Warby Parker

Market Funnel Analysis

Learn SQL from Scratch

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August 7, 2018

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To provide designer eyewear at affordable prices and in a convenient manner, Warby Parker has created a style quiz and surveys to facilitate the purchasing experience for their clients.

Warby Parker would like to determine the effectiveness of the style quiz in helping users find the perfect frame.

The following report contains a market funnel analysis to assist Warby Parker in addressing the overall effectiveness of their quiz.

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Market Information Collected

Warby Parker has collected information from users and assembled the following databases:

- **Quiz**: user id, style, fit, shape, color
- **Survey**: question, user id, response
- **Home_Try_On**: user id, number of pairs of frames tried, address
- **Purchase**: user id, product id, style, model name, color, price

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Quiz Funnel

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Style Quiz Funnel: Completion Analysis

Warby Parker's Style Quiz asks five questions.

- Question #2 and #4 has the **highest** completion rate
- Question #3 and #5 had **lower** completions rates

Results suggest that preference regarding style, fit, and color are easier for users to answer than frame shape. Additionally, users may have had difficulty remember their last eye exam date or may not wish to answer that personal question.

Question	User Response (#)	Conversion Rate (%)
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	74.8%

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A/B Testing with Home Try-On Funnel

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A/B Testing with Home Try-On Funnel Analysis

The below table was generated by joining three databases (quiz, purchase, and the home_try_on) so that the overall conversion rates between different marketing avenues and also to assess Warby Parker's market can be assessed

User ID	Home Frame Trial	# of Pairs in Trial	Purchase
28867d12-27a6-4e6a-a5fb-8bb5440117ae	TRUE	5 pairs	YES
9fc1bcfe-1c3b-4b78-bb3b-af3586c2f05c	TRUE	5 pairs	YES
20b03d28-d39c-46cf-81af-9fb479e823c0	TRUE	5 pairs	YES
f7f2dbff-4e8f-4b5c-b443-b54bad9ef9ae	TRUE	5 pairs	YES

* Table has been modified for presentation purposes

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A/B Testing with Home Try-On Funnel Analysis and Results

Out of 1000 potential clients (leads),

- 75% of leads partook in the frames trial.
- 37.9% of leads tried 3 frames
- 37.1 of leads tried 5 frames

Leads who tried 5 frames were more likely to make a purchase than those who tried only 3.

# of Users	# of Pairs in Trial	Purchases
250	0	0 (0%)
379	3	201 (53.0%)
371	5	294 (79.2%)

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Frame Style and Purchases

# of Users	Total Pairs Purchased	Gross Sales
Men's Styles	243	$27,125 (48.6%)
Women's Styles	252	$28,670 (51.4%)
Total	**495**	**$55,798**

Men's and women's style frames both contributed approximately equal percentages to gross sales.

Although all 10 frames sold equally well, the top three models are

1. Dawes Driftwood Fade Men's Styled Frame (Product ID 3: 12.73%)

2. Eugene Narrow Rosewood Tortoise Women's Styled Frame (Product ID 10: 12.53%)

3. Eugene Narrow Rose Crystal Women's Styled Frame (Product ID 9: 10.91%)

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Summary and Overall Recommendations

- Style Quiz: Questions regarding style, fit, and color are easier for users to answer than frame shape or his/her last exam date.
- Frame Trials at Home: Warby Parker should encourage potential leads to try 5 frames to increase sales.
- Gross Sales: Women and men frames sell equally well. Three particular frames sold slightly better. Warby Parker may want to delve deeper into the reason for this to maximize sales.

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SQL Code

```sql
--Question/Task 1 Answer: Question, User_ID, Response--
SELECT *
FROM survey
LIMIT 10;

--Question/Task 2: What is the number of responses for each question?--
SELECT question,
    COUNT(DISTINCT user_id)
FROM survey
GROUP BY question;

--Question/Task 3: Which question(s) of the quiz have a lower completion rate? What do you think is the reason?--
-- 1. 500/500 = 100%--
-- 1. 475/500 = 95%--
-- 1. 380/475 = 80%--
-- 1. 361/380 = 95%--
-- 1. 270/361 = 75%--

--Question/Task 4 Answer: What are the column names?--
--Answer: QUIZ- User_id, style, fit shape, color
--Answer: Home_Try_On - user_id, number_of_pairs, address
--Answer: 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;

```

```sql
-- Question/Task 5 Create a new table with the following columns: user_id, is_home_try_on, number_of_pairs, and is_purchase.
--Answer --
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
ORDER BY is_home_try_on DESC, number_of_pairs DESC, is_purchase DESC
LIMIT 10;

--Question/Task 6 Answer --
-- Conversion Rates --
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'
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 (*) AS 'Total Users', SUM(is_home_try_on) AS 'Trials',
SUM(is_purchase) AS 'Purchases',
100. * SUM(is_home_try_on) / COUNT(user_id) AS 'Tried Frames (%)',
100. * SUM(is_purchase) / SUM(is_home_try_on) AS 'Purchase after Trial (%)'
FROM funnels;

```

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```sql
-- Conversion Rates --
 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'
 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 (*) AS 'Total Users', SUM(is_home_try_on) AS 'Trials',
SUM(is_purchase) AS 'Purchases', number_of_pairs
FROM funnels
GROUP BY number_of_pairs;

--Question/Task 6 Answer --
SELECT question, response,
    COUNT(response) AS "Number of Users"
 FROM survey
 GROUP BY response
 ORDER BY question;

SELECT product_id, model_name, color, style, count(user_id) AS "Units Purchased", price as
"Price/Unit", sum(price) AS "Gross Sales"
FROM purchase
GROUP BY product_id
ORDER BY product_id;

SELECT style, count(user_id)
FROM quiz
GROUP BY style
LIMIT 10;

SELECT fit, count(user_id)
FROM quiz
GROUP BY fit
LIMIT 10;

SELECT shape, count(user_id)
FROM quiz
GROUP BY shape
LIMIT 10;

SELECT color, count(user_id)
FROM quiz
GROUP BY shape
LIMIT 10;
```

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