

Challenge 5 - Pub pricing analysis



Hey everyone! I am thrilled to share my experience working on the Drinks Pricing and Sales Analysis challenge for Pubs "R" Us.

As a Pricing Analyst, I had the opportunity to dive deep into our pub chain's data and gain valuable insights into our drinks pricing and sales performance.

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Database Schema:

In this project, I worked with the following tables:

pubs: Contains information about our pubs, including pub_id, pub_name, city, state, and country.

beverages: Stores details about our beverages, such as beverage_id, beverage_name, category, alcohol_content, and price_per_unit.

sales: Tracks the sales transactions, including sale_id, pub_id, beverage_id, quantity, and transaction_date.

ratings: Stores customer ratings and reviews, with rating_id, pub_id, customer_name, rating, and review.

Question Explored:

- How many pubs are located in each country?
- What is the total sales amount for each pub, including the beverage price and quantity sold?
- Which pub has the highest average rating?
- What are the top 5 beverages by sales quantity across all pubs?
- How many sales transactions occurred on each date?
- Find the name of someone that had cocktails and which pub they had it in.
- What is the average price per unit for each category of beverages, excluding the category 'Spirit'?
- Which pubs have a rating higher than the average rating of all pubs?
- What is the running total of sales amount for each pub, ordered by the transaction date?
- 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?
- 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?

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Table View:

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

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

```

SELECT
p.pub_name AS Pub_Name,
SUM (s.quantity * b.price_per_unit) AS Total_Sales_Amount,
SUM (s.quantity) AS Quantity_Sold
FROM sales AS s
LEFT JOIN pubs AS p
    ON p.pub_id = s.pub_id
LEFT JOIN beverages AS b
    ON b.beverage_id = s.beverage_id
GROUP BY
    p.pub_id
;
    
```

	Pub_Name	Total_Sales_Amount	Quantity_Sold
▶	The Red Lion	532.66	34
	The Dubliner	308.62	38
	The Cheers Bar	413.57	43
	La Cerveceria	337.72	28

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3. Which pub has the highest average rating?

```
SELECT
p.pub_name AS Pub_Name,
ROUND(AVG(r.rating),2) AS Avg_Rating
FROM ratings AS r
LEFT JOIN pubs AS p
      ON p.pub_id = r.pub_id
GROUP BY
p.pub_id
ORDER BY
      Avg_Rating DESC
LIMIT 1
;
```

	Pub_Name	Avg_Rating
▶	The Red Lion	4.67

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

```
SELECT
p.pub_name AS Pub_Name,
b.beverage_name AS Beverage_Name,
SUM(s.quantity) AS Sales_Quantity
FROM sales AS s
LEFT JOIN pubs AS p
      ON p.pub_id = s.pub_id
LEFT JOIN beverages AS b
      ON b.beverage_id = s.beverage_id
GROUP BY
1,2
ORDER BY Sales_Quantity DESC
LIMIT 5
;
```

	Pub_Name	Beverage_Name	Sales_Quantity
▶	The Dubliner	Guinness	20
	The Cheers Bar	Guinness	15
	The Cheers Bar	Mojito	12
	The Red Lion	Guinness	10
	La Cerveceria	Guinness	10

5. How many sales transactions occurred on each date?

```
SELECT
DATE(s.transaction_date) AS Transaction_Date,
SUM(s.quantity*b.price_per_unit) AS Transaction_Amount
FROM sales AS s
LEFT JOIN beverages AS b
      ON b.beverage_id = s.beverage_id
GROUP BY
1;
```

	Transaction_Date	Transaction_Amount
▶	2023-05-01	257.77
	2023-05-02	146.85
	2023-05-03	384.66
	2023-05-04	59.90
	2023-05-06	44.95
	2023-05-09	323.75
	2023-05-11	277.86
	2023-05-12	71.88
	2023-05-13	24.95

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

```
WITH Customer AS
(SELECT DISTINCT
  b.beverage_id,
  pub_id,
  b. category
  FROM beverages AS b
  INNER JOIN sales AS s
    ON s.beverage_id = b.beverage_id
  WHERE b.category = 'Cocktail')
SELECT
  r.customer_name AS Customer_Name,
  p.pub_name,
  c.category
FROM ratings AS r, pubs AS p, Customer AS c
WHERE r.pub_id = p.pub_id
  AND s.pub_id = p.pub_id;
```

	Customer_Name	Pub_Name	Beverage_Catagory
▶	Sophia Davis	The Cheers Bar	Cocktail
	William Miller	The Cheers Bar	Cocktail
	Michael Brown	The Dubliner	Cocktail
	Ethan Johnson	The Dubliner	Cocktail
	Olivia Taylor	The Dubliner	Cocktail
	John Smith	The Red Lion	Cocktail
	Emma Johnson	The Red Lion	Cocktail
	Sophia Davis	The Red Lion	Cocktail
	Oliver Wilson	La Cerveceria	Cocktail
	Isabella Moore	La Cerveceria	Cocktail

-: Another Method: -

```
SELECT
  r.customer_name AS Customer_Name,
  p.pub_name AS Pub_Name,
  b. category AS Beverage_Catagory
FROM ratings AS r
  INNER JOIN pubs AS p
    ON p.pub_id = r.pub_id
  INNER JOIN sales AS s
    ON s.pub_id = p.pub_id
  INNER JOIN beverages AS b
    ON b. beverage_id = s.beverage_id
WHERE b.category = 'Cocktail';
```

	Customer_Name	Pub_Name	Beverage_Catagory
▶	Sophia Davis	The Cheers Bar	Cocktail
	William Miller	The Cheers Bar	Cocktail
	Michael Brown	The Dubliner	Cocktail
	Ethan Johnson	The Dubliner	Cocktail
	Olivia Taylor	The Dubliner	Cocktail
	John Smith	The Red Lion	Cocktail
	Emma Johnson	The Red Lion	Cocktail
	Sophia Davis	The Red Lion	Cocktail
	Oliver Wilson	La Cerveceria	Cocktail
	Isabella Moore	La Cerveceria	Cocktail

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

```
SELECT
  b.category AS Catagory_Beverages,
  ROUND(AVG(b.price_per_unit),2) AS Avg_Price_Per_Unit
FROM beverages AS b
WHERE b.category <> 'Spirit'
GROUP BY
  b.beverage_id
ORDER BY
  Avg_Price_Per_Unit DESC;
```

	Catagory_Beverages	Avg_Price_Per_Unit
▶	Whiskey	29.99
	Wine	12.99
	Cocktail	8.99
	Beer	5.99
	Beer	4.99

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

```
WITH CTE1 AS
(SELECT ratings.pub_id,
ratings.rating,
ROUND(AVG (ratings.rating) OVER(PARTITION BY ratings.pub_id),1) AS 'Avg_Rating'
FROM ratings
GROUP BY ratings.pub_id, ratings.rating)
SELECT
CTE1.pub_id AS Pub_id,
pubs.pub_name AS Pub_Name,
CTE1.rating AS Rating,
CTE1.Avg_Rating
FROM CTE1
INNER JOIN
ON CTE1.pub_id = pubs.pub_id
WHERE rating > Avg_Rating
;
```

	pub_id	Rating	Avg_Rating
▶	1	4.5	4.7
	1	4.8	4.7
	1	4.7	4.7
	2	4.2	4.3
	2	4.5	4.3
	2	4.1	4.3
	3	4.6	4.5
	3	4.4	4.5
	4	4.9	4.6
	4	4.3	4.6

	Pub_id	Pub_Name	Rating	Avg_Rating
▶	1	The Red Lion	4.8	4.7
	2	The Dubliner	4.5	4.3
	3	The Cheers Bar	4.6	4.5
	4	La Cerveceria	4.9	4.6

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

```
WITH CTE2 AS
(SELECT
s.transaction_date AS Transaction_Date,
s.pub_id AS Pub_Id,
s.sale_id AS Sale_Id,
p.pub_name AS Pub_Name,
(b.price_per_unit * s.quantity) AS Total_Sales_Amount
FROM sales AS s
LEFT JOIN beverages AS b
ON s.beverage_id = b.beverage_id
LEFT JOIN pubs AS p
ON s.pub_id = p.pub_id
GROUP BY
1,2
ORDER BY 1)
```

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```
SELECT
Transaction_Date,
Pub_Name,
Total_Sales_Amount,
SUM (CTE2.Total_Sales_Amount) OVER (ORDER BY Transaction_Date ASC ,Sale_Id) AS
'Running Total'
FROM CTE2;
```

	Transaction_Date	Pub_Name	Total_Sales_Amount	Running Total
►	2023-05-01	The Red Lion	59.90	59.90
	2023-05-01	The Dubliner	47.92	107.82
	2023-05-02	The Cheers Bar	107.88	215.70
	2023-05-02	La Cerveceria	38.97	254.67
	2023-05-03	La Cerveceria	149.94	404.61
	2023-05-03	The Dubliner	53.94	458.55
	2023-05-03	The Cheers Bar	89.85	548.40
	2023-05-04	La Cerveceria	59.90	608.30
	2023-05-06	The Red Lion	44.95	653.25
	2023-05-09	The Dubliner	89.97	743.22
	2023-05-09	The Cheers Bar	99.96	843.18
	2023-05-09	La Cerveceria	62.93	906.11
	2023-05-11	The Red Lion	77.94	984.05
	2023-05-12	The Dubliner	71.88	1055.93
	2023-05-13	The Cheers Bar	24.95	1080.88

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?

```
SELECT
b.beverage_name AS Beverage_Name,
p.country AS Country,
b.category AS Category,
ROUND(AVG(b.price_per_unit),2) AS Avg_Price,
ROUND(AVG(b.price_per_unit) OVER (PARTITION BY p.country),2) AS
Overall_Average_Price_Per_Unit
FROM pubs AS p
LEFT JOIN sales AS s
ON s.pub_id = p.pub_id
LEFT JOIN beverages AS b
ON b.beverage_id = s.beverage_id
GROUP BY
Country, Category, b.price_per_unit;
```

	Beverage_Name	Country	Category	Avg_Price	Overall_Average_Price_Per_Unit
►	Guinness	Ireland	Beer	5.99	12.49
	Mojito	Ireland	Cocktail	8.99	12.49
	Jameson	Ireland	Whiskey	29.99	12.49
	IPA	Ireland	Beer	4.99	12.49
	Chardonnay	Spain	Wine	12.99	13.24
	Tequila	Spain	Spirit	24.99	13.24
	Guinness	Spain	Beer	5.99	13.24
	Mojito	Spain	Cocktail	8.99	13.24
	Guinness	United Kingdom	Beer	5.99	16.59
	Jameson	United Kingdom	Whiskey	29.99	16.59
	Mojito	United Kingdom	Cocktail	8.99	16.59
	Chardonnay	United Kingdom	Wine	12.99	16.59
	Tequila	United Kingdom	Spirit	24.99	16.59
	Mojito	United States	Cocktail	8.99	11.59
	Guinness	United States	Beer	5.99	11.59
	Chardonnay	United States	Wine	12.99	11.59
	Tequila	United States	Spirit	24.99	11.59
	IPA	United States	Beer	4.99	11.59

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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 Total_Sales_By_Catagory AS
(SELECT
  p.pub_id AS Pub_id,
  p.pub_name AS Pub_Name,
  b.category AS Catagory,
  SUM(b.price_per_unit * s.quantity) AS Total_Sales_Amount
FROM pubs AS p
LEFT JOIN sales AS s
  ON s.pub_id = p.pub_id
LEFT JOIN beverages AS b
  ON b.beverage_id = s.beverage_id
GROUP BY
  Pub_id, Catagory),
Total_Sales_Pub AS
(SELECT *, SUM(Total_Sales_Amount) OVER (PARTITION BY Pub_id) AS
Total_Sales_By_Pub FROM Total_Sales_By_Catagory)
SELECT
  Pub_Name,
  Catagory,
  Total_Sales_Amount,
  ROUND(((Total_Sales_Amount/Total_Sales_By_Pub)*100),2) AS
  Percentage_of_Contribution
FROM Total_Sales_Pub;
```

	Pub_Name	Catagory	Total_Sales_Amount	Percentage_of_Contribution
►	The Red Lion	Beer	59.90	11.25
	The Red Lion	Whiskey	149.95	28.15
	The Red Lion	Cocktail	44.95	8.44
	The Red Lion	Wine	77.94	14.63
	The Red Lion	Spirit	199.92	37.53
	The Dubliner	Beer	164.71	53.37
	The Dubliner	Cocktail	53.94	17.48
	The Dubliner	Whiskey	89.97	29.15
	The Cheers Bar	Cocktail	107.88	26.09
	The Cheers Bar	Beer	114.80	27.76
	The Cheers Bar	Wine	90.93	21.99
	The Cheers Bar	Spirit	99.96	24.17
	La Cerveceria	Wine	64.95	19.23
	La Cerveceria	Spirit	149.94	44.40
	La Cerveceria	Beer	59.90	17.74
	La Cerveceria	Cocktail	62.93	18.63

~:Thank You:~