SQL Challenge 6

Marketing Analysis

You are a Marketing Analyst
The 'Sustainable Clothing Co.' have been running several marketing campaigns and have asked you to provide your insight into whether they have been successful or not. Analyse the following data and answer the questions to form your answer.

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

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

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?
Ans:

```
select campaign_name, count(t.product_id) as
no_of_transactions
from transactions t
join marketing_campaigns m using(product_id)
where t.purchase_date >= start_date and t.purchase_date
<= end_date
group by 1;
```

Result Grid | Filter Rows:

campaign_name	no_of_transactions
Summer Sale	5
New Collection Launch	4
Super Save	1

2. Which product had the highest sales quantity?

Ans:

```
select product_name, sum(quantity) as sales_quantity
from transactions t
join sustainable_clothing s using(product_id)
group by 1
order by 2 desc limit 1;
```

Result Grid | Filter Rows:

	product_name	sales_quantity
▶	Organic Cotton Sweater	9

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

Ans:

```
select campaign_name,
concat("$",round(sum(quantity*price),2)) as revenue
from sustainable_clothing s
join transactions t using(product_id)
join marketing_campaigns m using(product_id)
group by 1;
```

Result Grid | Filter Rows:

campaign_name	revenue
Summer Sale	$639.92
New Collection Launch	$439.92
Super Save	$209.97

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

Ans:

```
select category, round(sum(quantity*price),2) as revenue
from sustainable_clothing s
join transactions t using(product_id)
group by 1 order by 2 desc;
```

Result Grid | Filter Rows:

category	revenue
Bottoms	1289.79
Outerwear	899.88
Dresses	699.9
Tops	654.85
Activewear	439.92
Accessories	314.86
Footwear	159.96
Loungewear	139.98
Swimwear	69.98

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

Ans:

```
with cte1 as
(
select s.product_id , sum(quantity) as quantity_sold,
@avg_quantity:= round((select avg(quantity) from
transactions),2) as average
from transactions t
join sustainable_clothing s using(product_id)
group by 1
)
select  c.product_id, s.product_name
 from cte1 c
join sustainable_clothing s using(product_id)
where quantity_sold>average
```

Result Grid | Filter Rows:

product_id	product_name
1	Organic Cotton T-Shirt
2	Recycled Denim Jeans
4	Bamboo Lounge Pants
5	Eco-Friendly Hoodie
6	Linen Button-Down Shirt
7	Organic Cotton Dress
8	Sustainable Swim Shorts
9	Recycled Polyester Jacket
10	Bamboo Yoga Leggings
11	Hemp Overalls
12	Organic Cotton Sweater
13	Cork Sandals
14	Recycled Nylon Backpack
15	Organic Cotton Skirt
16	Hemp Baseball Cap
17	Upcycled Denim Jacket
18	Linen Jumpsuit
19	Organic Cotton Socks
20	Bamboo Bathrobe

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

Ans:

```
select campaign_name, concat("$
",round(sum(quantity*price)/(datediff(end_date,start_da
te) + 1),2)) as avg_revenue_per_day
from marketing_campaigns m
join transactions t using(product_id)
join sustainable_clothing s using(product_id)
where t.purchase_date between start_date and end_date
group by campaign_id
```

Result Grid | Filter Rows:

campaign_name	avg_revenue_per_day
Summer Sale	$ 16
New Collection Launch	$ 6.87
Super Save	$ 2.59

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

Ans:

```
with cte1 as(
select product_name, round(sum(quantity*price),2) as
revenue, @sum:= round((select sum(quantity*price)
from transactions t
join sustainable_clothing s using(product_id)) ,2) as
total_revenue
from transactions t
join sustainable_clothing s using(product_id)
group by 1)
select *,
concat(round((revenue/total_revenue)*100,2),"%") as
percentage_contribution
from cte1 order by 2 desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_name	revenue	total_revenue	percentage_contribution
Recycled Denim Jeans	639.92	4669.12	13.71%
Linen Jumpsuit	489.93	4669.12	10.49%
Organic Cotton Sweater	449.91	4669.12	9.64%
Bamboo Yoga Leggings	439.92	4669.12	9.42%
Recycled Polyester Jacket	359.96	4669.12	7.71%
Eco-Friendly Hoodie	299.95	4669.12	6.42%
Bamboo Lounge Pants	249.95	4669.12	5.35%
Upcycled Denim Jacket	239.97	4669.12	5.14%
Hemp Overalls	224.97	4669.12	4.82%
Organic Cotton Dress	209.97	4669.12	4.5%
Organic Cotton Skirt	174.95	4669.12	3.75%
Cork Sandals	159.96	4669.12	3.43%
Bamboo Bathrobe	139.98	4669.12	3%
Hemp Baseball Cap	124.95	4669.12	2.68%
Recycled Nylon Backpack	119.98	4669.12	2.57%
Linen Button-Down Shirt	119.97	4669.12	2.57%
Sustainable Swim Shorts	69.98	4669.12	1.5%
Organic Cotton Socks	69.93	4669.12	1.5%
Organic Cotton T-Shirt	59.98	4669.12	1.28%
Hemp Crop Top	24.99	4669.12	0.54%

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

Ans:

```
select campaign_name,
avg(case
when purchase_date between start_date and end_date then
quantity else 0
end) as avg_inside_campaign ,
avg(case
when purchase_date not between start_date and end_date
then quantity else 0
end) as avg_outside_campaign
from transactions t
 join marketing_campaigns m using(product_id)
 join sustainable_clothing s using(product_id)
group by campaign_name
```

Result Grid | Filter Rows: | Export: | Wrap C

campaign_name	avg_inside_campaign	avg_outside_campaign
Summer Sale	0.8571	0.2857
New Collection Launch	0.6667	0.6667
Super Save	0.3333	0.6667

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

Ans:

```
select campaign_name,
concat("$ ",round(sum(case
when purchase_date between start_date and end_date
then (quantity*price) else 0
end),2)) as avg_inside_campaign ,
concat("$ ",round(sum(case
when purchase_date not between start_date and
end_date then (quantity*price) else 0
end),2)) as avg_outside_campaign
from transactions t
 join marketing_campaigns m using(product_id)
 join sustainable_clothing s using(product_id)
group by campaign_name
```

Result Grid | Filter Rows: | Export: | Wrap

campaign_name	avg_inside_campaign	avg_outside_campaign
Summer Sale	$ 479.94	$ 159.98
New Collection Launch	$ 219.96	$ 219.96
Super Save	$ 69.99	$ 139.98

10. Rank the products by their average daily quantity sold

Ans:

```
with cte1 as(
select product_name, avg(quantity) as avg_quantity_sold
from transactions t
join sustainable_clothing s using(product_id)
group by 1
)

select product_name, avg_quantity_sold,
dense_rank() over(order by avg_quantity_sold desc) as ranking
from cte1
```

Result Grid | Filter Rows: | Export:

product_name	avg_quantity_sold	ranking
Sustainable Swim Shorts	2.0000	1
Organic Cotton Sweater	1.8000	2
Linen Jumpsuit	1.7500	3
Organic Cotton Socks	1.7500	3
Eco-Friendly Hoodie	1.6667	4
Organic Cotton Skirt	1.6667	4
Linen Button-Down Shirt	1.5000	5
Hemp Overalls	1.5000	5
Upcyded Denim Jacket	1.5000	5
Recycled Polyester Jacket	1.3333	6
Bamboo Yoga Leggings	1.3333	6
Bamboo Lounge Pants	1.2500	7
Hemp Baseball Cap	1.2500	7
Recycled Denim Jeans	1.1429	8
Organic Cotton T-Shirt	1.0000	9
Hemp Crop Top	1.0000	9
Organic Cotton Dress	1.0000	9
Cork Sandals	1.0000	9
Recycled Nylon Backpack	1.0000	9
Bamboo Bathrobe	1.0000	9