Monday-Coffee - SQL Project

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Project Objective

The goal of this project is to analyze the sales data of Monday Coffee, a company that has been selling its products online since January 2023, and to recommend the top three major cities in India for opening new coffee shop locations based on consumer demand and sales performance.

1. Estimated Coffee Consumers per City

```
SELECT city_name, population, ROUND(0.25 * population) AS estimation FROM city;
```

Insight: Estimates 25% of city population as coffee drinkers.

2. Total Coffee Sales in Q4 2023

```
SELECT c.city_name AS city_names, SUM(s.total) AS sales
FROM sales s
JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON c.city_id = cx.city_id
WHERE EXTRACT(YEAR FROM s.sale_date) = 2023
  AND EXTRACT(QUARTER FROM s.sale_date) = 4
GROUP BY city_names;
```

Insight: Calculates city-wise revenue in the last quarter of 2023.

3. Units Sold per Coffee Product

```
SELECT p.product_id, p.product_name, COUNT(s.sale_id) AS num
FROM products p
LEFT JOIN sales s ON p.product_id = s.product_id
GROUP BY p.product_id, p.product_name
ORDER BY num DESC;
```

Insight: Ranks products by number of units sold.

4. Avg Sales per Customer per City

```
SELECT cx.city_name, SUM(s.total) AS total_revenue,
COUNT(DISTINCT c.customer_id) AS total_cx,
ROUND(SUM(s.total) / COUNT(DISTINCT c.customer_id)) AS average
FROM sales s
JOIN customers c ON s.customer_id = c.customer_id
JOIN city cx ON cx.city_id = c.city_id
GROUP BY cx.city_name
ORDER BY average DESC;
```

Insight: Finds cities with highest average sale per customer.

5. Current Customers vs. Estimated Coffee Drinkers

```
SELECT c.city_name, COUNT(DISTINCT cu.customer_id) AS total_current_customers,
ROUND((c.population * 0.25)) AS estimated_coffee_consumers
FROM city c
LEFT JOIN customers cu ON c.city_id = cu.city_id
GROUP BY c.city_name , c.population
ORDER BY total_current_customers DESC;
```

Insight: Compares real customer count vs. coffee consumer estimate.

6. Top 3 Selling Products per City

```
SELECT * FROM (
SELECT c.city_name, p.product_name, COUNT(s.sale_id),
DENSE_RANK() OVER (PARTITION BY c.city_name ORDER BY COUNT(s.sale_id) DESC) AS rnk
FROM sales s
JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON cx.city_id = c.city_id
JOIN products p ON s.product_id = p.product_id
GROUP BY c.city_name, p.product_name) AS A
WHERE rnk <= 3;
```

Insight: Ranks top 3 products by volume per city using DENSE_RANK.

7. Unique Coffee Product Buyers per City

```
SELECT c.city_name, COUNT(DISTINCT cx.customer_id)
FROM sales s
LEFT JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON c.city_id = cx.city_id
WHERE s.product_id IN (
SELECT product_id FROM products WHERE product_name LIKE 'coffee%')
GROUP BY c.city_name;
```

Insight: Counts unique customers per city who bought coffee products.

8. Avg Sales & Rent per Customer per City

```
SELECT c.city_name,
ROUND(SUM(s.total) / COUNT(DISTINCT cx.customer_id), 2) AS av,
ROUND(c.estimated_rent / COUNT(DISTINCT cx.customer_id), 2) AS arpc
FROM sales s
JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON cx.city_id = c.city_id
GROUP BY c.city_name, c.estimated_rent
ORDER BY av DESC;
```

Insight: Relates average spend and average rent per customer.

9. Monthly Sales Growth by City

```
WITH monthly_sales AS (
SELECT c.city_name, EXTRACT(YEAR FROM s.sale_date) AS year,
EXTRACT(MONTH FROM s.sale_date) AS month,
SUM(s.total) AS total_sale
FROM sales s
JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON c.city_id = cx.city_id
GROUP BY c.city_name, year, month),
growth_ratio AS (
SELECT city_name, month, year, total_sale AS current_month_sale,
LAG(total_sale, 1) OVER (PARTITION BY city_name ORDER BY year, month) AS last_month_sale
FROM monthly_sales)
SELECT city_name, month, year, current_month_sale, last_month_sale,
(current_month_sale - last_month_sale) / last_month_sale * 100 AS growth_ratio
FROM growth_ratio
WHERE last_month_sale IS NOT NULL;
```

Insight: Shows month-over-month sales change per city.

10. Top 3 Cities by Market Potential

```
SELECT c.city_name, ROUND(SUM(s.total), 2) AS total_sale,
c.estimated_rent AS total_rent,
COUNT(DISTINCT cx.customer_id) AS total_customers,
ROUND(c.population * 0.25) AS estimated_coffee_consumers
FROM sales s
JOIN customers cx ON s.customer_id = cx.customer_id
JOIN city c ON cx.city_id = c.city_id
GROUP BY c.city_name , c.population , c.estimated_rent
ORDER BY total_sale DESC
LIMIT 3;
```

Insight: Identifies top 3 cities by total sales and coffee demand.

Summary & Key Insights

- Coffee demand estimated at ~25% of city population
- Highest revenue cities and top-selling products identified
- Monthly sales growth trends analyzed
- Supports strategic expansion and targeting

Recommendations

After analysing the data, the recommended top three cities for new store openings are:

City 1: Pune Average rent per customer is very low. Highest total revenue. Average sales per customer is also high.

City 2: Delhi Highest estimated coffee consumers at 7.7 million. Highest total number of customers, which is 68. Average rent per customer is 330 (still under 500).

City 3: Jaipur Highest number of customers, which is 69. Average rent per customer is very low at 156. Average sales per customer is better at 11.6k.

Let's Connect!

Thank you for reading!

If you enjoyed this project, feel free to connect with me on LinkedIn.

linkedin: linkedin.com/in/souvik-roy-89964591

Project link: https://github.com/Souvik362/Monday-Coffee/tree/main

Keep sipping coffee and querying data!