

Homework 1 – Group Q

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Part 1 – [E-commerce Business Transaction](#)

E-commerce has become a new channel to support businesses development. Through e-commerce, businesses can get access and establish a wider market presence by providing cheaper and more efficient distribution channels for their products or services. E-commerce has also changed the way people shop and consume products and services. Many people are turning to their computers or smart devices to order goods, which can easily be delivered to their homes.

We normalized the dataset into two different tables:

Table 1 – Transaction_info

Columns:

- TransactionNo
- Date
- ProductNo
- ProductName
- CustomerNo
- Country

Table 2 – Transaction_income

Columns:

- TransactionNo
- Price
- Quantity

Part 2

Question 1 - What are the most popular products and categories among our customers, and how do these vary across different countries and time periods?

KPIs:

1. Total sales revenue by product category

- Specific - product category.
- Measurable - measures the total revenue generated by each product category.
- Achievable - can be tracked.
- Relevant – relevant to finding the most popular products and categories.
- Time-bound - time periods.

2. Customer retention rate by country

- Specific – country
- Measurable - measures the percentage of customers who make a repeat purchase within a specified time period, broken down by country.
- Achievable - can be tracked.
- Relevant – relevant to finding popularity across different countries.
- Time-bound - within a specified time period.

3. Average number of items per order

- Specific – transaction.
- Measurable - measures the average number of items purchased per order
- Achievable - can be tracked.
- Relevant - can help identify trends in customer behavior and preferences.
- time-bound - time periods.

Question 2 - Which country is the most profitable, and how can the company increase sales in countries with lower customer engagement?

KPIs for the second business question:

1. Customer transaction rate by country

- Specific – country.
- Measurable - customer acquisition rate.
- Achievable - can be tracked.
- Relevant – relevant to finding most profitable countries.
- time-bound - time periods.

2. Sales revenue generated by each country

- Specific – country.
- Measurable – measuring sales revenue.
- Achievable - can be tracked.
- Relevant - relevant to finding most profitable countries.
- time-bound - time periods.

3. **Customer retention rate by country**

- Specific – country.
- Measurable – measuring customer retention rate.
- Achievable - can be tracked.
- Relevant - relevant to finding most profitable countries.
- time-bound - time periods.