

# First- and Last-Touch Attribution with CoolTShirts.com

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#### 1.1 Current Online Strategy

CoolTShirts (CTS) draws users to CoolTShirts.com through 8 online campaigns deployed through 6 sources.

The effectiveness of each can be tracked and measured through links containing Urchin Tracking Module (UTM) parameters.

- Campaigns include links in news articles, CTS' weekly newsletter, targeted email, Facebook ads, and Google searches.
- News article campaigns are most effective for initial user visits ("first-touch").
- Email and Facebook ads are most effective in drawing users back to the site to complete their purchase (the last point of contact with CTS' site is referred to as "last-touch").

#### 8 Campaigns

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

#### 6 Sources

Sources
nytimes
email
buzzfeed
facebook
medium
google

#### **Deployment Strategy**

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

## 1.2 Collecting UTM parameter data

For our analysis, we have used data from CTS' page\_visits data table.

- The first two queries to the right were used to confirm the count of distinct campaigns and sources in place.
- The third query identified the relationship between campaigns and the source used to deploy them.
- The page\_visits table includes data for 1,979 unique users.
- UTM parameters were used to identify users' first- and last-touchpoints in order to evaluate campaign effectiveness.

Campaigns	Sources	Source → Campaign
getting-to-know-cool-tshirts	nytimes	nytimes> getting-to-know-cool-tshirts
weekly-newsletter	email	email> weekly-newsletter
ten-crazy-cool-tshirts-facts	buzzfeed	buzzfeed> ten-crazy-cool-tshirts-facts
retargetting-campaign	facebook	email> retargetting-campaign
retargetting-ad	medium	facebook> retargetting-ad
interview-with-cool-tshirts-founder	google	medium> interview-with-cool-tshirts-founder
paid-search		google> paid-search
cool-tshirts-search		google> cool-tshirts-search

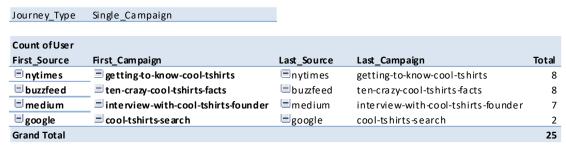
### 1.3 Importance of Attributing First- and Last- Touch

A successful marketing strategy requires a combination of first- and last- touch oriented campaigns.

Of CTS' 1,979 users, 361, or 18%, went on to make a final purchase.

CTS page	<b>Unique User Hits</b>
1 - landing_page	1979
2 - shopping_cart	1881
3 - checkout	1431
4 - purchase	361

• Of the 361, only 25, or 7%, made a purchase on a single visit, where first- and last- touch were the same.



With SQL to aide our analysis, the user, UTM parameter, and timestamp data from the page\_visits table can be used to attribute first- and last- touch to the responsible sources and campaign, allowing us to identify the most effective combination.



### 2.1 User journey - CoolTShirts.com Site Structure

The CTS website consists of four main pages. First-touch is almost invariably initiated on the Landing Page. Last-touch on the Purchase page indicates that a final purchase has been confirmed.

Once on the site, a user's journey typically flows as follows:

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

However, the user's journey can be interrupted at any point, on any page – leading to the need for retargeting campaigns to draw the user back to CTS' site to complete their purchase.

SELECT DISTINCT page\_name
FROM page visits;

#### 2.2 User journey – First-touch attribution

Using the query to the right, we can identify each user's first-touchpoint and attribute it to one of the current campaigns.

Source	Campaign	# First Touches	% of First Touches
medium	interview-with-cool-tshirts-founder	622	31%
nytimes	getting-to-know-cool-tshirts	612	31%
buzzfeed	ten-crazy-cool-tshirts-facts	576	29%
google	cool-tshirts-search	169	9%
	Total	1.070	1000/

Total 1,979 100%

Garnering 91% of first-touchpoints, links in news articles are clearly the most effective campaigns for initiating user contact.

```
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 source,
      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
SELECT ft attr.utm source AS 'First Source',
       ft attr.utm campaign AS 'First Campaign',
       COUNT(*) AS 'First Touches'
FROM ft attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

#### 2.3 User journey – Last-touch attribution

Similarly, using the query to the right, we can identify each user's last-touchpoint and attribute it to one of the campaigns.

Last_Source	Last_Campaign	# Last Touches	% of Last Touches
email	weekly-newsletter	447	23%
facebook	retargetting-ad	443	22%
email	retargetting-campaign	245	12%
nytimes	getting-to-know-cool-tshirts	232	12%
buzzfeed	ten-crazy-cool-tshirts-facts	190	10%
medium	interview-with-cool-tshirts-founder	184	9%
google	paid-search	178	9%
google	cool-tshirts-search	60	3%
	Total	1 070	1000/

Total 1,979 100%

A few things to note about last-touch:

- In some instances, last-touchpoint is the same as first-touchpoint (user likely made one visit to CTS site).
- In the cases of retargeting campaigns (email, Facebook), last-touch represents a return visit. As 57% of last-touch is attributed to these, the need for campaigns focused on generating return visits is apparent.
- Last-touch does not indicate a purchase we must further qualify users' last-touch to determine this.

```
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 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 'Last Source',
      lt attr.utm campaign AS 'Last Campaign',
      COUNT(*) AS 'Last Touches'
FROM lt attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

## 2.4 User journey - Purchase confirmed!

By augmenting the previous query by specifying the Purchase page in our criteria, we can limit last-touch results to users who actually made a purchase.

Last_Source	Last_Campaign	# Last Touches Resulting in Purchase	% Last Touches Resulting in Purchase
email	weekly-newsletter	115	32%
facebook	retargetting-ad	113	31%
email	retargetting-campaign	54	15%
google	paid-search	52	14%
buzzfeed	ten-crazy-cool-tshirts-facts	9	2%
nytimes	getting-to-know-cool-tshirts	9	2%
medium	interview-with-cool-tshirts-founder	7	2%
google	cool-tshirts-search	2	1%
	Total	361	100%

 Making up 78% of the last-touch results that led to purchase, the importance of the email and Facebook campaigns is even more apparent.

```
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 'Last Source',
       lt attr.utm campaign AS 'Last Campaign',
       COUNT(*) AS 'Last Touches'
FROM lt attr
GROUP BY 1,2
ORDER BY 3 DESC;
```

### 2.5 User journey – first- and last- touch together

The first- and last- touch queries can be combined into a larger query to give us further insight to how users interract with CTS campaigns.

```
WITH first UTM campaign AS
WITH first touch AS (
    SELECT user id,
           MIN(timestamp) as first touch at
     FROM page visits
    GROUP BY user id)
SELECT ft.user id,
      ft.first touch at,
      pv.utm source,
      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),
last UTM campaign AS
 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)
/*continued in next shaded box*/
```

```
/*continued from previous box*/
SELECT lt.user id,
      lt.last touch at,
      pv2.utm source,
      pv2.utm campaign
FROM last touch lt
 JOIN page visits pv2
   ON lt.user id = pv2.user id
   AND lt.last touch at = pv2.timestamp)
SELECT lc.user id AS User,
      fc.utm source AS First Source,
       fc.utm campaign AS First Campaign,
       fc.first touch at AS First Touch At,
      lc.utm source AS Last Source,
      lc.utm campaign AS Last Campaign,
      lc.last touch at AS Last Touch At,
      CASE WHEN fc.utm campaign = lc.utm campaign
           THEN 'Single Campaign'
           ELSE 'Multiple Campaign'
           END AS Journey Type
FROM last UTM campaign lc
            JOIN first UTM campaign fc
             ON lc.user id = fc.user id
```

## 2.6 User Journey – first- and last- touch together (continued)

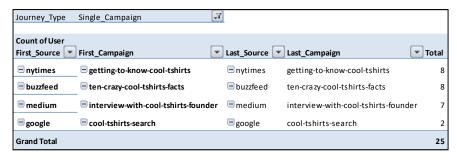
The data from the query in 2.5 can be analyzed in a pivot table to show the user paths from first-touchpoint source to the last-touchpoint campaign attributed with a purchase.

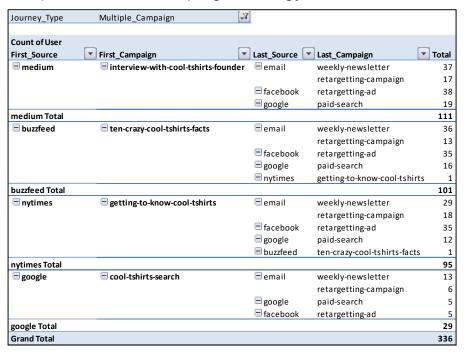
- The best performing campaigns for firsttouch are apparent, but further evaluation is needed for last-touch performance.
- The CASE statement in query 2.5 buckets user journeys as either "Single Campaign" or "Multiple Campaign" journeys.

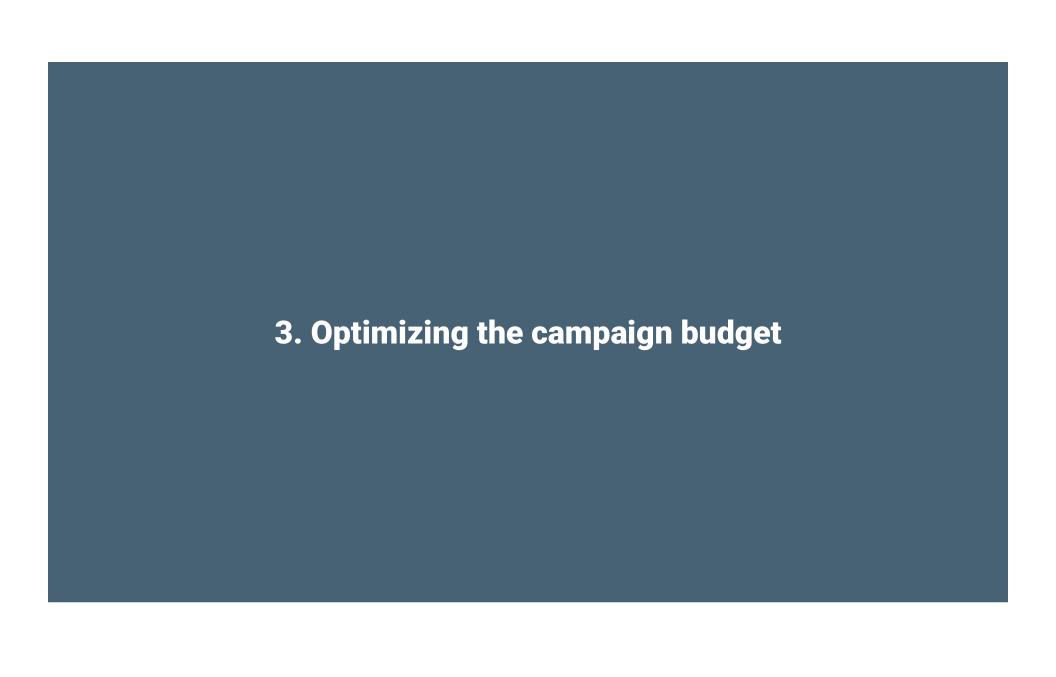
Journey_Type	(AII)	< (All) indicates Single and Multiple Campaign journeys			
Count of User					
First_Source	First_Campaign	Last_Source	Last_Campaign	Total	
medium	interview-with-cool-tshirts-founder	email	weekly-newsletter	37	
			retargetting-campaign	17	
		🖪 fa c ebook	retargetting-ad	38	
		🗏 google	paid-search	19	
		<b>⊑</b> medium	interview-with-cool-tshirts-founder	7	
medium Total				118	
■ buzzfeed	ten-crazy-cool-tshirts-facts	🗏 email	weekly-newsletter	36	
			retargetting-campaign	13	
		🗏 fa c ebook	retargetting-ad	35	
		🗏 google	paid-search	16	
		buzzfeed	ten-crazy-cool-tshirts-facts	8	
		nytimes	getting-to-know-cool-tshirts	1	
buzzfeed Tot al				109	
ny times	get ting-to-know-cool-tshirts	🗏 email	weekly-newsletter	29	
			retargetting-campaign	18	
		🗏 fa c ebook	retargetting-ad	35	
		googl e	paid-search	12	
		nytimes [	getting-to-know-cool-tshirts	8	
		buzzfeed	ten-crazy-cool-tshirts-facts	1	
nytimes Total				103	
google	c ool-t shirts-se arch	🗏 email	weekly-newsletter	13	
			retargetting-campaign	6	
		<b>⊑</b> google	paid-search	5	
			cool-tshirts-search	2	
		🔲 fa cebook	retargetting-ad	5	
google Total				31	
Grand Total				361	

# 2.7 Single versus multiple campaign journeys

Isolating the Multiple Campaign user journeys will help us optimize CTS' campaign strategy.







## 3.1 Optimization - Overview

- CTS can only re-invest in 5 campaigns.
- The optimal strategy will consist of both first- and last- touch focused campaigns.
- Emphasis should be given to campaigns yielding the highest volume of purchases.

# 3.2 Optimization – First-touch campaigns

Journey_Type	(All)	< (All) indicate	s Single and Multiple Campaign j	ourneys	
Count of User First_Source	First_Campaign	Last_Source	Last_Campaign	<b>▼</b> Total	% of Purchases
medium	interview-with-cool-tshirts-founde	r 🗏 email	weekly-newsletter	37	10%
			retargetting-campaign	17	5%
		■ facebook	retargetting-ad	38	11%
		<b>■</b> google	paid-search	19	5%
		■ medium	interview-with-cool-tshirts-four	nder 7	2%
medium Total				118	33%
<b>□</b> buzzfeed	ten-crazy-cool-tshirts-facts	<b>=</b> email	weekly-newsletter	36	10%
			retargetting-campaign	13	4%
		■ facebook	retargetting-ad	35	10%
		<b>■</b> google	paid-search	16	4%
		buzzfeed	ten-crazy-cool-tshirts-facts	8	2%
		nytimes 🖃	getting-to-know-cool-tshirts	1	0%
buzzfeed Total				109	30%
nytimes	getting-to-know-cool-tshirts	<b>=</b> email	weekly-newsletter	29	8%
			retargetting-campaign	18	5%
		☐ facebook	retargetting-ad	35	10%
		■ google	paid-search	12	3%
		nytimes	getting-to-know-cool-tshirts	8	2%
		🗏 buzzfeed	ten-crazy-cool-tshirts-facts	1	0%
nytimes Total				103	29%
google	cool-tshirts-search	<b>=</b> email	weekly-newsletter	13	4%
			retargetting-campaign	6	2%
		<b>■</b> google	paid-search	5	1%
			cool-tshirts-search	2	1%
		☐ facebook	retargetting-ad	5	1%
google Total				31	9%
<b>Grand Total</b>				361	100%

In addition to making up 91% of total first-touch activity, links from the three news article campaigns make up 91% of first-touches that led to a final purchase, and 6% of last-touches.

News article campaigns are essential to driving initial traffic to CoolTShirts.com, and even generate some purchases.

## 3.3 Optimization – Last-touch campaigns

Journey_Type M	Multiple_Campaign	7]			
Count of User First Source	irst Campaign	Last Source	Last Campaign	▼ Total	% of Purchases
	interview-with-cool-tshirts-founder		weekly-newsletter	37	11%
- incurain	- Interview with coor islants lounder	- cman	retargetting-campaign	17	5%
		☐ facebook	retargetting-ad	38	11%
		google	paid-search	19	6%
medium Total		88	para scarce	111	33%
<b>■</b> buzzfeed	ten-crazy-cool-tshirts-facts	email	weekly-newsletter	36	11%
			retargetting-campaign	13	4%
		<b>□</b> facebook	retargetting-ad	35	10%
		google	paid-search	16	5%
		■ nytimes	getting-to-know-cool-tshirt	s 1	0%
buzzfeed Total				101	30%
nytimes	getting-to-know-cool-tshirts	email	weekly-newsletter	29	9%
			retargetting-campaign	18	5%
		<b>□</b> facebook	retargetting-ad	35	10%
		🗏 google	paid-search	12	4%
		🗏 buzzfeed	ten-crazy-cool-tshirts-facts	1	0%
nytimes Total				95	28%
■ google ■	cool-tshirts-search	<b>=</b> email	weekly-newsletter	13	4%
			retargetting-campaign	6	2%
		<b>∃</b> google	paid-search	5	1%
		<b>∃</b> facebook	retargetting-ad	5	1%
google Total				29	9%
Grand Total				336	100%

Limiting our analysis to Multiple Campaign journeys, and the three news articles as the source of first-touch, the top performing campaigns for driving last-touch that resulted in purchase were:

- Facebook retargeting ad (32% of total), and
- 2) 2) weekly email newsletter (30%).

Note: Substituting the next best performing last-touch campaign (retargeting email) for the lowest performing first-touch campaign (NY Times) does not yield better results.

## 3.4 Optimization - Recommendation

Based on our analysis of the user and UTM parameter data from the page\_visits table, we recommend re-investing in the following 5 campaigns:

- *Medium* article "interview-with-cool-tshirts-founder" (first-touch focused)
- **Buzzfeed** article "ten-crazy-cool-tshirts-facts" (first-touch focused)
- New York Times article "getting-to-know-cool-tshirts" (first-touch focused)
- Facebook retargeting ad (last-touch focused)
- Weekly email newsletter (last-touch focused)