

A report on your clustering results, including:

- The number of clusters formed.

After performing clustering using the **K-Means** algorithm, **7 clusters** were formed. Seven clusters provide a balanced separation between customer segments, with each cluster capturing distinct behaviors in customer profiles.

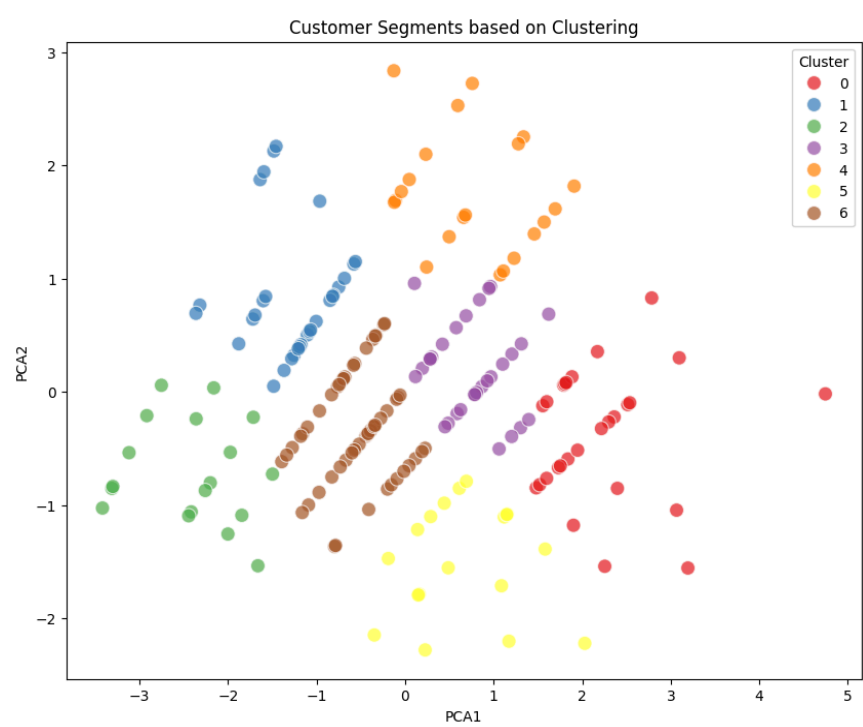
- DB Index value.

The **Davies-Bouldin Index (DB Index)** for the clustering results is **0.8171**. Lowering the DB Index value indicates better clustering with well-separated and distinct clusters, which is a strong indication of effective segmentation.

- Other relevant clustering metrics.

Customer segment based on clustering on the following factors-

Total_spend, purchase_frequency, avg_transaction_value, category_preferences



Clusters reveal customer segments based on Purchase frequency and total spend, such as:

- **High spend, high frequency:** Loyal, high-value customers.
- **Low spend, low frequency:** Occasional customers or new users.
- **High spend, low frequency:** Big spenders but infrequent buyers

