

CHALLENGE 5

SQL CASE STUDY

# PUB PRICING ANALYSIS

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# INTRODUCTION

- As a Pricing Analyst working for a pub chain called 'Pubs "R" Us'
- I have been tasked with analysing the drinks prices and sales to gain a greater insight into how the pubs in your chain are performing.
- The case study consist of 4 Tables:
  - Pubs
  - Beverages
  - Sales
  - Ratings

# TABLE USED

pubs

pub_id	pub_name	city	state	country
1	The Red Lion	London	England	United Kingdom
2	The Dubliner	Dublin	Dublin	Ireland
3	The Cheers Bar	Boston	Massachusetts	United States
4	La Cerveceria	Barcelona	Catalonia	Spain

beverages

beverage_id	beverage_name	category	alcohol_content	price_per_unit
1	Guinness	Beer	4.2	5.99
2	Jameson	Whiskey	40	29.99
3	Mojito	Cocktail	12	8.99
4	Chardonnay	Wine	13.5	12.99
5	IPA	Beer	6.8	4.99
6	Tequila	Spirits	38	24.99

ratings

rating_id	pub_id	customer_name	rating	review
1	1	John Smith	4.5	Great pub with a wide selection of beers.
2	1	Emma Johnson	4.8	Excellent service and cozy atmosphere.
3	2	Michael Brown	4.2	Authentic atmosphere and great beers.
4	3	Sophia Davis	4.6	The cocktails were amazing! Will definitely come back.
5	4	Oliver Wilson	4.9	The wine selection here is outstanding.
6	4	Isabella Moore	4.3	Had a great time trying different spirits.
7	1	Sophia Davis	4.7	Loved the pub food! Great ambience.
8	2	Ethan Johnson	4.5	A good place to hang out with friends.
9	2	Olivia Taylor	4.1	The whiskey tasting experience was fantastic.
10	3	William Miller	4.4	Friendly staff and live music on weekends.

sales

sale_id	pub_id	beverage_id	quantity	transaction_date
1	1	1	10	1/5/23
2	1	2	5	1/5/23
3	2	1	8	1/5/23
4	3	3	12	2/5/23
5	4	4	3	2/5/23
6	4	6	6	3/5/23
7	2	3	6	3/5/23
8	3	1	15	3/5/23
9	3	4	7	3/5/23
10	4	1	10	4/5/23
11	1	3	5	6/5/23
12	2	2	3	9/5/23
13	2	5	9	9/5/23
14	3	6	4	9/5/23
15	4	3	7	9/5/23
16	4	4	2	9/5/23
17	1	4	6	11/5/23
18	1	6	8	11/5/23
19	2	1	12	12/5/23
20	3	5	5	13/5/23

# Q1. How many pubs are located in each country?



```
select country, count(*) as count_of_pub from pubs  
group by 1
```

output :

	country character varying (50)	count_of_pub bigint
1	Ireland	1
2	United States	1
3	Spain	1
4	United Kingdom	1

Q2. What is the total sales amount for each pub, including the beverage price and quantity sold?

```
● ● ●  
select pub_name, sum(s.quantity * b.price_per_unit) as total_sale  
from pubs as pb  
join sales as s on pb.pub_id = s.pub_id  
join beverages as b on s.beverage_id = b.beverage_id  
group by 1  
order by 2 desc
```

output :

	pub_name character varying (50)	total_sale numeric
1	The Red Lion	532.66
2	The Cheers Bar	413.57
3	La Cerveceria	337.72
4	The Dubliner	308.62

## Q3. Which pub has the highest average rating?



```
select pb.pub_name, round(avg(cast(r.rating as numeric)),1) as avg_rating
from pubs as pb
join ratings as r on pb.pub_id = r.pub_id
group by pb.pub_name
order by 2 desc
limit 1
```

output :

	pub_name character varying (50)	avg_rating numeric
1	The Red Lion	4.7

## Q4. What are the top 5 beverages by sales quantity across all pubs?



```
select b.beverage_name, count(s.quantity) as sale_quantity
from beverages as b
join sales as s on b.beverage_id = s.beverage_id
group by 1
order by 2 desc
limit 5
```

output :

	beverage_name character varying (50)	sale_quantity bigint
1	Guinness	5
2	Mojito	4
3	Chardonnay	4
4	Tequila	3
5	Jameson	2

## Q5. How many sales transactions occurred on each date?



```
select transaction_date, count(*) as sales_count from sales  
group by 1  
order by 1
```

output :

	transaction_date date	sales_count bigint
1	2023-05-01	3
2	2023-05-02	2
3	2023-05-03	4
4	2023-05-04	1
5	2023-05-06	1
6	2023-05-09	5
7	2023-05-11	2
8	2023-05-12	1
9	2023-05-13	1

Q6. Find the name of someone that had cocktails and which pub they had it in.



```
select r.customer_name,pb.pub_name,b.category from beverages as b  
join sales as s on b.beverage_id = s.beverage_id  
join pubs as pb on s.pub_id = pb.pub_id  
join ratings as r on pb.pub_id = r.pub_id  
where category = 'Cocktail'  
group by 1,2,3
```

output :

	customer_name character varying (50) 	pub_name character varying (50) 	category character varying (50) 
1	Emma Johnson	The Red Lion	Cocktail
2	Ethan Johnson	The Dubliner	Cocktail
3	Isabella Moore	La Cerveceria	Cocktail
4	John Smith	The Red Lion	Cocktail
5	Michael Brown	The Dubliner	Cocktail
6	Oliver Wilson	La Cerveceria	Cocktail
7	Olivia Taylor	The Dubliner	Cocktail
8	Sophia Davis	The Cheers Bar	Cocktail
9	Sophia Davis	The Red Lion	Cocktail
10	William Miller	The Cheers Bar	Cocktail

Q7. What is the average price per unit for each category of beverages, excluding the category 'Spirit'?



```
select category, round(avg(price_per_unit),1) as avg_price  
from beverages  
where category != 'Spirit'  
group by 1
```

output :

	category character varying (50)	avg_price numeric
1	Cocktail	9.0
2	Beer	5.5
3	Wine	13.0
4	Whiskey	30.0

# Q8. Which pubs have a rating higher than the average rating of all pubs?



```
select pub_name,round(avg(cast(r.rating as numeric)),1)as avg_rating from pubs as pb
join ratings as r on pb.pub_id = r.pub_id
group by 1
having avg(r.rating) > (select round(avg(cast(rating as numeric)),1) from ratings)
```

output :

	pub_name character varying (50)	avg_rating numeric
1	The Red Lion	4.7
2	La Cerveceria	4.6

## Q9. What is the running total of sales amount for each pub, ordered by the transaction date?



```
with total_sale as(
    select *,(s.quantity*b.price_per_unit) as sale from sales as s
    join beverages as b on s.beverage_id=b.beverage_id
)
select p.pub_name,ts.transaction_date,sum(ts.sale)as total_amount
from total_sale as ts
join pubs as p on ts.pub_id = p.pub_id
group by 1,2
order by 2
```

output :

	pub_name character varying (50) 	transaction_date date 	total_amount numeric 
1	The Dubliner	2023-05-01	47.92
2	The Red Lion	2023-05-01	209.85
3	La Cerveceria	2023-05-02	38.97
4	The Cheers Bar	2023-05-02	107.88
5	La Cerveceria	2023-05-03	149.94
6	The Cheers Bar	2023-05-03	180.78
7	The Dubliner	2023-05-03	53.94
8	La Cerveceria	2023-05-04	59.90
9	The Red Lion	2023-05-06	44.95
10	La Cerveceria	2023-05-09	88.91
11	The Cheers Bar	2023-05-09	99.96
12	The Dubliner	2023-05-09	134.88
13	The Red Lion	2023-05-11	277.86
14	The Dubliner	2023-05-12	71.88
15	The Cheers Bar	2023-05-13	24.95

# Q10. For each country, what is the average price per unit of beverages in each category, and what is the overall average price per unit of beverages across all categories?



```
with avg_price_unit as(
    select p.country,b.category,round(avg(b.price_per_unit),2)as avg_amount from pubs as p
    join sales as s on p.pub_id = s.pub_id
    join beverages as b on s.beverage_id=b.beverage_id
    group by 1,2
),
overall_avg_price as (
    select p.country,round(avg(b.price_per_unit),2) as overall_amount from pubs as p
    join sales as s on p.pub_id = s.pub_id
    join beverages as b on s.beverage_id=b.beverage_id
    group by 1
)
select avp.country,avp.category,avp.avg_amount,ovp.overall_amount from avg_price_unit as avp
join overall_avg_price as ovp on avp.country=ovp.country
order by 2
```

# output :

	country character varying (50) 	category character varying (50) 	avg_amount numeric 	overall_amount numeric 
1	United States	Beer	5.49	11.59
2	Spain	Beer	5.99	13.19
3	United Kingdom	Beer	5.99	16.59
4	Ireland	Beer	5.66	11.19
5	Spain	Cocktail	8.99	13.19
6	United Kingdom	Cocktail	8.99	16.59
7	United States	Cocktail	8.99	11.59
8	Ireland	Cocktail	8.99	11.19
9	United Kingdom	Spirit	24.99	16.59
10	Spain	Spirit	24.99	13.19
11	United States	Spirit	24.99	11.59
12	Ireland	Whiskey	29.99	11.19
13	United Kingdom	Whiskey	29.99	16.59
14	Spain	Wine	12.99	13.19
15	United States	Wine	12.99	11.59
16	United Kingdom	Wine	12.99	16.59

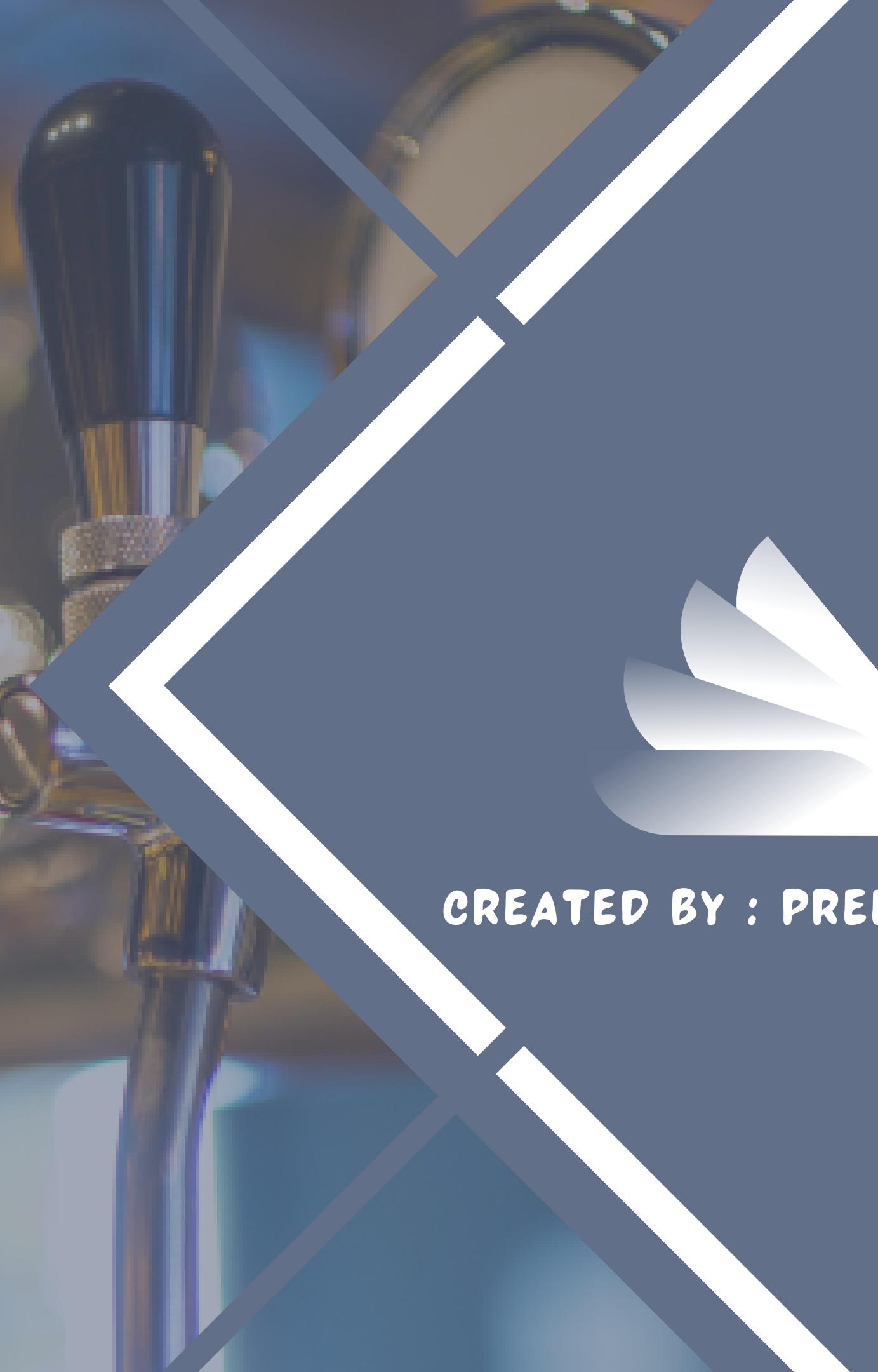
Q11. For each pub, what is the percentage contribution of each category of beverages to the total sales amount, and what is the pub's overall sales amount?

```
with individual_sales as (
    select p.pub_name,b.category,sum(b.price_per_unit*s.quantity) as sales_by_category from pubs as p
    join sales as s on p.pub_id = s.pub_id
    join beverages as b on s.beverage_id=b.beverage_id
    group by 1,2
),
total_sales as(
    select p.pub_name,sum(b.price_per_unit*s.quantity) as sales_by_pubname from pubs as p
    join sales as s on p.pub_id=s.pub_id
    join beverages as b on s.beverage_id=b.beverage_id
    group by 1
)

select i.pub_name,i.category,round((i.sales_by_category/ts.sales_by_pubname)*100,2) as
percentage_contribution,ts.sales_by_pubname as overall_Sale_amount from individual_sales as i
join total_sales as ts on i.pub_name=ts.pub_name
order by 1
```

# output :

	pub_name character varying (50) 	category character varying (50) 	percentage_contribution numeric 	overall_sale_amount numeric 
1	La Cerveceria	Beer	17.74	337.72
2	La Cerveceria	Cocktail	18.63	337.72
3	La Cerveceria	Wine	19.23	337.72
4	La Cerveceria	Spirit	44.40	337.72
5	The Cheers Bar	Cocktail	26.09	413.57
6	The Cheers Bar	Beer	27.76	413.57
7	The Cheers Bar	Wine	21.99	413.57
8	The Cheers Bar	Spirit	24.17	413.57
9	The Dubliner	Whiskey	29.15	308.62
10	The Dubliner	Beer	53.37	308.62
11	The Dubliner	Cocktail	17.48	308.62
12	The Red Lion	Whiskey	28.15	532.66
13	The Red Lion	Cocktail	8.44	532.66
14	The Red Lion	Wine	14.63	532.66
15	The Red Lion	Beer	11.25	532.66
16	The Red Lion	Spirit	37.53	532.66



THANK YOU



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