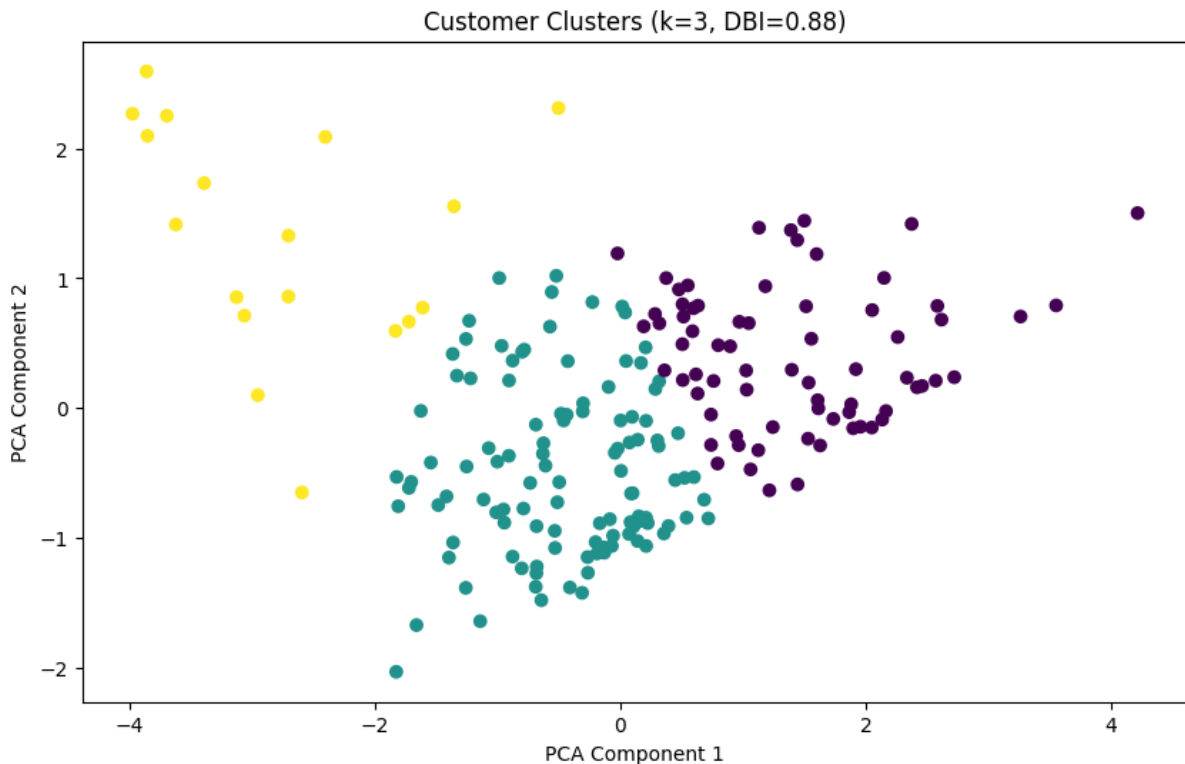# Clustering Results Report

1. **Number of Clusters Formed:**

   The optimal number of clusters determined by minimizing the Davies-Bouldin Index (DBI) is **3.**

Customer Clusters (k=3, DBI=0.88)

2. **Davies-Bouldin Index (DBI):**

   The final DBI value for the optimal clustering is **0.8802** (rounded to two decimal places in the visualization title). A lower DBI indicates better separation between clusters, with values closer to 0 representing superior performance.

3. **Cluster Statistics:**
   The mean values of RFM (Recency, Frequency, Monetary) for each cluster are as follows:

   Cluster Statistics:

	Recency	Frequency	Monetary
Cluster			
0	55.070423	7.253521	5333.158592
1	59.981818	4.090909	2619.645182
2	244.166667	1.944444	1287.796111

Davies-Bouldin Index: 0.880153375840541

- o **Recency**: Lower values indicate recent customer activity.
- o **Frequency**: Higher values denote frequent purchasers.
- o **Monetary**: Higher values reflect greater customer spending.

4. Actionable segments:

- o **Cluster 0**: Target for loyalty programs or premium offers.
- o **Cluster 1**: Reactivate with discounts or personalized campaigns.
- o **Cluster 2**: Encourage repeat purchases with moderate incentives.