Customer Segmentation Report

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Approach:

- Preprocessed data using standard scaling.

- Applied K-Means clustering with 4 clusters based on customer transaction and profile data.

- Optimized clusters using the Davies-Bouldin Index and visualized with scatter plots.

Clusters Summary:

- Cluster 0: High-value frequent customers.

- Cluster 1: Occasional customers with medium transactions.

- Cluster 2: New customers with low transactions.

- Cluster 3: Low-value frequent buyers.

Evaluation Metrics:

- Davies-Bouldin Index (DBI): 0.78 (indicating good clustering performance).

Business Insights:

1. Prioritize Cluster 0 for premium loyalty programs.

2. Offer promotions to engage Cluster 2.

3. Monitor Cluster 1 for growth potential.