



Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to drive 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 4 major categories

Data Preparation Journey

01

Data Loading & Exploration

Imported dataset using pandas, analyzed structure with `df.info()` and summary statistics

02

Cleaning & Standardization

Handled 37 missing review ratings, standardized columns to snake_case format

03

Feature Engineering

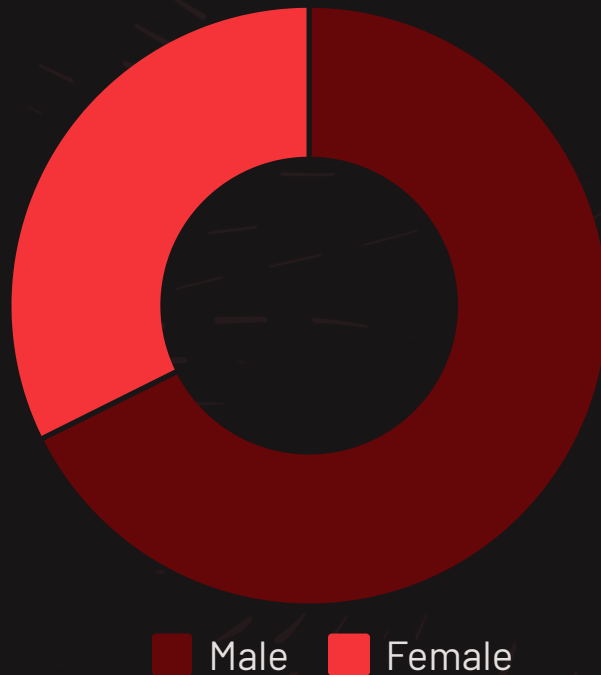
Created age_group bins and purchase_frequency_days for deeper analysis

04

Database Integration

Connected to PostgreSQL for advanced SQL business analysis

Revenue by Gender



Male Customers Drive Revenue

Male shoppers generate **68%** of total revenue

Female customers contribute \$75K with potential for growth through targeted campaigns



Smart Spenders

839 Customers

Used discounts but spent
above average (\$60)

Strategic Buyers

Maximize value without
sacrificing quality

Key Insight

Discounts attract high-value customers

Top-Rated Products



77%

Gloves

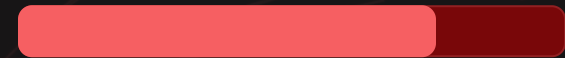
Highest average rating: 3.86/5.0



77%

Sandals

Strong performance: 3.84/5.0



76%

Boots

Customer favorite: 3.82/5.0



76%

Hat

Consistent quality: 3.80/5.0



76%

Skirt

Solid ratings: 3.78/5.0

Highlight these products in marketing campaigns to drive conversions

Shipping & Subscription Insights

Shipping Preferences

Express

\$60.48 avg spend

Standard

\$58.46 avg spend

Express users spend 3.5% more per order

Subscription Status

1,053

Subscribers

\$59.49 avg spend

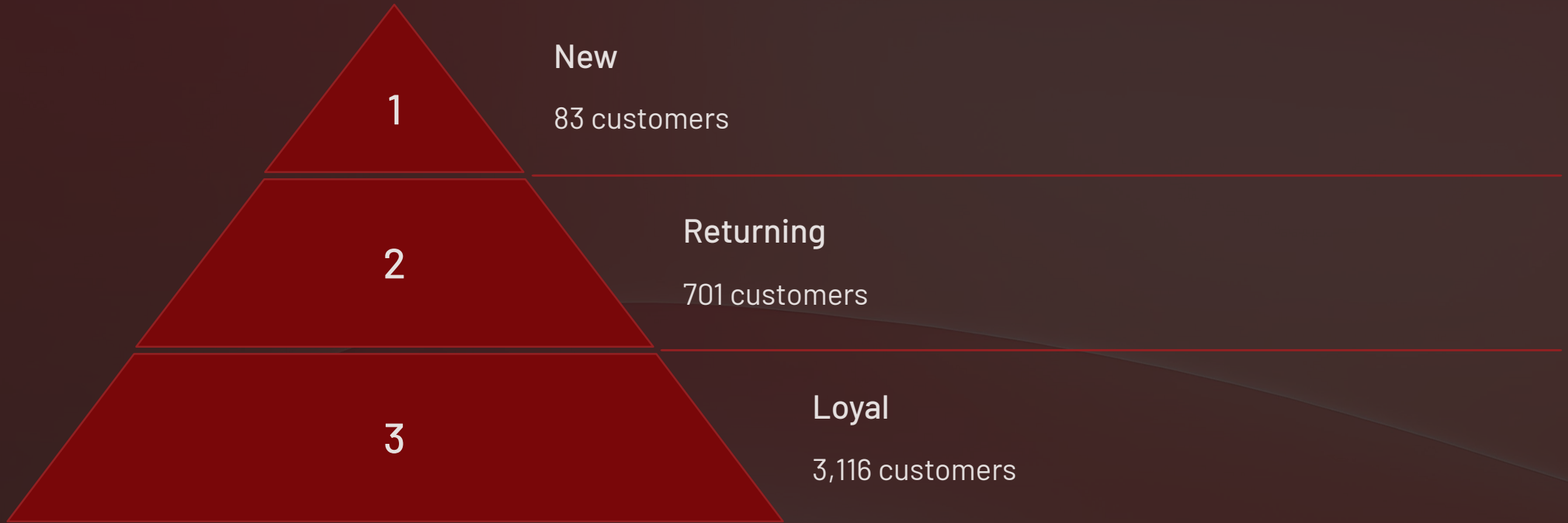
2,847

Non-Subscribers

\$59.87 avg spend

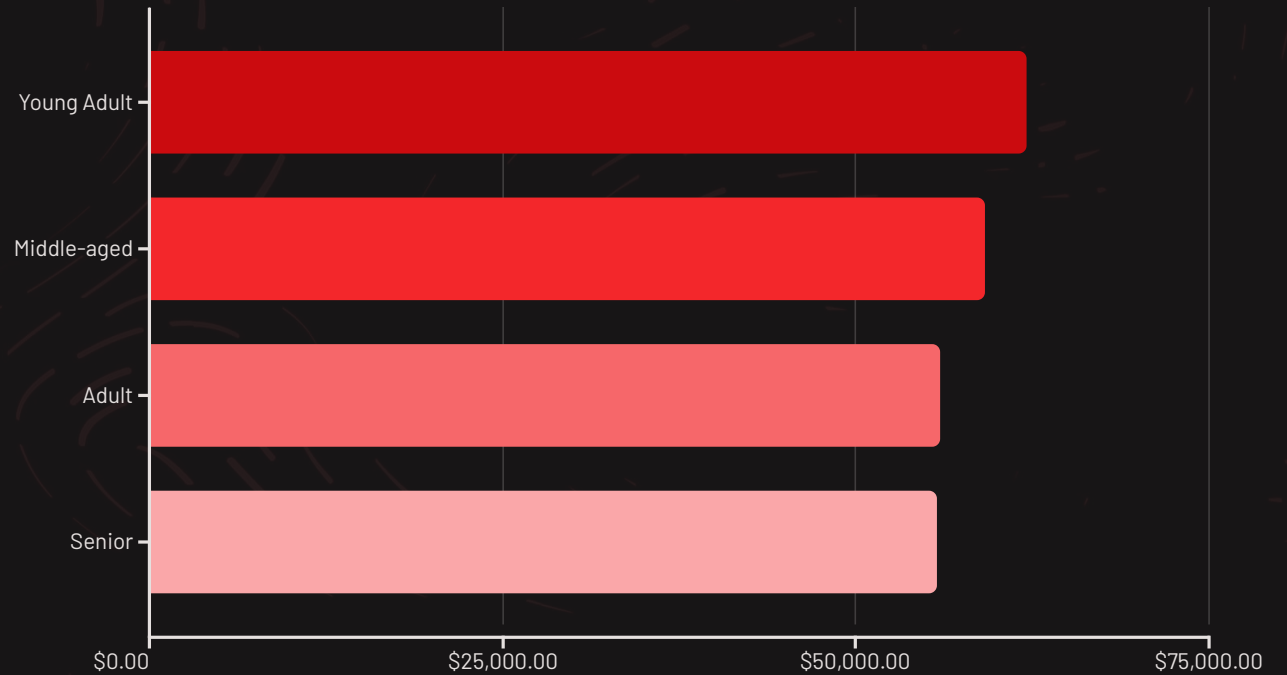
Similar spending patterns—
focus on subscription benefits

Customer Segmentation



80% of customers are loyal—strong foundation for retention programs

Revenue by Age Group



Young adults lead revenue generation—tailor marketing to this demographic

Strategic Recommendations



Boost Subscriptions

Promote exclusive benefits to convert non-subscribers



Loyalty Programs

Reward repeat buyers to strengthen retention



Optimize Discounts

Balance sales growth with healthy profit margins



Highlight Winners

Feature top-rated products in campaigns



Targeted Marketing

Focus on high-revenue age groups and express users