

Challenge 6

MARKETING ANALYSIS

SQL CASE STUDY



CREATED BY

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MY ROLE

CERTAINLY, I'LL BE HAPPY TO ANALYZE THE DATA FOR 'SUSTAINABLE CLOTHING CO.' AND PROVIDE MY INSIGHT INTO THE SUCCESS OF THEIR MARKETING CAMPAIGNS.

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Here are the tables you will be using

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

1. HOW MANY TRANSACTIONS WERE COMPLETED DURING EACH MARKETING CAMPAIGN?

```
4 SELECT M.campaign_name  
5      ,COUNT(T.transaction_id) AS No_of_transactions  
6 FROM marketing_campaigns AS M  
7 JOIN transactions AS T USING (product_id)  
8 GROUP BY M.campaign_name  
9 ORDER BY No_of_transactions;
```

OUTPUT

Query #1 Execution time: 1ms

campaign_name	No_of_transactions
Super Save	3
New Collection Launch	6
Summer Sale	7

2. WHICH PRODUCT HAD THE HIGHEST SALES QUANTITY?

```
13 SELECT P.product_id
14      ,P.product_name
15      ,SUM(T.quantity) AS highest_sales_quantity
16 FROM sustainable_clothing AS P
17 JOIN transactions AS T USING(product_id)
18 GROUP BY P.product_id
19      ,P.product_name
20 ORDER BY highest_sales_quantity DESC
21 LIMIT 1;
```

OUTPUT

Query #2 Execution time: 1ms

product_id	product_name	highest_sales_quantity
12	Organic Cotton Sweater	9

3. WHAT IS THE TOTAL REVENUE GENERATED FROM EACH MARKETING CAMPAIGN?

```
25 SELECT M.campaign_id
26      ,M.campaign_name
27      ,CONCAT("$",ROUND(SUM(S.price*T.quantity),2)) AS Total_revenue
28 FROM marketing_campaigns AS M
29 JOIN sustainable_clothing AS S USING(product_id)
30 JOIN transactions AS T USING(product_id)
31 GROUP BY M.campaign_id
32      ,M.campaign_name
33 ORDER BY Total_revenue DESC;
34
```

OUTPUT

Query #3 Execution time: 1ms

campaign_id	campaign_name	Total_revenue
1	Summer Sale	\$639.92
2	New Collection Launch	\$439.92
3	Super Save	\$209.97

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4. WHAT IS THE TOP-SELLING PRODUCT CATEGORY BASED ON THE TOTAL REVENUE GENERATED?

```
--  
38 SELECT S.category  
39      ,CONCAT("$",ROUND(SUM(S.price*T.quantity),2)) AS Total_revenue  
40 FROM transactions AS T  
41 JOIN sustainable_clothing AS S USING(product_id)  
42 GROUP BY S.category  
43 ORDER BY Total_revenue  
44 LIMIT 1;  
--
```

OUTPUT

Query #4 **Execution time: 1ms**

category	Total_revenue
Bottoms	\$1289.79

5. WHICH PRODUCTS HAD A HIGHER QUANTITY SOLD COMPARED TO THE AVERAGE QUANTITY SOLD?

```
48 SELECT S.product_name
49      ,SUM(T.quantity) AS higher_quantity
50 FROM transactions AS T
51 JOIN sustainable_clothing AS S USING(product_id)
52 GROUP BY S.product_name
53 HAVING SUM(T.quantity) >(SELECT AVG(quantity) FROM transactions AS T)
54 ORDER BY higher_quantity DESC;
```

OUTPUT

Query #5 Execution time: 0ms

product_name	higher_quantity
Organic Cotton Sweater	9
Recycled Denim Jeans	8
Bamboo Yoga Leggings	8
Organic Cotton Socks	7
Linen Jumpsuit	7
Eco-Friendly Hoodie	5
Hemp Baseball Cap	5
Bamboo Lounge Pants	5
Organic Cotton Skirt	5
Cork Sandals	4
Recycled Polyester Jacket	4
Linen Button-Down Shirt	3

6. WHAT IS THE AVERAGE REVENUE GENERATED PER DAY DURING THE MARKETING CAMPAIGNS?

```
59 SELECT M.campaign_name  
60      ,CONCAT("$",ROUND(SUM(T.quantity*S.price)/DATEDIFF(end_date,start_date),2)) AS Revenue_perday  
61 FROM marketing_campaigns AS M  
62 JOIN sustainable_clothing AS S USING(product_id)  
63 JOIN transactions AS T USING(product_id)  
64 WHERE purchase_date BETWEEN start_date AND end_date  
65 GROUP BY M.campaign_id;  
--
```

OUTPUT

Query #6 Execution time: 1ms

campaign_name	Revenue_perday
Summer Sale	\$16.55
New Collection Launch	\$7.1
Super Save	\$2.69

7. WHAT IS THE PERCENTAGE CONTRIBUTION OF EACH PRODUCT TO THE TOTAL REVENUE?

```
--  
152 WITH contribution AS  
153 (  
154     SELECT S.product_name  
155         ,S.product_id  
156         ,ROUND(SUM(T.quantity*S.price),2) AS Total  
157     FROM transactions AS T  
158     JOIN sustainable_clothing AS S USING(product_id)  
159     GROUP BY S.product_name,S.product_id)  
160  
161     SELECT product_id  
162         ,product_name  
163         ,CONCAT(ROUND(Total*100/(SELECT SUM(total) FROM contribution),2), "%") AS Percentage  
164     FROM contribution  
165     ORDER BY product_id ASC;  
166
```

OUTPUT

Query #7 Execution time: 11ms

product_id	product_name	Percentage
1	Organic Cotton T-Shirt	1.28%
2	Recycled Denim Jeans	13.71%
3	Hemp Crop Top	0.54%
4	Bamboo Lounge Pants	5.35%
5	Eco-Friendly Hoodie	6.42%
6	Linen Button-Down Shirt	2.57%
7	Organic Cotton Dress	4.5%
8	Sustainable Swim Shorts	1.5%
9	Recycled Polyester Jacket	7.71%
10	Bamboo Yoga Leggings	9.42%
11	Hemp Overalls	4.82%
12	Organic Cotton Sweater	0.61%

8. COMPARE THE AVERAGE QUANTITY SOLD DURING MARKETING CAMPAIGNS TO OUTSIDE THE MARKETING CAMPAIGNS

```
168 SELECT
169   AVG(CASE
170     WHEN product_id IN(SELECT DISTINCT product_id FROM marketing_campaigns) THEN quantity ELSE NULL END) AS Avg_quantity_during_campaigns,
171   AVG(CASE
172     WHEN product_id NOT IN(SELECT DISTINCT product_id FROM marketing_campaigns) THEN quantity ELSE NULL END) AS Avg_quantity_outside_campaigns
173 FROM transactions;
174
```

OUTPUT

Query #8 Execution time: 1ms	
Avg_quantity_during_campaigns	Avg_quantity_outside_campaigns
1.1875	1.4375

9. COMPARE THE REVENUE GENERATED BY PRODUCTS INSIDE THE MARKETING CAMPAIGNS TO OUTSIDE THE CAMPAIGNS

```
176  
177 SELECT  
178   ROUND(SUM(CASE  
179     WHEN t.product_id IN(SELECT DISTINCT product_id FROM marketing_campaigns) THEN t.quantity *s.price ELSE 0 END),2) AS revenue_inside_campaigns,  
180 ROUND(SUM(CASE  
181     WHEN t.product_id NOT IN(SELECT DISTINCT product_id FROM marketing_campaigns) THEN t.quantity *s.price ELSE 0 END),2) AS revenue_outside_campaigns  
182 FROM transactions AS t  
183 JOIN sustainable_clothing AS s USING(product_id);  
184
```

OUTPUT

Query #9 Execution time: 0ms	
revenue_inside_campaigns	revenue_outside_campaigns
1289.81	3379.31

10. RANK THE PRODUCTS BY THEIR AVERAGE DAILY QUANTITY SOLD

```
186 WITH Ranking AS(
187
188 SELECT product_id
189     ,AVG(quantity) AS average_quantity
190 FROM transactions
191 GROUP BY product_id)
192
193 SELECT *
194     ,DENSE_RANK() OVER(ORDER BY average_quantity ASC) AS rnk
195 FROM Ranking ;
```

OUTPUT

Query #10 Execution time: 1ms

product_id	average_quantity	rnk
1	1.0000	1
3	1.0000	1
20	1.0000	1
14	1.0000	1
13	1.0000	1
7	1.0000	1
2	1.1429	2
16	1.2500	3
4	1.2500	3
9	1.3333	4
10	1.3333	4
11	1.5000	5



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