Exploratory Data Analysis (EDA) - Insights Report

Customer Segmentation (Clustering) Report

1. Number of Clusters Formed:

   - The optimal number of clusters formed is 5, determined using the Davies-Bouldin Index.

2. Davies-Bouldin Index Value:

   - The DB Index for the 5 clusters is 0.734, indicating good cluster separation and compactness.

3. Other Relevant Clustering Metrics:

   - Cluster Sizes:

      - Cluster 0: Moderate spenders and transaction frequency.

      - Cluster 1: High spenders with frequent transactions.

      - Cluster 2: Low spenders and infrequent transactions.

      - Cluster 3: Mid-range spenders with occasional transactions.

      - Cluster 4: Diverse behavior in spending and transactions.

   - Cluster Centers:

      - Each cluster is centered around unique profiles based on standardized Total Spending and Transaction Frequency.

4. Insights from Clustering:

   - The segmentation provides actionable insights to personalize marketing and services.

   - High-value customers (Cluster 1) can be targeted for premium offerings.

   - Low-value customers (Cluster 2) may benefit from promotions or engagement strategies.