Clustering Results Report

1. Number of Clusters Formed:

- The optimal number of clusters determined was k = 7, based on the Davies-Bouldin (DB) Index.

2. DB Index Value:

- The DB Index for k = 7, was **1.1**, indicating compact and well-separated clusters compared to other k-values.

3. Other Relevant Clustering Metrics:

1. **Silhouette Score**:

   - Measures how well each data point lies within its cluster compared to others.

   - Achieved **0.26**, indicating reasonably well-separated and compact clusters.

2. **Cluster Statistics Summary**:

   - **Cluster 0**: Largest in size, average spend ~714. Dominant in Region 0.

   - **Cluster 5**: Highest average spend ~1097. Customers likely exhibit high-value transactions.

   - **Cluster 6**: Smallest average spend ~355, characterized by low transaction count and low total spend.

Insights:

- Higher average spend clusters could represent premium customer segments for marketing focus.

- Lower spend clusters are potential targets for upselling or cross-selling.