

CoolTouchShirts

Learn SQL from Scratch

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1.0 Get familiar with CoolTouchShirts

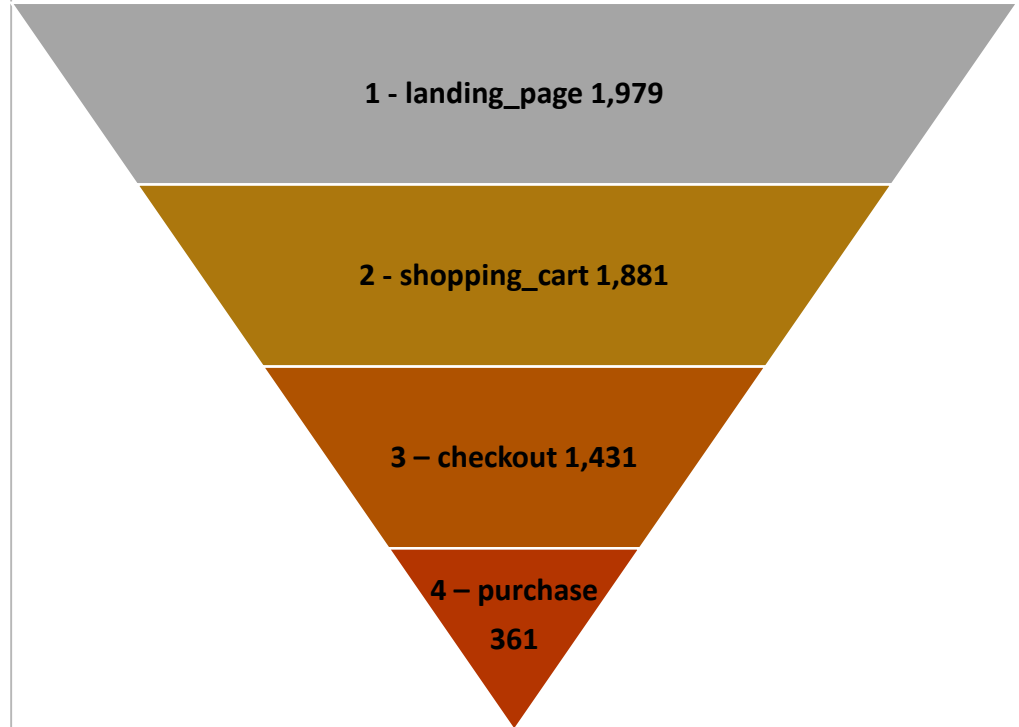
- ❑ CoolTouchShirts is a B to C company supplying novelty clothing through online sales
- ❑ Sales opportunities are generated through online marketing campaigns (utm_campaign) including;
 - ❑ Search Engine Optimization
 - ❑ Pay Per Click
 - ❑ E-mail
 - ❑ Content Marketing etc.
- ❑ Clients interact with marketing campaigns through sources (utm_sources) i.e.,
 - ❑ Google
 - ❑ Newsletter
 - ❑ Facebook ads etc.
- ❑ CoolTouchShirts currently has eight marketing campaigns, attributed to six sources outlined in the table on the right

Campaigns	Sources
8	6

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

1.1 Get familiar with CoolTouchShirts - Funnel

- ❑ The graphic on the right represents the typical CoolTshirts customer journey towards a purchase with a count of visits to each page by distinct user_id.
- ❑ CoolTouchShirts funnel starts with a landing page, which is the first page a customer would interact with coming from a marketing campaign
- ❑ Customers who move through the funnel and make it to **purchase** are considered converted from an opportunity to a **sale**
- ❑ Here we can see that 361 out of 1,979 unique visits converted into a sale



2.0 What is the user Journey – First Touch

- ❑ We can understand how the different campaigns drive conversion by tying them to the customers journey through the funnel
- ❑ First touch attribution helps us know how visitors are initially discovering the website, and assigns all credit to the first source the customer engaged with
- ❑ The table on the right shows us which campaigns are a first touch for CoolTShirt customers, and how many first touches can be attributed to the campaign
- ❑ Only four of the eight campaigns are a first touch for CoolTshirt customers
- ❑ Stories introducing the company provide more opportunities than search, this could mean brand awareness needs to be built up in the segment and/or additional search terms should be explored

Campaign	First Touch
interview-with-cool-tshirts-founder	622
getting – to know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
cool-tshirts-search	169

2.1 What is the user Journey – Last Touch

- ❑ Last touch attribution assigns all credit to the last source the customer engaged with
- ❑ The table on the right shows us which campaigns are a last touch for CoolTShirt customers, and how many last touches can be attributed to the campaign
- ❑ All eight of the campaigns are a last touch for CoolTshirt customers, this makes logical sense as a first touch can also be a last touch if a customer never left the funnel and interacted with a different source before making a purchase
- ❑ Once again search campaigns bring the fewest opportunities

Campaign	LastTouch
weekly-newsletter	447
retargeting-ad	443
retargeting-campaign	245
getting – to know-cool-tshirts	232
ten-crazy-cool-tshirts-facts	190
interview-with-cool-tshirts-founder	184
paid-search	178
cool-tshirts-search	60

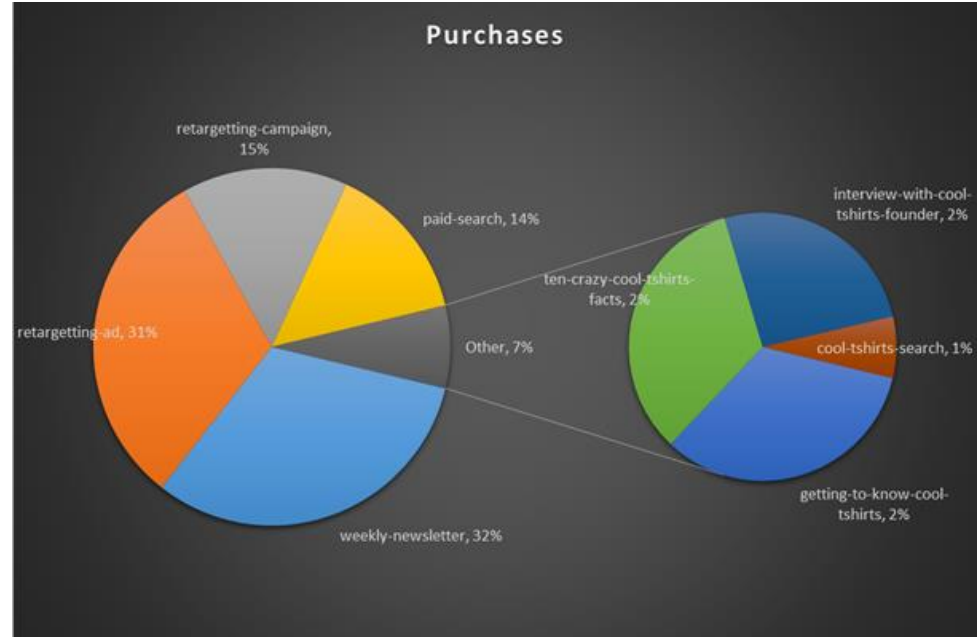
2.1 What is the user Journey - Purchase

- ❑ Finally out of a total of 1979 opportunities 361 purchases were made
- ❑ We can use the information from the purchase page in the funnel combined with the last touch information, to understand how many purchases can be attributed to the campaigns
- ❑ This data confirms what we saw in the first and last touch analyses, customers seem to have an affinity to the company story which drives their decision to engage and as we see here purchase

Campaign	LastTouch
weekly-newsletter	114
retargeting-ad	112
retargeting-campaign	53
paid-search	52
getting – to know-cool-tshirts	9
ten-crazy-cool-tshirts-facts	9
interview-with-cool-tshirts-founder	7
cool-tshirts-search	2

3.0 Optimize the campaign budget

- ❑ 18% of all opportunities converted into a purchase
- ❑ 32% of purchases are attributed to the weekly newsletter campaign whose source is e-mail
- ❑ The next best campaign is retargeting-ad, which 31% of purchases can be attributed to. The source of this campaign is facebook



3.1 Optimize the campaign budget

- ❑ CoolTshirts can re-invest in 5 campaigns
- ❑ The top 5 performing campaigns by opportunities, purchases, and conversion are below. Conversion is calculated based on last touch attribution.

Campaign	Touches
interview-with-cool-tshirts-founder	622
getting – to know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
weekly-newsletter	447
retargeting-ad	443

Campaign	Purchases
weekly-newsletter	115
retargeting-ad	113
retargeting-campaign	54
getting – to know-cool-tshirts	52
interview-with-cool-tshirts-founder	9

Campaign	Conversion
weekly-newsletter	26%
retargeting-ad	26%
retargeting-campaign	22%
getting – to know-cool-tshirts	22%
interview-with-cool-tshirts-founder	5%

- ❑ Based on these data points it is easy to identify weekly-newsletter, retargeting-ad, and getting-to know-cool-tshirts for re-investment. All three drive high touch, and customers who interact with these campaigns convert at high rates.

3.2 Optimize the campaign budget

- ❑ We have already chosen 3 of our 5 campaigns bolded below
- ❑ For the fourth campaign CoolTShirts will choose retargeting-campaign. Although this campaign is not the highest in touch, the overall % of purchases is 3rd highest and conversion is strong.

Source	Campaign	FirstTouch	% of Total	LastTouch	% of Total	Purchases	% of Purchases	Conversion
medium	interview-with-cool-tshirts-founder	622	31%	184	9%	9	2.5%	4.9%
nytimes	getting – to know-cool-tshirts	612	31%	232	12%	52	14%	22%
buzzfeed	ten-crazy-cool-tshirts-facts	576	29%	190	10%	9	2.5%	4.7%
google	cool-tshirts-search	169	9%	60	3%	2	1%	3%
email	weekly-newsletter			447	23%	115	32%	26%
facebook	retargeting-ad			443	22%	113	31%	26%
email	retargeting-campaign			245	12%	54	15%	22%
google	paid-search			178	9%	7	2%	3.9%
Total		1979		1979		361		

3.2 Optimize the campaign budget

- ❑ For the 5th campaign we should take a step back and do a bit more digging into the data.
- ❑ Between Interview-with-cool-tshirts-founder (ICTF) and ten-crazy-cool-tshirts-facts (10) we have high first touch with low purchase volume.
- ❑ 10 campaign had more user impressions at 648 versus ICTFs 625
- ❑ In this case I would suggest looking at the following. What does the first touch attribution calculation look like? Who wins overall conversion with that metric?
- ❑ In the end I would not leave money on the table by dropping either campaign, I would invest in retargeting for these two high touch campaigns.

Source	Campaign	FirstTouch	% of Total	LastTouch	% of Total	Purchases	% of Purchases	Conversion
medium	interview-with-cool-tshirts-founder	622	31%	184	9%	9	2.5%	4.9%
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Total		1979		1979		361		

Extras

1. CoolTshirts database schema
2. SQL Code

Database Schema

page_visits	
A table describing each time a user visits the CoolTShirts website	
Column	Description
user_id	A unique identifier for each visitor to a page
timestamp	The time at which the visitor came to the page
page_name	The title of the section of the page that was visited
utm_source	Identifies which site sent the traffic (i.e., google, newsletter, or facebook_ad)
utm_medium	Identifies what type of link was used (i.e., cost-per-click or email)
utm_campaign	Identifies the specific ad or email blast (i.e., june-21-newsletter or memorial-day-sale)

SQL Code

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?

```
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;
```

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

SQL Code

2. What is the user journey?

- ❑ How many first touches is each campaign responsible for?
- ❑ How many last 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,  
       COUNT(ft.first_touch_at) AS FirstTouch  
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;
```

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

SQL Code

2. What is the user journey?

- ❑ 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?

```
SELECT COUNT(DISTINCT user_id)
FROM page_visits
WHERE page_name = '4 - purchase';
```

```
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,
       COUNT(lt.last_touch_at) AS lastTouch
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;
```