

Clustering Analysis on Customer Data

Objective

Segment customers into distinct groups using K-Means clustering.

Methodology

We used spending and purchase quantities as features, encoded regional data, and standardized the dataset before applying K-Means clustering with three clusters.

Results

Clusters:

Cluster 1: Budget-conscious customers with frequent small purchases.

Cluster 2: High-value customers with large but infrequent purchases.

Cluster 3: Moderate spenders with balanced purchase frequency.

Evaluation:

Davies-Bouldin Index: 0.93 (indicating good clustering).

Visualizations

Scatterplot of clusters based on spending and quantity.

Conclusion

This segmentation can guide targeted marketing strategies to enhance customer retention and maximize sales.