

CHALLENGE 6

SQL CASE STUDY

MARKETING ANALYSIS

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INTRODUCTION

- As a Marketing Analyst working for the 'Sustainable Clothing Co.'
- The 'Sustainable Clothing Co.' have been running several marketing campaigns and have asked me to provide insight into whether they have been successful or not.
- The case study consist of 3 Tables :
 - Sustainable Clothing
 - Marketing Campaigns
 - Transactions

TABLE USED

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	purchahse_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

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



```
select m.campaign_name, count(t.*)
from marketing_campaigns as m
join transactions as t on m.product_id=t.product_id
group by 1
order by 2 desc
```

output :

	campaign_name character varying (100)	total_transaction bigint
1	Summer Sale	7
2	New Collection Launch	6
3	Super Save	3

Q2. Which product had the highest sales quantity?



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

output :

	product_name character varying (100)	sales_quantity bigint
1	Organic Cotton Sweater	9

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



```
select m.campaign_name,concat('$',round(sum(cast(s.price*t.quantity as numeric)),2)) as revenue
from sustainable_clothing as s
join marketing_campaigns as m on s.product_id=m.product_id
join transactions as t on m.product_id=t.product_id
group by 1
order by 2 desc
```

output :

	campaign_name character varying (100)	revenue text
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?



```
select s.category, concat('$',sum(s.price*t.quantity)) as revenue
from sustainable_clothing as s
join transactions as t on s.product_id=t.product_id
group by 1
order by 2
limit 1
```

output :

	category character varying (50) 	revenue text 
1	Bottoms	\$1289.79

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



```
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 1  
having sum(t.quantity) > (select round(avg(quantity), 1)  
from transactions )  
order by 2 desc
```

output :

	product_name character varying (100)	sold_quantity bigint
1	Organic Cotton Sweater	9
2	Bamboo Yoga Leggings	8
3	Recycled Denim Jeans	8
4	Linen Jumpsuit	7
5	Organic Cotton Socks	7
6	Bamboo Lounge Pants	5
7	Hemp Baseball Cap	5
8	Organic Cotton Skirt	5
9	Eco-Friendly Hoodie	5
10	Cork Sandals	4
11	Recycled Polyester Jacket	4
12	Linen Button-Down Shirt	3
13	Upcycled Denim Jacket	3
14	Hemp Overalls	3
15	Organic Cotton Dress	3
16	Recycled Nylon Backpack	2
17	Sustainable Swim Shorts	2
18	Organic Cotton T-Shirt	2

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



```
with revenue as(
    select t.purchase_date,round(sum(cast(s.price*t.quantity as numeric))),2)as revenue
        from sustainable_clothing as s
    join marketing_campaigns as m on s.product_id=m.product_id
    join transactions as t on m.product_id=t.product_id
    group by 1
)
select purchase_date,round(avg(revenue),2) as avg_revenue from revenue
group by 1
order by 1
```

output :

	purchase_date date	avg_revenue numeric
1	2023-06-02	159.98
2	2023-06-07	79.99
3	2023-06-13	79.99
4	2023-06-15	109.98
5	2023-06-18	79.99
6	2023-06-30	79.99
7	2023-07-20	54.99
8	2023-07-29	54.99
9	2023-08-03	54.99
10	2023-08-14	54.99
11	2023-09-05	69.99
12	2023-09-28	79.99
13	2023-10-02	69.99
14	2023-10-06	69.99
15	2023-10-10	79.99
16	2023-10-13	109.98

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



```
with product_Revenue as (
    select s.product_name,sum(cast(s.price*t.quantity as numeric))as revenue
    from sustainable_clothing as s
    join transactions as t on s.product_id=t.product_id
    group by 1
)
select product_name,round(revenue*100/(select sum(revenue) from
product_revenue),2) as percentage_contribution from product_revenue
group by 1,2
order by 2 desc
```

output :

	product_name character varying (100)	percentage_contribution numeric
1	Recycled Denim Jeans	13.71
2	Linen Jumpsuit	10.49
3	Organic Cotton Sweater	9.64
4	Bamboo Yoga Leggings	9.42
5	Recycled Polyester Jacket	7.71
6	Eco-Friendly Hoodie	6.42
7	Bamboo Lounge Pants	5.35
8	Upcycled Denim Jacket	5.14
9	Hemp Overalls	4.82
10	Organic Cotton Dress	4.50
11	Organic Cotton Skirt	3.75
12	Cork Sandals	3.43
13	Bamboo Bathrobe	3.00
14	Hemp Baseball Cap	2.68
15	Linen Button-Down Shirt	2.57
16	Recycled Nylon Backpack	2.57
17	Organic Cotton Socks	1.50
18	Sustainable Swim Shorts	1.50

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

```
with CampaignStatus as(  
    select t.transaction_id,t.quantity,  
    case  
        when m.campaign_id is not NULL then 'InCampaign'  
        else 'OutsideCampaign'  
    end as campaign_status from transactions t  
    left join marketing_campaigns m on t.product_id = m.product_id  
)  
  
select campaign_status,round(avg(quantity),2) as average_quantity_sold  
from CampaignStatus  
group by 1
```

output :

	campaign_status	average_quantity_sold
	text	numeric
1	InCampaign	1.19
2	OutsideCampaign	1.44

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



```
with CampaignStatus as(
    select sum(cast(c.price*t.quantity as numeric)) as revenue,
    case
        when m.campaign_id is not NULL then 'InCampaign'
        else 'OutsideCampaign'
    end as campaign_status from transactions t
    left join sustainable_clothing c on t.product_id = c.product_id
    left join marketing_campaigns as m on m.product_id = c.product_id
    group by m.campaign_id
)

select campaign_status,round(sum(revenue),2) as average_quantity_sold
from CampaignStatus
group by 1
```

output :

	campaign_status text	average_quantity_sold numeric
1	InCampaign	1289.81
2	OutsideCampaign	3379.31

Q10. Rank the products by their average daily quantity sold



```
with product_rank as (
    select s.product_name, round(avg(quantity),2) as avg_quantity
    from transactions as t
    join sustainable_clothing as s on t.product_id=s.product_id
    group by 1
)
select *, dense_rank()over(order by avg_quantity) as rank
from product_rank
```

output :

	product_name character varying (100)	avg_quantity numeric	rank bigint
1	Bamboo Bathrobe	1.00	1
2	Organic Cotton T-Shirt	1.00	1
3	Cork Sandals	1.00	1
4	Hemp Crop Top	1.00	1
5	Organic Cotton Dress	1.00	1
6	Recycled Nylon Backpack	1.00	1
7	Recycled Denim Jeans	1.14	2
8	Hemp Baseball Cap	1.25	3
9	Bamboo Lounge Pants	1.25	3
10	Recycled Polyester Jacket	1.33	4
11	Bamboo Yoga Leggings	1.33	4
12	Linen Button-Down Shirt	1.50	5
13	Upcycled Denim Jacket	1.50	5
14	Hemp Overalls	1.50	5
15	Eco-Friendly Hoodie	1.67	6
16	Organic Cotton Skirt	1.67	6
17	Organic Cotton Socks	1.75	7
18	Linen Jumpsuit	1.75	7



A photograph of a woman with long brown hair, seen from behind, looking at a rack of clothes in a clothing store. The clothes are hanging on wooden racks, mostly in shades of white, cream, and light pink. In the foreground, there are several large potted plants with long, thin leaves. A large orange and white diagonal graphic element crosses the top right of the image.

THANK YOU

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