

# Report

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## Customer Segmentation Report

This report provides an analysis of customer segmentation based on transactional and profile data. The clustering was performed using the K-Means algorithm, and evaluation metrics such as the Davies-Bouldin Index (DB Index) and Silhouette Score were used to assess the quality of the clusters.

**Optimal Number of Clusters:** 4 (determined using a combination of the Elbow Method, DB Index, and Silhouette Score).

### DB Index value.

Davies-Bouldin Index: 1.0127

### Silhouette Score.

Silhouette Score: 0.3080

## Cluster Characteristics

Cluster Summary (mean features per cluster):

cluster	total_transactions	unique_products	recency	tenure
0	1.311940	1.286818	-0.296484	0.169723
1	-0.460139	-0.454801	0.038463	0.939217
2	-1.554964	-1.555109	2.796759	-0.522766
3	-0.248847	-0.235803	-0.323588	-0.823170