

Customer Shopping Behavior Analysis

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



Dataset Overview

3,900

Total Purchases

Transactions analyzed
across all categories

18

Data Points

Comprehensive
customer and purchase
attributes

50

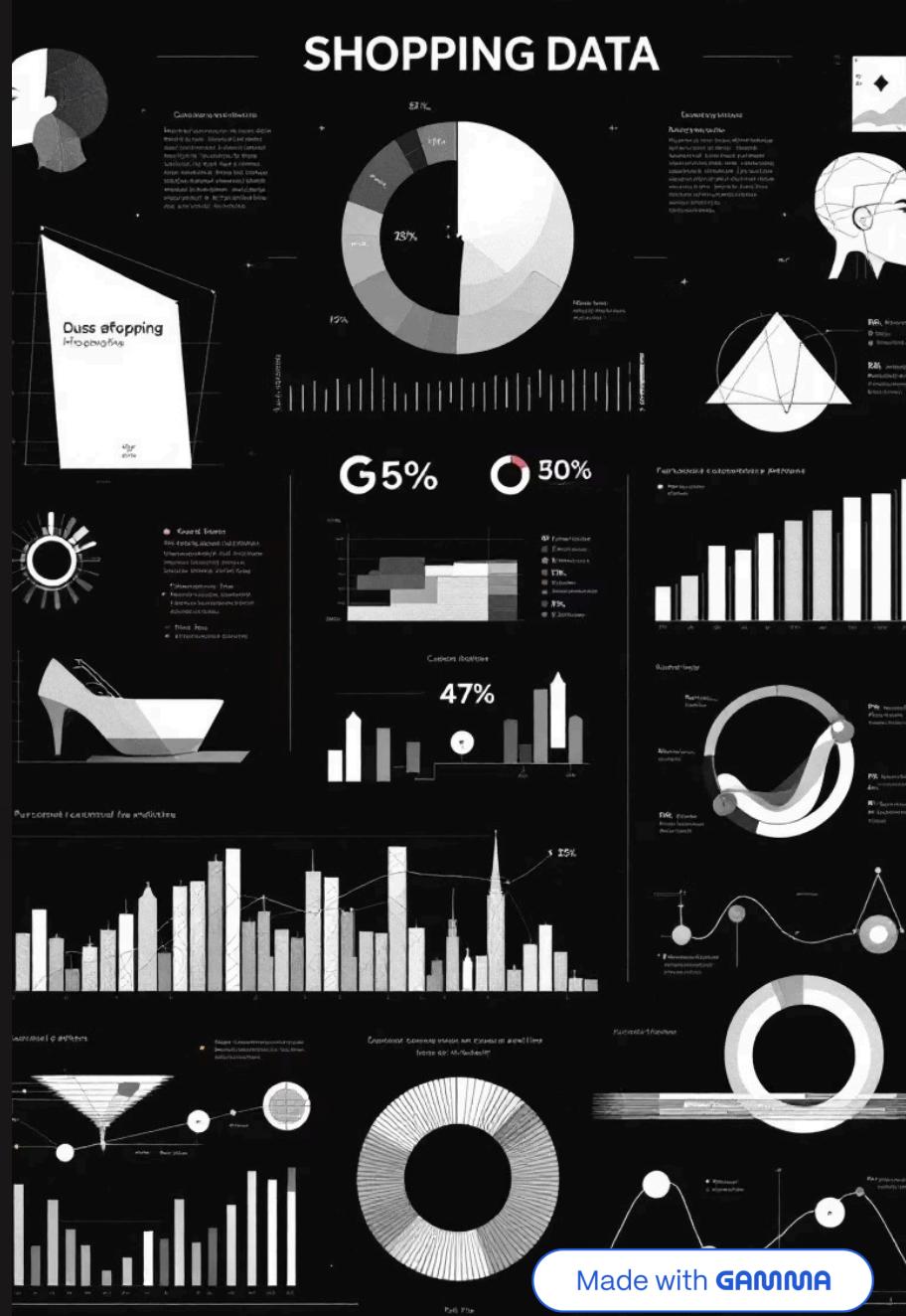
Locations

Geographic diversity in
customer base

25

Products

Unique items across
four categories



Data Preparation Journey

01

Data Loading & Exploration

Imported dataset using pandas, analyzed structure and summary statistics

02

Missing Data Handling

Imputed 37 missing Review Ratings using median by category

03

Feature Engineering

Created age groups and purchase frequency metrics

04

Data Consistency

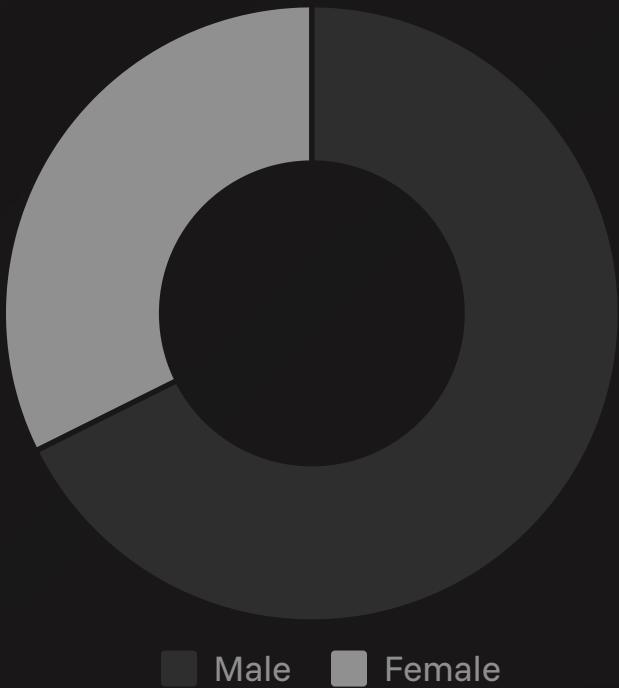
Standardized columns, removed redundant promo code field

05

Database Integration

Connected to PostgreSQL for advanced SQL analysis

Revenue Insights by Gender



Male Customers Drive Revenue

Male customers generate 68% of total revenue, more than double female contribution

Strategic opportunity to increase female customer engagement and spending

Product Performance Leaders



Gloves

Highest rated: 3.86 stars



Sandals

Second place: 3.84 stars



Boots

Strong performer: 3.82 stars



Hat

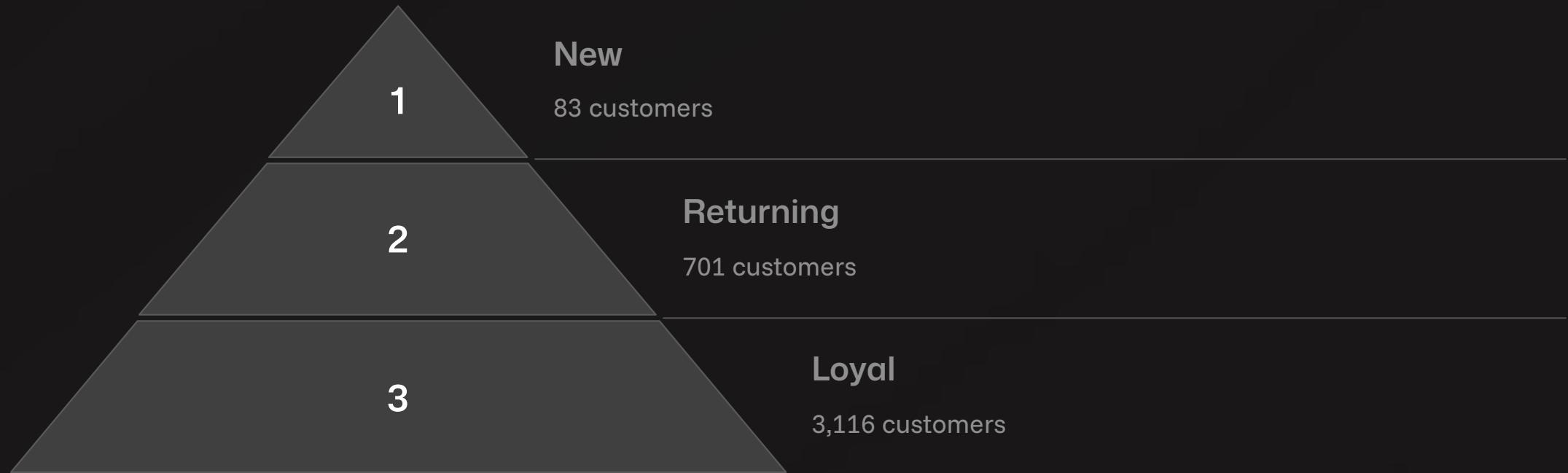
Consistent quality: 3.80 stars



Skirt

Top five: 3.78 stars

Customer Segmentation Analysis



80% of customer base classified as loyal, indicating strong retention and repeat purchase behavior

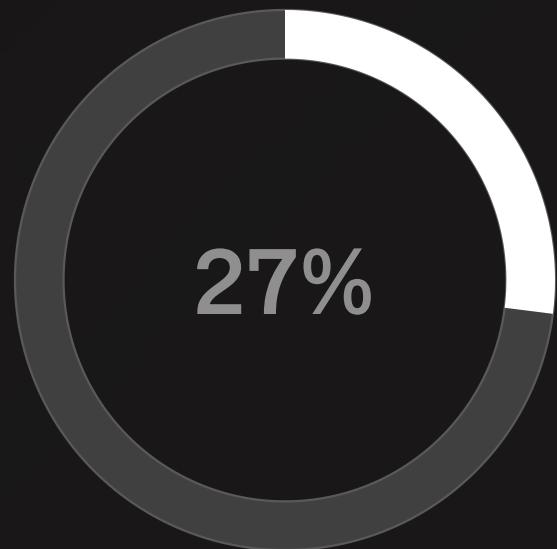
Shipping & Subscription Patterns

Shipping Type Impact

Express: \$60.48 average

Standard: \$58.46 average

Express shipping customers spend 3.5% more per transaction



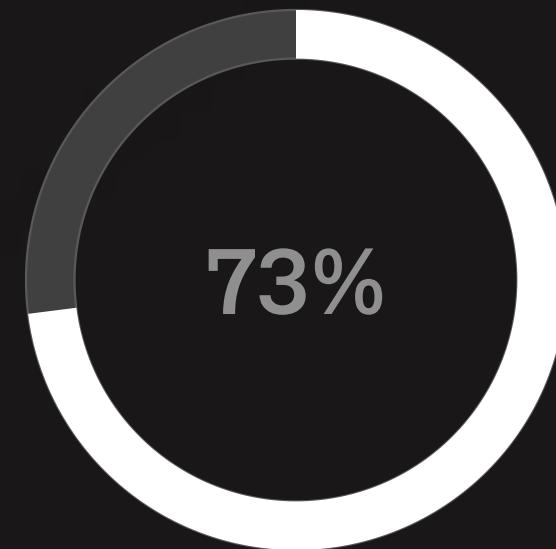
Subscription rate among all customers

Subscription Status

Subscribers: 1,053 customers

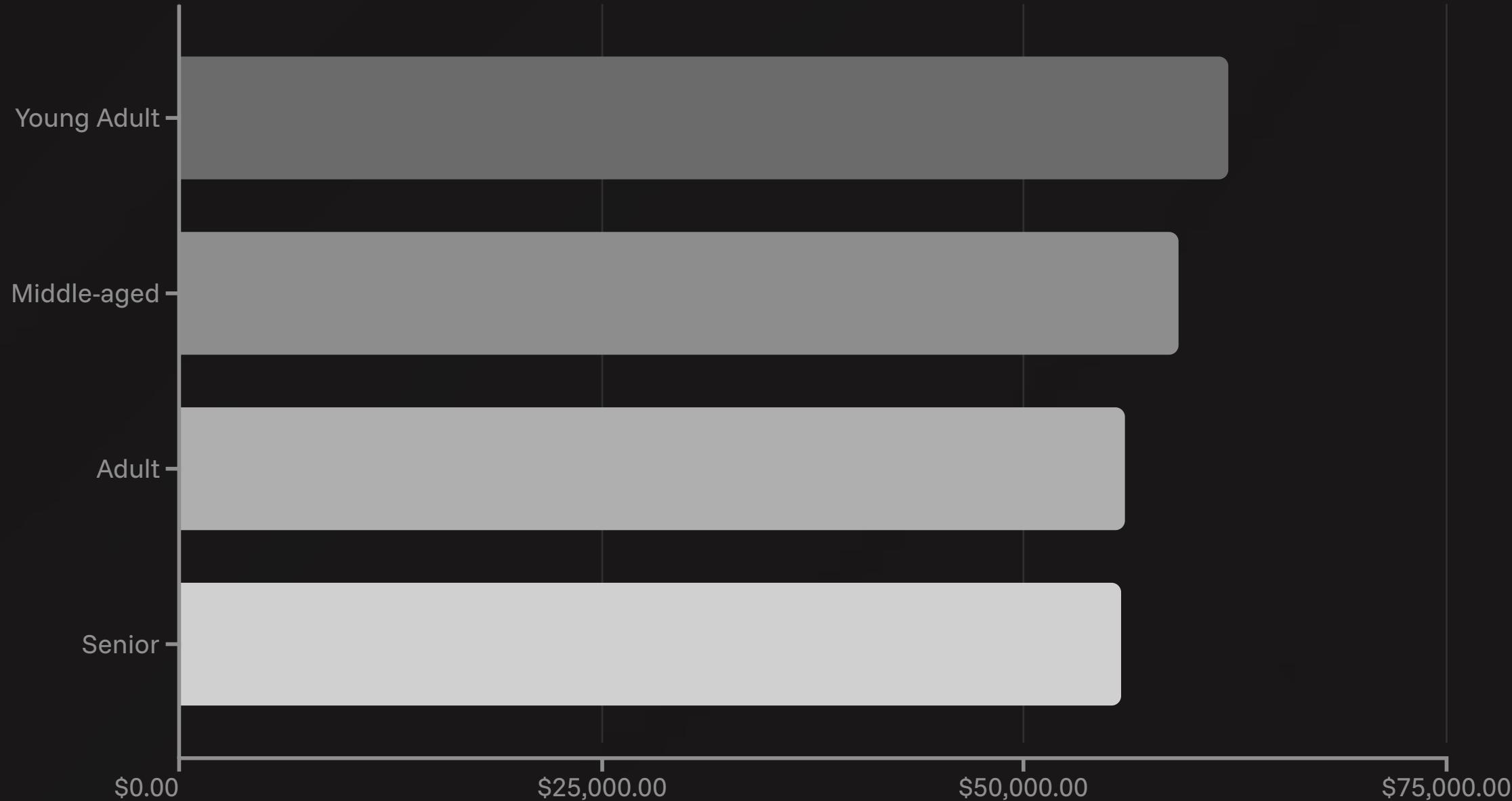
Non-subscribers: 2,847 customers

Similar average spend across both groups at ~\$60



Repeat buyers with 5+ purchases not subscribed

Revenue Distribution by Age



Young adults lead revenue generation, but all age groups contribute relatively evenly



Discount Strategy Insights

1

High-Value Discount Users

839 customers used discounts but spent above average (\$60)

2

Discount-Dependent Products

Hats (50%), Sneakers (49.7%), Coats (49%) lead in discount usage

3

Strategic Opportunity

Balance promotional activity with margin protection across categories

Strategic Recommendations

Boost Subscriptions

Promote exclusive benefits to convert 2,518 repeat buyers into subscribers

Loyalty Programs

Reward repeat buyers to accelerate movement into loyal segment

Review Discount Policy

Balance sales growth with margin control on high-discount products

Product Positioning

Highlight top-rated items like Gloves and Sandals in campaigns

Targeted Marketing

Focus on young adults and express shipping users for maximum ROI