



The image part with

# Capstone – User Funnels

Learn SQL from Scratch

Nate Baker

June 15, 2018

# Warby Parker

Warby Parker is a transformative eyewear brand.

In this exercise we will analyze two marketing funnels to calculate conversion rates and determine insights.

- Survey Funnel – an online style quiz with 5 questions
- Home Try-On Funnel – a stage in the purchase flow where customers receive either 3 or 5 sample pairs of glasses to try on at home (A/B Test)

# Survey Funnel, Query and Results

```
1 SELECT question, COUNT(Distinct user_id)
2 FROM survey
3 GROUP BY question;
```

## Query Results

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

# Survey Funnel, Conversion Rates

Question	# of Responses	Conversion Rate
1. What are you looking for?	500	100%
2. What's your fit?	475	95%
3. What shapes do you like?	380	80%
4. What colors do you like?	361	95%
5. When was your last eye exam?	270	75%

# Survey Funnel, Insights

- Questions #3 and #5 have the least completion rate
- #3 might be low because:
  - i. Confusion about what shapes are available
  - ii. Subjectivity of the possible answers
- #5 might be low because:
  - i. Person has never had an eye exam or forgot the date of last exam

# Home Try-On Funnel

Join the quiz, home\_try\_on and purchase tables

```
1  SELECT DISTINCT q.user_id,  
2  CASE WHEN h.user_id IS NOT NULL  
3    THEN 'True' ELSE 'False'  
4    END AS 'is_home_try_on',  
5  h.number_of_pairs,  
6  CASE WHEN p.user_id IS NOT NULL  
7    THEN 'TRUE' ELSE 'FALSE'  
8    END AS 'is_purchase'  
9  FROM quiz as q  
10 LEFT JOIN home_try_on as h  
11 ON q.user_id = h.user_id  
12 LEFT JOIN purchase as p  
13 ON p.user_id = q.user_id  
14 LIMIT 10;
```

Query Results			
user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	True	3 pairs	FALSE
291f1cca-e507-48be-b063-002b14906468	True	3 pairs	TRUE
75122300-0736-4087-b6d8-c0c5373a1a04	False	Ø	FALSE
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	True	5 pairs	FALSE
ce965c4d-7a2b-4db6-9847-601747fa7812	True	3 pairs	TRUE
28867d12-27a6-4e6a-a5fb-8bb5440117ae	True	5 pairs	TRUE
5a7a7e13-fbcf-46e4-9093-79799649d6c5	False	Ø	FALSE
0143cb8b-bb81-4916-9750-ce956c9f9bd9	False	Ø	FALSE
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	True	5 pairs	FALSE
b1dded76-cd60-4222-82cb-f6d464104298	True	3 pairs	FALSE

# Home Try-On Funnel

Compare Conversion from quiz → home\_try\_on  
and from home\_try\_on → purchase

```
1  SELECT COUNT (user_id) AS 'Quiz Responders'
2  FROM quiz;
3
4  SELECT COUNT (user_id) AS 'User Trials'
5  FROM home_try_on;
6
7  SELECT COUNT (user_id) AS 'Purchases'
8  FROM purchase;
9
```

Query Results
Quiz Responders
1000
User Trials
750
Purchases
495

# Home Try-On Funnel

Compare Conversion from quiz → home\_try\_on  
and from home\_try\_on → purchase

Funnel Stage	Number of Users	Conversion Rate
1. Quiz Responders	1000	100%
2. User Trials (Home Try On)	750	75%
3. Purchases	495	66%



# Home Try-On Funnel

## 5-Pair Trial vs. Purchase

```
1  SELECT COUNT (*) AS '5 Pair Trial'
2  FROM quiz as q
3  LEFT JOIN home_try_on as h
4  ON q.user_id = h.user_id
5  LEFT JOIN purchase as p
6  ON p.user_id = q.user_id
7  WHERE h.number_of_pairs = '5 pairs';
8
9  SELECT COUNT (*) AS '5 Pair Purchase'
10 FROM quiz as q
11 LEFT JOIN home_try_on as h
12 ON q.user_id = h.user_id
13 LEFT JOIN purchase as p
14 ON p.user_id = q.user_id
15 WHERE h.number_of_pairs = '5 pairs'
16    and p.user_id IS NOT NULL;
```

Query Results
5 Pair Trial
371
5 Pair Purchase
294

Conversion Rate = 79.25%

# Home Try-On Funnel

## 3-Pair Trial vs. Purchase

```
1  SELECT COUNT (*) AS '3 Pair Trial'
2  FROM quiz as q
3  LEFT JOIN home_try_on as h
4  ON q.user_id = h.user_id
5  LEFT JOIN purchase as p
6  ON p.user_id = q.user_id
7  WHERE h.number_of_pairs = '3 pairs';
8
9  SELECT COUNT (*) AS '3 Pair Purchase'
10 FROM quiz as q
11 LEFT JOIN home_try_on as h
12 ON q.user_id = h.user_id
13 LEFT JOIN purchase as p
14 ON p.user_id = q.user_id
15 WHERE h.number_of_pairs = '3 pairs'
16        and p.user_id IS NOT NULL;
17
```

Query Results
3 Pair Trial
379
3 Pair Purchase
201

Conversion Rate = 53.03%

# Home Try-On Funnel

Insights From Purchase Table, Style

```
1 SELECT style, COUNT (user_id)
2 FROM purchase
3 GROUP BY 1
4 ORDER BY 2 DESC;
5
```

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

- 51% buy Women's Styles
- 49% buy Men's Styles

# Home Try-On Funnel

Insights From Purchase Table, Color

```
1 SELECT color, COUNT (user_id)
2 FROM purchase
3 GROUP BY 1
4 ORDER BY 2 DESC;
5
```

- 17% buy Jet Black
- 13% buy Driftwood Fade
- 13% buy Rosewood Tortoise
- 11% buy Rose Crystal
- 11% buy Layered Tortoise Matte
- 10% buy Pearled Tortoise
- 9% buy Elderflower Crystal
- 9% buy Sea Glass Gray
- 8% buy Endangered Tortoise

Query Results	
color	COUNT(*)
Jet Black	86
Driftwood Fade	63
Rosewood Tortoise	62
Rose Crystal	54
Layered Tortoise Matte	52
Pearled Tortoise	50
Elderflower Crystal	44
Sea Glass Gray	43
Endangered Tortoise	41

# Home Try-On Funnel

Insights From Purchase Table, Model Name

```
1 SELECT model_name, COUNT (user_id)
2 FROM purchase
3 GROUP BY 1
4 ORDER BY 2 DESC;
5
```

- 23% buy Eugene Narrow
- 22% buy Dawes
- 19% buy Brady
- 17% buy Lucy
- 10% buy Olive
- 8% buy Monocle

Query Results	
model_name	COUNT(*)
Eugene Narrow	116
Dawes	107
Brady	95
Lucy	86
Olive	50
Monocle	41

# Home Try-On Funnel

Insights From Purchase Table, Price

```
1 SELECT price, COUNT (user_id)
2 FROM purchase
3 GROUP BY 1
4 ORDER BY 2 DESC;
```

Query Results	
price	COUNT(*)
95	261
150	193
50	41

- 53% buy at the \$95 price point
- 39% buy at the \$150 price point
- 8% \$50 price point is least popular (9% of purchases)

# Home Try-On Funnel

Insights From Purchase Table, Product id

```
1 SELECT product_id, COUNT (user_id)
2 FROM purchase
3 GROUP BY 1
4 ORDER BY 2 DESC;
```

- 13% buy Product ID #3
- 13% buy Product ID #9
- 11% buy Product ID #10
- 11% buy Product ID #1
- 10% buy Product ID #6
- 9% buy Product ID #4
- 9% buy Product ID #7
- 8% buy Product ID #2
- 8% buy Product ID #8
- 8% buy Product ID #5

Query Results	
product_id	COUNT(*)
3	63
10	62
9	54
1	52
6	50
4	44
7	44
2	43
8	42
5	41

# Home Try-On Funnel

Insights From quiz Table, Style

```
1 SELECT style, COUNT(Distinct user_id)
2 FROM quiz
3 GROUP BY style
4 ORDER BY 2 DESC;
```

- 47% of quiz takers want Women's Styles
- 43% of quiz takers want Men's Styles
- 10% of quiz takers are Not Sure

Query Results	
style	COUNT(Distinct user_id)
Women's Styles	469
Men's Styles	432
I'm not sure. Let's skip it.	99



# Home Try-On Funnel

Insights From quiz Table, Fit

```
1 SELECT fit, COUNT(Distinct user_id)
2 FROM quiz
3 GROUP BY fit
4 ORDER BY 2 DESC;
```

- 41% of quiz takers have a Narrow face
- 30% of quiz takers have a Medium face
- 20% of quiz takers have a Wide face
- 9% of quiz takers are not sure

Query Results	
fit	COUNT(Distinct user_id)
Narrow	408
Medium	305
Wide	198
I'm not sure. Let's skip it.	89

# Home Try-On Funnel

Insights From quiz Table, Shape

```
1 SELECT shape, COUNT(DISTINCT user_id)
2 FROM quiz
3 GROUP BY shape
4 ORDER BY 2 DESC;
```

Query Results	
shape	COUNT(DISTINCT user_id)
Rectangular	397
Square	326
Round	180
No Preference	97

- 39% of quiz takers prefer a rectangle shape
- 33% of quiz takers prefer a square shape
- 18% of quiz takers prefer a round shape
- 10% of quiz takers have no shape preference

# Home Try-On Funnel

Insights From quiz Table, Color

```
1 SELECT color, COUNT(Distinct user_id)
2 FROM quiz
3 GROUP BY color
4 ORDER BY 2 DESC;
```

Query Results	
color	COUNT(Distinct user_id)
Tortoise	292
Black	280
Crystal	210
Neutral	114
Two-Tone	104

- 29% of quiz takers prefer tortoise color
- 28% of quiz takers prefer black color
- 21% of quiz takers prefer crystal color
- 11% of quiz takers prefer neutral color
- 10% of quiz takers prefer two-tone color