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Warby Parker Project

Analyze Data with SQL

Andrew Combs

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1. What percentage of users complete each question in the survey?
2. What is the difference in purchase/conversion rates for customers who received 3 pairs of glasses to try on vs those who received 5?

1. Survey Completion

1.1 Survey completion funnel

I looked at the completion rates of questions on the survey to see if there were any questions that had low completion rates. We can see that question 3 about shapes and question 5 about the participant's last eye exam have lower completion rates than the other questions.

Participants may not be ready to decide on shapes and they also may have trouble remembering when their last eye exam was.

question	completed	% completed
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
5.When was your last eye exam?	270	74.792243

```
SELECT
   question,
   COUNT(user_id) AS 'completed',
   100.0 * COUNT(user_id) / LAG(COUNT(user_id, 1,
500) OVER () AS '% completed'
FROM
   survey
GROUP BY
   question;
```

2. Purchase Rate A/B Test

1.1 Purchases with 3 or 5 samples

We can check the percent of users who made a purchase after receiving 3 samples or 5 samples at home using the SQL query shown (example shows request for data where users received 3 samples).

This query provides the number of users who received 3 pairs of glasses to try and the number who subsequently purchased. We can then do a simple calculation to find the conversion rate.

Number of Samples	Users	Number Who Completed Purchase	Percent Conversion
3	379	201	53..0%
5	371	294	79.2%

We can clearly see that users who received 5 samples were much more likely to subsequently make a purchase.

```
WITH funnels AS (SELECT
  DISTINCT q.user_id,
  hto.user_id IS NOT NULL AS 'is_home_try_on',
  hto.number_of_pairs,
  p.user_id IS NOT NULL AS 'is_purchase'
FROM
  quiz AS 'q'
LEFT JOIN
  home_try_on AS 'hto'
ON q.user_id = hto.user_id
LEFT JOIN
  purchase AS 'p'
ON p.user_id = q.user_id)

SELECT
  COUNT(number_of_pairs),
  SUM(is_purchase)
FROM funnels
WHERE number_of_pairs = '3 pairs';
```