Customer segmentation is the process of dividing customers into groups based on their characteristics such as demographics, behaviours, and buying patterns. Segmentation can help businesses to better understand their customers and create targeted marketing campaigns.

Customer segmentation helps in identifying different groups of customers based on their purchasing behaviour and other attributes. "Online Retail” dataset used from the UCI Machine Learning Repository. The online retail dataset performs data cleaning by removing missing values and cancelled orders and calculates the total sales for each transaction. Then it performs RFM (Recency, Frequency, and Monetary) analysis to segment customers based on their behaviours. The optimal number of clusters is determined using the elbow method and silhouette score. Finally, the customers are visualized using scatter plots to identify the three clusters.

Targeted marketing strategies for different groups of customers, such as offering discounts to high-value customers, providing personalized recommendations to frequent customers, and sending win-back campaigns to inactive customers.

After performing RFM analysis and clustering, we can now use the customer segments to devise targeted marketing strategies. Here are some possible strategies:

**High-value customers (Cluster 0):** These are customers who make frequent purchases and spend a lot of money. To retain these customers, the retailer can offer loyalty programs, personalized recommendations based on purchase history, and exclusive promotions.

**Low-value customers (Cluster 1):** These are customers who make infrequent purchases and spend less money. The retailer can target these customers with discounts and promotions to encourage them to make more purchases.

**Mid-value customers (Cluster 2**): These are customers who make moderate purchases and spend moderate amounts of money. The retailer can offer upsell and cross-sell opportunities to these customers, as well as personalized recommendations based on their purchase history.

Customer segmentation can be used for targeted marketing strategies and personalized product recommendations to improve customer engagement and retention.

By using targeted marketing strategies for each customer segment, the retailer can improve customer satisfaction, increase sales, and ultimately, improve their bottom line.