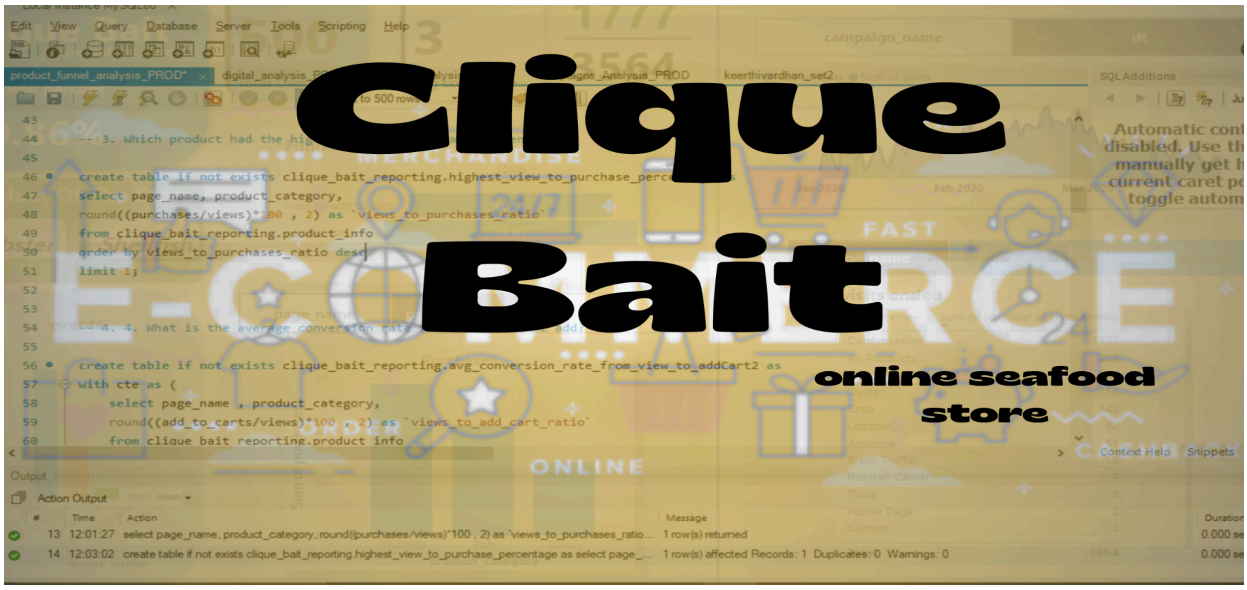


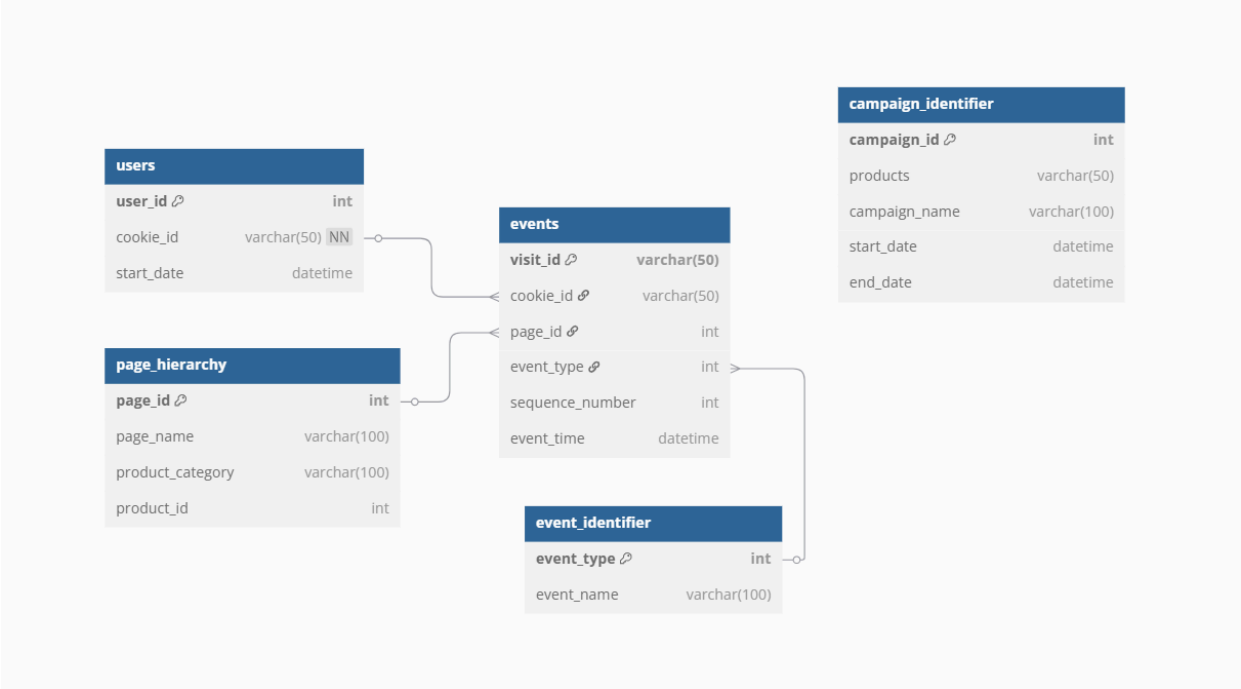
Introduction

Clique Bait is not like your regular online seafood store - the founder and CEO Keerthi, was also a part of a digital data analytics team and wanted to expand his knowledge into the seafood industry!
In this case study - you are required to support Keerthi's vision and analyse his dataset and come up with creative solutions to ***calculate funnel fallout rates*** *for the Clique Bait online store.*

Keerthivardhan Tekulapelli
11-05-2025
Mentor : Nusrath Syed

Schema : ER Diagram

1. Enterprise Relationship Diagram



2. Digital Analysis

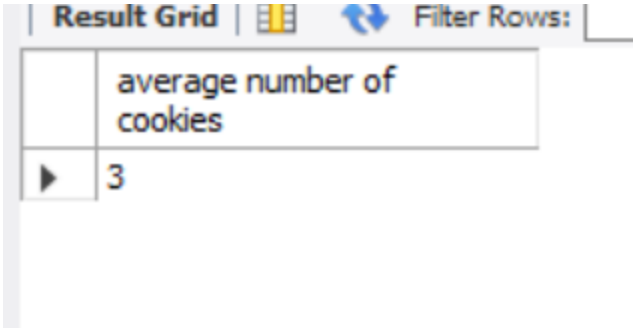
1. How many users are there?

- To find total number of users we need to count select distinct users from **users** table
- [Code]

```
select count(distinct user_id)as `Total number of users` from
clique_bait.users;
```

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

- To find average cookies each user has, we need to first find the total number of cookies each user has and then find avg

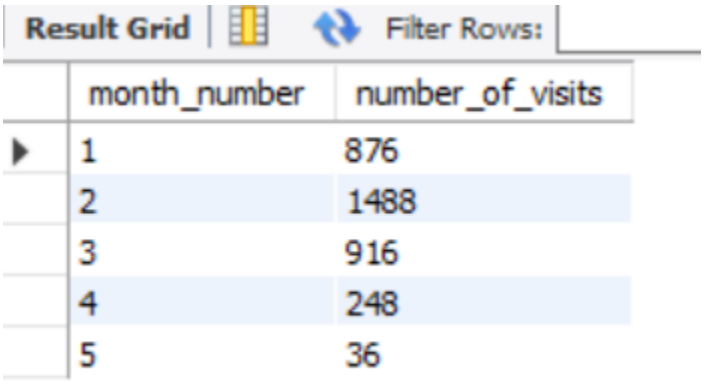


-
- **Code**

```
create table if not exists clique_bait_reporting.avg_cookies_per_user
as
with cte as (
           select user_id , count(cookie_id) as cnt
           from clique_bait.users
           group by user_id
        )
select floor(avg(cnt)) as `average number of cookies` from cte;
```

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

- events table consists all the logs generated for each visit there will be unique visit_id that gets generated so, our job is to count how many unique visit_ids are generated for each month



Result Grid | Filter Rows:

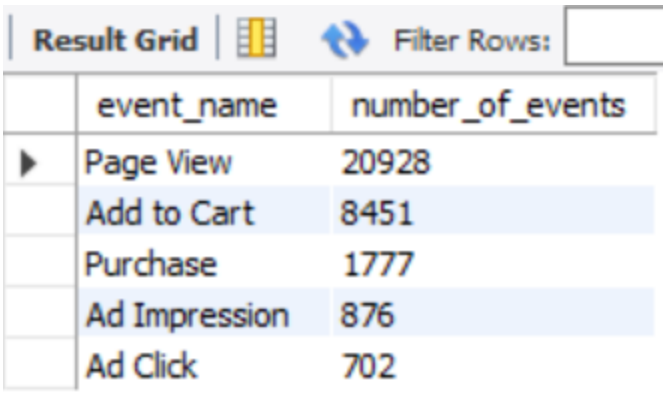
month_number	number_of_visits
1	876
2	1488
3	916
4	248
5	36

-
- [Code]

```
select
       month(event_time) as month_number,
    count(distinct visit_id) as number_of_visits
  from clique_bait.events
group by month_number;
```

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

- event table consists of all the logs/events generated in website throughout its life line join event and event_identifier to know type of event and we group on event_type/event_name aggregate the count() to know number of events



Result Grid | Filter Rows:

event_name	number_of_events
Page View	20928
Add to Cart	8451
Purchase	1777
Ad Impression	876
Ad Click	702

-
- [Code]

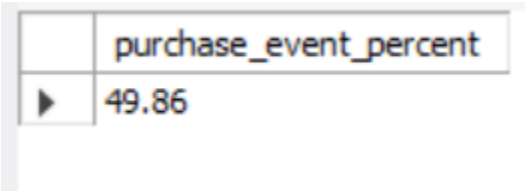
```
select
```

```
ed.event_name,
count(*) as `number_of_events`
from clique_bait.events e, clique_bait.event_identifier ed
where e.event_type = ed.event_type
group by event_name;
```

-

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

- events table contains only event type but to understand what is that event we need to join with event_identifier table
- To solve this problem
  - we should know whether purchase is done in a visit or not
  - So, we need to know weather, purchase event is generated in visit or not
- for this, we will group on each visit, then we can find weather, it contains purchase event or not



	purchase_event_percent
▶	49.86

-
- **Code**

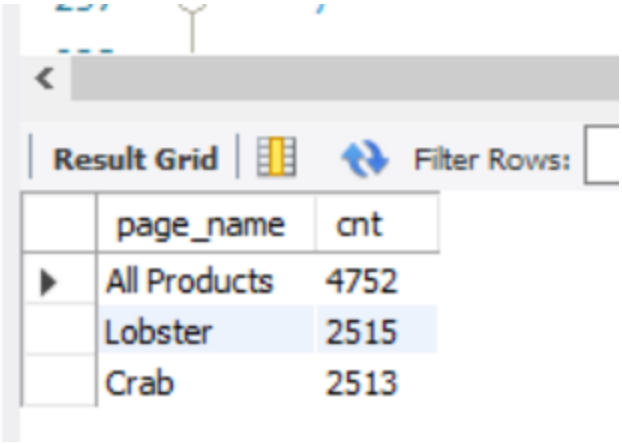
```
     with cte as (
          select visit_id,
          max(case when event_name = 'Purchase' then 1 else 0 end)
as `purchased_or_not`
          from
          clique_bait.events e,  clique_bait.event_identifier ed
          where e.event_type = ed.event_type
          group by e.visit_id
```

```
      )
      select
      round((sum(purchased_or_not=1)/count(visit_id))*100 , 2) as
`purchase_event_percent`
      from cte;
```

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

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

- Top 3
-

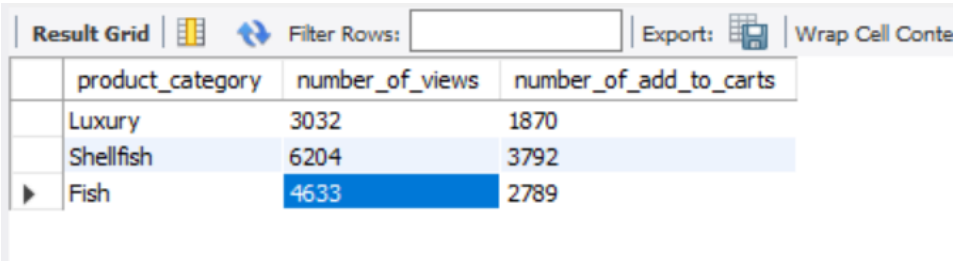


-
- **Code**

```
with cte as (
      select page_id as id , count(*) as cnt  from clique_bait.events
      group by page_id
      order by cnt
      desc
      limit 3
)
select page_name , cnt
from cte , clique_bait.page_hierarchy p
where cte.id = p.page_id;
```

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

- Number of views
-



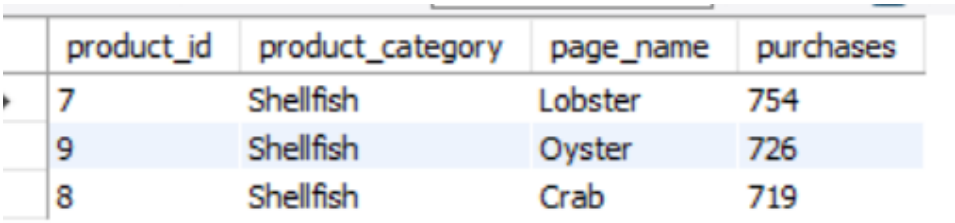
product_category	number_of_views	number_of_add_to_carts
Luxury	3032	1870
Shellfish	6204	3792
Fish	4633	2789

-
- **Code**

```
select
      p.product_category,
      sum(case when event_name = 'Page View' then 1 else 0 end) as
`number_of_views`,
      sum(event_name = 'Add to Cart') as `number_of_add_to_carts`
from
      clique_bait.events e , clique_bait.page_hierarchy p,
clique_bait.event_identifier ed
where
      e.page_id = p.page_id and
      e.event_type = ed.event_type and
      product_category is not null
group by product_category;
```

9. What are the top 3 products by purchases?

- Top 3



	product_id	product_category	page_name	purchases
▸	7	Shellfish	Lobster	754
	9	Shellfish	Oyster	726
	8	Shellfish	Crab	719

-
- **Code**

```
with cte as (
            select
                  e.*,
                  ed.event_name,
                  p.product_id,
                  p.page_name,
                  p.product_category,
                  max(
                        case
                              when event_name = 'Purchase'
                                    then 1
                                    else 0
                        end
                        )
                              over (partition by visit_id ) as
`purchased`

            from
                  clique_bait.events e,
                  clique_bait.event_identifier ed,
                  clique_bait.page_hierarchy p
            where
                  e.event_type= ed.event_type and
                  e.page_id = p.page_id
)
select
product_id ,
product_category,
page_name,
count(*) as `purchases`
from cte
where
```

```
      event_name = 'Add to Cart' and
      purchased = 1
group by product_id,product_category,page_name
order by purchases desc
limit 3;
```

3. Product Funnel Analysis

- For this part,

```
with cte as (
select
e.*,
ed.event_name,
p.page_name,
p.product_category,
p.product_id
from events e, event_identifier ed, page_hierarchy p
where e.event_type = ed.event_type and e.page_id = p.page_id
),
cte2 as (
      select page_name,
    product_id,
    product_category,
    case when  event_name = 'Add to Cart' then visit_id end as
`cart_id`,
    case when event_name = 'Page View' then visit_id end as `viewed`
    from cte
    where product_id is not null
),
cte3 as (
select visit_id as `purchased_visit_id`
from cte
where event_name = 'Purchase'
```

```
)
select
cte2.page_name,
    cte2.product_id,
    product_category,
COUNT(DISTINCT cte2.viewed) AS `views`,
COUNT(DISTINCT cte2.cart_id) AS `add_to_carts`,
COUNT(distinct cte3.purchased_visit_id) AS `purchases`,
count(DISTINCT cte2.cart_id) - COUNT(distinct
cte3.purchased_visit_id) as `Abandoned`
from
cte2
left join cte3 on cte2.cart_id = cte3.purchased_visit_id
group by
cte2.page_name,
    product_id,
    product_category;
```

1. **How many times was each product added to cart?**
    - Exp

Result Grid | Filter Rows: | Export:

page_name	product_id	product_category	add_to_carts
Abalone	6	Shellfish	932
Black Truffle	5	Luxury	924
Crab	8	Shellfish	949
Kingfish	2	Fish	920
Lobster	7	Shellfish	968
Oyster	9	Shellfish	943
Russian Caviar	4	Luxury	946
Salmon	1	Fish	938
Tuna	3	Fish	931

    -
    - **Code**

```
select
```

```
     page_name , product_id , product_category , add_to_carts
from clique_bait_reporting.product_info;
```

2. **How many times was each product added to a cart but not purchased (abandoned)?**
    - Exp

page_name	product_id	product_category	Abandoned
Abalone	6	Shellfish	233
Black Truffle	5	Luxury	217
Crab	8	Shellfish	230
Kingfish	2	Fish	213
Lobster	7	Shellfish	214
Oyster	9	Shellfish	217
Russian Caviar	4	Luxury	249
Salmon	1	Fish	227
Tuna	3	Fish	234

    -
    - **Code**

```
select
     page_name , product_id , product_category , Abandoned
from clique_bait_reporting.product_info;
```

3. **How many times was each product purchased?**
    - Exp

Result Grid | Filter Rows: | Export: | Wr

page_name	product_id	product_category	purchases
Abalone	6	Shellfish	699
Black Truffle	5	Luxury	707
Crab	8	Shellfish	719
Kingfish	2	Fish	707
Lobster	7	Shellfish	754
Oyster	9	Shellfish	726
Russian Caviar	4	Luxury	697
Salmon	1	Fish	711
Tuna	3	Fish	697

- **Code**

```
select
     page_name , product_id , product_category , purchases
from clique_bait_reporting.product_info;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

page_name	product_id	product_category	views	add_to_carts	purchases	Abandoned
Abalone	6	Shellfish	1525	932	699	233
Black Truffle	5	Luxury	1469	924	707	217
Crab	8	Shellfish	1564	949	719	230
Kingfish	2	Fish	1559	920	707	213
Lobster	7	Shellfish	1547	968	754	214
Oyster	9	Shellfish	1568	943	726	217
Russian Caviar	4	Luxury	1563	946	697	249
Salmon	1	Fish	1559	938	711	227
Tuna	3	Fish	1515	931	697	234

4. **Which product had the most views, cart adds and purchases?**
   - Exp

page_name	product_id	product_category	views	add_to_carts	purchases	Abandoned
Oyster	9	Shellfish	1568	943	726	217

   - **Code**

```
select * from clique_bait_reporting.product_info
order by views desc, add_to_carts desc , purchases desc
limit 1;
```

5. **Which product was most likely to be abandoned?**
    - Exp

page_name	product_id	product_category	views	add_to_carts	purchases	Abandoned
Russian Caviar	4	Luxury	1563	946	697	249

    -
    - **Code**

```
select * from clique_bait_reporting.product_info
order  by Abandoned desc
limit 1;
```

6. **Which product had the highest view to purchase percentage?**
    - Exp

page_name	product_category	views_to_purchases_ratio
Lobster	Shellfish	48.74

    -
    - **Code**

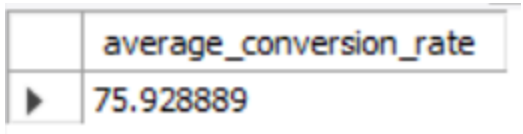
```
select page_name, product_category,
round((purchases/views)*100 , 2) as `views_to_purchases_ratio`
from clique_bait_reporting.product_info
order by views_to_purchases_ratio desc
limit 1;
```

7. **What is the average conversion rate from view to cart add?**
    - Exp

average_conversion_rate
60.950000

    -
    - **Code**

```
with cte as (
     select page_name , product_category,
    round((add_to_carts/views)*100 , 2) as `views_to_add_cart_ratio`
    from clique_bait_reporting.product_info
)
select avg(views_to_add_cart_ratio) as `average_conversion_rate` from
cte;
```

8. **What is the average conversion rate from cart add to purchase?**
    - Exp
    - 

	average_conversion_rate
▶	75.928889

    - **Code**

```
with cte as (
      select page_name , product_category,
    round((purchases/add_to_carts)*100 , 2) as
`add_cart_ratio_to_purchases`
    from clique_bait_reporting.product_info
)
select avg(add_cart_ratio_to_purchases) as `average_conversion_rate`
from cte;
```

4. Campaigns Analysis

Generate a table that has 1 single row for every unique visit_id record and has the following

columns:

• user_id

• visit_id

• visit_start_time: the earliest event_time for each visit

• page_views: count of page views for each visit

• cart_adds: count of product cart add events for each visit

• purchase: 1/0 flag if a purchase event exists for each visit

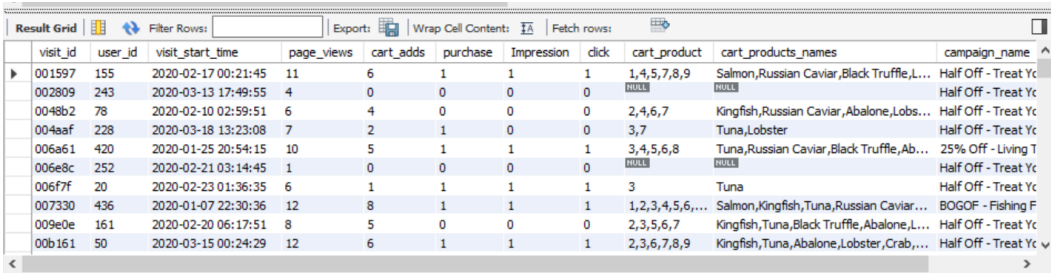
• campaign_name: map the visit to a campaign if the visit_start_time falls between

the start_date and end_date

• impression: count of ad impressions for each visit

• click: count of ad clicks for each visit

• (Optional column) cart_products: a comma separated text value with products added to the cart sorted by the order they were added to the cart (hint: use the sequence_number)

- Exp
-
- 

visit_id	user_id	visit_start_time	page_views	cart_adds	purchase	Impression	click	cart_product	cart_products_names	campaign_name
001597	155	2020-02-17 00:21:45	11	6	1	1	1	1,4,5,7,8,9	Salmon,Russian Caviar,Black Truffle,L...	Half Off - Treat Yo
002809	243	2020-03-13 17:49:55	4	0	0	0	0	NULL	NULL	Half Off - Treat Yo
0048b2	78	2020-02-10 02:59:51	6	4	0	0	0	2,4,6,7	Kingfish,Russian Caviar,Abalone,Lobs...	Half Off - Treat Yo
004aaf	228	2020-03-18 13:23:08	7	2	1	0	0	3,7	Tuna,Lobster	Half Off - Treat Yo
006a61	420	2020-01-25 20:54:15	10	5	1	1	1	3,4,5,6,8	Tuna,Russian Caviar,Black Truffle,Ab...	25% Off - Living T
006e8c	252	2020-02-21 03:14:45	1	0	0	0	0	NULL	NULL	Half Off - Treat Yo
006f7f	20	2020-02-23 01:36:35	6	1	1	1	1	3	Tuna	Half Off - Treat Yo
007330	436	2020-01-07 22:30:36	12	8	1	1	1	1,2,3,4,5,6,...	Salmon,Kingfish,Tuna,Russian Caviar...	BOGOF - Fishing F
009e0e	161	2020-02-20 06:17:51	8	5	0	0	0	2,3,5,6,7	Kingfish,Tuna,Black Truffle,Abalone,L...	Half Off - Treat Yo
00b161	50	2020-03-15 00:24:29	12	6	1	1	1	2,3,6,7,8,9	Kingfish,Tuna,Abalone,Lobster,Crab,...	Half Off - Treat Yo

- **Code**

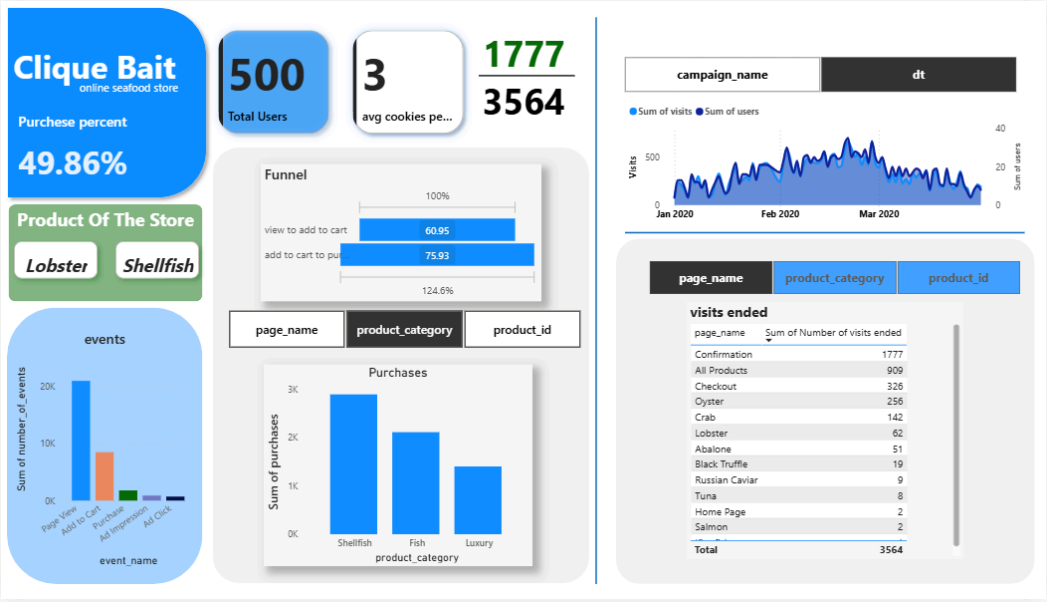
```
with cte as (
          select
          visit_id,
          user_id,
          min(event_time) as `visit_start_time`,
          count( distinct page_id)  as `page_views`,
          sum(event_name = 'Add to Cart') as `cart_adds`,
          max(case when (event_name = 'Purchase') then 1 else 0 end)
as `purchase`,
          sum(case when (event_name = 'Ad Impression') then 1 else 0
end) as `Impression`,
          sum(event_name = 'Ad Click') as `click`,
          group_concat(
                case when (event_name = 'Add to Cart') then
product_id end
                order by sequence_number
                ) as `cart_product`,
          group_concat(
```

```
                case when (event_name = 'Add to Cart') then
page_name end
                order by sequence_number
                ) as `cart_products_names`
           from temp
           group by visit_id, user_id
)
select
     cte.*,
     cd.campaign_name
from cte  , campaign_identifier cd
where
cte.visit_start_time >= cd.start_date and
cte.visit_start_time <= cd.end_date;
```

5. Insights

- **Half Off - Treat Your Shellf(ish)** has most visits
- Total visits are 3536
- Visits that purchased are 1777
    - **Percentage : 49.86%**
- Total visits that has no purchase event are **1759**
    - **256 (7.2%)** of total visits ended at **Oyster page**
- On average a user visited at least 3 times
-

5. Report


Clique Bait
online seafood store
Purchese percent
49.86%
500
Total Users
3
avg cookies pe...
1777
3564
campaign_name
dt
Sum of visits
Sum of users
Jan 2020
Feb 2020
Mar 2020
Product Of The Store
Lobster
Shellfish
Funnel
100%
view to add to cart
60.95
add to cart to pur...
75.93
124.6%
page_name
product_category
product_id
events
Sum of number_of_events
20K
10K
0K
Page View
Add to Cart
Purchase
Ad Impression
Ad Click
event_name
Purchases
Sum of purchases
3K
2K
1K
0K
Shellfish
Fish
Luxury
product_category
visits ended
page_name
Sum of Number of visits ended
Confirmation 1777
All Products 909
Checkout 326
Oyster 256
Crab 142
Lobster 62
Abalone 51
Black Truffle 19
Russian Caviar 9
Tuna 8
Home Page 2
Salmon 2
Total 3564