

Segmentation Analysis

Group 11

Ruturajsinh Solanki – 0827884

Isha Dhaduk – 0827577

Chris Chhotai – 0826416

Parth Tripathi – 0826520

Introduction

Customer segmentation is a crucial technique in retail analytics that involves categorizing customers into distinct groups based on specific characteristics or behaviors. Segmentation helps retailers gain a deeper understanding of their customer base, allowing for more targeted marketing, personalized offerings, and improved customer service. In our retail dataset, we can perform customer segmentation to extract valuable insights and make data-driven decisions. Customer segmentation in the retail industry aims to divide the customer base into meaningful groups or segments. These segments are created based on various attributes and behaviors. In our dataset, we will be using the following approaches for segmentation:

1. Demographic Segmentation: Segment customers based on demographic information, such as age, gender, and location (Country and CustomerID in our dataset). This information can help us understand which demographics are interested in the products and services.

Country: We can clearly see that top 5 countries are in Europe based on total sales. And United Kingdom has the most sales which is four times higher than that of Netherlands which is the second country. This suggests that people from Europe are more interested in our products and services, but the United Kingdom folks just loves our products.

CosutomerID: Six customers out of top 10 are from the United Kingdom. The customer with who had the most sales (279489.02) is from Netherlands. Two customers are from Erie but most surprisingly fifth customer is from Australia with 123725.45 total spendings.

2. Behavioral Segmentation: This involves segmenting customers based on their buying behavior. In our dataset, we will be using attributes "Quantity" (the number of products purchased) and "UnitPrice" (the price of products) and composite attribute "TotalSales" (Quantity*UnitPrice) to analyze the purchasing patterns of different customer groups. For example, you can identify high-value customers or frequent shoppers.

Quantity: This shows us that the top 10 product which are sold the most have low unit price between 0.2 to 2.5 and six of these are less than 0.75. Which means product with less price have more quantity sold than products with lower price.

Segmentation Analysis

TotalSales: Normally we know that product with higher UnitPrice will give us more sales. Our top product has High unit price but other than our top product all of the other products has unit price very low compared to the top product. Most of the product's UnitPrice is under 10, While first product's UnitPrice is 290.50.

This give us idea that people are inclined to buy products that are comparatively cheap and easy to get.

3. Recency, Frequency, Monetary (RFM) Analysis: RFM segmentation is a widely used technique in retail. It involves categorizing customers based on three key metrics:

- **Recency:** How recently a customer made a purchase.
- **Frequency:** How often a customer makes purchases.
- **Monetary:** How much money a customer has spent.

In our dataset we can see that most of the customers who's rfm score is lowest are from United Kingdom and most of the customers who's rfm score is higher than others are also from United Kingdom. But the customer with highest rfm score is from Netherlands.

4. Loyalty Segmentation: Determine customer loyalty by analyzing factors like repeat purchases, the length of the customer relationship, and the number of products they buy.

Our most customers are from United Kingdom. So, we are seeing a greater number of customers in both ways (Stayed with us and Left us). We will need to further check which city or distric the customers are from in United Kingdom. Also there are some customers who are loyal from Australia and Erie we can increase customer base by investigating further into them.

5. Geographic Segmentation: Segment customers based on their geographic location (Country in our dataset). This can be useful for tailoring marketing campaigns to specific regions or countries.

Country: In our dataset we have 88.95% customers from United Kingdom which suggest that less than 9% customers are from other countries. We can focus more on first tailoring campaigns based on UK market and than to get customers from other countries we can focus on Europe as whole as most of the customers are from Europe.

6. Product-Based Segmentation: Segment customers based on the types of products they purchase. You can analyze which products are popular among certain customer groups and adjust your inventory or promotions accordingly.

In our dataset there are some products whose quantities are sold over 50000. These products are cheaper comparatively other products. Also, most of the products which had most sales also has prices under 10. Which suggests that we can promote similar products.

Segmentation Analysis

7. Clustering Analysis:

By using the K-means clustering method, customers were grouped into three distinct segments

1. Cluster 1 (High-Value Frequent Customers):

- High Recency
- High Frequency
- High Monetary Spend
- Target for Loyalty Programs & Upselling

2. Cluster 2 (Moderate-Value & Moderate-Frequency Customers):

- Moderate Recency
- Moderate Frequency
- Moderate Monetary Spend
- Target for Promotions & Product Recommendations

3. Cluster 3 (Low-Value and Infrequent Customers):

- Low Recency
- Low Frequency
- Low Monetary Spend
- Target for Re-engagement Strategies

Segmentation Analysis

Business Recommendations:

- Most customers are from United Kingdom, we need to focus on how to make them stick with our company.
- We can introduce marketing campaigns specifically based on UK market. We can even further divide this using City or district.
- Most sales are coming from products whose unit prices are low. We can promote similar products who has low cost and similar categories.
- There are some customers who has more total spendings from countries like Netherlands, and Australia.
- This suggests us that we can introduce them with promotions and sales to increase our popularities in these countries as well.
- Our 25.5% customer group is in mid value or lower tier, who have higher probability for churning. We need to introduce them with new sale options and rewards.
- We have 74.5% customers in our high value tier, to make them stay with us we can introduce them with some loyalty rewards and benefits.