



# Capstone Project — Usage Funnels with Warby Parker

Ryan Ferrani

August 20, 2018

# Table of Contents

1. What columns are in the survey table?
2. Number of responses for each question in the survey
3. Which question in the survey has the lowest completion %
4. Examine the columns of quiz, home\_try\_on and purchase tables
5. Use a left join to combine the three tables
6. Analysis – What do people say they want vs what do they buy?
7. Analysis – Conversion Rates
8. Analysis – Difference in Purchase Rates

# 1.1 Select all columns from the survey table

Selecting all columns from the survey table shows that the three columns the table contains are:

- Question
- User\_ID
- Response

```
SELECT *  
FROM survey  
LIMIT 10;
```

question	user_id	response
1. What are you looking for?	005e7f99-d48c-4fce-b605-10506c85aaf7	Women's Styles
2. What's your fit?	005e7f99-d48c-4fce-b605-10506c85aaf7	Medium
3. Which shapes do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Round
4. Which colors do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Two-Tone

# 1.2 What is the number of responses for each question?

Using the query below, can easily see how many users respond to each question asked in the survey (see table to the right)

```
select question,  
count(distinct user_id)  
from survey  
group by 1;
```

question	count(distinct user_id)
1. What are you looking for?	500
2. What's your fit?	475
3. Which shapes do you like?	380
4. Which colors do you like?	361
5. When was your last eye exam?	270

# 1.3 Which question(s) of the quiz have a lower completion rates? Why?

Using excel I calculated how many users completed each question based on how many saw that question.

The question with the lowest completion rate was the final question – When was your last eye exam?

This could be caused by users not willing to divulge that information as they feel it may be “sensitive” or they may just not remember/have that information handy.

question	count(distinct user_id)	Completion %
1. What are you looking for?	500	100%
2. What's your fit?	475	95%
3. Which shapes do you like?	380	80%
4. Which colors do you like?	361	95%
5. When was your last eye exam?	270	75%

# 1.4 Examine the columns of quiz, home\_try\_on and purchase tables

Using the query below, can familiarize oneself with the layout of the tables in question (see tables to the right)

```
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;
```

quiz table					
user_id	style	fit	shape	color	
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise	

home_try_on table		
user_id	number_of_pairs	address
d8add87-3217-4429-9a01-d56d68111da7	5 pairs	145 New York 9a

purchase table					
user_id	product_id	style	model_name	color	price
00a9dd17-36c8-430c-9d76-df49d4197dcf	8	Women's Styles	Lucy	Jet Black	150

# 1.5 Use a left join to combine the three tables

Using the query below, I was able to join the three tables using user\_id as the primary key to link the tables

```
SELECT DISTINCT q.user_id,
  h.user_id IS NOT NULL AS 'is_home_try_on',
  h.number_of_pairs,
  p.user_id IS NOT NULL AS 'is_purchase'
FROM quiz q
LEFT JOIN home_try_on h
  ON q.user_id = h.user_id
LEFT JOIN purchase p
  ON p.user_id = q.user_id
LIMIT 10;
```

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	1	3 pairs	0
291f1cca-e507-48be-b063-002b14906468	1	3 pairs	1
75122300-0736-4087-b6d8-c0c5373a1a04	0	Null	0
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	1	5 pairs	0

# 1.6 Analysis – What do people say they want vs what do they buy?

Using the two queries below I was able to find what people said they were looking for when completing the quiz and compared that to what they were purchasing to see if that matched up which it did.

The most popular style from the quiz was Women's Styles with 469 responses

Most popular style purchased was also Women's Styles with 252 purchases

*/\* Most common style from quiz \*/*

```
SELECT style, COUNT(*)  
FROM quiz  
GROUP BY style;
```

*/\* Most common style purchased \*/*

```
SELECT style, COUNT(*)  
FROM purchase  
GROUP BY style;
```

From Quiz	
style	COUNT(*)
I'm not sure. Let's skip it.	99
Men's Styles	432
Women's Styles	469

Purchased	
style	COUNT(*)
Men's Styles	243
Women's Styles	252



# 1.7 Analysis – Conversion Rates

Using the query below we can calculate how many users get glasses to try on at home and how many end up purchasing frames after trying them on

75% of users end up trying frames on at home

Out of those home try on users, 66% end up making a purchase

# of Users Browsed	# Tried On	Total Purchases	Browse to Home Try on	Home Try on to Purchase
1000	750	495	0.75	0.66

```
with funnels as (SELECT DISTINCT q.user_id,
  h.user_id IS NOT NULL AS 'is_home_try_on',
  h.number_of_pairs,
  p.user_id IS NOT NULL AS 'is_purchase'
FROM quiz q
LEFT JOIN home_try_on h
  ON q.user_id = h.user_id
LEFT JOIN purchase p
  ON p.user_id = q.user_id)
select count (*)
as '# of Users Browsed',
sum (is_home_try_on) as '# Tried On',
sum (is_purchase) as 'Total Purchases',
1.0 * SUM(is_home_try_on) / COUNT(*) AS 'Browse to Home Try on',
1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS 'Home Try on to
Purchase'
from funnels;
```

# 1.8 Analysis – Difference in Purchase Rates

Using the query below we can see if there is a difference in purchase rates between users who get 3 pairs of frames to try on at home vs those who get 5 pairs

The data shows that users who receive more pairs of glasses to try on at home are more likely to make a purchase

```
with funnels as (SELECT DISTINCT q.user_id,
  h.user_id IS NOT NULL AS 'is_home_try_on',
  h.number_of_pairs,
  p.user_id IS NOT NULL AS 'is_purchase'
FROM quiz q
LEFT JOIN home_try_on h
  ON q.user_id = h.user_id
LEFT JOIN purchase p
  ON p.user_id = q.user_id)
select number_of_pairs,
count (*)
as '# of Users Browsed',
sum (is_home_try_on) as '# Tried On',
sum (is_purchase) as 'Total Purchases',
1.0 * SUM(is_home_try_on) / COUNT(user_id) AS 'Browse to Home Try on',
1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS 'Home Try on to Purchase'
from funnels
group by number_of_pairs;
```

number_of_pairs	# of Users Browsed	# Tried On	Total Purchases	Browse to Home Try on	Home Try on to Purchase
0	250	0	0	0.0	0
3 pairs	379	379	201	1.0	0.530343007915567
5 pairs	371	371	294	1.0	0.792452830188679