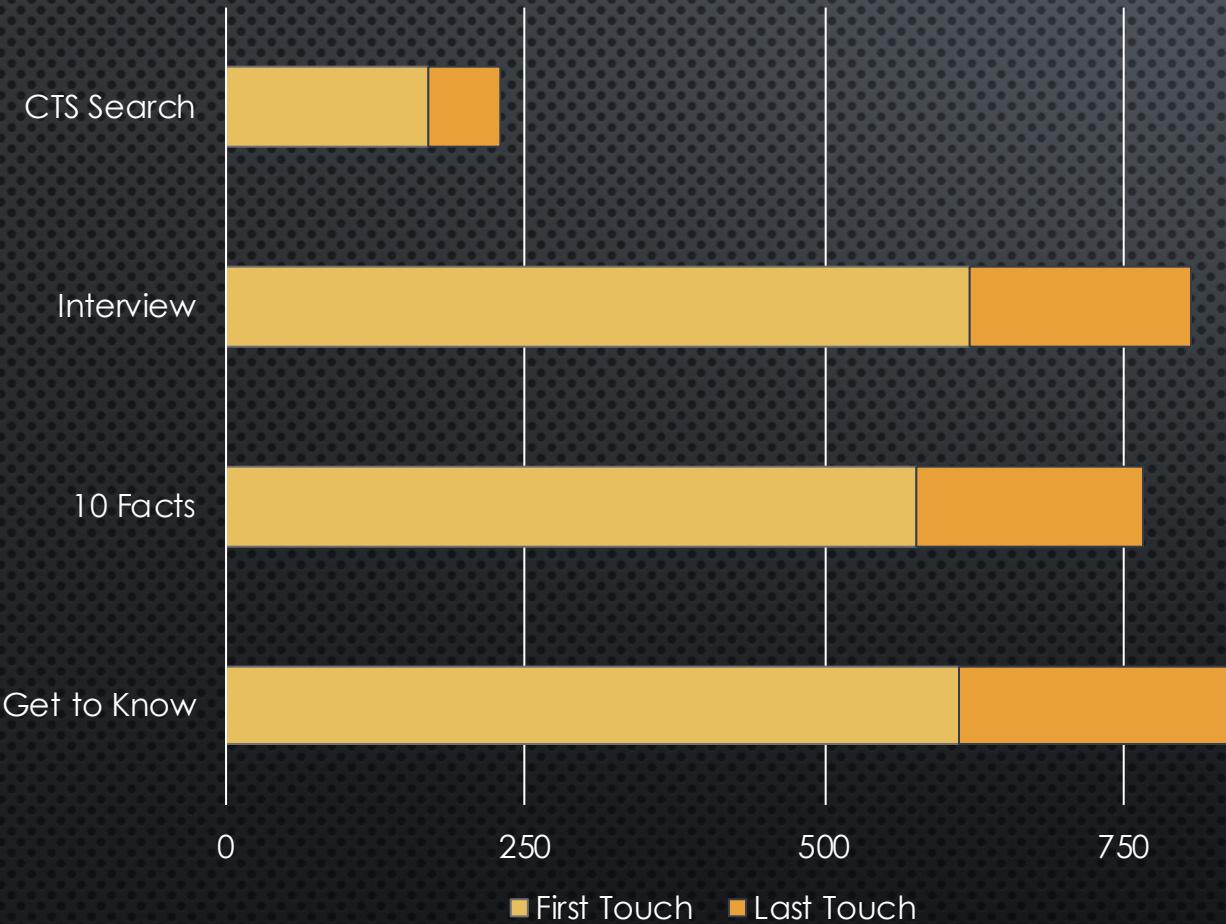
The first 3 campaigns also account for all social media and email sources.



# OPTIMIZE THE CAMPAIGN BUDGET

## 1. CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

- Content-Rich Campaigns



This stacked bar chart plots the first and last touch count values for the remaining 4 campaigns.

It is abundantly clear that content-rich campaigns are most successful in generating initial site visits.

However, only one campaign ranks highly on initial visits and even higher on last touches, a key metric of the CTS retargeting strategy:

- ✓ Getting to Know CoolTshirts

# OPTIMIZE THE CAMPAIGN BUDGET

1. CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?
  - o Conclusions

## THE TOP 5

1. Weekly Newsletter
2. Retargeting Ad
3. Retargeting Campaign
4. Paid Search
5. Getting to Know CoolTShirts

CTS campaign reinvestment strategy should focus on:

- Successful retargeting ads
- Social media and email sources
- Rich content

These 5 campaigns rank highest across these key metrics and therefore represent the best potential CTS reinvestment value.