

Customer Segmentation Analysis

Clustering Summary:

- **Total Clusters Formed:** 4
- **Davies-Bouldin Index:** 0.9476 (Lower values indicate better-defined clusters)
- **Silhouette Score:** 0.4319 (Values closer to 1 suggest well-separated clusters)

Cluster Breakdown:

- **Cluster 0:** 37 customers
- **Cluster 1:** 51 customers
- **Cluster 2:** 41 customers
- **Cluster 3:** 70 customers

Key Observations:

- Clusters are derived from customer spending and regional data.
- The Elbow Method was used to determine the optimal number of clusters.
- Visualizations confirm distinct cluster separations and sizes.
- Clustering helps identify customer segments for targeted marketing.
- Metrics indicate moderate cluster separation and compactness.

Clustering Process:

- Data was standardized and features like total spending and region were used.
- K-Means clustering was applied, with the Elbow Method guiding the choice of 4 clusters.
- Metrics like the Davies-Bouldin Index and Silhouette Score evaluated cluster quality.