



WARBY PARKER FUNNELS ANALYSIS

Learn SQL from Scratch

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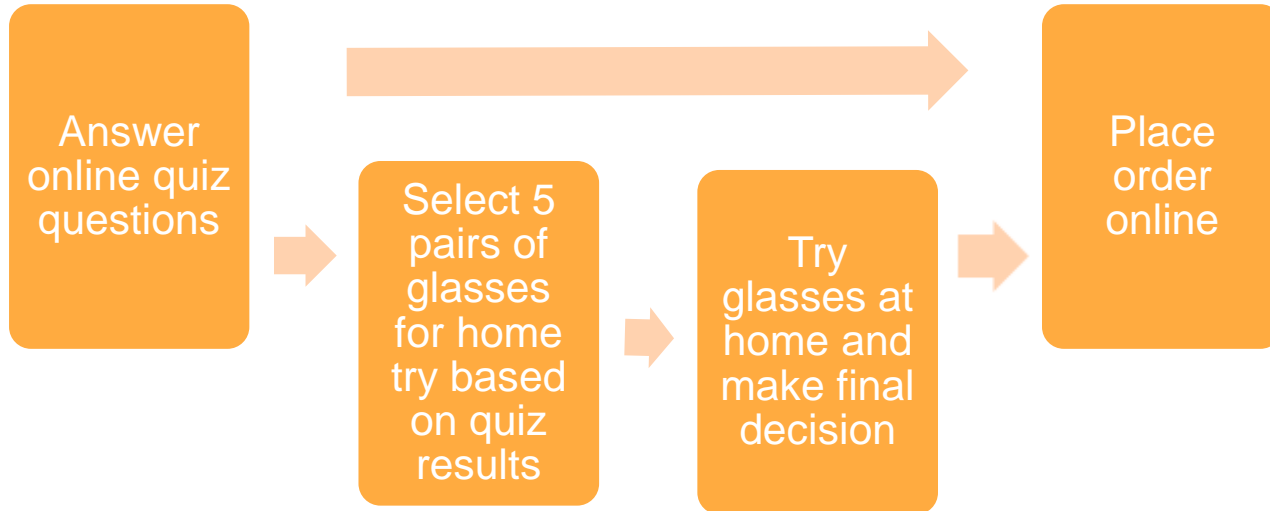
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1. GET FAMILIAR WITH WARBY PARKER

- 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.
- Key selling points: Low price, free home try on, buy one give one
- Customer online purchase process:



2. WHAT IS THE QUIZ FUNNEL

The quiz funnel is a process to figure out customer preferences on glasses by asking the following questions:

1. What are you looking for?
2. What's your fit?
3. Which shapes do you like?
4. Which colors do you like?
5. When was your last eye exam?

From the result, we can see that question 3, 4 and 5 have lower response rate. The reasons can be:

1. Customers quit during answering each quiz questions
2. Customers are not sure about what shapes or colors they are looking for
3. Last eye exam time is a more sensitive personal information and customers would not like to share it

```
1 -- what the survey table looks like and what columns does this
  table have
2 SELECT *
3 FROM survey
4 LIMIT 10;
5
6 -- count the distinct user # in survey table
7 SELECT COUNT (DISTINCT user_id) AS 'count'
8 FROM survey;
9
10 -- count the distinct user # for each question in survey table
11 SELECT question,
12     COUNT (DISTINCT user_id) AS 'count'
13 FROM survey
14 GROUP BY 1
15 ORDER BY 1;
```

Question #	Total user #	response #	Response rate %
1	500	500	100%
2	500	475	95%
3	500	380	76%
4	500	361	72%
5	500	270	54%

3. A/B TESTING WITH HOME TRY ON FUNNEL

Home try on funnel is a process from talking quiz to home try on service to final purchase.

From the result table below, we can see that there are total of 1000 customers who finished the first step, which is taking the quiz. 750 customer tried the home try on service and 495 customers finally made the purchase. The quiz to try on rate is 75%, try on to purchase rate is 66% and overall conversion rate is 49.5%.

The reason why quiz to try on rate is higher than try on to purchase rate is because home try on is a very convenient service. Customer can try on 3 or 5 pairs of glasses without paying anything before they make the final purchase.

num_customers	num_home_try_on	num_purchase	overall_conversion_rate	quiz_to_try_on_rate	try_on_to_purchase_rate
1000	750	495	0.495	0.75	0.66

```
29 -- create a temp table called funnel to left join the data from quiz,
30 -- home_try_on and purchase table
31 WITH funnel AS (
32     SELECT q.user_id,
33         -- if user moved forward from taking quizzes to home try on, result 1,
34         -- otherwise, result 0
35         h.user_id IS NOT NULL AS 'is_home_try_on',
36         h.number_of_pairs,
37         -- if user finally made the purchase, result 1, otherwise, result 0
38         p.user_id IS NOT NULL AS 'is_purchase'
39 FROM quiz AS 'q'
40 LEFT JOIN home_try_on AS 'h'
41     ON h.user_id = q.user_id
42 LEFT JOIN purchase AS 'p'
43     ON p.user_id = h.user_id)
44 -- Calculate overall conversion rate and conversion rate from quiz to home
45 -- try on and home try on to purchase
46 SELECT COUNT (DISTINCT user_id) AS 'num_customers',
47     SUM (is_home_try_on) AS 'num_home_try_on',
48     SUM (is_purchase) AS 'num_purchase',
49     1.0 * SUM (is_purchase) / COUNT (*) AS 'overall_conversion_rate',
50     1.0 * SUM (is_home_try_on) / COUNT (*) AS 'quiz_to_try_on_rate',
51     1.0 * SUM (is_purchase) / SUM (is_home_try_on) AS 'try_on_to_purchase_rate'
52 FROM funnel;
```

3. A/B TESTING WITH HOME TRY ON FUNNEL – CONT'D

We are calculating the difference in purchase rates between customers who had 3 number_of_pairs with ones who had 5.

From the result table below, we can see that customer who received 5 pairs of glasses have a higher purchase rate (79.2%) compared with customers who only received 3 pairs of glasses (53%).

The reason is with 5 pairs of glasses, customers have higher chance to find the glasses they like, which will result in final purchase.

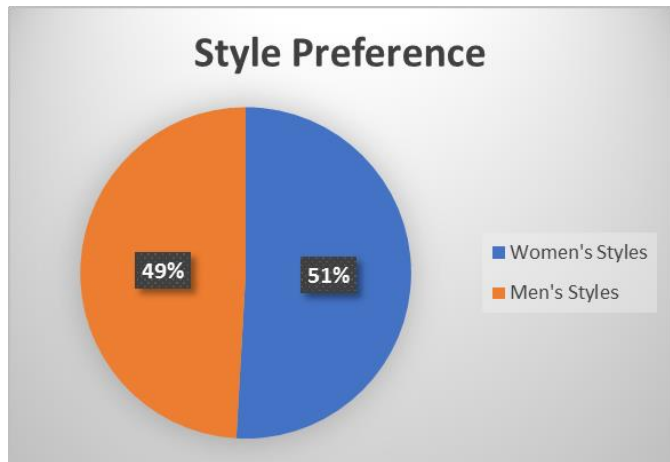
number_of_pairs	num_customers	num_home_try_on	num_purchase	try_on_to_purchase_rate
3 pairs	379	379	201	0.530343007915567
5 pairs	371	371	294	0.792452830188679

```
54 -- create a temp table called funnel to left join the data from quiz,
55 -- home_try_on and purchase table
56 WITH funnel AS (
57     SELECT q.user_id,
58         -- if user moved forward from taking quizzes to home try on, result 1,
59         -- otherwise, result 0
60         h.user_id IS NOT NULL AS 'is_home_try_on',
61         h.number_of_pairs,
62         -- if user finally made the purchase, result 1, otherwise, result 0
63         p.user_id IS NOT NULL AS 'is_purchase'
64     FROM quiz AS 'q'
65     LEFT JOIN home_try_on AS 'h'
66         ON h.user_id = q.user_id
67     LEFT JOIN purchase AS 'p'
68         ON p.user_id = h.user_id)
69 -- count customer purchase rate based on number_of_pairs
70 SELECT number_of_pairs,
71     COUNT (DISTINCT user_id) AS 'num_customers',
72     SUM (is_home_try_on) AS 'num_home_try_on',
73     SUM (is_purchase) AS 'num_purchase',
74     1.0 * SUM (is_purchase) / SUM (is_home_try_on) AS 'try_on_to_purchase_rate'
75 FROM funnel
76 WHERE number_of_pairs IS NOT NULL
77 GROUP BY 1;
```

4. GLASSES ON TREND

Warby Parker has two styles of glasses: Women's Styles and Men's Styles. From the result table below, we can see that customers purchase both styles in half/half, no obvious preference.

style	num_purchase
Women's Styles	252
Men's Styles	243

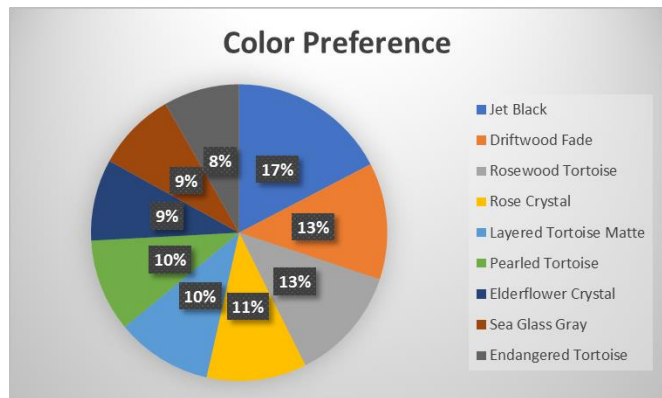


```
80 -- create a temp table called funnel to left join the data from quiz,
81 -- home_try_on and purchase table
82 WITH funnel AS (
83     SELECT q.user_id,
84         -- if user moved forward from taking quizzes to home try on, result 1,
85         -- otherwise, result 0
86         h.user_id IS NOT NULL AS 'is_home_try_on',
87         -- if user finally made the purchase, result 1, otherwise, result 0
88         p.user_id IS NOT NULL AS 'is_purchase',
89         p.style,
90         p.color,
91         p.price
92 FROM quiz AS 'q'
93 LEFT JOIN home_try_on AS 'h'
94     ON h.user_id = q.user_id
95 LEFT JOIN purchase AS 'p'
96     ON p.user_id = h.user_id)
97 -- which style customers purchase most
98 SELECT style,
99     SUM(is_purchase) AS 'num_purchase'
100 FROM funnel
101 WHERE style IS NOT NULL
102 GROUP BY 1
103 ORDER BY 2 DESC;
```

4. GLASSES ON TREND – CONT'D

Warby Parker provided 9 different colors of glasses and Jet Black is the most popular.

color	num_purchase
Jet Black	86
Driftwood Fade	63
Rosewood Tortoise	62
Rose Crystal	54
Layered Tortoise Matte	52
Pearled Tortoise	50
Elderflower Crystal	44
Sea Glass Gray	43
Endangered Tortoise	41

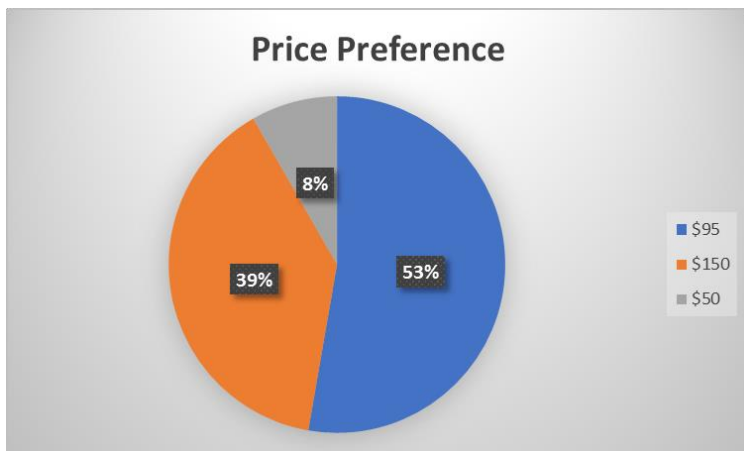


```
105 -- create a temp table called funnel to left join the data from quiz,
106 -- home_try_on and purchase table
107 WITH funnel AS (
108     SELECT q.user_id,
109         -- if user moved forward from taking quizzes to home try on, result 1,
110         -- otherwise, result 0
111         h.user_id IS NOT NULL AS 'is_home_try_on',
112         -- if user finally made the purchase, result 1, otherwise, result 0
113         p.user_id IS NOT NULL AS 'is_purchase',
114         p.style,
115         p.color,
116         p.price
117     FROM quiz AS 'q'
118     LEFT JOIN home_try_on AS 'h'
119         ON h.user_id = q.user_id
120     LEFT JOIN purchase AS 'p'
121         ON p.user_id = h.user_id)
122 -- which color customers purchase most
123 SELECT color,
124     SUM (is_purchase) AS 'num_purchase'
125 FROM funnel
126 WHERE style IS NOT NULL
127 GROUP BY 1
128 ORDER BY 2 DESC;
```


4. GLASSES ON TREND – CONT'D

Warby Parker provided three prices for different glasses: \$150, \$95 and \$50. \$95 is the most customers' choice – 53% customers bought glasses at this price!

price	num_purchase
95	261
150	193
50	41



```
130 -- create a temp table called funnel to left join the data from quiz,
131 -- home_try_on and purchase table
132 WITH funnel AS (
133     SELECT q.user_id,
134         -- if user moved forward from taking quizzes to home try on, result 1,
135         -- otherwise, result 0
136         h.user_id IS NOT NULL AS 'is_home_try_on',
137         -- if user finally made the purchase, result 1, otherwise, result 0
138         p.user_id IS NOT NULL AS 'is_purchase',
139         p.style,
140         p.color,
141         P.price
142 FROM quiz AS 'q'
143 LEFT JOIN home_try_on AS 'h'
144     ON h.user_id = q.user_id
145 LEFT JOIN purchase AS 'p'
146     ON p.user_id = h.user_id)
147 -- which color customers purchase most
148 SELECT price,
149     SUM (is_purchase) AS 'num_purchase'
150 FROM funnel
151 WHERE style IS NOT NULL
152 GROUP BY 1
153 ORDER BY 2 DESC;
```