codecademy

Usage Funnels with Warby Parker

Analyze Data with SQL

Elisabetta

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1. Quiz funnel

1.1 Number of responses and completion rate

Users are asked to answer 5 questions to find their perfect frame

- Question **3** and **5** have lower completion rates
- Q3 and Q5 require more thinking; user abandons the quiz

```
SELECT question,
       COUNT(DISTINCT user_id) AS num_responses
FROM survey
GROUP BY 1;
```

Question	Number of 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%

2. Home try-on funnel

2.1 Funnel analysis

Compare the number of users who:

- Took the online quiz
- Tried the glasses at home
- Purchased the glasses

Took Quiz	Tried glasses	Purchased glasses
1000	750	495

```
WITH funnels AS (
  SELECT 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 AS 'q'
  LEFT JOIN  home_try_on AS 'h'
    ON q.user_id = h.user_id
  LEFT JOIN purchase AS 'p'
    ON h.user_id = p.user_id)
SELECT COUNT(*) AS 'quiz_taken',
  sum(is_home_try_on) AS 'glasses tried',
  sum(is_purchase) AS 'glasses bought'
FROM funnels;
```

2.2 Conversion rates

Compare conversion rates:

- Step 1: from quiz → home try-on
- Step 2: from home try-on → purchase

Step 1	Step 2
75%	66%

```
WITH funnels AS (
  SELECT 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 AS 'q'
  LEFT JOIN  home_try_on AS 'h'
    ON q.user_id = h.user_id
  LEFT JOIN purchase AS 'p'
    ON h.user_id = p.user_id)
SELECT
  1.0*sum(is_home_try_on)/COUNT(*)  as '1st step',
  1.0*sum(is_purchase) /sum(is_home_try_on)  as '2nd
step'
FROM funnels;
```

66% of users that try glasses at home buy one pair of glasses!

2.3 Difference in purchase rates

Some users got 3 pairs of glasses to try at home, others 5. The table below shows the result of our A/B test:

Try-on pairs	Users who tried	Users who purchased	Purchase rate
3 pairs	379	201	53%
5 pairs	371	294	79%

```
WITH funnels AS (
  SELECT 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 AS 'q'
  LEFT JOIN  home_try_on AS 'h'
    ON q.user_id = h.user_id
  LEFT JOIN purchase AS 'p'
    ON h.user_id = p.user_id)
SELECT number_of_pairs AS 'try_on_pairs',
  SUM(is_purchase) AS 'num_purchase'
FROM funnels
WHERE number_of_pairs IS NOT NULL
GROUP BY 1;
```

Users who got 5 pairs of glasses to try at home were more likely to buy

3. Additional Info

3.1 Most sold types of glasses

Top 3 sold products

```
SELECT product_id,
  style,
  model_name,
  color,
  COUNT(*) AS 'sold pieces'
FROM purchase
GROUP BY 1
ORDER BY 5 DESC
LIMIT 3;
```

Product ID	Style	Model name	Color	Sold pieces
3	Men’s Styles	Dawes	Driftwood Fade	63
10	Women’s Styles	Eugene Narrow	Rosewood Tortoise	62
9	Women’s Styles	Eugene Narrow	Rose Crystal	54

3.2 Most common results of the Quiz

The table below shows the most popular answer for each of the quiz questions:

Style	Fit	Color	Shape
Women’s Styles	Narrow	Tortoise	Rectangular

```
---the code below retrieves the most common answer to the style question. Just replace style with color, fit, etc to get the other answers---

SELECT style,
  COUNT(DISTINCT user_id) AS 'count'
FROM quiz
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```