Clustering Results Report

Overview

Clustering was performed on the eCommerce Transactions dataset using both customer profile information (from Customers.csv) and transaction data (from Transactions.csv). The goal was to group customers into distinct segments based on their purchasing behavior, demographic information, and transaction history. This clustering analysis will help the business target each customer segment with tailored marketing strategies.

1. Number of Clusters Formed

After applying the clustering algorithm, a total of 3 clusters were formed. Each cluster represents a unique group of customers with similar purchasing patterns or demographic attributes.

2. DB Index Value

The Davies-Bouldin (DB) Index, which evaluates the quality of clustering, was calculated as . A lower DB Index value indicates well-separated and compact clusters. The calculated DB Index suggests that the clustering solution is of quality.

3. Other Clustering Metrics

Silhouette Score: The Silhouette Score was [Silhouette Score Value], indicating that the clusters are Higher values close to 1 suggest better-defined clusters.

Conclusion

The clustering analysis has successfully segmented customers into [X] distinct groups, each with unique characteristics. The DB Index and other metrics suggest that the clusters are [well-separated/moderately separated/etc.], making them actionable for targeted marketing strategies. By using this segmentation, the business can create personalized experiences for each customer group, improving customer satisfaction and increasing sales.