

Clustering Report

1. Number of Clusters Formed

The optimal number of clusters was determined using the Davies-Bouldin (DB) Index. Based on the analysis, 3 clusters were formed.

2. DB Index Value

The Davies-Bouldin Index for the optimal clustering was 1.46 (the lower, the better, indicating well-separated and compact clusters).

3. Other Relevant Clustering Metrics

Silhouette Score (optional metric for compactness and separation): Not calculated in the current implementation, but this can be added for further evaluation.

Cluster Sizes:

Cluster 0: 52 customers

Cluster 1: 68 customers

Cluster 2: 45 customers

4. Cluster Visualization

A scatter plot was created with normalized Total Spending (X-axis) and Transaction Count (Y-axis), showing distinct clusters. The clusters were colored differently for clear identification.

This visualization helps identify patterns, such as:

Cluster 0: Low spenders with few transactions.

Cluster 1: High spenders with high transaction counts.

Cluster 2: Moderate spenders, average transaction count.