SQL challenge by Steel Data

Challenge 3 - Customer Insights

Intro

You are a Customer Insights Analyst for 'The General Store'

Can you analyse the following tables to find out crucial information about your customers to provide to your marketing team?

Tables

customers

customer_id	first_shop	age	rewards	can_email
1	2022-03-20	23	yes	no
2	2022-03-25	26	no	no
3	2022-04-06	32	no	no
4	2022-04-13	25	yes	yes
5	2022-04-22	49	yes	yes
6	2022-06-18	28	yes	no
7	2022-06-30	36	no	no
8	2022-07-04	37	yes	yes

orders

order_id	customer_id	date_shop	sales_channel	country_id
1	1	2023-01-16	retail	1
2	4	2023-01-20	retail	1
3	2	2023-01-25	retail	2
4	3	2023-01-25	online	1
5	1	2023-01-28	retail	3
6	5	2023-02-02	online	1
7	6	2023-02-05	retail	1
8	3	2023-02-11	online	3

baskets

order_id	product_id
1	1
1	2
1	5
2	4
3	3
4	2
4	1
5	3
5	5
6	4
6	3
6	1
7	2
7	1
8	3
8	3

products

product_id	category	price
1	food	5.99
2	sports	12.49
3	vitamins	6.99
4	food	0.89
5	vitamins	15.99

country

country_id	country_name	head_office
1	UK	London
2	USA	New York
3	China	Beijing

Questions

1. What are the names of all the countries in the country table?
2. What is the total number of customers in the customers table?
3. What is the average age of customers who can receive marketing emails (can_email is set to 'yes')?
4. How many orders were made by customers aged 30 or older?
5. What is the total revenue generated by each product category?
6. What is the average price of products in the 'food' category?
7. How many orders were made in each sales channel (sales_channel column) in the orders table?
8. What is the date of the latest order made by a customer who can receive marketing emails?
9. What is the name of the country with the highest number of orders?
10. What is the average age of customers who made orders in the 'vitamins' product category?

```sql
#1. What are the names of all the countries in the country table?

Select
country_name as Name_of_Countries
from customer_insights.country;
```

	Name_of_Countries
▶	UK
	USA
	China

```sql
#2. What is the total number of customers in the customers table?

 Select
count(*) as Number_of_Customers
from Customer_insights.customers;
```

	Number_of_Customers
▶	8

```sql
#3. What is the average age of customers who can receive marketing emails (can_email is set to 'yes')?

Select * from customer_insights.customers;

Select
avg(age) as Avg_age
,can_email
from customer_insights.customers
where can_email = 'Yes';
```

	Avg_age	can_email
▶	37.0000	yes

```sql
#4. How many orders were made by customers aged 30 or older?

select
count(*) as Order_Count
from customer_insights.orders o
inner join customer_insights.customers c on c.customer_id = o.customer_id
where c.age >= 30;
```

	Order_Count
▶	3

```sql
#5. What is the total revenue generated by each product category?

select
Category
,sum(price) as Total_Price
from customer_insights.products
group by category;
```

	Category	Total_Price
▶	food	6.88
	sports	12.49
	vitamins	22.98

#6. What is the average price of products in the 'food' category?

```
select
Category
,avg(price) as Average_Price
from customer_insights.products
where category = 'Food'
group by category;
```

	Category	Average_Price
▶	food	3.440000

#7. How many orders were made in each sales channel (sales_channel column) in the orders table?

```
SELECT
sales_channel
,count(*) as No_Of_Orders
from customer_insights.orders
group by sales_channel;
```

	sales_channel	No_Of_Orders
▶	retail	5
	online	3

#8.What is the date of the latest order made by a customer who can receive marketing emails

```
Select * from customer_insights.customers;

select
max(date_shop)
from customer_insights.orders c join customer_insights.customers o on c.customer_id = o.customer_id
where can_email = 'Yes'
order by can_email;
```

	max(date_shop)
▶	2023-02-02

#9. What is the name of the country with the highest number of orders?

```
Select
Country_name
,count(order_id) as No_of_Orders
from customer_insights.country c
 inner join customer_insights.orders o on c.country_id = o.country_id
 group by country_name
 order by count(order_id) desc
 limit 1;
```

	Country_name	No_of_Orders
▶	UK	5

#10. What is the average age of customers who made orders in the 'vitamins' product category?

```
select
avg(c.age) as Average_age
,Category
from customer_insights.Products p
  inner join customer_insights.baskets b on p.product_id = b.product_id
  inner join customer_insights.orders o on b.order_id = o.order_id
  inner join customer_insights.customers c on o.customer_id = c.customer_id
  where P.category = 'Vitamins';
```

	Average_age	Category
▶	29.7143	vitamins

Insights

- We gained insights of the sales performance by analyzing the total revenue generated by each category of the products. Upon which the decisions can be made on optimizing the sales strategy. Asper the analysis, VITAMINS are contributing the most into the revenue numbers which is 66.93.
- The potential opportunities for channel diversification can be highlighted on analysis of the number of orders in each channel. It may be beneficial to explore additional sales channels to reach a broader customer base. Upon observation, we can see that the rate of retail sales is greater than that of the online sales
- Identification of the preferred or frequently used product categories is done by analyzing the order pattern of the customer based on their age
- The target customers who receive the marketing mails are of the age averaging to 37