

Codecademy

Learn SQL From Scratch

Capstone – Usage Funnels

with Warby Parker

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1. Get Familiar with Warby Parker

1. Get Familiar with Warby Parker

- Warby Parker is a transformative lifestyle brand with a lofty objective: to offer designer eyewear at a revolutionary price while leading the way for socially conscious businesses.
- Warby Parker's purchase funnel is: Style Quiz → Home Try-On → Purchase
- In this Capstone Project, I will query and analyze Warby Parker's purchase funnel database tables in order to calculate conversion rates and retrieve other useful data.
- These analyses can lead to actionable insights about: the effectiveness of quiz questions, the flow through the purchase funnel, and which products/options are most desirable.

2. Examining Warby Parker's Quiz Funnel

2. Examining Warby Parker's Quiz Funnel

- Warby Parker's has a Style Quiz that asks a user to answer five questions, the answers to which are stored in the table called "survey".
- We know that users will "give up" at different points within the survey, but where and why?
- On the following slide, we will examine: the number of responses to each question; which questions have lower completion rates; and comment on why some questions might have lower completion ratios.

2. Examining Warby Parker's Quiz Funnel (continued)

- We can see a steady decline of completion through the series of questions, but questions number 3 and number 5 have the lowest completion rate at 80% and 74.8%, respectively.
- I believe question 3 had a lower completion rate because the question might be too subjective and intangible to provide a firm answer. I suspect that question 5 had the lowest completion rate because it was asking about personal medical history, which is a sensitive/private topic for many people and therefore they may be reluctant to share that detail.

Style Quiz Question	# of Responses	Completion %
1. What are you looking for?	500	100.00%
2. What's your fit?	475	95.00%
3. Which shapes do you like?	380	80.00%
4. Which colors do you like?	361	95.00%
5. When was your last eye exam?	270	74.79%

```
SELECT question AS 'Style Quiz  
Question',  
       COUNT(DISTINCT user_id) AS  
       'Number of Responses'  
FROM survey  
GROUP BY 1;
```

3. Examining Warby Parker's Home Try- On Funnel

3. Examining Warby Parker's Home Try-On Funnel

- Warby Parker's second phase of their purchase funnel is to let customers try on glasses at home.
- Warby Parker wanted to know if customers were more likely to ultimately buy if they got to try on three pairs of glasses versus five pairs of glasses.
- To test this, they sent some customers three pairs of glasses and some five pairs. Now, I will use data to compare the success rates between these two samples. This is known as an A/B Test.

3. Examining Warby Parker's Home Try-On Funnel (continued)

- I used a query to join three tables (“quiz”, “home_try_on” and “purchase”) in a way that we could examine: conversion rates through the entire purchase funnel, calculate the difference in purchase rates for customers who were given three glasses versus five.
- Looking at the overall data, we can see that 75% of customers who take the quiz will try on glasses at home and 66% who try on glasses at home will ultimately buy glasses.

```
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 AS 'q'  
  LEFT JOIN home_try_on AS 'h'  
    ON q.user_id = h.user_id  
  LEFT JOIN purchase AS 'p'  
    ON p.user_id = q.user_id)  
SELECT COUNT(*) AS 'num_quiz',  
  SUM(is_home_try_on) AS  
  'num_home_try_on',  
  SUM(is_purchase) AS  
  'num_purchased',  
  1.0 * SUM(is_home_try_on) /  
  COUNT(user_id) AS 'quiz_to_try',  
  1.0 * SUM(is_purchase) /  
  SUM(is_home_try_on) AS 'try_to_buy'  
FROM funnels;
```

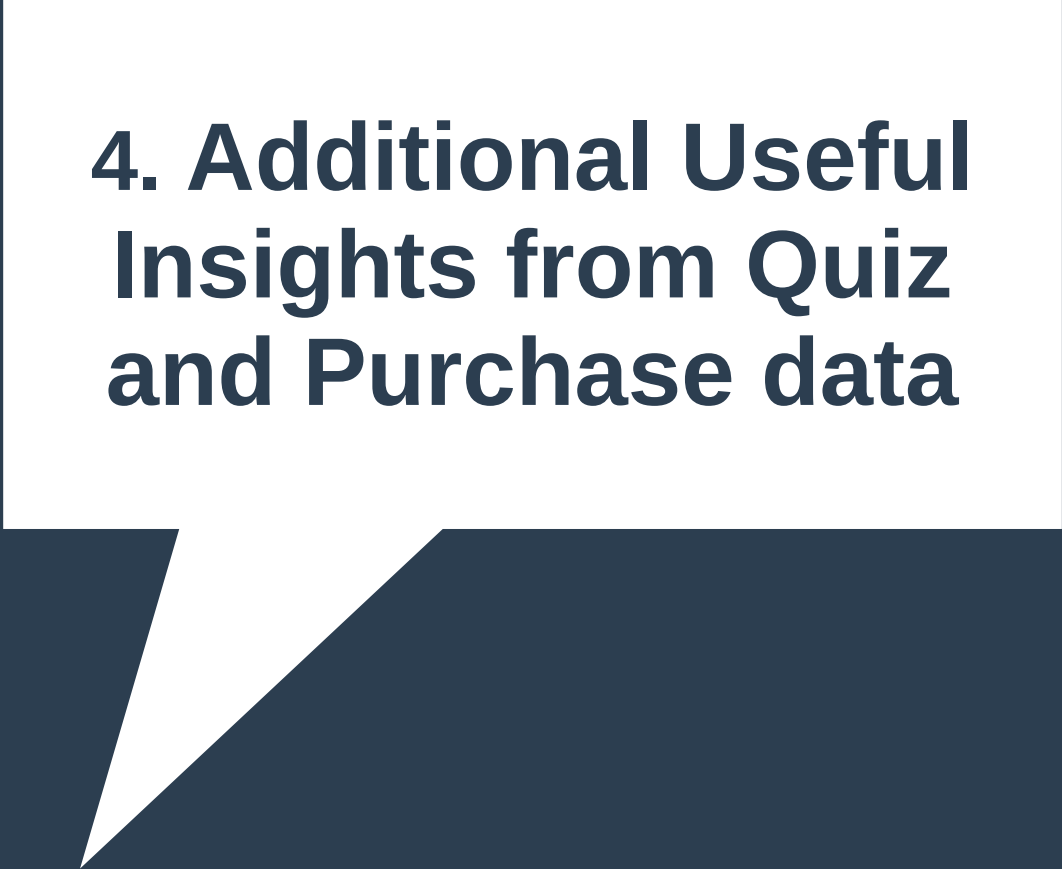
num_quiz	num_home_try_on	num_purchased	quiz_to_try	try_to_buy
1000	750	495	0.75	0.66

3. Examining Warby Parker's Home Try-On Funnel (continued)

- Even more interesting is the A/B Test data, which shows the purchase rates for customers who received 3 pairs to try versus those who received 5 pairs.
- Customers who received 3 pairs and those who received 5 pairs proceeded to make a purchase 53% and 79% of the time, respectively. We can clearly see that customers who received 5 pairs were 26% 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 AS 'q'  
  LEFT JOIN home_try_on AS 'h'  
    ON q.user_id = h.user_id  
  LEFT JOIN purchase AS 'p'  
    ON p.user_id = q.user_id)  
SELECT number_of_pairs,  
  COUNT(*) AS 'num_quiz',  
  SUM(is_home_try_on) AS 'num_try_on',  
  SUM(is_purchase) AS 'num_purchased',  
  1.0 * SUM(is_purchase) /  
  SUM(is_home_try_on) AS 'try_to_buy'  
FROM funnels  
WHERE number_of_pairs IS NOT NULL  
GROUP BY 1;
```

number_of_pairs	num_quiz	num_try_on	num_purchased	try_to_buy
3 pairs	379	379	201	0.53034
5 pairs	371	371	294	0.79245



4. Additional Useful Insights from Quiz and Purchase data

4. Additional Useful Insights from Quiz and Purchase data

- Using the four queries shown the the right, we can analyze the most common results of the style quiz.
- These are the most common answers to each question:
 - Style: Women's Styles, 46.9%
 - Fit: Narrow, 40.8%
 - Shape: Rectangular, 39.7%
 - Color: Tortoise, 29.2%

```
SELECT style AS 'Style Preference  
Selection',  
       COUNT(style) 'Number of Selections'  
FROM quiz  
GROUP BY 1  
ORDER BY 2 DESC;  
SELECT fit AS 'Fit Preference Selection',  
       COUNT(fit) 'Number of Selections'  
FROM quiz  
GROUP BY 1  
ORDER BY 2 DESC;  
SELECT shape AS 'Shape Preference  
Selection',  
       COUNT(shape) 'Number of Selections'  
FROM quiz  
GROUP BY 1  
ORDER BY 2 DESC;  
SELECT color AS 'Color Preference  
Selection',  
       COUNT(color) 'Number of Selections'  
FROM quiz  
GROUP BY 1  
ORDER BY 2 DESC;
```

4. Additional Useful Insights from Quiz and Purchase data (continued)

- How many of each color were sold?
- Using the query shown in the upper-right, we get the results shown in the lower-right.
- We can see the range of popularity of colors sold, which starts with Jet Black as most popular (17.4% of sales) and Endangered Tortoise as least popular (8.3% of sales).

```
SELECT color AS 'Color',  
       COUNT(color) 'Units Sold'  
FROM purchase  
GROUP BY 1  
ORDER BY 2 DESC;
```

Color	Units Sold
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

4. Additional Useful Insights from Quiz and Purchase data (continued)

- How many of each model were sold?
- Using the query shown in the upper-right, we get the results shown in the lower-right.
- We can see the range of popularity of models sold, which starts with Eugene Narrow as most popular (23.4% of sales) and Monocle as least popular (8.3% of sales).

```
SELECT model_name AS 'Model Name',  
       COUNT(model_name) AS 'Units Sold'  
FROM purchase  
GROUP BY 1  
ORDER BY 2 DESC;
```

Model Name	Units Sold
Eugene Narrow	116
Dawes	107
Brady	95
Lucy	86
Olive	50
Monocle	41

4. Additional Useful Insights from Quiz and Purchase data (continued)

- How many of each price group were sold?
- Using the query shown in the upper-right, we get the results shown in the lower-right.
- We can see the range of popularity of price for group sold. \$95 is the most popular (52.7% of sales) and \$50 is the least popular (8.3% of sales). Glasses priced at \$150 were moderately popular (39% of sales).

```
SELECT price AS 'Product Price ($)',  
       COUNT(price) AS 'Units Sold'  
FROM purchase  
GROUP BY 1  
ORDER BY 2 DESC;
```

Product Price (\$)	Units Sold
95	261
150	193
50	41

4. Additional Useful Insights from Quiz and Purchase data (continued)

- How many total units were sold and what was the total gross revenue from those sales?
- I used the query shown below to find the figures.
- The results clearly show that Warby Parker sold 495 units for total gross sales of \$55,795. That revenue breaks out to \$112.72 per unit sold.

```
SELECT COUNT(*) AS 'Total Units Sold',  
       SUM(price) AS 'Total Gross Sales ($)'  
FROM purchase;
```



Questions?