



Usage Funnels with Warby Parker

Learn SQL from Scratch

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1. Get familiar with Warby Parker

Q1: reviewing survey table

The first question ask us to pull the first 10 rows from all columns and to identify all the columns in the table called **survey**. Using the query on the right, we see that there are three columns

- question
- user_id
- response
- An illustration of the first 4 rows is shown below

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

```
select *  
from survey  
limit 10;
```

2. What is the Quiz Funnel

Q2: identifying the number of responses for each survey question

The second question asks to find the number of responses for each survey question. Using the query on the right, we find the following number of responses for each question

question	num_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

```
select question, count(distinct
user_id) as      'num_responses'
from survey
group by question;
```

Q3: calculating the completion rate for each survey question

The third question asks us to calculate the completion rate of each question (*i.e. the number respondents who answered a question divided by the number of respondents who answered the previous question*). We pull the data from the previous query into excel and calculate the completion rate accordingly.

The results indicate the question 4 &5 have the lowest completion rate. The lower completion may be due to the fact that respondents may not be sure of their favorite shape or when they had their last eye exam.

question	num_responses	completion rate
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%

3. A/B Testing with Home Try-On Funnel

Q4: reviewing the quiz, home_try_on, and purchase table

The fourth question asks us to pull all the column names from the following tables: **quiz**, **home_try_on**, **purchase**. Using the query on the right, we pull this information and present it below:

Quiz

- question
- user_id
- style
- Fit
- Shape
- Color

Home_try_on

- User_id
- Number_of_pairs
- address

Purchase

- User_id
- Product_id
- Style
- Model_name
- Color

```
select *  
from quiz  
limit 5;
```

```
select *  
from home_try_on  
limit 5;
```

```
select *  
from purchase  
limit 5;
```

Q5: combining all three tables to pull insights

The fifth question asks us to create a new table with the following columns:

`user_id`, `is_home_try_on`, `number_of_pairs`, `is_purchase`

- If the user has any entries in `home_try_on`, then `is_home_try_on` will be 'True'.
- `number_of_pairs` comes from `home_try_on` table
- If the user has any entries in `is_purchase`, then `is_purchase` will be 'True'

Using the query on the right, we pull the first 10 rows of the table. Below are the first 3 rows

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

```
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;
```

Q6: combing all three tables to pull insights

Finally, we run some analytics to understand how successful our trial program is in convincing people to buy a pair of glasses. Some of the analytics we ran are:

- How many quiz takers went on to participate in a home try on trial?
- How many of those who participated in the trial went on to purchase a pair?
- Did having 3 vs 5 pairs to trial make a difference in the likelihood of purchase?
- Running the code shown on the right, we created a table in SQL that allowed us to answer the questions above (next slide)

```
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',  
    case  
      when h.number_of_pairs = "3 pairs" then 1 else 0  
    end as 'three_pairs',  
    case  
      when h.number_of_pairs = "5 pairs" then 1 else 0  
    end as 'five_pairs',  
    case  
      when (h.number_of_pairs = "3 pairs" and p.user_id is not null) then 1 else 0  
    end as 'three_pairs_purchase',  
    case  
      when (h.number_of_pairs = "5 pairs" and p.user_id is not null) then 1 else 0  
    end as 'five_pairs_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 )  
  
select count(distinct user_id) as 'quiz_takers', sum(is_home_try_on) as 'num_trial_users',  
  1.0*sum(is_home_try_on) / count (user_id) as 'quiz_to_trial_rate',  
  sum(is_purchase) as 'num_purchase',  
  1.0*sum(is_purchase) / sum(is_home_try_on) as 'trial_to_purchase',  
  sum(three_pairs) as 'three_pairs_trial_users',  
  sum(three_pairs_purchase) as 'three_pairs_purchase',  
  1.0*sum(three_pairs_purchase) / sum(three_pairs) "three_pair_purchase_rate",  
  sum(five_pairs) as 'five_pairs_trial_users',  
  sum(five_pairs_purchase) as 'five_pairs_purchase',  
  1.0 * sum(five_pairs_purchase) / sum(five_pairs) as "five_pairs_purchase_rate"  
from funnels;
```

Q6: combining all three tables to pull insights

The table below provides key insights into our trial users

- Of the 1000 people that took our quiz, 750 (75%) went on to participate in our trial - they were split into two groups: one group receiving three pairs (379) and the other receiving five pairs (371)
- Of those 750 that participated in the trial, 495 (66%) went on to purchase a pair of glasses – those who trialed 5 pairs were more likely to purchase a pair of glasses ($294/371 = 79\%$) than those who trialed three pairs ($201/379 = 53\%$)
- Our recommendation is move forward with 5 pair trials as they appear to lead to a higher likelihood of an eventual purchase

Quiz_takers	num_trial_users	quiz_to_trial_rate	num_purchase	trial_to_purchase	three_pairs_trial_users	three_pairs_purchase	three_pair_purchase_rate	five_pairs_trial_users	five_pairs_purchase	five_pairs_purchase_rate
1000	0.75	75%	495	0.66	379	201	0.53	371	294	0.79