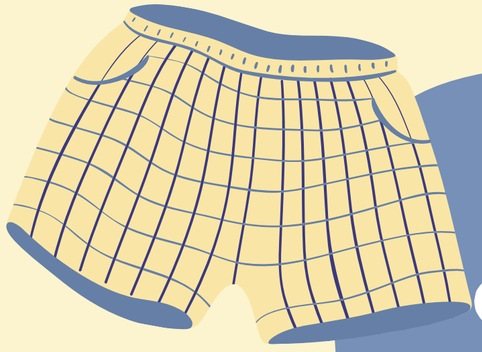
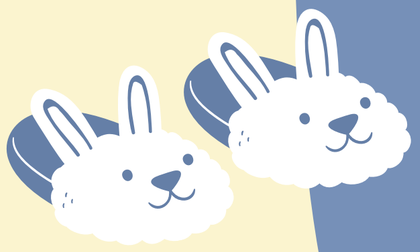
https://www.steeldata.org.uk/sql6.html

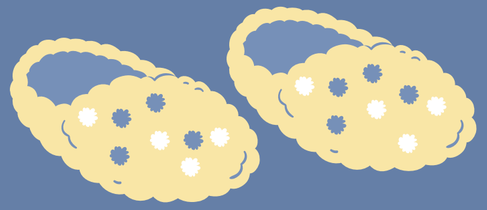


SQL CHALLENGE-6

MARKETING ANALYSIS



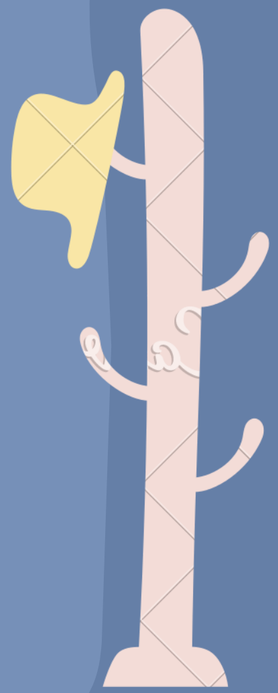
Presented by Rachana Garad



Introduction

As a Marketing Analyst, we have to provide insights to The 'Sustainable Clothing Co.' who have been running several marketing campaigns and analyzing whether they have been successful or not.

Analyzing the following tables to find out crucial information about the products, Performance and Revenue, etc,.



Table

sustainable_clothing

Product ID	Product Name	Category	Size	Price
1	Organic Cotton T-Shirt	Tops	S	$29.99
2	Recycled Denim Jeans	Bottoms	M	$79.99
3	Hemp Crop Top	Tops	L	$24.99
4	Bamboo Lounge Pants	Bottoms	XS	$49.99
5	Eco-Friendly Hoodie	Outerwear	XL	$59.99
6	Linen Button-Down Shirt	Tops	M	$39.99
7	Organic Cotton Dress	Dresses	S	$69.99
8	Sustainable Swim Shorts	Swimwear	L	$34.99
9	Recycled Polyester Jacket	Outerwear	XL	$89.99
10	Bamboo Yoga Leggings	Activewear	XS	$54.99
11	Hemp Overalls	Bottoms	M	$74.99
12	Organic Cotton Sweater	Tops	L	$49.99
13	Cork Sandals	Footwear	S	$39.99
14	Recycled Nylon Backpack	Accessories	One Size	$59.99
15	Organic Cotton Skirt	Bottoms	XS	$34.99
16	Hemp Baseball Cap	Accessories	One Size	$24.99
17	Upcycled Denim Jacket	Outerwear	M	$79.99
18	Linen Jumpsuit	Dresses	L	$69.99
19	Organic Cotton Socks	Accessories	M	$9.99
20	Bamboo Bathrobe	Loungewear	XL	$69.99

transactions (first 10 shown)

transaction_id	product_id	quantity	purcahse_date
1	2	2	2023-06-02
1	14	1	2023-06-02
2	5	2	2023-06-05
3	2	1	2023-06-07
4	19	2	2023-06-10
5	2	1	2023-06-13
5	16	1	2023-06-13
6	10	2	2023-06-15
7	2	1	2023-06-18
8	4	1	2023-06-22
9	18	2	2023-06-26
10	2	1	2023-06-30
10	13	1	2023-06-30

marketing_campaigns

campaign_id	campaign_name	product_id	start_date	end_date
1	Summer Sale	2	2023-06-01	2023-06-30
2	New Collection Launch	10	2023-07-15	2023-08-15
3	Super Save	7	2023-08-20	2023-09-15

CUSTOMER INSIGHTS ANALYSIS

Q1. How many transactions were completed during each marketing campaign?

```sql
SELECT
    t.transaction_id,
    c.campaign_name,
    c.product_id,
    COUNT(t.quantity) AS transactions_count  -- Counting the number of transactions for each campaign
FROM
    marketing_campaigns AS c
INNER JOIN
    transactions AS t ON c.product_id = t.product_id
GROUP BY c.campaign_id, c.campaign_name;
```

transaction_id	campaign_name	product_id	transactions_count
1	Summer Sale	2	7
8	New Collection Launch	10	6
32	Super Save	7	3

Q2. Which product had the highest sales quantity?

```sql
SELECT
    s.product_id,
    s.product_name,
    SUM(t.quantity) AS total_quantity  -- Summing up the quantity sold for each product
FROM
    sustainable_clothing AS s
INNER JOIN
    transactions AS t ON s.product_id = t.product_id
GROUP BY s.product_id, s.product_name
ORDER BY total_quantity DESC
LIMIT 1;  -- Limiting the result to the top row
```

	product_id	product_name	total_quantity
▶	12	Organic Cotton Sweater	9

Q3. What is the total revenue generated from each marketing campaign?

```sql
SELECT
    m.campaign_id,
    m.campaign_name,
    ROUND(SUM(s.price * t.quantity), 3) AS revenue  -- Calculating and rounding the total revenue for each campaign
FROM
    sustainable_clothing AS s
INNER JOIN
    transactions AS t ON s.product_id = t.product_id
INNER JOIN
    marketing_campaigns AS m ON m.product_id = t.product_id
GROUP BY m.campaign_id, m.campaign_name;
```

campaign_id	campaign_name	revenue
1	Summer Sale	639.92
2	New Collection Launch	439.92
3	Super Save	209.97

Q4. What is the top-selling product category based on the total revenue generated?

```sql
SELECT
    ROUND(SUM(s.price * t.quantity), 3) AS revenue,  -- Calculating and rounding the total revenue for each category
    s.category
FROM
    sustainable_clothing AS s
INNER JOIN
    transactions AS t ON s.product_id = t.product_id
GROUP BY s.category
ORDER BY revenue DESC
LIMIT 1;
```

	revenue	category
▶	1289.79	Bottoms

Q5. Which products had a higher quantity sold compared to the average quantity sold?

```sql
SELECT
    s.product_name,
    SUM(t.quantity) as sold_quantity
FROM
    sustainable_clothing AS s
JOIN transactions AS t ON s.product_id = t.product_id
GROUP BY s.product_name
HAVING SUM(t.quantity) > (SELECT AVG(quantity) FROM transactions)  -- Filtering products with quantity sold higher than average
ORDER BY sold_quantity DESC
LIMIT 5;  -- Limiting the result to the top 5 rows
```

product_name	sold_quantity
Organic Cotton Sweater	9
Recycled Denim Jeans	8
Bamboo Yoga Leggings	8
Linen Jumpsuit	7
Organic Cotton Socks	7

Q6. What is the average revenue generated per day during the marketing campaigns?

```sql
SELECT
    mc.campaign_id,  -- Selecting the campaign ID
    mc.campaign_name,  -- Selecting the campaign name
    ROUND(AVG(t.quantity * sc.price), 2) AS average_revenue_per_day  -- Calculating and rounding the average revenue per day for each campaign
FROM
    transactions AS t
JOIN
    sustainable_clothing AS sc ON t.product_id = sc.product_id
JOIN
    marketing_campaigns AS mc ON t.product_id = mc.product_id
WHERE
    t.purchase_date BETWEEN mc.start_date AND mc.end_date  -- Filtering transactions within the campaign dates
GROUP BY mc.campaign_id, mc.campaign_name  -- Grouping the result by campaign ID and campaign name
ORDER BY mc.campaign_id;
```

	campaign_id	campaign_name	average_revenue_per_day
▶	1	Summer Sale	95.99
	2	New Collection Launch	54.99
	3	Super Save	69.99

Q7. What is the percentage contribution of each product to the total revenue?

```sql
SELECT
    s.product_id,
    s.product_name,
    ROUND((SUM(s.price * t.quantity) / (SELECT SUM(s.price * t.quantity)
        FROM sustainable_clothing AS s
        INNER JOIN transactions AS t ON s.product_id = t.product_id)) * 100, 2) AS percentage_contribution
FROM
    sustainable_clothing AS s
INNER JOIN
    transactions AS t ON s.product_id = t.product_id
GROUP BY s.product_id , s.product_name
ORDER BY percentage_contribution DESC;
```

product_id	product_name	percentage_contribution
2	Recycled Denim Jeans	13.71
18	Linen Jumpsuit	10.49
12	Organic Cotton Sweater	9.64
10	Bamboo Yoga Leggings	9.42
9	Recycled Polyester Jacket	7.71
5	Eco-Friendly Hoodie	6.42
4	Bamboo Lounge Pants	5.35
17	Upcycled Denim Jacket	5.14
11	Hemp Overalls	4.82
7	Organic Cotton Dress	4.5
15	Organic Cotton Skirt	3.75
13	Cork Sandals	3.43
20	Bamboo Bathrobe	3
16	Hemp Baseball Cap	2.68
6	Linen Button-Down Shirt	2.57
14	Recycled Nylon Backpack	2.57
8	Sustainable Swim Shorts	1.5
19	Organic Cotton Socks	1.5
1	Organic Cotton T-Shirt	1.28
3	Hemp Crop Top	0.54

Q8. Compare the average quantity sold during marketing campaigns to outside the marketing campaigns

```sql
SELECT
    CASE
        WHEN t.purchase_date BETWEEN m.start_date AND m.end_date THEN 'During Campaign'  -- Checking if the transaction is within the campaign dates
        ELSE 'Outside Campaign'
    END AS period,  -- Creating a period column
    AVG(t.quantity) AS avg_quantity_sold
FROM
    transactions AS t
LEFT JOIN
    marketing_campaigns AS m ON t.product_id = m.product_id
GROUP BY period;  -- Grouping the result by period
```

period	avg_quantity_sold
During Campaign	1.1000
Outside Campaign	1.4259

Q9. Compare the revenue generated by products inside the marketing campaigns to outside the campaigns

```sql
SELECT
    CASE
        WHEN t.product_id IN (SELECT product_id FROM marketing_campaigns) THEN 'During Campaigns'
        ELSE 'Outside Campaigns'
    END AS campaign,
    SUM(t.quantity * sc.price) AS total_revenue
FROM
    transactions AS t
JOIN
    sustainable_clothing AS sc ON t.product_id = sc.product_id
GROUP BY campaign
ORDER BY campaign;
```

campaign	total_revenue
During Campaigns	1289.8099899291992
Outside Campaigns	3379.3100147247314

Q10. Rank the products by their average daily quantity sold

```sql
SELECT
    t.product_id,
    AVG(t.quantity) AS avg_daily_quantity_sold,
    DENSE_RANK() OVER (ORDER BY AVG(t.quantity) DESC) AS product_rank  -- Assigning a dense rank based on average daily quantity sold
FROM
    transactions AS t
GROUP BY t.product_id  -- Grouping the result by product ID
ORDER BY avg_daily_quantity_sold DESC;  -- Sorting the result by average daily quantity sold in descending order
```

product_id	avg_daily_quantity_sold	product_rank
8	2.0000	1
12	1.8000	2
19	1.7500	3
18	1.7500	3
5	1.6667	4
15	1.6667	4
6	1.5000	5
11	1.5000	5
17	1.5000	5
10	1.3333	6
9	1.3333	6
16	1.2500	7
4	1.2500	7
2	1.1429	8
14	1.0000	9
13	1.0000	9
20	1.0000	9
3	1.0000	9
7	1.0000	9
1	1.0000	9

Insights

- The seasonal success story "Summer Sale" shines with 7 transactions. "New Collection Launch" is followed by 6, which introduces new styles.
- "Organic Cotton Sweater" sells 9 pieces and is a classic eco-friendly favorite that has captured hearts and wardrobes.
- "Summer Sale" not only wins in terms of transactions but also in terms of income (639.92). "New Collection Launch" adds $439.92 to the financial story.
- "Bottoms" dominates the product categories, with a total value of 1289.79. A victory for environmental sustainability and customer devotion.
- "Recycled Denim Jeans" stands out, accounting for 13.71% of total revenue—a statement of sustainability. With a modest 0.54%, "Hemp Crop Top" performs an important function.
- The total campaign income is 1289.81, demonstrating strategic genius. The key is in the outside-campaign revenue of 3379.31, which reveals a hidden garden of possibility while underlining long-term brand attraction outside promotions.

Thank You