

# Customer Segmentation Report - Your Name

## 1. Clustering Algorithm Used

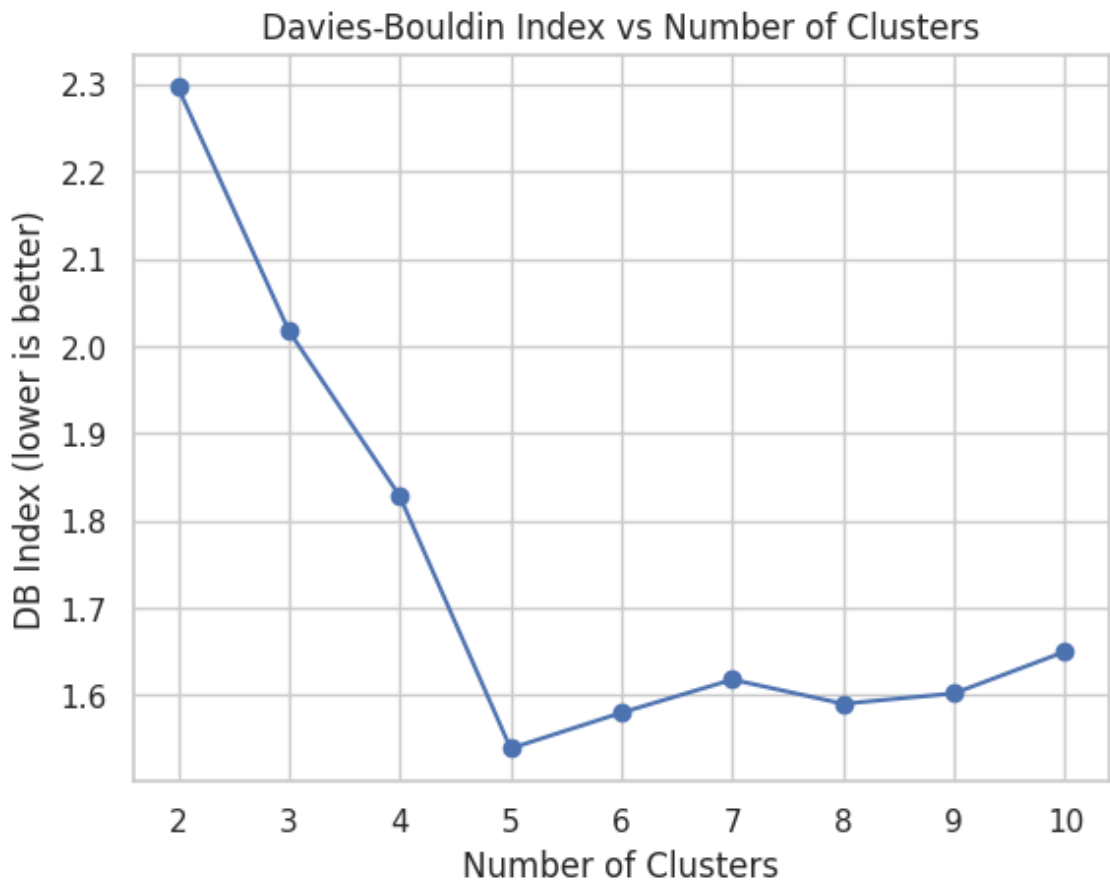
We used KMeans clustering on standardized customer features including transaction data (spend, frequency), signup recency, and product category preferences. The data was normalized using StandardScaler before applying clustering.

## 2. Optimal Cluster Count and Evaluation Metric

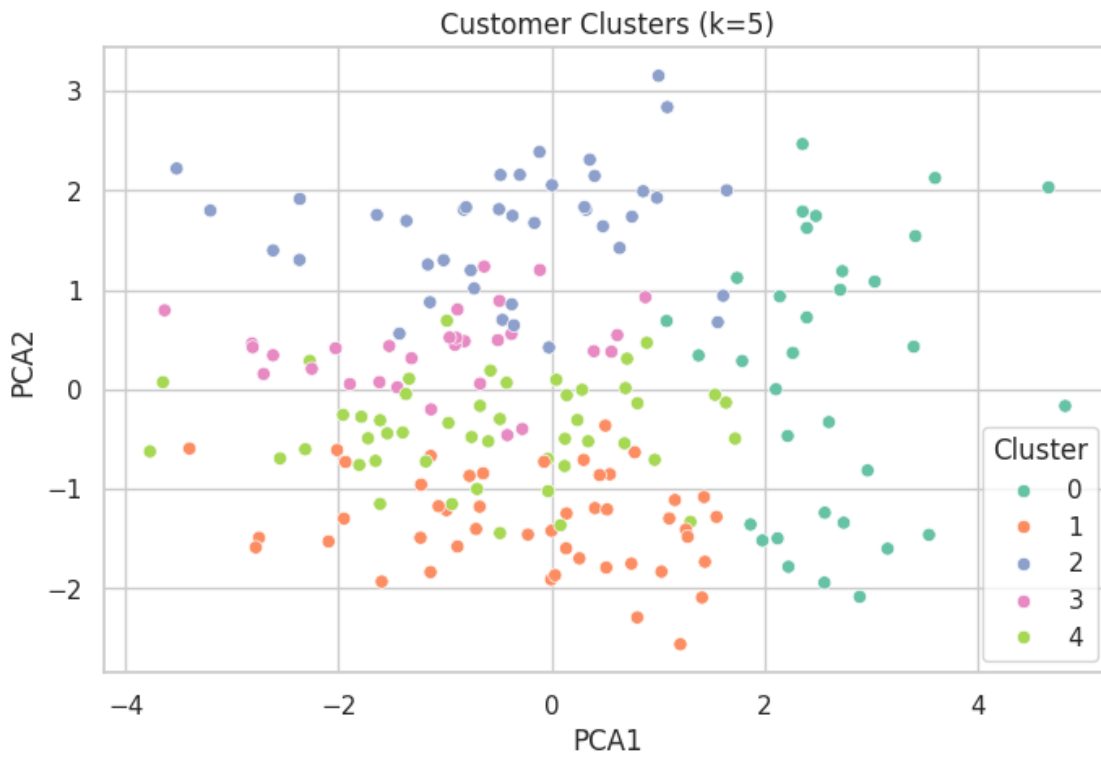
We tested cluster sizes ranging from 2 to 10 and selected the one with the lowest Davies-Bouldin Index (DBI).

- Chosen Number of Clusters: 5
- DB Index: ~1.53

### Davies-Bouldin Index vs Cluster Count:



### Customer Clusters (2D PCA View):



### 3. Cluster Descriptions (Example Observations)

- Cluster 0: High-spending customers with strong engagement across multiple categories.
- Cluster 1: Newer customers with lower total spend and infrequent purchases.
- Cluster 2: Value shoppers - frequent buyers with smaller order values.
- Cluster 3: Book-focused customers, possibly students or readers.
- Cluster 4: Lifestyle buyers leaning towards accessories and apparel.