Customer Segmentation Report

Overview:

This report provides insights from clustering customer data using K-Means. The segmentation was based on aggregated customer transactions, and PCA was used for visualizing the clusters. The clustering results can guide personalized marketing strategies and better customer targeting.

Clustering Details:

- Clustering Algorithm: K-Means
- Optimal Number of Clusters: 2 (based on Davies-Bouldin Index)
- Features Used: Total purchase value, average transaction value, number of transactions, and unique products purchased.
- PCA was used for reducing dimensions and visualizing the clusters.

Cluster Summary:

- Cluster 0: Customers with lower average transaction values but higher purchase frequencies.
- Cluster 1: High-value customers with fewer but larger transactions.

Visualization:

Recommendations:

- Develop personalized promotions for high-value customers in Cluster 1.

- Offer loyalty programs to customers in Cluster 0 to increase their transaction value.

- Align product recommendations with cluster-specific preferences to improve conversion rates.