



Usage Funnels with Warby Parker

Petru Apachitei

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1. Survey result

To help users find their perfect frame, Warby Parker create a questionnaire with 5 question to help customer finding suitable pair of sunglass .

- Create a query which counts the numbers of users answer for each question from survey table.
- Calculate the completion rate of users for each question.

```
SELECT
  question,
  COUNT(*) as num_users
FROM survey
GROUP BY 1;
```

questions	num_users	Percentage(%)
1. What are you looking for?	500	100
2. What's your fit?	475	95
3. Which shapes do you like?	380	80
4. Which colors do you like?	361	95
5. When was your last eye exam?	270	75

2.1 What are the column names for purchase funnel?

Warby Parker create a purchase funnel:

Take Style Quiz → Home Try-On → Purchase of Glasses

During the Home

Table **quiz** has five columns: user_id, style, fit, shape and color. This table cover the users style type of glasses and within this table can determine the direction and tendency of customers glasses style.

Table **home_try_on**. This table represents list of users who received glasses to try on at home.

- 50% of the users will get 3 pairs to try on
- 50% of the users will get 5 pairs to try on

Table **purchase** have six columns: user_id, product_id, style, model_name, color, price. Within this table we'll find out whether or not users who get more pairs to try at home we'll be more likely to make a purchase.

```
ELECT *
FROM quiz
LIMIT 5;
-- home_try_on table
SELECT *
FROM home_try_on
LIMIT 5;
-- purchase table
SELECT *
FROM purchase
LIMIT 5;
```

user_id	style	fit	shape	color	
4e01135e-bb3d-48ef-858e-c0f800000e	Women's Style	Medium	Rectangular	Translucent	
291f190e-e007-4f86-b063-007e14006900	Women's Style	Narrow	Round	Black	
/5122900-0v38-90d/-6885-c0b3-fda1a0	Women's Style	Wide	Rectangular	Two-tone	
75665dd-40ca-4c01-0301-2700093e12e2	Women's Style	Narrow	Square	Two-Tone	
m9075ad-7c7b-4865-81d7-0017d7e7010	Women's Style	Wide	Rectangular	Black	
user_id	number_of_pairs	address			
d5e6dd8/-021/-4625-5e03-cb80881100e7	5 pairs	140 New York Ave			
/52d07b-0c04-444a-9d39-b93k5u354w	5 pairs	383 Madison Ave			
8be7c3ef-1e71-407a-84f5-787d090d7798	3 pairs	207 Park St			
/e271884e-188b-4e2b-a00e-81e7db90d086	3 pairs	347 Madison Square N			
8dc810v1-2008-4dab-4d8a-af0100000007	5 pairs	222 Cornwell St			
user_id	product_id	style	model_name	color	price
00e84417-06e0-400e-8e06-af68dc1876ef	0	Women's Style	Luxy	Ice Black	150
00e1090d-189-4f01b-8d0c-3477711ba017	7	Women's Style	Luxy	Edenflower Crystal	150
0075088/-aba1-400a-807b-4f028e/1080a	4	Men's Style	Danva	Jet Black	150
0075083-5c51-4c01-b993-87c0a03c54a0	10	Women's Style	Elegant/Narrow	Revered Teal/ice	95
01f8f105-123e-4d7e-a006-20c00a10000	0	Women's Style	Luxy	Ice Black	150

2.2. Analyze data between three tables

Calculate conversion rate between quiz → home_try_on and
home_try_on → purchase

From users who answered to quiz 750 received glasses at home
and among these users 495 made a purchase.

Tables	Num_users	percent(%)
quiz	1000	100
home_try_on	750	0.75
purchase	495	0.66

```
with browse 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 quiz_users,
SUM(is_home_try_on) as try_on_users,
SUM(is_purchase) as purchase_users
FROM browse;
```

2.3 Customers with three numbers of pairs and ones who had five

Create a query to calculate conversion rate between customers who received 5 pairs of glasses and those with 3 pairs.

- **80%** from users who received five pairs purchased glasses
- **53%** from users who received three pairs purchased glasses

```
with browse 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)

-- as conversion_rate
SELECT
  number_of_pairs,
  SUM(is_home_try_on) as try_on_users,
  SUM(is_purchase) as purchase_users
FROM browse
WHERE number_of_pairs IS NOT NULL
GROUP BY 1;
```

Number_of_pairs	User_receive_glasses	Users_purchase_glasses	Percentage(%)
5 pairs	371	294	80
3 pairs	379	201	53

3.1 Most common style

Create a query to analyze most models :

- People are more interested on women's style than men's style either answering or purchasing glasses

Style	Users_who_answer	Users_who_purchase
Women's Styles	469	252
Men's Styles	432	243
I'm not sure. Let's skip it.	99	0

```
-- for types of glasses model name
with browse as
(SELECT DISTINCT q.user_id,
 p.price,
 p.color,
 p.model_name,
 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
color,
price,
model_name,
SUM(is_purchase) as purchase_users
FROM browse
WHERE model_name IS NOT NULL
GROUP BY 1, 2, 3;
```

3.1 Most common model and color

Create a query to emphasize the most wanted glasses with respect to color, style and price.

model_name	style	color	purchase
Brady	Men's Styles	Layered Tortoise Matte	95
Dawes	Men's Styles	Jet Black	107
Eugene Narrow	Women's Styles	Rose Crystal	116
Lucy	Women's Styles	Elderflower Crystal	86
Monocle	Men's Styles	Endangered Tortoise	41
Olive	Women's Styles	Pearled Tortoise	50

```
with browse as
(SELECT DISTINCT q.user_id,
 p.style,
 --p.price,
 p.color,
 p.model_name,
 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
 model_name,
 style,
 color,
 --price,
 SUM(is_purchase) as purchase_users
FROM browse
WHERE model_name IS NOT NULL
GROUP BY 1;
```


4. Analyze data recommendation and additional insights

Conclusion:

1. Survey result

Survey shows lower competition rate for Q3, Q4 and Q5

Q3 some people do not have a preferred shape, they are used to try on glasses then select one who fits better. In this case would be benefic to have some models with different colors to try on or a software tool to take a picture of user and simulate with different shapes and colors.

Q5 in this case not all people had an eye exam.

2. Funnel analysis

Users who received more pairs at home were more likely to end up purchasing, 3 pairs 53% & 5pairs 80%.

3. Most common style and model.

Women's style have better sale then Men's style, difference is not significant.

For people who answered '**I'm not sure. Let's skip it.**', none of these people try on home or purchased a pair of glasses.

Most popular women style model is Eugene Narrow.

Most popular men style model is Dawes.

Model Monocle and Olive have lower purchasing rate, Monocle model is a specific monocular type of frame therefore is not attractive to everyone, Olive is part of 2014 collection looks that is a little bit out of fashion.