

# Funnels with Warby Parker

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# 1. Quiz Funnel

To help users find their perfect frame, Warby Parker has a Style Quiz, with multiple questions

- What columns does the table have?
- What is the number of responses for each question?

question	user_id	response
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question	number_of_users
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

```
-- Get an overview by selecting all columns and the
first 10 rows
SELECT *
FROM survey
LIMIT 10;

-- How many unique users answer each question in the
survey
SELECT question,
       COUNT(DISTINCT user_id) AS 'number_of_users'
FROM survey
GROUP BY 1;
```

# 1. Quiz Funnel Continued

Calculate the percentage of users who answer each question:

- Which question(s) of the quiz have lower completion rates?
- What do you think is the reason?

question	number_of_users	completion_rate
1. What are you looking for?	500	$500/500 = 100\%$
2. What's your fit?	475	$475/500 = 95\%$
3. Which shapes do you like?	380	$380/475 = 80\%$
4. Which colors do you like?	361	$361/380 = 95\%$
5. When was your last eye exam?	270	$270/361 = 75\%$

The questions with lower completion rates are 'Question 3. Which shapes do you like?' and 'Question 5. When was your last eye exam?', with 80% and 75% respectively.

The three questions with high completion rates are very straight forward, and most people might have an intuitive sense of what their answers to those questions are. Question 3 and 5 on the other hand might require more contemplation which in turn creates uncertainty, and might lead people to end the survey early.

## 2. Home Try-On Funnel

Warby Parker's purchase funnel is:

Take the Style Quiz → Home Try-On → Purchase the Perfect Pair of Glasses

During the Home Try-On stage, we will be conducting an A/B Test:

50% of the users will get 3 pairs to try on

50% of the users will get 5 pairs to try on

Let's find out whether or not users who get more pairs to try on at home will be more likely to make a purchase.

user_id	style	fit	shape	color	
user_id	number_of_pairs		address		
user_id	product_id	style	model_name	color	price

```
-- Get an overview of the three tables, what are the
column names
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;
```

## 2. Home Try-On Funnel Continued

Once we have the data in this format, we can analyze it in several ways:

- We can calculate overall conversion rates by aggregating across all rows
- We can compare conversion from quiz→home\_try\_on and home\_try\_on→purchase
- We can calculate the difference in purchase rates between customers who had 3 number\_of\_pairs with ones who had 5

```
-- Calculating conversion rates based on a new table
WITH funnel 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 h.user_id = p.user_id
  SELECT COUNT(*) AS 'Count',
    sum(is_home_try_on) AS 'nr_home_try',
    sum(is_purchase) AS 'nr_of_purchase',
    1.0 * sum(is_home_try_on) / COUNT(user_id) AS
    'quiz_to_home_try_on',
    1.0 * sum(is_purchase) / sum(is_home_try_on) AS
    'home_try_on_to_purchase'
  FROM funnel;
```

Count	nr_home_try	nr_of_purchase	quiz_to_home_try_on	home_try_on_to_purchase
1000	750	495	0.75	0.66

## 2. Home Try-On Funnel Continued

Once we have the data in this format, we can analyze it in several ways:

- We can calculate overall conversion rates by aggregating across all rows
- We can compare conversion from quiz→home\_try\_on and home\_try\_on→purchase
- We can calculate the difference in purchase rates between customers who had 3 number\_of\_pairs with ones who had 5

number_of_pairs	number_of_users	number_of_purchases	purchase_rate
3 pairs	379	201	0.53
5 pairs	371	294	0.79

```
-- Conversion rates grouped by number of pairs
WITH funnel 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 h.user_id = p.user_id)
SELECT number_of_pairs,
  COUNT(*) AS 'number_of_users',
  sum(is_purchase) 'number_of_purchases',
  ROUND(1.0 * sum(is_purchase) / COUNT(*), 2) AS
'purchase_rate'
FROM funnel
WHERE number_of_pairs = '3 pairs'
  OR number_of_pairs = '5 pairs'
GROUP BY 1;
```

### 3. Actionable Insights

**The A/B-test shows giving people more glasses to try at home clearly increases the purchase rate.**

We can also take a quick look at what styles and models are most popular – and generate the most revenue

style	nr_sold	avg_price_per_style	money_made
Men's Styles	243	111.63	27125
Women's Styles	252	113.77	28670

style	model_name	nr_sold	price_per_unit	money_made
Men's Styles	Dawes	107	150	16050
Women's Styles	Lucy	86	150	12900
Women's Styles	Eugene Narrow	116	95	11020
Men's Styles	Brady	95	95	9025
Women's Styles	Olive	50	95	4750
Men's Styles	Monocle	41	50	2050

```
-- Do we sell more of women's or men's styles?
SELECT style, COUNT(DISTINCT user_id) AS 'nr_sold',
  ROUND(1.0 * sum(price) / COUNT(DISTINCT user_id), 2)
AS 'avg_price_per_style', sum(price) AS 'money_made'
FROM purchase
GROUP BY 1;
```

```
-- Which models are selling best?
SELECT style, model_name, COUNT(*) AS 'nr_sold', price
AS 'price_per_unit', sum(price) AS 'money_made'
FROM purchase
GROUP BY 2
ORDER BY 5 DESC;
```

Women's and Men's styles seem to be equally popular, and generate the same amount of revenue.

The most popular model is the Women's model Eugene Narrow, but the model generating the most revenue is the Men's model Dawes.

And while Monocles are very cool, they are not very popular 😊