

Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to guide strategic business decisions



Dataset Overview

3,900

Total Purchases

Transactions analyzed

18

Data Points

Features per transaction

4

Categories

Product segments

50

Locations

Geographic coverage

Comprehensive dataset covering demographics, purchase details, and shopping behavior patterns



Data Preparation Process

01

Data Loading & Exploration

Imported dataset, checked structure and summary statistics

02

Missing Data Handling

Imputed 37 missing review ratings using category medians

03

Feature Engineering

Created age groups and purchase frequency metrics

04

Database Integration

Loaded cleaned data into PostgreSQL for analysis



Revenue Insights

Gender Distribution

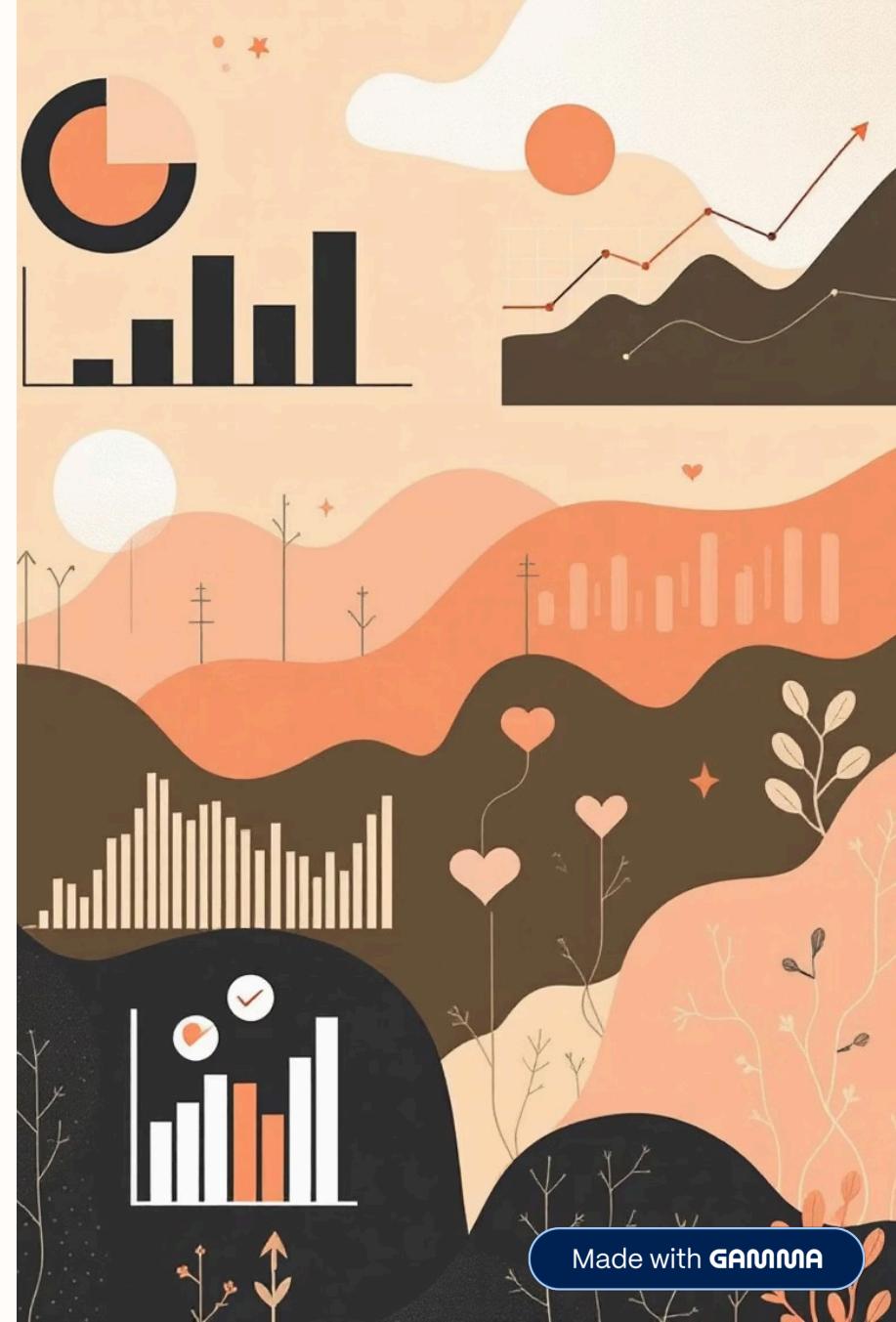
Male customers: \$157,890

Female customers: \$75,191

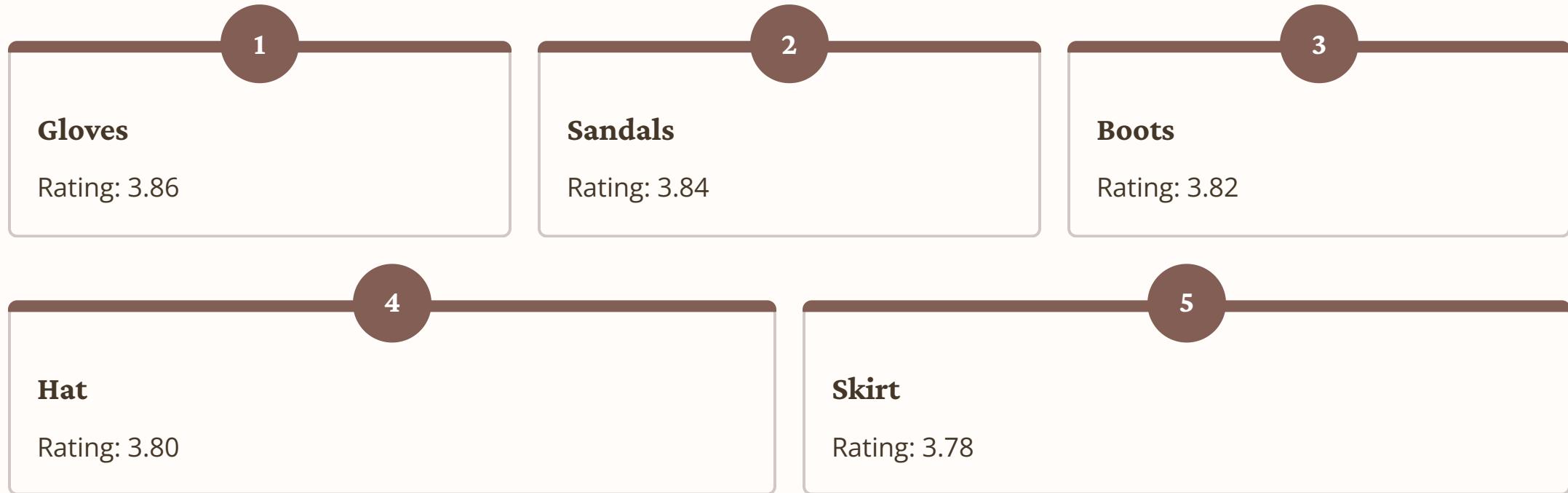
Male shoppers generate 68% of total revenue

Age Group Performance

- Young Adult: \$62,143
- Middle-aged: \$59,197
- Adult: \$55,978
- Senior: \$55,763

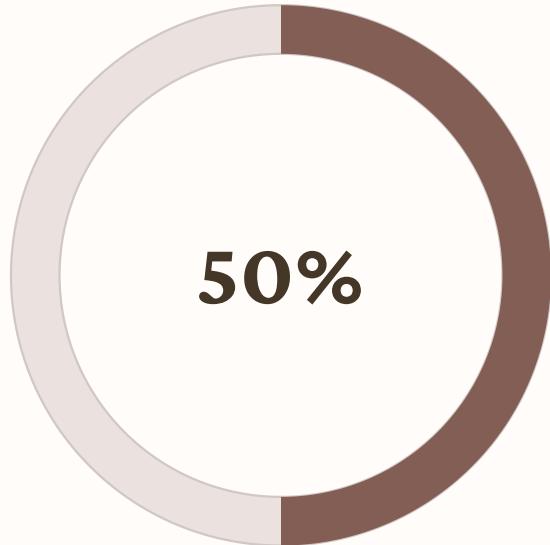


Product Performance



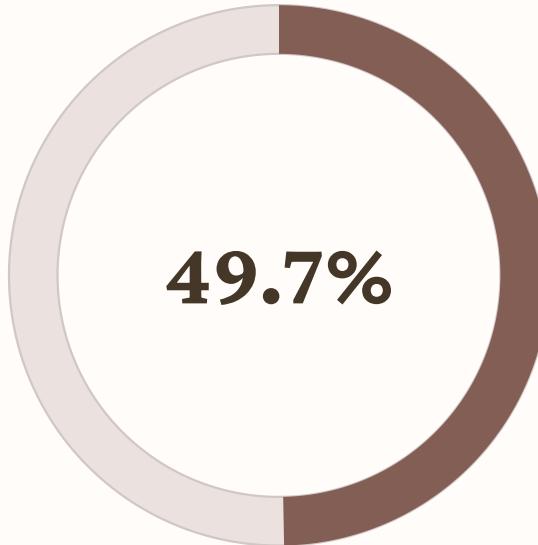
Top-rated products show consistent quality across categories

Discount Strategy Analysis



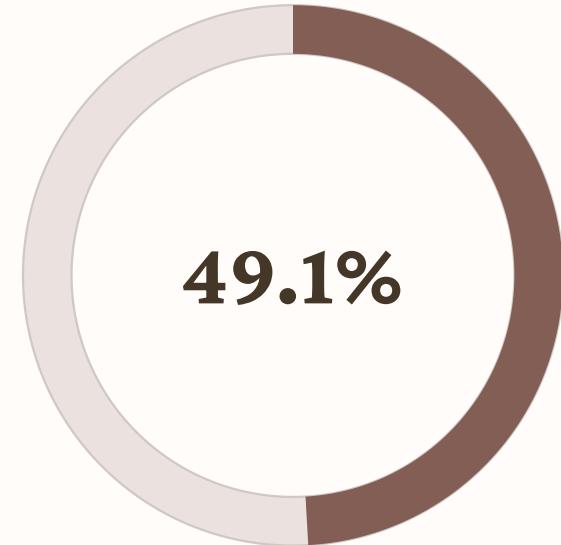
Hat

Highest discount rate



Sneakers

Discount dependency

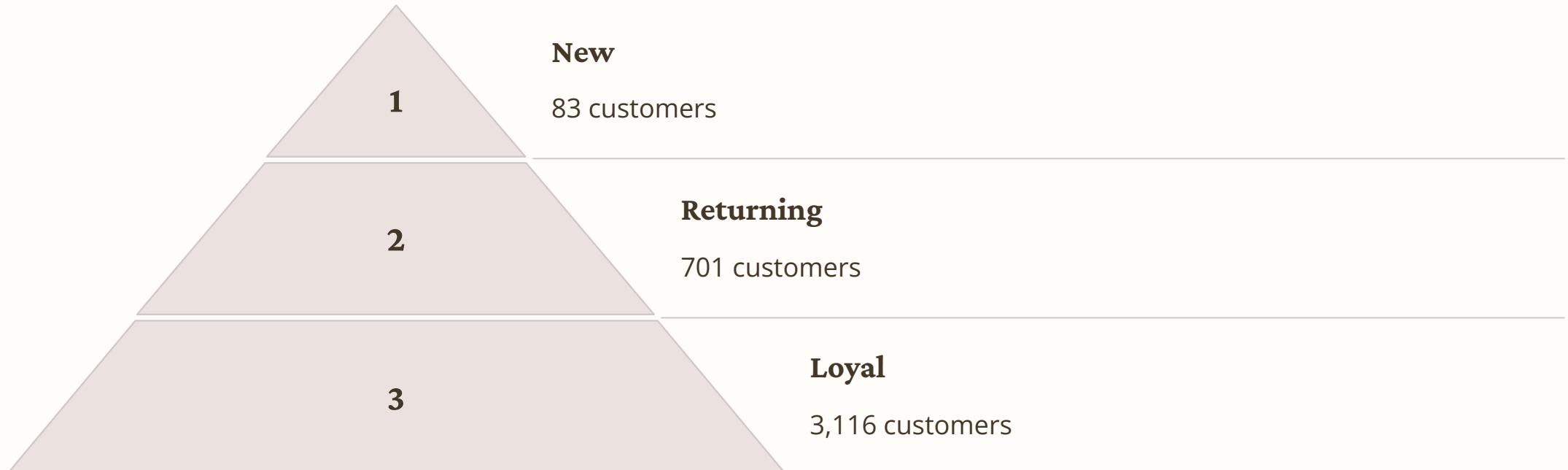


Coat

Promotional purchases

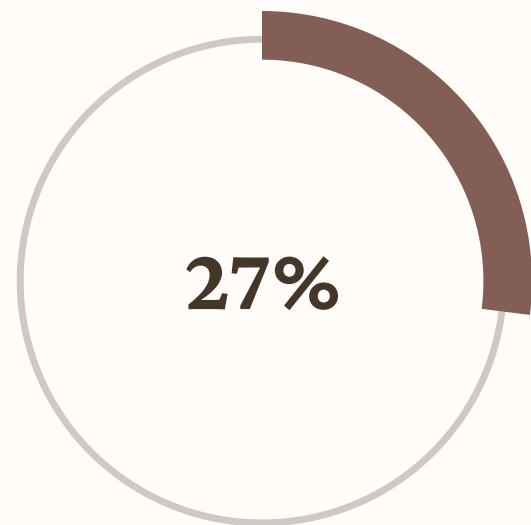
- Key Finding:** 839 customers used discounts but still spent above average (\$60), indicating price-insensitive high-value segments

Customer Segmentation



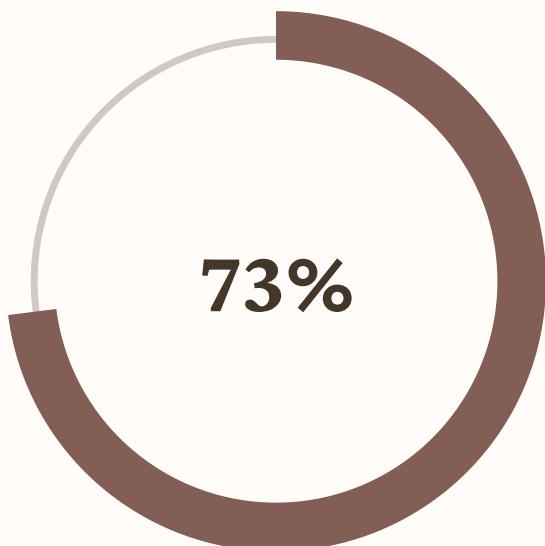
80% of customers are loyal with repeat purchase behavior

Subscription Analysis



Subscribers

1,053 customers



Non-Subscribers

2,847 customers

Average spend nearly identical: **\$59.49** vs
\$59.87

Repeat Buyers

958 subscribers have 5+ purchases

2,518 non-subscribers also show repeat behavior

Opportunity to convert loyal non-subscribers



Interactive Dashboard

- Real-time Metrics



Track customer count, average purchase, and ratings

- Category Performance

Revenue and sales breakdown by product type

- Demographic Insights

Age group analysis and subscription trends

Strategic Recommendations



Boost Subscriptions

Promote exclusive benefits to convert loyal non-subscribers



Loyalty Programs

Reward repeat buyers to strengthen retention



Review Discounts

Balance sales growth with margin control



Targeted Marketing

Focus on high-revenue segments and express shipping users



Product Positioning

Highlight top-rated items in campaigns