Clustering Results Report

1. Number of Clusters Formed:
    - The dataset was divided into 5 clusters based on customer transaction and profile data. This was determined using the K-Means clustering algorithm.
2. DB Index Value:
    - The Davies-Bouldin Index for the clustering results is 1.0913247914357176. This value measures the compactness and separation of clusters. A lower value indicates better clustering, where clusters are more distinct and well-separated.
3. Other Relevant Clustering Metrics:
    - Inertia: This value shows how tight the clusters are. A lower inertia suggests that the clusters are compact and well-formed.

Evaluation Criteria

1. Clustering Logic and Metrics:
    - Clustering Logic: The method used to divide customers into groups based on their transaction behavior and profile data. We used K-Means to find natural groupings in the data.
    - Metrics: These help evaluate the quality of the clustering. We used the DB Index (lower is better), Inertia (lower means tighter clusters).
2. Visual Representation of Clusters:
    - The clusters were visualized using PCA and plotted in 2D to clearly show how distinct and well-separated the clusters are. This makes it easier to understand the distribution of customers across different groups.