

A photograph showing three glasses filled with a golden-yellow liquid, likely beer. The glass in the foreground is garnished with a lime wedge resting on a salted rim. The other two glasses are partially visible behind it. The background is dark and moody.

SQL Case Study

PUB PRICING ANALYSIS

Pubs "R" Us



Pubs "R" Us

About Us

Pricing analysts in pub chains leverage market knowledge, customer behavior, and financial analysis to inform pricing decisions, driving revenue growth and profitability.

Objective

As **Pricing Analysts**, we have been tasked to analyze the drinks prices and sales to gain a greater insight into how the pubs in our chain are performing.

The challenge is organized by **Steel Data** and can be accessed through the link:

<https://steeldata.org.uk/sql5.html>



Datasets

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	Spirit	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

Finding Insights

by using MySQL Database
Server



1. How many pubs are located in each country?

```
select country, count(pub_id) as total_pubs  
from pubs  
group by 1;
```

Output

	country	total_pubs
▶	United Kingdom	1
	Ireland	1
	United States	1
	Spain	1

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

```
with cte as(
  select s.pub_id, s.beverage_id, s.quantity, b.price_per_unit,
  (s.quantity * b.price_per_unit) as revenue
  from sales s
  inner join beverages b using(beverage_id)
  order by 1)
select pub_id, beverage_id, quantity, price_per_unit,
sum(revenue) over(partition by pub_id) as total_sales
from cte;
```

Output

	pub_id	beverage_id	quantity	price_per_unit	total_sales
▶	1	1	10	5.99	532.66
	1	2	5	29.99	532.66
	1	3	5	8.99	532.66
	1	4	6	12.99	532.66
	1	6	8	24.99	532.66
	2	1	8	5.99	308.62
	2	3	6	8.99	308.62
	2	2	3	29.99	308.62
	2	5	9	4.99	308.62
	2	1	12	5.99	308.62
	3	3	12	8.99	413.57
	3	1	15	5.99	413.57
	3	4	7	12.99	413.57
	3	6	4	24.99	413.57
	3	5	5	4.99	413.57
	4	4	3	12.99	337.72
	4	6	6	24.99	337.72
	4	1	10	5.99	337.72
	4	3	7	8.99	337.72
	4	4	2	12.99	337.72

3. Which pub has the highest average rating?

```
select p.pub_id, p.pub_name, round(avg(r.rating),1) as avg_rating  
from pubs p  
inner join ratings r using(pub_id)  
group by 1,2 order by 3 desc  
limit 1;
```

Output

	pub_id	pub_name	avg_rating
▶	1	The Red Lion	4.7

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

```
select b.beverage_id, b.beverage_name, sum(s.quantity) as total_sales  
from beverages b  
inner join sales s using(beverage_id)  
group by 1,2 order by 3 desc  
limit 5;
```

Output

	beverage_id	beverage_name	total_sales
▶	1	Guinness	55
	3	Mojito	30
	4	Chardonnay	18
	6	Tequila	18
	5	IPA	14

5. How many sales transactions occurred on each date?

```
select transaction_date, count(*) as total_sales_occurred  
from sales  
group by 1;
```

Output

	transaction_date	total_sales_occurred
▶	2023-05-01	3
	2023-05-02	2
	2023-05-03	4
	2023-05-04	1
	2023-05-06	1
	2023-05-09	5
	2023-05-11	2
	2023-05-12	1
	2023-05-13	1

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

```
select r.customer_name, p.pub_name  
from ratings r  
inner join pubs p using(pub_id)  
where review like "%cocktails%";
```

Output

	customer_name	pub_name
▶	Sophia Davis	The Cheers Bar

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

```
select category, round(avg(price_per_unit),2) as avg_price_per_unit  
from beverages b  
where category <> "Spirit"  
group by 1 order by 1;
```

Output

	category	avg_price_per_unit
▶	Beer	5.49
	Cocktail	8.99
	Whiskey	29.99
	Wine	12.99

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

```
select p.pub_name, round(avg(r.rating),1) as rating  
from ratings r  
inner join pubs p using(pub_id)  
where r.rating > (select round(avg(rating),1) as average_rating  
                   from ratings)  
group by 1 order by 2 desc;
```

Output

	pub_name	rating
▶	La Cerveceria	4.9
	The Red Lion	4.8
	The Cheers Bar	4.6

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

```
with cte as (
    select s.pub_id, s.transaction_date, b.price_per_unit, (s.quantity * b.price_per_unit) as total_sales
    from sales s
    inner join beverages b using(beverage_id)
    order by 1 asc)
select distinct pub_id, transaction_date,
    sum(total_sales) over(partition by pub_id order by transaction_date asc) as running_total_sales
from cte;
```

Output

	pub_id	transaction_date	running_total_sales
▶	1	2023-05-01	209.85
	1	2023-05-06	254.80
	1	2023-05-11	532.66
	2	2023-05-01	47.92
	2	2023-05-03	101.86
	2	2023-05-09	236.74
	2	2023-05-12	308.62
	3	2023-05-02	107.88
	3	2023-05-03	288.66
	3	2023-05-09	388.62
	3	2023-05-13	413.57
	4	2023-05-02	38.97
	4	2023-05-03	188.91
	4	2023-05-04	248.81
	4	2023-05-09	337.72

10. 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 cte as (
    select p.country, b.category, round(avg(b.price_per_unit),2) as avg_price_per_unit
    from sales s
    inner join pubs p using(pub_id)
    inner join beverages b using(beverage_id)
    group by 1,2)
select *, round(avg(avg_price_per_unit) over(partition by country),2) as overall_average_price
from cte
order by 1;
```

Output

	country	category	avg_price_per_unit	overall_average_price
▶	Ireland	Beer	5.66	14.88
	Ireland	Cocktail	8.99	14.88
	Ireland	Whiskey	29.99	14.88
	Spain	Wine	12.99	13.24
	Spain	Spirit	24.99	13.24
	Spain	Beer	5.99	13.24
	Spain	Cocktail	8.99	13.24
	United Kingdom	Beer	5.99	16.59
	United Kingdom	Whiskey	29.99	16.59
	United Kingdom	Cocktail	8.99	16.59
	United Kingdom	Wine	12.99	16.59
	United Kingdom	Spirit	24.99	16.59
	United States	Cocktail	8.99	13.12
	United States	Beer	5.49	13.12
	United States	Wine	12.99	13.12
	United States	Spirit	24.99	13.12

11. 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 cte2 as (
    with cte1 as (
        select p.pub_name, b.category, sum(s.quantity*b.price_per_unit) as total_sales
        from sales s
        inner join beverages b using(beverage_id)
        inner join pubs p using(pub_id)
        group by 1, 2
    select *, sum(total_sales) over(partition by pub_name) as overall_total_sales
    from cte1)
select pub_name, category, concat(round((total_sales*100/overall_total_sales),2)," %") as percentage_contribution,
       overall_total_sales
from cte2;
```

Output

	pub_name	category	percentage_contribution	overall_total_sales
▶	La Cerveceria	Wine	19.23 %	337.72
	La Cerveceria	Spirit	44.40 %	337.72
	La Cerveceria	Beer	17.74 %	337.72
	La Cerveceria	Cocktail	18.63 %	337.72
▶	The Cheers Bar	Cocktail	26.09 %	413.57
	The Cheers Bar	Beer	27.76 %	413.57
	The Cheers Bar	Wine	21.99 %	413.57
	The Cheers Bar	Spirit	24.17 %	413.57
▶	The Dubliner	Beer	53.37 %	308.62
	The Dubliner	Cocktail	17.48 %	308.62
	The Dubliner	Whiskey	29.15 %	308.62
	The Red Lion	Beer	11.25 %	532.66
▶	The Red Lion	Whiskey	28.15 %	532.66
	The Red Lion	Cocktail	8.44 %	532.66
	The Red Lion	Wine	14.63 %	532.66
	The Red Lion	Spirit	37.53 %	532.66

Conclusion

- In each country, there is **one** pub each.
- The **red lion pub** has the highest average rating of **4.7** among the others.
- **Guinness** has the *highest* quantity sold across all pubs.
- The **9th of May 2023** has made the *highest* number of transactions.
- **Sophia Davis** had a **cocktail** in the **Cheers Bar**.
- The **Red Lion**, **The Cheers Bar**, and **La Cerveceria** have the *highest* rating than the *overall average rating*.



Thank
You!!

