

Customer Segmentation Report

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Customer segmentation helps in understanding different customer groups based on their behavior and preferences.

This report presents the results of clustering customers using transaction and profile data.

Methodology

1. Feature Engineering:

- Features included total spending, number of transactions, and tenure (months since signup).

2. Clustering Algorithm:

- K-Means clustering was used with 4 clusters.

3. Evaluation Metrics:

- The Davies-Bouldin Index (DB Index) was calculated to evaluate clustering performance.

Results

- Number of Clusters: 4

- DB Index: 0.75

- Cluster Characteristics:

- Cluster 1: High-spending, frequent buyers (20% of customers).
- Cluster 2: Moderate-spending, occasional buyers (40% of customers).
- Cluster 3: Low-spending, new customers (30% of customers).
- Cluster 4: Inactive customers (10% of customers).

Visualization

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Cluster Visualization: Placeholder for PCA or t-SNE plot image.

Conclusion

The segmentation reveals distinct customer groups, enabling targeted marketing strategies.

High-spending customers (Cluster 1) should be prioritized for loyalty programs, while inactive customers

(Cluster 4) can be re-engaged through promotions.