

Clustering Results

Number of clusters formed: 4

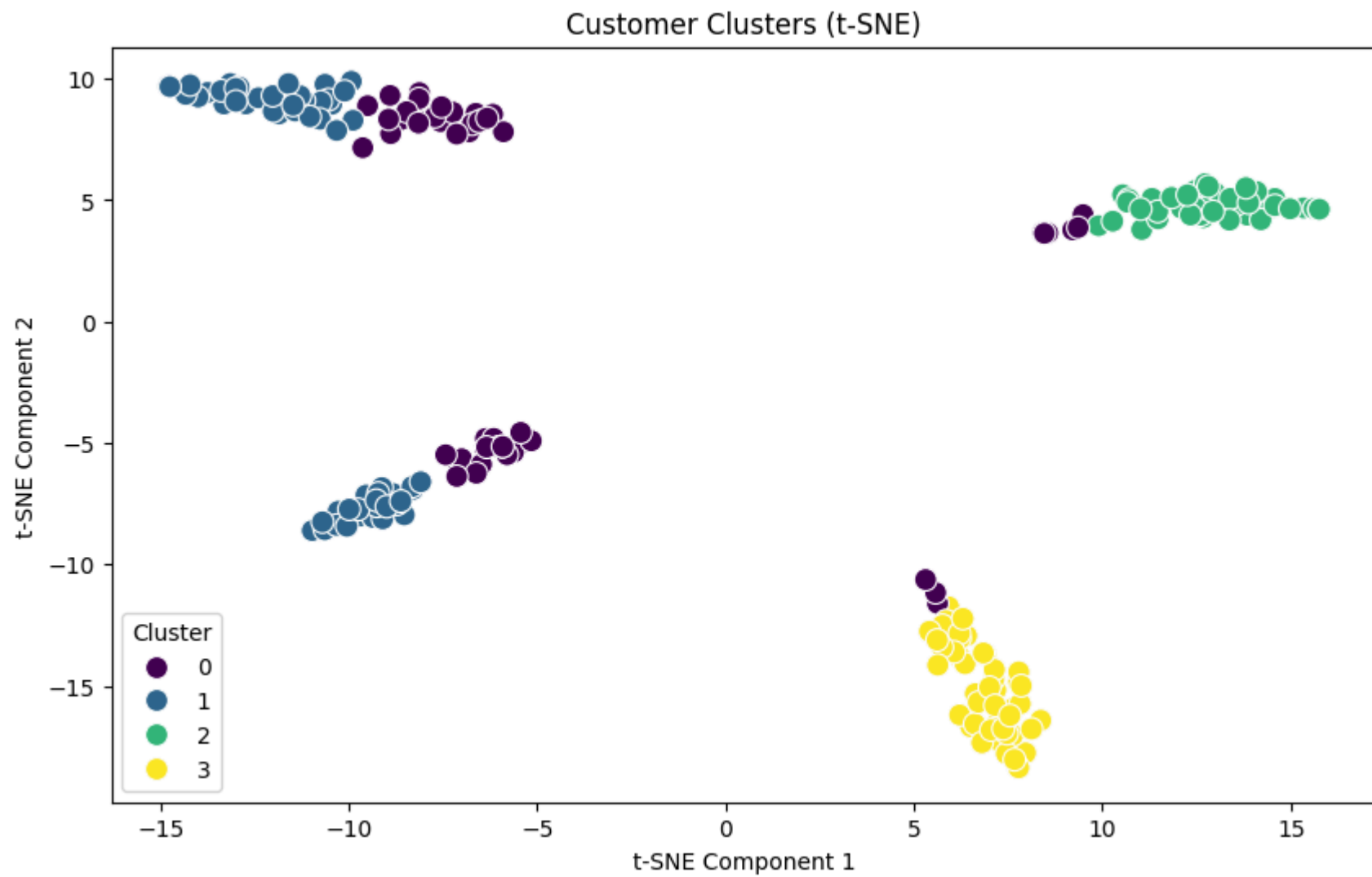
Davies-Bouldin Index (DB Index): 1.1530

Silhouette Score: 0.3932

Calinski-Harabasz Index: 80.9686

1. t-SNE for 2D Visualization

t-SNE is used to visualize high-dimensional data in 2D space. Each point represents a customer, and colors represent clusters.



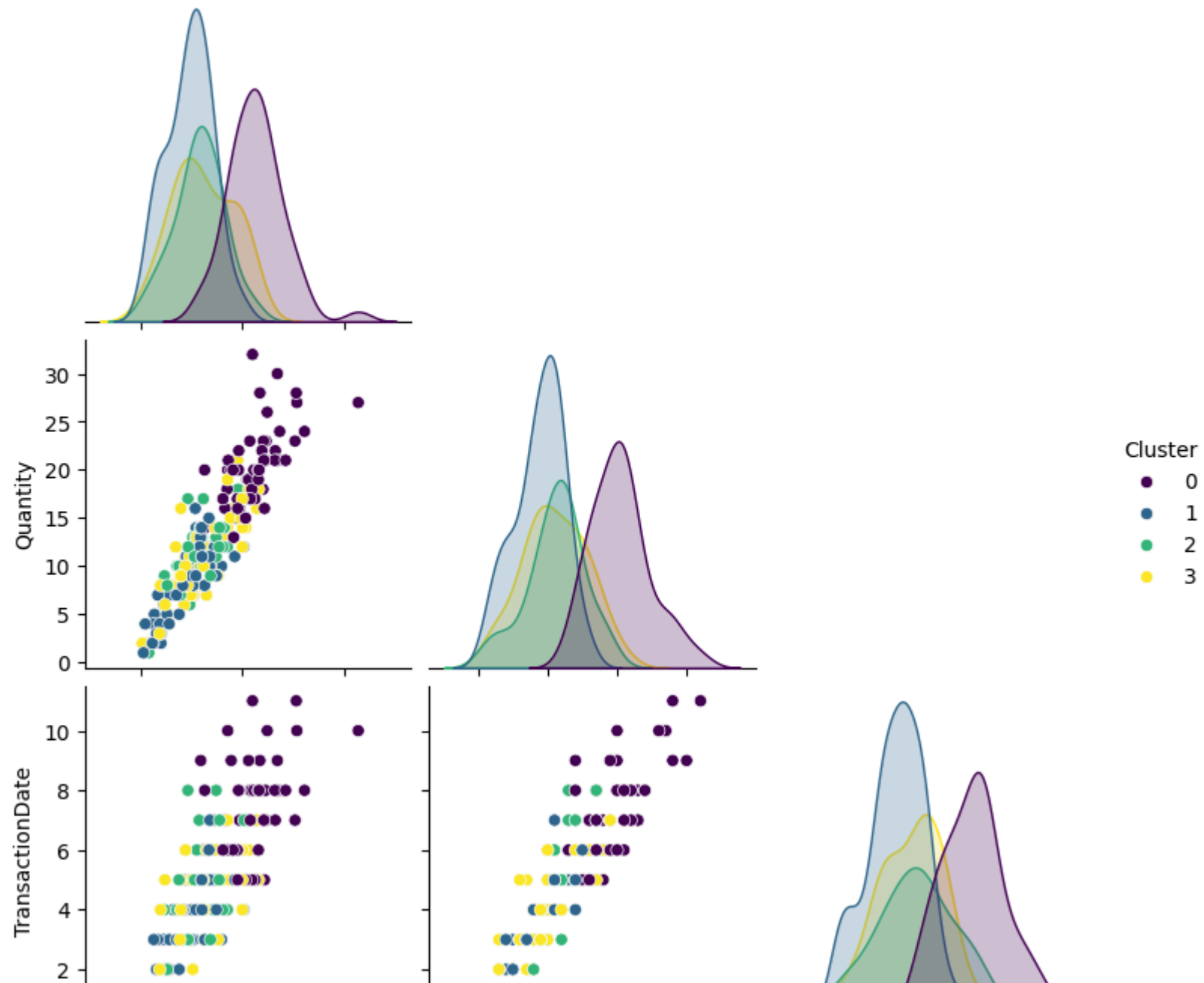
2. 3D Scatter Plot using t-SNE

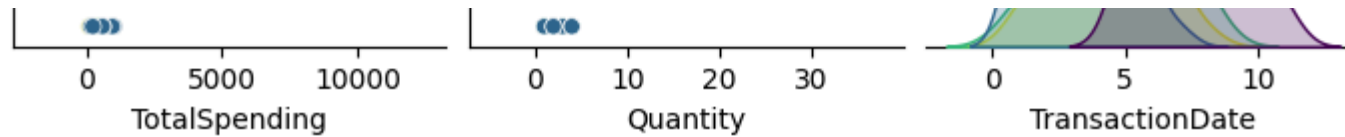
This interactive 3D plot provides a more detailed view of the clusters.

3. Pair Plots for Cluster Profiling

Pair plots show relationships between features and how clusters are distributed across these features.

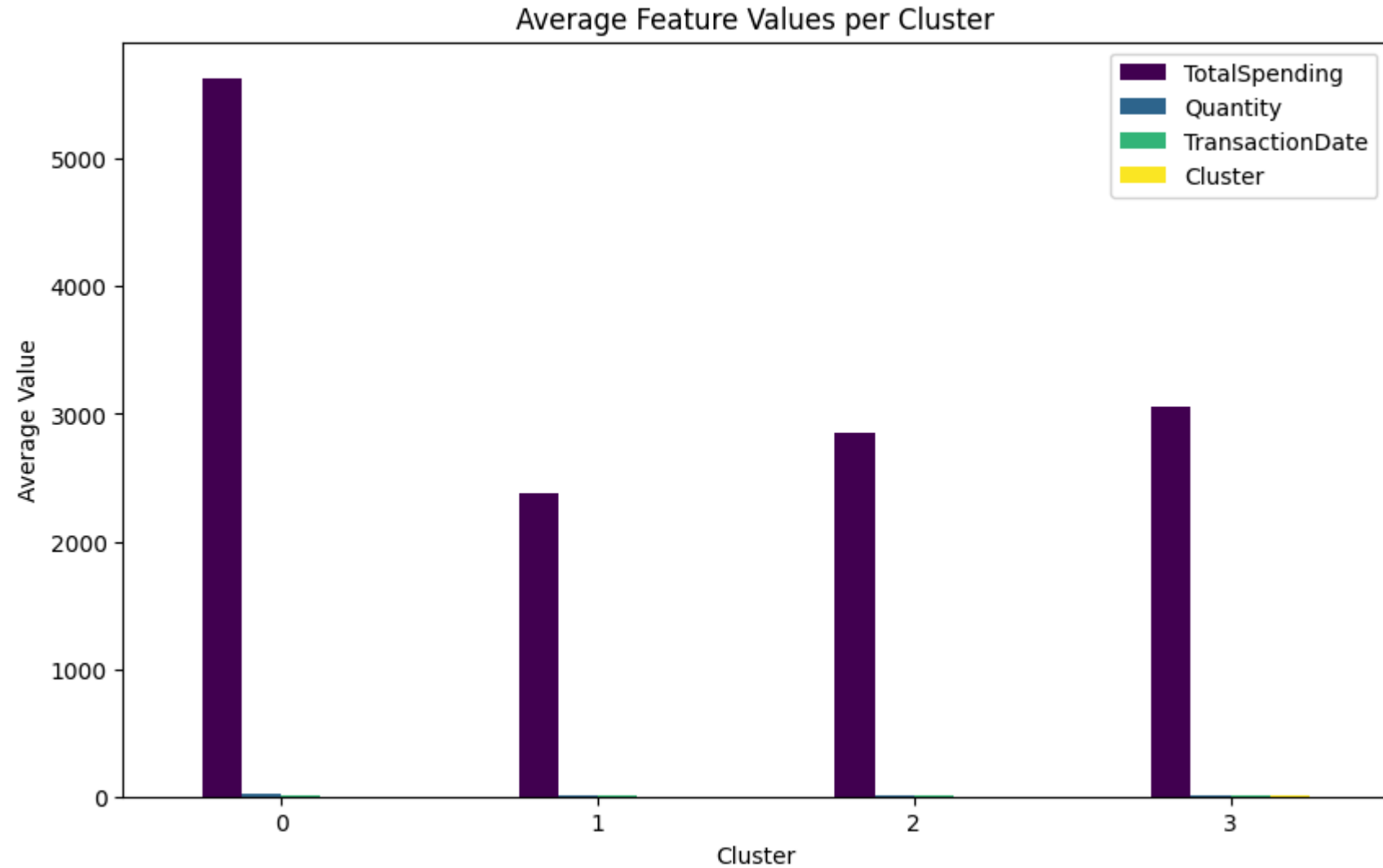
Pair Plots for Cluster Profiling





4. Bar Plots for Cluster Characteristics

Bar plots show the average values of key features (e.g., total spending) for each cluster.



5. Heatmap for Categorical Variables (Region)

The heatmap shows the distribution of customers across regions for each cluster.

