

Customer Segmentation: Clustering Results

1. Number of Clusters Formed

The optimal number of clusters formed during the analysis was 4, as determined by evaluating the Davies-Bouldin Index across a range of 2 to 10 clusters.

2. Davies-Bouldin Index (DB Index) Value

The Davies-Bouldin Index (DB Index) for the clustering solution with 4 clusters was 0.67. This value indicates that the clusters are well-separated and compact, making the segmentation meaningful for further analysis.

3. Other Relevant Clustering Metrics

- Silhouette Score: The silhouette score for the clustering solution was 0.48, which suggests moderate separation between the clusters.
 - Within-Cluster Sum of Squares (WCSS): The WCSS value for the clustering solution was 450.6, demonstrating the compactness of the clusters.
-

4. Key Observations

- Cluster 1: High-spending, frequent buyers primarily from urban regions.
- Cluster 2: Low-spending customers with infrequent transactions.
- Cluster 3: Moderate spenders with a balanced purchase frequency.
- Cluster 4: Customers with inconsistent spending patterns but high average transaction values.