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Capstone: Funnels with Warby Parker
Learn SQL from Scratch

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1. Get Familiar with Warby Parker

INTRODUCTION

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 Capstone Project, we 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
2. **Home Try-On Funnel:**
   ➔ quiz
   ➔ home_try_on
   ➔ purchase

2. The Quiz Funnel

The Quiz Funnel

To help users find their perfect frame, Warby Parker has a Style Quiz that has the following questions:

"What are you looking for?"
"What's your fit?"
"Which shapes do you like?"
"Which colors do you like?"
"When was your last eye exam?"
The users' responses are stored in a table called **survey**.

```
-- All columns selection from the first 10 rows of the 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
3. Which shapes do you like?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Square
5. When was your last eye exam?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	<1 Year
2. What's your fit?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Medium

The Quiz Funnel (continued)

Users will "give up" at different points in the survey. Let's analyze how many users move from Question 1 to Question 2, etc.

Create a quiz funnel using the GROUP BY command.

What is the number of responses for each question?

Conclusion: The total responses for each question diminishes considerably as the customers move from one question to the next one. That would mean that either the user loses interest along the way and skips those questions or the question would've gotten more difficult for a user to answer.

```
-- how many users move from Question 1 to Question 2, etc

SELECT question, COUNT(DISTINCT user_id) AS 'Total Responses'
FROM survey
GROUP BY 1
ORDER BY 2 DESC;
```

question	Total Responses
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

Quiz's answers completion rate

25% | 24% | 19% | 18% | 14%

1
2
3
4
5
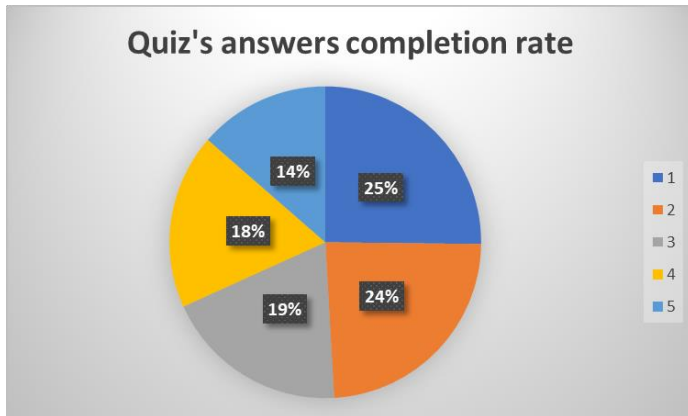
3. A/B Testing with Home Try-On Funnel

A/B Testing with 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.

The data will be distributed across three tables: **quiz, home_try_on, purchase**

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

```
-- First five rows of the quiz table
SELECT *
FROM quiz
LIMIT 5;

-- First five rows of the quiz table
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-accc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

A/B Testing with Home Try-On Funnel (Continued)

```
-- First five rows of the quiz table
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

A/B Testing with Home Try-On Funnel (Continued)

750 customers are targeted to evaluate the Home Try-On funnel on the websites distributed as follow:
- 379 users received 3 pairs of glasses to try on
- While 371 got 5 pairs.

As a result,
- 201 of the 379 customers who received 3 pairs to try on at home had purchased the at least one of the pairs of glasses, which is about 53% of conversion rate.
- On another hand, 294 out of 371 of those who got to try 5 pairs had checked out at least one pair, which is 79% of conversion rate.

Consequently, the more pairs of glasses a customer has to try at home, the more likely that customer would purchase at least one pair of glasses.

Targeted Customers	number_of_pairs	Home Try-On	Checkout	Conversion Rate
379	3 pairs	379	201	0.53
371	5 pairs	371	294	0.79

Home Try-On 3 pairs Testing Funnel

Home Try-On 5 pairs Testing Funnel
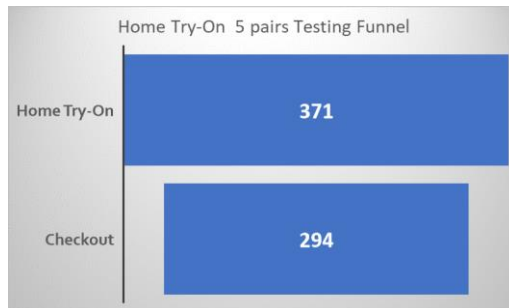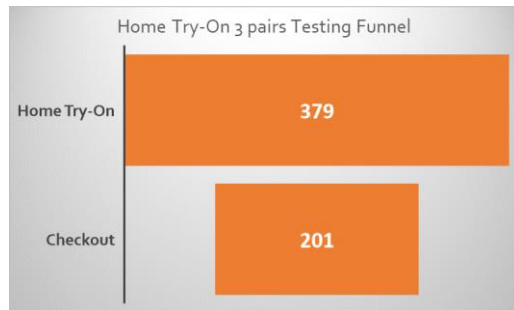
```
WITH funnels AS (
SELECT DISTINCT q.user_id,
                h.user_id IS NOT NULL AS
'is_home_try_on',
                h.number_of_pairs AS 'number_of_pairs',
                p.user_id IS NOT NULL AS 'is_purchase'
FROM quiz AS q
LEFT JOIN home_try_on AS h
        ON h.user_id = q.user_id
LEFT JOIN purchase AS p
        ON p.user_id = h.user_id
        --LIMIT 10
)
SELECT COUNT(*) AS Targeted Customers',
        number_of_pairs,
        SUM(is_home_try_on) AS 'Home Try-On',
        SUM(is_purchase) AS 'Checkout',
        -- 1.0 * SUM(is_home_try_on) /
COUNT(*),
        ROUND((1.0 * SUM(is_purchase) /
        SUM(is_home_try_on)), 2) AS 'Conversion
Rate'
FROM funnels
WHERE number_of_pairs IS NOT NULL
GROUP BY 2;
```

Conclusion

Men purchase Dawes brand glasses while women acquire more of Eugene Narrow. It looks like there is almost as many men and women browsing the website. And allowing customers to opt for a selection of 5 pairs of glasses instead of 3 will definitely boost the sales on the website.

```
--The most common types of purchase made.
SELECT product_id, model_name, style, price, COUNT(*)
FROM purchase
GROUP BY 1
ORDER BY 5 DESC;


-- The most common results of the style quiz.
SELECT COUNT(*), style
FROM quiz
GROUP BY 2
ORDER BY 2 DESC;
```

product_id	model_name	style	price	COUNT(*)
3	Dawes	Men's Styles	150	63
10	Eugene Narrow	Women's Styles	95	62
9	Eugene Narrow	Women's Styles	95	54
1	Brady	Men's Styles	95	52
6	Olive	Women's Styles	95	50
4	Dawes	Men's Styles	150	44
7	Lucy	Women's Styles	150	44
2	Brady	Men's Styles	95	43
8	Lucy	Women's Styles	150	42
5	Monocle	Men's Styles	50	41

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