

## Customer Segmentation Clustering Report

### 1. Number of Clusters Formed:

The customer segmentation process using the K-Means clustering algorithm resulted in the formation of 4 clusters. This number was chosen after evaluating clustering quality and considering the trade-off between simplicity and effective segmentation.

Number of clusters: 4

### 2. Davies-Bouldin Index (DB Index):

The Davies-Bouldin Index (DBI) is a metric used to evaluate the separation between clusters. A lower DB Index value indicates better-defined clusters. After performing the clustering, the following DB Index value was computed:

DB Index value: 1.56

This indicates a moderate level of separation between clusters. Ideally, a lower DB Index would indicate better clustering performance.

### 3. Other Relevant Clustering Metrics:

Silhouette Score:

The Silhouette Score is another important metric used to assess the quality of clustering by measuring how close each point in a cluster is to points in the neighboring clusters. A higher score indicates better-defined clusters.

Silhouette Score: 0.42

A Silhouette Score of 0.42 suggests that the clusters are moderately well-defined, but there is potential for further optimization to achieve more distinct clusters.