Customer Segmentation Clustering Report

1. Number of Clusters Formed:

The optimal number of clusters identified by the algorithm is 5. This suggests there are 5 distinct customer segments within the dataset.

2. DB Index Value:

DB Index value: 0.4479802486032221

3. Other Relevant Clustering Metrics:

The Silhouette Score and Calinski-Harabasz Score can be calculated also.

Interpretation of Visualization:

The visualization likely shows a scatter plot where data points are colored based on their assigned cluster. It might be a 2D representation of features like 'Annual Income (k$)' and 'Spending Score (1-100)', or other features used for clustering.

Clusters: There are 5 distinct clusters represented by different colors.
Cluster Characteristics: Observe the patterns and groupings of data points within each cluster. This can help understand the characteristics of each customer segment based on the features used.
Cluster Separation: Visually assess how well-separated the clusters are. Ideally, clusters should be distinct and not overlap too much.

Overall:

The clustering analysis has identified 5 distinct customer segments. Further analysis of the characteristics within each cluster can provide valuable insights for businesses to tailor marketing strategies and improve customer experiences. Remember to include the DB Index value and other metrics in your final report for a more comprehensive evaluation.