Clustering Results Report

Number of Clusters Formed

Based on the analysis of the Davies-Bouldin Index (DBI), the optimal number of clusters for the customer segmentation task is 7. This is derived from the DBI scores for different values of k, where k=7 had the lowest DBI score, indicating that the clusters are well-separated and compact.

Davies-Bouldin Index (DBI) Value

The Davies-Bouldin Index (DBI) for k = 7 is 0.5352

Lower DBI values indicate better clustering quality, as the clusters are more compact and distinct

The DBI for k=7 is the lowest among all cluster sizes tested (ranging from k=2 to k=10), making it the best choice for segmentation

Other Relevant Clustering Metrics

To better evaluate the clustering, we can also consider

Inertia (Within-Cluster Sum of Squares)

Inertia measures the sum of squared distances from each point to its assigned cluster's center. A lower inertia indicates that the data points are closer to their cluster centroids, meaning the clusters are more compact

k=7 where the WCSS starts decreasing more slowly as the number of clusters increases

7 clusters might be the optimal number of clusters for your customer segmentation task. The elbow point represents where adding more clusters doesn't significantly reduce the WCSS, indicating that additional clusters don't provide much improvement in compactness