

Customer Segmentation and Clustering Report

1. Introduction

This report presents the results of customer segmentation using clustering techniques based on transaction

2. Clustering Methodology

- K-Means clustering was used for segmentation.
- The number of clusters was determined using the Elbow Method, and 4 clusters were selected.
- Features included total spending, transaction count, and region (one-hot encoded).

3. Clustering Metrics

- Davies-Bouldin Index: The computed DB Index value is used to evaluate clustering compactness and separation.
- Elbow Method: The optimal number of clusters was determined by analyzing the inertia values.

4. Visualization

- A pairplot visualizing customer clusters is included for better understanding.

5. Conclusion

The clustering results help identify customer groups with similar purchasing behaviors, which can be leveraged for