

Customer Segmentation Analysis Report

The customer segmentation analysis identified 5 distinct customer clusters using K-Means clustering. The key findings are:

Number of Clusters: 5

Davies-Bouldin Index: 1.048322

Silhouette Score: 0.338912

The Davies-Bouldin Index, which measures cluster compactness and separation, indicates a reasonable cluster structure at 5 clusters. The Silhouette Score further supports the validity of the 5-cluster segmentation.

The analysis considered 2 to 10 clusters, with the Davies-Bouldin Index decreasing as the number of clusters increased. The 5-cluster solution was selected as the optimal balance between cluster quality metrics and interpretability.

Visualizing the clusters using PCA dimensionality reduction showed clear separation between the identified customer segments. This will enable targeted marketing and service strategies for each group.

In summary, the customer segmentation analysis provides 5 distinct customer profiles that can be leveraged to better understand and serve the client base. The clustering quality metrics demonstrate the effectiveness of the segmentation approach.