

Clustering Results Report

1. Number of Clusters Formed:

- The scatter plot indicates **8 clusters** (labeled as 0 to 7) were formed based on the data, represented by different colors.

2. Davies-Bouldin (DB) Index:

- **Value:** 1.0296
 - The DB Index measures the compactness and separation of clusters.
 - Lower values indicate better clustering quality.
 - A value of 1.0296 suggests that the clusters are fairly well-separated and compact, reflecting a reasonably good clustering outcome.

3. Silhouette Score:

- **Value:** 0.2815
 - The Silhouette Score measures how similar a data point is to its cluster compared to others, ranging from -1 to 1.
 - A score of 0.2815 indicates that the clusters are moderately well-separated. However, there may be some overlapping or unclear boundaries between clusters.

4. Observations

- The PCA-reduced visualization of clusters aligns well with the reported metrics, showing visually distinct yet slightly overlapping clusters.
- The clustering seems appropriate for this dataset but may benefit from fine-tuning or validation against other methods.