Challenge-6

CLIQUE BAIT

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INTRODUCTION

Clique Bait is not like our regular online seafood store - the founder and CEO Danny, was also a part of a digital data analytics team and wanted to expand his knowledge into the seafood industry!

In this case study – I am required to support Danny's vision, analyze his dataset and come up with creative solutions to calculate funnel fallout rates for the Clique Bait online store.

Tables

Customers who visit the Clique Bait website are tagged via their cookie_id.

user_id	cookie_id	start_date
397	3759ff	2020-03-30 00:00:00
215	863329	2020-01-26 00:00:00
191	eefca9	2020-03-15 00:00:00
89	764796	2020-01-07 00:00:00
127	17ccc5	2020-01-22 00:00:00
81	b0b666	2020-03-01 00:00:00
260	a4f236	2020-01-08 00:00:00
203	d1182f	2020-04-18 00:00:00
23	12dbc8	2020-01-18 00:00:00
375	f61d69	2020-01-03 00:00:00

Customer visits are logged in this events table at a cookie_id level and event_type and page_id values can be used to join onto relevant satellite tables to obtain further information about each event.

The sequence_number is used to order the events within each visit.

visit_id	cookie_id	page_id	event_type	sequence_number	event_time
719fd3	3d83d3	5	1	4	2020-03-02
fb1eb1	c5ff25	5	2	8	2020-01-22
23fe81	1e8c2d	10	1	9	2020-03-21
ad91aa	648115	6	1	3	2020-04-27
5576d7	ac418c	6	1	4	2020-01-18
48308b	c686c1	8	1	5	2020-01-29
46b17d	78f9b3	7	1	12	2020-02-16
9fd196	ccf057	4	1	5	2020-02-14
edf853	f85454	1	1	1	2020-02-22
3c6716	02e74f	3	2	5	2020-01-31

The event_identifier table shows the types of events which are captured by Clique Bait's digital data systems.

event_type	event_name
1	Page View
2	Add to Cart
3	Purchase
4	Ad Impression
5	Ad Click

This table shows information for the 3 campaigns that Clique Bait has run on their website so far in 2020.

campaign_id	products	campaign_name	start_date	end_date
1	1-3	BOGOF - Fishing For Compliments	2020-01-01	2020-01-14
2	4-5	25% Off - Living The Lux Life	2020-01-15	2020-01-28
3	6-8	Half Off - Treat Your Shellf(ish)	2020-02-01	2020-03-31

This table lists all of the pages on the Clique Bait website which are tagged and have data passing through from user interaction events.

page_id	page_name	product_category	product_id
3	Salmon	Fish	1
4	Kingfish	Fish	2
5	Tuna	Fish	3
6	Russian Caviar	Luxury	4
7	Black Truffle	Luxury	5
8	Abalone	Shellfish	6
9	Lobster	Shellfish	7
10	Crab	Shellfish	8
11	Oyster	Shellfish	9

Case Study Questions

Digital Analysis

I. How many users are there?

Query SQL

a.
```
SELECT COUNT(*) AS user_count FROM clique_bait.users;
```

b.

user_count
1782

II. How many cookies does each user have on average?

Query SQL

a.
```
SELECT AVG(cookie_count) AS average_cookies_per_user
FROM (
  SELECT user_id, COUNT(DISTINCT cookie_id) AS cookie_count
  FROM clique_bait.users
  GROUP BY user_id
) AS user_cookies;
```

b.

average_cookies_per_user
3.5640000000000000

III. What is the unique number of visits by all users per month?

Query SQL

a.
```
SELECT
  EXTRACT(MONTH FROM event_time) AS month,
  COUNT(DISTINCT visit_id) AS unique_visits
FROM clique_bait.events
GROUP BY month
ORDER BY month;
```

b.

month	unique_visits
1	876
2	1488
3	916
4	248
5	36

IV. What is the number of events for each event type?

a. Query SQL

```
SELECT
  event_type,
  COUNT(*) AS event_count
FROM clique_bait.events
GROUP BY event_type
ORDER BY event_type;
```

b.

event_type	event_count
1	20928
2	8451
3	1777
4	876
5	702

V. What is the percentage of visits which have a purchase event?

a. Query SQL

```
SELECT
  (COUNT(DISTINCT CASE WHEN event_type = 3 THEN visit_id END)::FLOAT / COUNT(DISTINCT
visit_id)) * 100 AS purchase_percentage
FROM clique_bait.events;
```

b.

purchase_percentage
49.85970819304153

VI. What is the percentage of visits which view the checkout page but do not have a purchase event?

a. Query SQL

```
SELECT
  (COUNT(DISTINCT CASE WHEN page_id = 12 THEN visit_id END)::FLOAT / COUNT(DISTINCT
visit_id)) * 100 AS checkout_no_purchase_percentage
FROM clique_bait.events;
```

b.

checkout_no_purchase_percentage
59.00673400673401

VII. What are the top 3 pages by number of views?

a. Query SQL

```sql
SELECT
  page_id,
  COUNT(*) AS view_count
FROM clique_bait.events
WHERE event_type = 1
GROUP BY page_id
ORDER BY view_count DESC
LIMIT 3;
```

b.

page_id	view_count
2	3174
12	2103
1	1782

VIII. What is the number of views and cart adds for each product category?

a. Query SQL

```sql
SELECT
  ph.product_category,
  COUNT(DISTINCT CASE WHEN e.event_type = 1 THEN e.visit_id END) AS views,
  COUNT(DISTINCT CASE WHEN e.event_type = 2 THEN e.visit_id END) AS cart_adds
FROM clique_bait.page_hierarchy ph
LEFT JOIN clique_bait.events e ON ph.page_id = e.page_id
WHERE ph.product_category IS NOT NULL
GROUP BY ph.product_category
ORDER BY views DESC, cart_adds DESC;
```

b.

product_category	views	cart_adds
Shellfish	2547	2032
Fish	2402	1807
Luxury	2130	1469