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Warby Parker: Funnels

Learn SQL from Scratch

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30/7/2018

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Question 1: Warby Parker's Style Quiz

Warby Parker gives its customers a small quiz to filter their interests so they can select among pairs of glasses to try on that are most suitable. The following query gives a sample of the survey table's columns and what they contain.

```
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

Question 2 + 3: How Users Move from each Question

By selecting for a count of distinct user id's for each question, we can get the number of users that answered each question and from these values generate the proportion of users that went from the previous question to the current question. This proportion is the conversion rate. Possible explanations for the differences in conversion rate are provided.

Question	Number of Users	Conversion Rate	Explanation
1. What are you looking for?	500	1	N/A
2. What's your fit?	475	0.95	Disinterest
3. Which shapes do you like?	380	0.8	Choice makes users nervous or they don't like the choices they see
4. Which colors do you like?	361	0.95	Disinterest
5. When was your last eye exam?	270	0.747922438	Question stresses people about eye health

Question 4:Warby Parker’s Purchase Funnel and what the Data look like

Warby parker gives each customer a quiz, then lets the customer try on some pairs at home free of charge and then the customer either purchases a pair after sending them back or buys nothing. The data base provided gives 3 tables quiz, home_try_on, and purchase which provide the following information of which I will present samples.

user_id	style	fit	shape	color
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise
291f1cca-e507-48be-b063-002b14906468	Narrow	Narrow	Round	Black

Question 4:Warby Parker's Purchase Funnel and what the Data look like

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

user_id	product_id	styles	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

Question 5: Combining Data Tables for Later Queries

By Combining the tables with the given query, we can now generate a Table (which I will provide a sample row of) that allows us to generate conversion rates along the purchase funnel and perform A/B testing.

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	True	3 pairs	False

```
SELECT q.user_id,
CASE
  WHEN h.user_id IS NOT NULL
  THEN 'True'
  WHEN h.user_id IS NULL
  THEN 'False'
END AS 'is_home_try_on',
CASE
              WHEN h.number_of_pairs IS NULL
  THEN 'NULL'
  ELSE h.number_of_pairs
END AS 'number_of_pairs',
CASE
              WHEN p.user_id IS NOT NULL
  THEN'True'
  WHEN p.user_id IS NULL
  THEN 'False'
END 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;
```

Question 6: Conversion Rates of Purchase Funnel and A/B Testing

Using the following query with the previous query as a with statement, we can select a table of the following data which provides the count of users at each stage of the purchase funnel and breaks down each phase into its 3 pair or 5 pair test groups.

Question	COUNT(DISTINCT user_id)
1. What are you looking for?	
2. What's your fit?	
3. Which shapes do you like?	
Which colors do you like?	
When was your last eye exam?	

```
WITH funnel AS ( [previous query goes here] )
SELECT COUNT(DISTINCT user_id) AS 'q',
COUNT(DISTINCT CASE WHEN is_home_try_on = 'True'
            THEN user_id END) AS 'q_to_h',
COUNT(DISTINCT CASE WHEN number_of_pairs = '3 pairs'
THEN user_id END) AS '3_q_to_h',
COUNT(DISTINCT CASE WHEN number_of_pairs = '5 pairs'
THEN user_id END) AS '5_q_to_h',
COUNT(DISTINCT CASE WHEN is_purchase = 'True'
      THEN user_id END) AS 'h_to_p',
COUNT(DISTINCT CASE WHEN number_of_pairs = '3 pairs'
     AND is_purchase = 'True'
     THEN user_id END) AS '3_h_to_p',
COUNT(DISTINCT CASE WHEN number_of_pairs = '5 pairs'
      AND is_purchase = 'True'
      THEN user_id END) AS '5_h_to_p'
FROM funnel;
```

Question 6: Conversion Rates of Purchase Funnel and A/B Testing

Using the following query with the previous query as a with statement, we can select a table of the following data in the next slides which provides the count of users at each stage of the purchase funnel and breaks down each phase into its 3 pair or 5 pair test groups.

```
WITH funnel AS ( [previous query goes here] )
SELECT COUNT(DISTINCT user_id) AS 'q',
COUNT(DISTINCT CASE WHEN is_home_try_on =
'True'
             THEN user_id END) AS 'q_to_h',
COUNT(DISTINCT CASE WHEN number_of_pairs = '3
pairs' THEN user_id END) AS '3_q_to_h',
COUNT(DISTINCT CASE WHEN number_of_pairs = '5
pairs' THEN user_id END) AS '5_q_to_h',
COUNT(DISTINCT CASE WHEN is_purchase = 'True'
      THEN user_id END) AS 'h_to_p',
COUNT(DISTINCT CASE WHEN number_of_pairs = '3
pairs'
     AND is_purchase = 'True'
     THEN user_id END) AS '3_h_to_p',
COUNT(DISTINCT CASE WHEN number_of_pairs = '5
pairs'
      AND is_purchase = 'True'
      THEN user_id END) AS '5_h_to_p'
FROM funnel;
```

Question 6: Conversion Rates of Purchase Funnel and A/B Testing

The following is the out put of the previous query. The meanings of the headings are as follows:

- q: number of users that took the initial quiz
- q_to_h: number of users that went from the quiz to the home_try_on phase
- 3_q_to_h: number of users that got 3 pairs to try on at home
- 5_q_to_h: number of users that got 5 pairs to try on at home
- h_to_p: number of users that made purchases after trying on glasses at home
- 3_h_to_p: number of users that made purchases after trying on 3 pairs
- 5_h_to_p: number of users that made purchases after trying on 5 pairs

q	q_to_h	3_q_to_h	5_q_to_p	h_to_p	3_h_to_p	5_h_to_p
1000	750	379	371	495	201	294

Question 6: Conversion Rates of Purchase Funnel and A/B Testing

The following is the out put of the previous query. The meanings of the headings are as follows:

- q: number of users that took the initial quiz
- q_to_h: number of users that went from the quiz to the home_try_on phase
- 3_q_to_h: number of users that got 3 pairs to try on at home
- 5_q_to_h: number of users that got 5 pairs to try on at home
- h_to_p: number of users that made purchases after trying on glasses at home
- 3_h_to_p: number of users that made purchases after trying on 3 pairs
- 5_h_to_p: number of users that made purchases after trying on 5 pairs

q	q_to_h	3_q_to_h	5_q_to_p	h_to_p	3_h_to_p	5_h_to_p
1000	750	379	371	495	201	294

Question 6: Conversion Rates of Purchase Funnel and A/B Testing

The previous results were used to figure out the following conversion rates and do A/B testing between the groups as shown in these tables provided

Phase	num_users	Conversion rate
quiz	1000	1
quiz to home try on	750	0.75
home try on to purchase	495	0.66

Here we se that the conversion rate drops substantially from the quiz to the home phase and even more substantially from the home to the purchase phase.

Phase	3 pair group	Conversion rate	5 pair group	Conversion rate
home try on	379	1	371	1
home try on to purchase	201	0.530343008	294	0.792453

Here we se that the 5 pair group has a higher conversion rate than the 3 pair group, meaning that the 5 pair group is more likely to purchase glasses.

END

Thanks For your Efforts