

Customer Segmentation Report

Introduction

Customer segmentation involves grouping customers based on shared characteristics. This process enables targeted marketing strategies, enhancing personalization and improving business outcomes.

Methodology

1. **Clustering Algorithm:**

- Applied K-Means clustering to the normalized dataset.

2. **Evaluation Metric:**

- Determined the optimal number of clusters using the Davies-Bouldin Index.

3. **Visualization:**

- Used PCA to visualize clusters in two dimensions for interpretability.

Key Findings

1. **Optimal Clusters:**

- 10 clusters were identified, with a Davies-Bouldin Index of 2.55.

2. **Cluster Characteristics:**

- Each cluster represents unique traits, such as spending levels, product preferences, and regions.

3. **Applications:**

- Insights guide tailored marketing strategies, personalized offers, and customer engagement.