

Project Assignment: Usage Funnels using SQL

[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. Founded in 2010 and named after two characters in an early Jack Kerouac journal, Warby Parker believes in creative thinking, smart design, and doing good in the world — for every pair of eyeglasses and sunglasses sold, a pair is distributed to someone in need.

In this project, you will analyze different Warby Parker's marketing funnels in order to calculate conversion rates.

Here are the funnels and the tables that you are given:

1/ Quiz Funnel:

- **Survey table**

2/ Home Try-On Funnel:

- **Quiz table**
- **home_try_on table**
- **Purchase table**



Warby Parker Usage Funnels

Analyze Data with SQL

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1. Quiz funnel

1.1 Inspect survey table

```
/* Task 1 - Inspect survey table */  
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. What are you looking for?	00a556ed-f13e-4c67-8704-27e3573684cd	I'm not sure. Let's skip it.
2. What's your fit?	00a556ed-f13e-4c67-8704-27e3573684cd	Narrow
5. When was your last eye exam?	00a556ed-f13e-4c67-8704-27e3573684cd	<1 Year

1.2 Number of answers for each question

```
/* Task 2 - What is the number of
responses for each question? */
SELECT question,
COUNT(DISTINCT user_id)
FROM survey
GROUP BY question
ORDER BY question;
```

Task 3 –

- Which question(s) of the quiz have a lower completion rates?
Question 5 (When was your last eye exam?) has the lowest completion rate (75%)
- What do you think is the reason?
Potential customers might feel this is too private and don't want this to affect the outcome of the survey

question	COUNT(DISTINCT user_id)	Percentage (%)
1. What are you looking for?	500	100.0
2. What's your fit?	475	95.0
3. Which shapes do you like?	380	80.0
4. Which colors do you like?	361	95.0

2. Home Try-On funnel

2.1 Inspect tables

```
/* Task 4 - Inspect tables */  
SELECT * FROM quiz LIMIT 5;
```

user_id	style	fit	shape	color
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise
291f1cca-e507-48be-b063-002b14906468	Women's Styles	Narrow	Round	Black
75122300-0736-4087-b6d8-c0c5373a1a04	Women's Styles	Wide	Rectangular	Two-Tone
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	Women's Styles	Narrow	Square	Two-Tone
ce965c4d-7a2b-4db6-9847-601747fa7812	Women's Styles	Wide	Rectangular	Black

2.1 Inspect tables

```
/* Task 4 - Inspect tables */  
SELECT * FROM home_try_on LIMIT 5;
```

user_id	number_of_pairs	address
d8addd87-3217-4429-9a01-d56d68111da7	5 pairs	145 New York 9a
f52b07c8-abe4-4f4a-9d39-ba9fc9a184cc	5 pairs	383 Madison Ave
8ba0d2d5-1a31-403e-9fa5-79540f8477f9	5 pairs	287 Pell St
4e71850e-8bbf-4e6b-accb-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

2.1 Inspect tables

```
/* Task 4 - Inspect tables */  
SELECT * FROM purchase LIMIT 5;
```

user_id	product_id	style	model_name	color	price
00a9dd17-36c8-430c-9d76-df49d4197dcf	8	Women's Styles	Lucy	Jet Black	150
00e15fe0-c86f-4818-9c63-3422211baa97	7	Women's Styles	Lucy	Elderflower Crystal	150
017506f7-aba1-4b9d-8b7b-f4426e71b8ca	4	Men's Styles	Dawes	Jet Black	150
0176bfb3-9c51-4b1c-b593-87edab3c54cb	10	Women's Styles	Eugene Narrow	Rosewood Tortoise	95
01fdf106-f73c-4d3f-a036-2f3e2ab1ce06	8	Women's Styles	Lucy	Jet Black	150

2.2 Join tables

```
/* Task 5 - Join 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		0
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	1	5 pairs	0
ce965c4d-7a2b-4db6-9847-601747fa7812	1	3 pairs	1
28867d12-27a6-4e6a-a5fb-8bb5440117ae	1	5 pairs	1

2.3 Overall conversion rates

```
/* Task 6 - calculate overall conversion rates by aggregating across all rows */
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 q.user_id = p.user_id
)
SELECT COUNT(*) AS num_user,
  SUM(is_home_try_on) AS num_home_try_on,
  SUM(is_purchase) AS num_purchase,
  1.0 * SUM(is_home_try_on) / COUNT(*) AS quizz_to_home_try_on_rate,
  1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS home_try_on_to_purchase_rate
FROM funnels;
```

75% of customers who completed the quiz followed up with try on at home; of those, 66% made a purchase.

num_user	num_home_try_on	num_purchase	quizz_to_home_try_on_rate	home_try_on_to_purchase_rate
1000	750	495	0.75	0.66

2.4 Most popular style

```
/* Task 6 - most popular style in quizz */  
SELECT style, COUNT(*) AS style_count  
FROM quiz  
GROUP BY style  
ORDER BY style_count DESC;
```

The women's styles (46.95) are slightly more popular than the men's styles (43.2%).

style	style_count	Percentage (%)
Women's Styles	469	46.9
Men's Styles	432	43.2
I'm not sure. Let's skip it.	99	9.9

2.5 Most popular item

```
/* Task 6 - most popular item in purchase */
SELECT product_id, style, model_name,
price, COUNT(*) AS product_id_count
FROM purchase
GROUP BY product_id
ORDER BY product_id_count DESC
LIMIT 5;
```

The most popular purchases are product_id 3, Dawes men's style priced at \$150, very closely followed by product_id 10, Eugene Narrow women's style priced at \$95.

product_id	style	model_name	price	product_id_count
3	Men's Styles	Dawes	150	63
10	Women's Styles	Eugene Narrow	95	62
9	Women's Styles	Eugene Narrow	95	54
1	Men's Styles	Brady	95	52
6	Women's Styles	Olive	95	50