

Retail Customer Intelligence Report

Executive Summary

Dataset Size: 50000 customers

Target Variable: Average Monthly Spend

Mean Spend: 335.29

Standard Deviation: 199.59

Min Spend: 8.07

Max Spend: 3026.34

Cluster Quality Score: 0.089

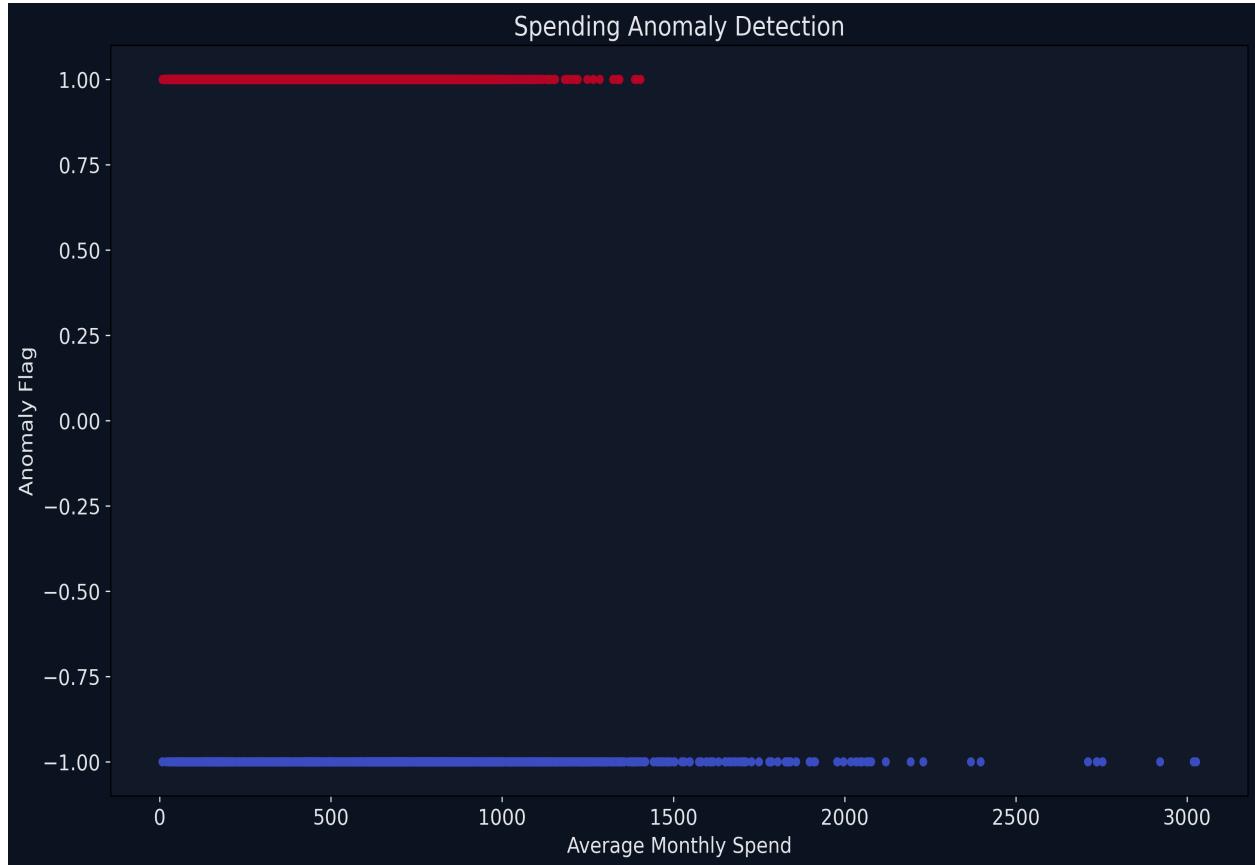
Detected Outliers: 1500

PCA Explained Variance: 68.35%

Execution Time: 82.15 seconds

This report provides structural intelligence, anomaly detection, segmentation modeling, feature importance analysis, and customer similarity mapping.

Anomaly



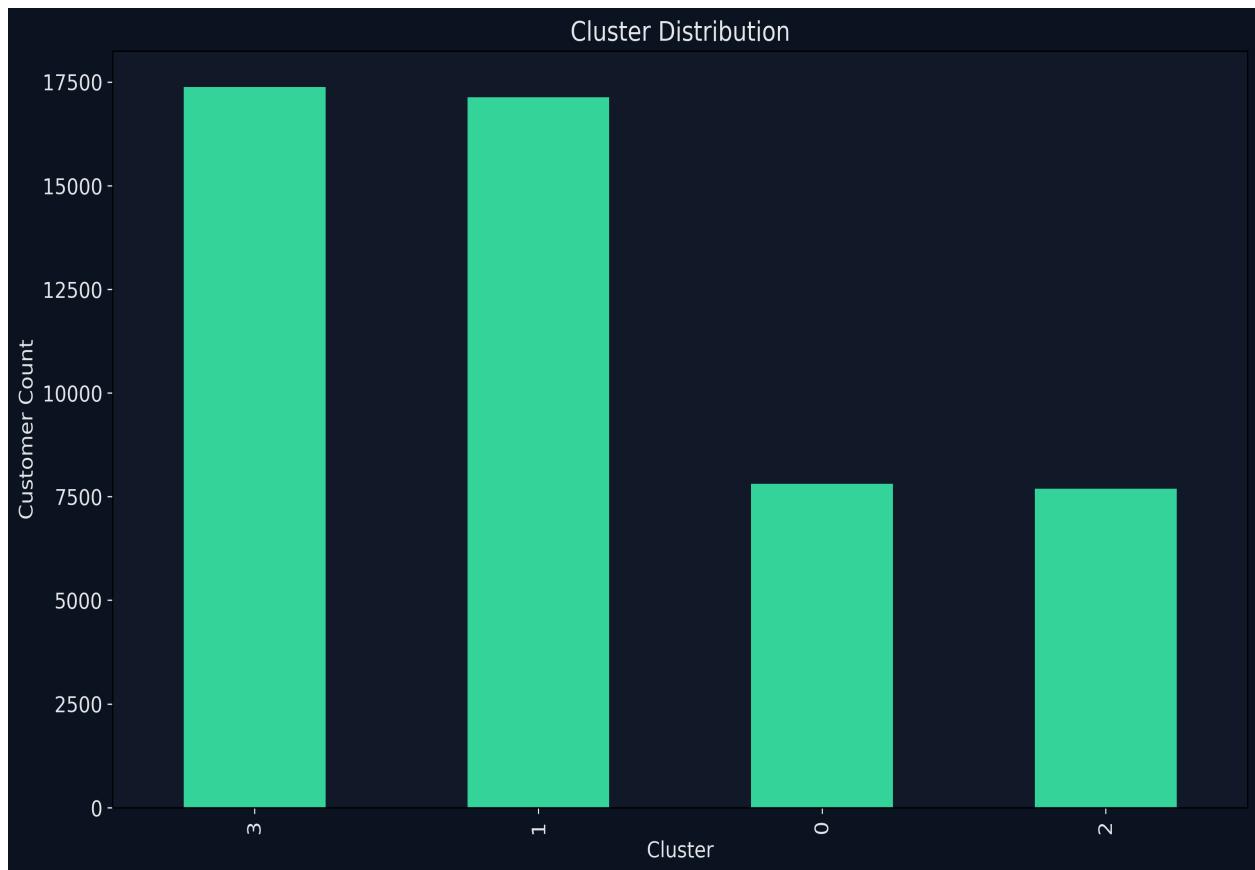
Anomaly detection identifies unusual spending behaviour relative to the population.

Cluster



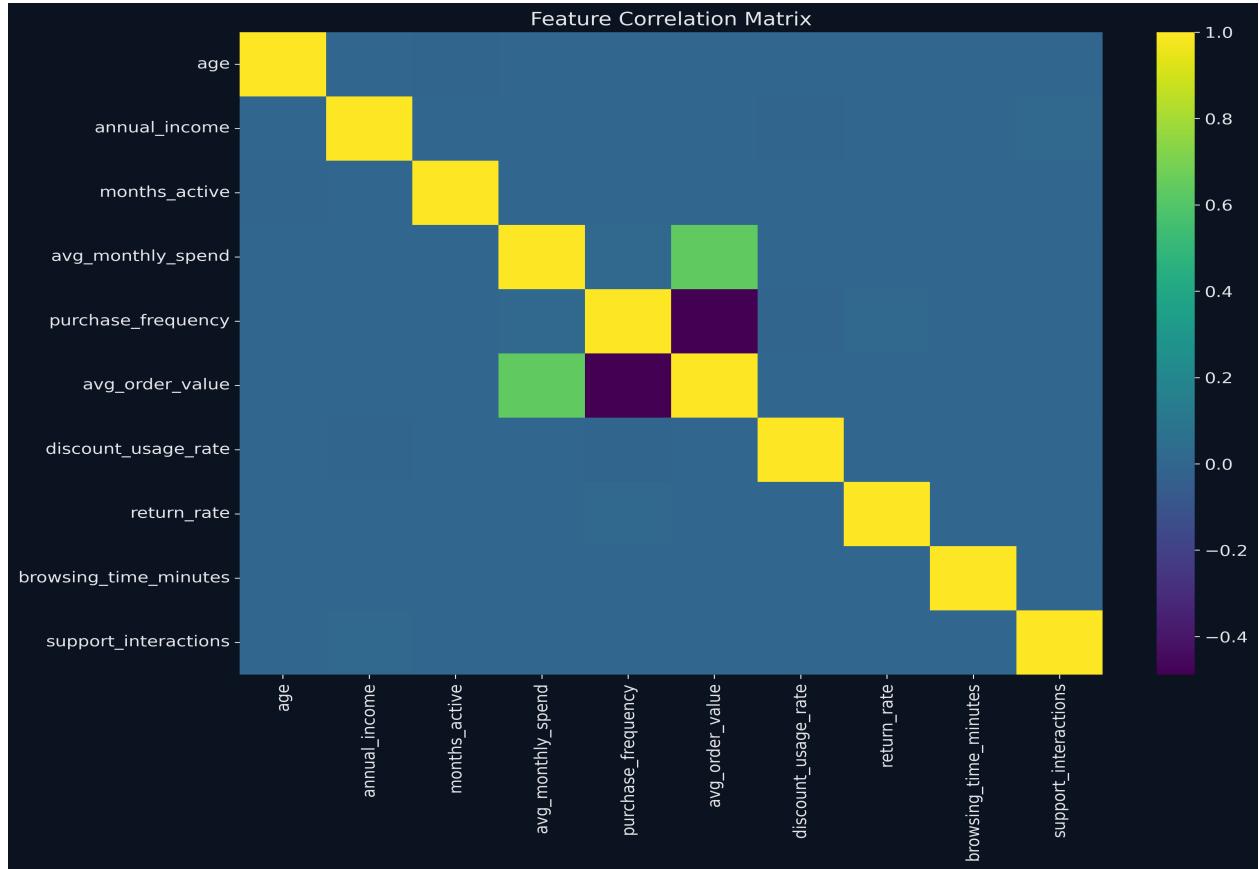
Clustering separates customers into behaviorally distinct groups.

Cluster Distribution



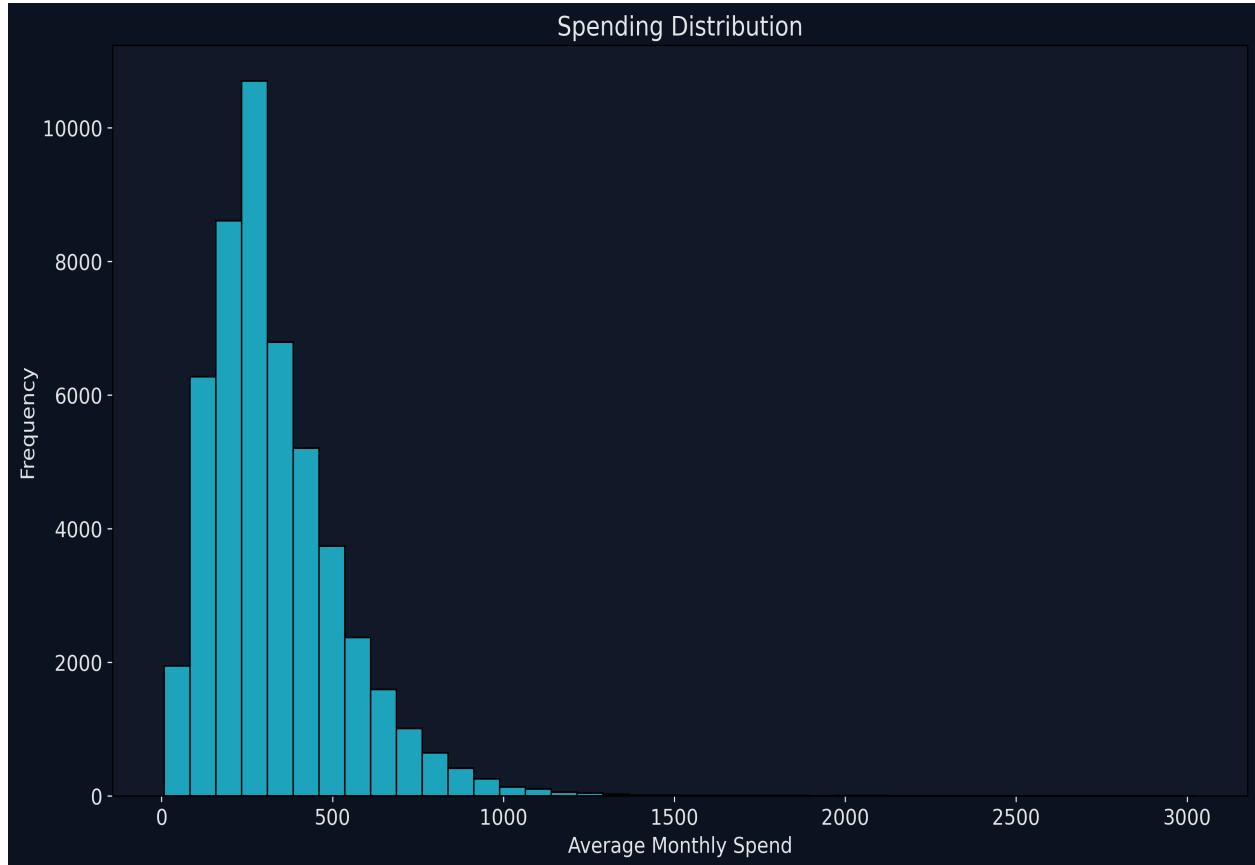
This shows how customers are distributed across segments.

Correlation



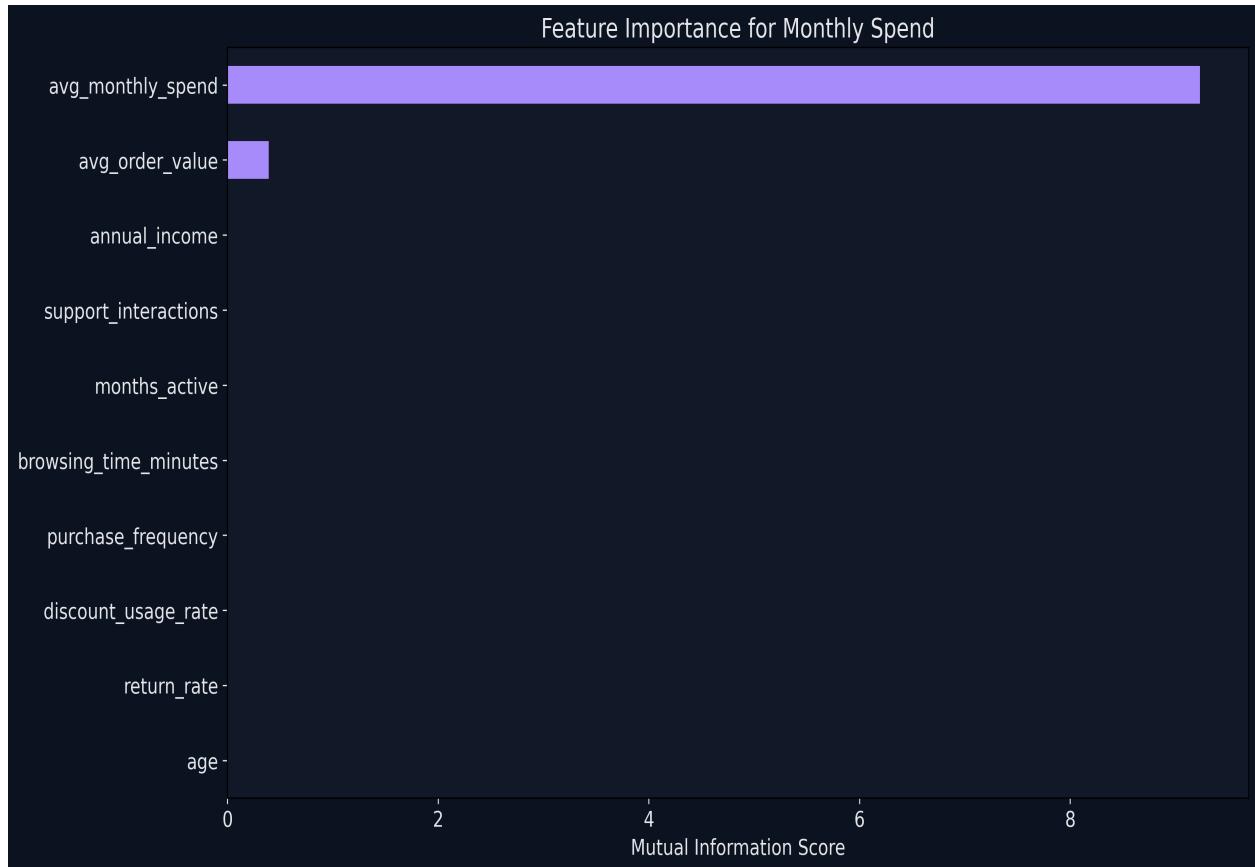
Correlation matrix reveals interdependencies among retail behavioural features.

Distribution



Distribution of monthly spending shows spread and skewness of revenue patterns.

Feature Importance



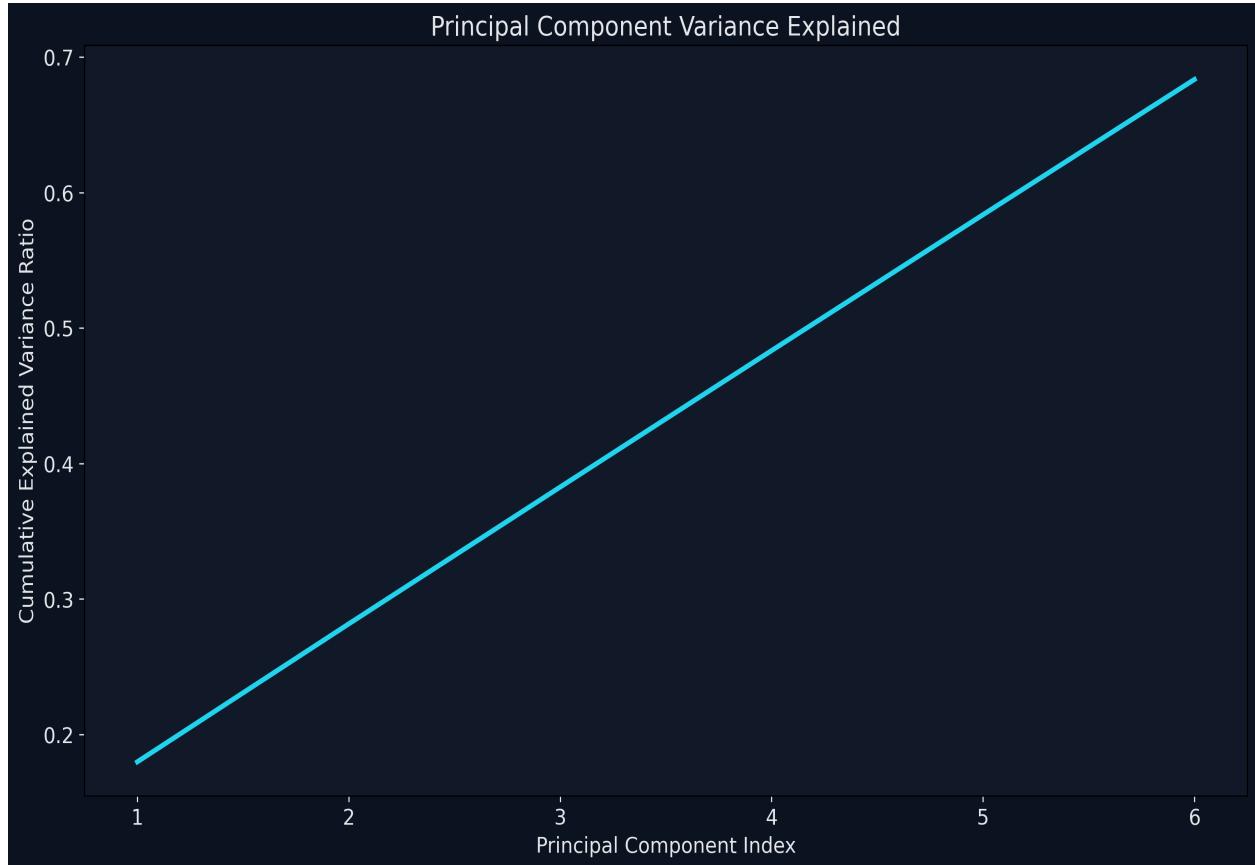
Mutual information ranking identifies strongest drivers of monthly spend.

Pca Projection



This projection visualizes customer distribution in reduced dimensional space.

Pca Variance



This chart shows how much structural variance is captured by successive principal components.