

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.*

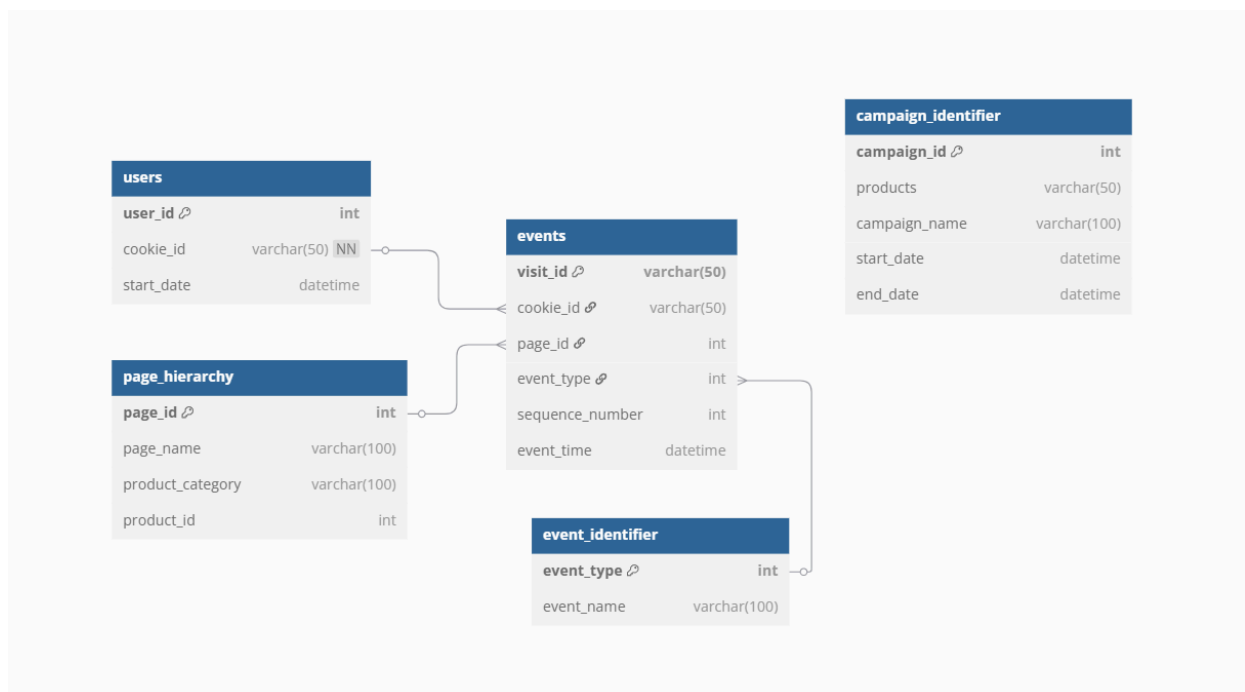
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11-05-2025

Mentor : Nusrath Syed

Schema : ER Diagram

1. Enterprise Relationship Diagram



2. Digital Analysis

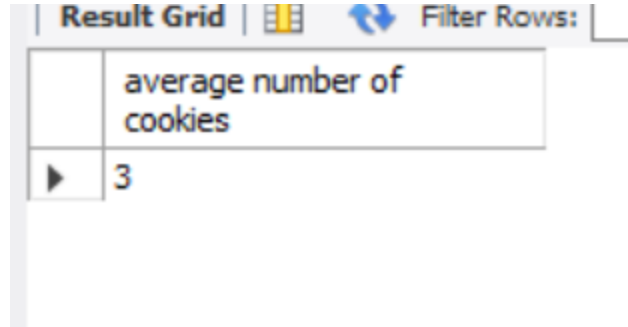
1. How many users are there?

- 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



The screenshot shows a 'Result Grid' with a single row and column. The column header is 'average number of cookies' and the value in the row is '3'. There is a 'Filter Rows' button at the top right of the grid.


average number of cookies
3

- [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 whether, purchase event is generated in visit or not
- for this, we will group on each visit, then we can find whether, 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;

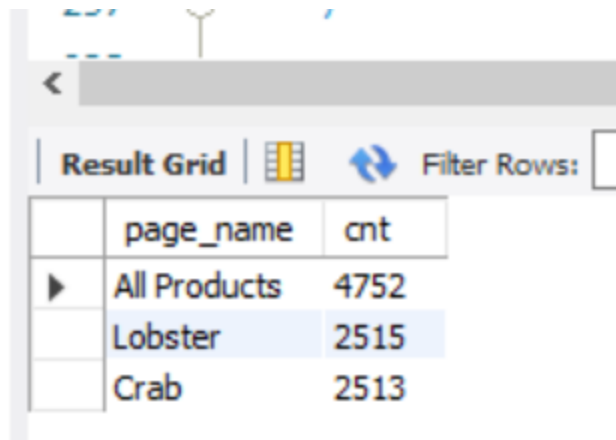
```

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

-



The screenshot shows a database interface with a 'Result Grid' tab. It displays a table with two columns: 'page_name' and 'cnt'. The data is as follows:

page_name	cnt
All Products	4752
Lobster	2515
Crab	2513

-

- [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
-

Result Grid   Filter Rows: <input type="text"/> Export:  Wrap Cell Conte			
	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

	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:	<input type="text"/>	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:	<input type="text"/>	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 Yc
	002809	243	2020-03-13 17:49:55	4	0	0	0	0	NULL	NULL	Half Off - Treat Yc
	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 Yc
	004aaf	228	2020-03-18 13:23:08	7	2	1	0	0	3,7	Tuna,Lobster	Half Off - Treat Yc
	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 Yc
	006f7f	20	2020-02-23 01:36:35	6	1	1	1	1	3	Tuna	Half Off - Treat Yc
	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 Yc
	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 Yc

-

- [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(
```

```

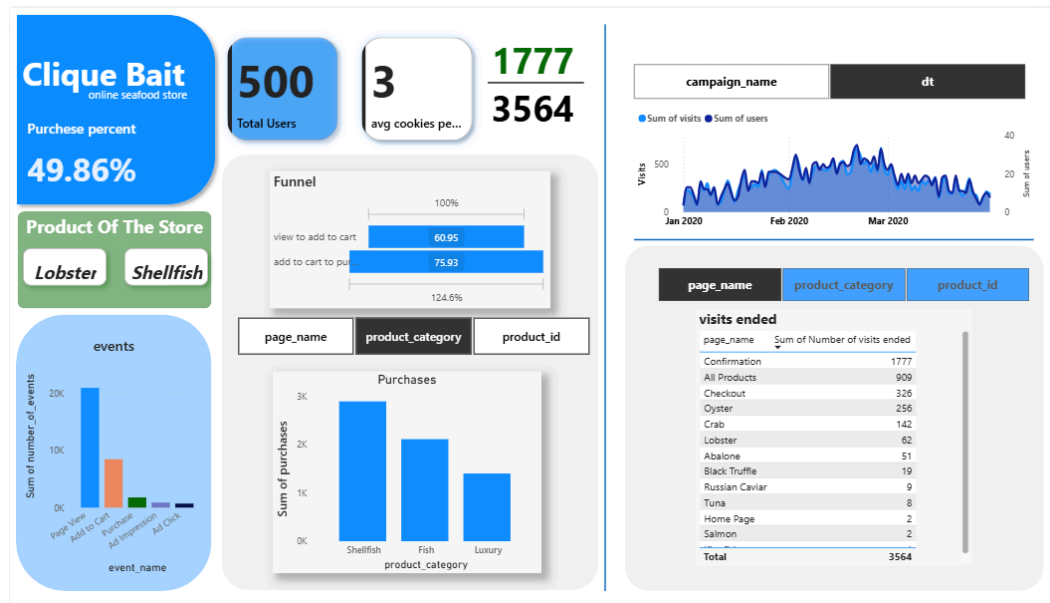
        case when (event_name = 'Add to Cart') then
page_name end
        order by sequence_number
        ) as `cart_products_names`
    from temp
    group by visit_id, user_id
)
select
    cte.*,
    cd.campaign_name
from cte , campaign_identifier cd
where
    cte.visit_start_time >= cd.start_date and
  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



5. Github Repo

- [github repo](#)