

Customer Shopping Behavior Analysis

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





OVERVIEW

Project Scope

Dataset Size

3,900 transactions analyzed
18 key features tracked

Focus Areas

Spending patterns
Customer segments
Product preferences

Goal

Guide strategic business decisions through data-driven insights



Dataset Features

Customer Demographics

- Age, Gender, Location
- Subscription Status

Purchase Details

- Item, Category, Amount
- Season, Size, Color

Shopping Behavior

- Discount Applied
- Previous Purchases
- Review Rating
- Shipping Type

Only 37 missing values in Review Rating column



PYTHON

Data Preparation Process

01

Data Loading & Exploration

Imported dataset, checked structure and summary statistics

02

Missing Data Handling

Imputed Review Rating using median by category

03

Feature Engineering

Created age_group and purchase_frequency_days columns

04

Data Consistency

Dropped redundant promo_code_used column

05

Database Integration

Loaded cleaned data into PostgreSQL for analysis

Customer Overview

3.9K

Total Customers

\$59.76

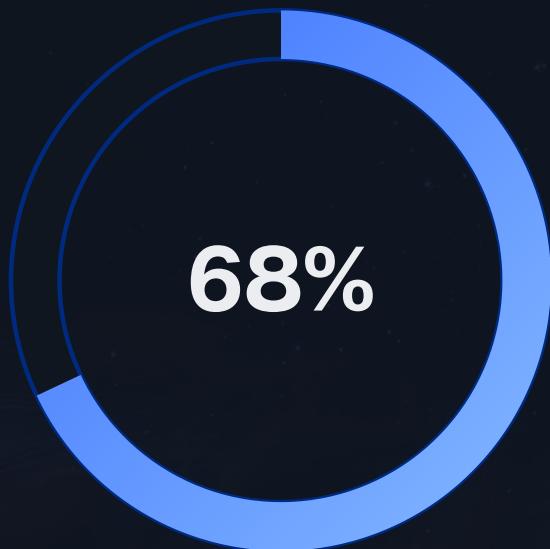
Avg Purchase

3.75

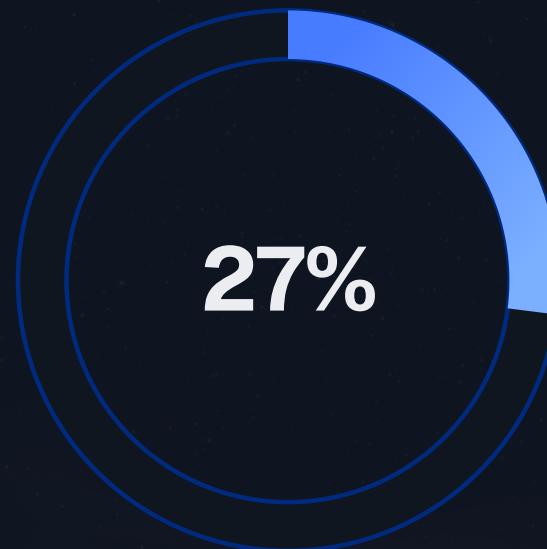
Avg Rating

44

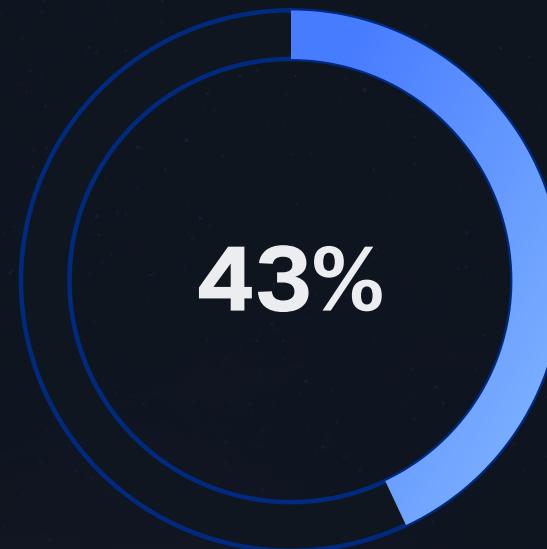
Median Age



Male Customers

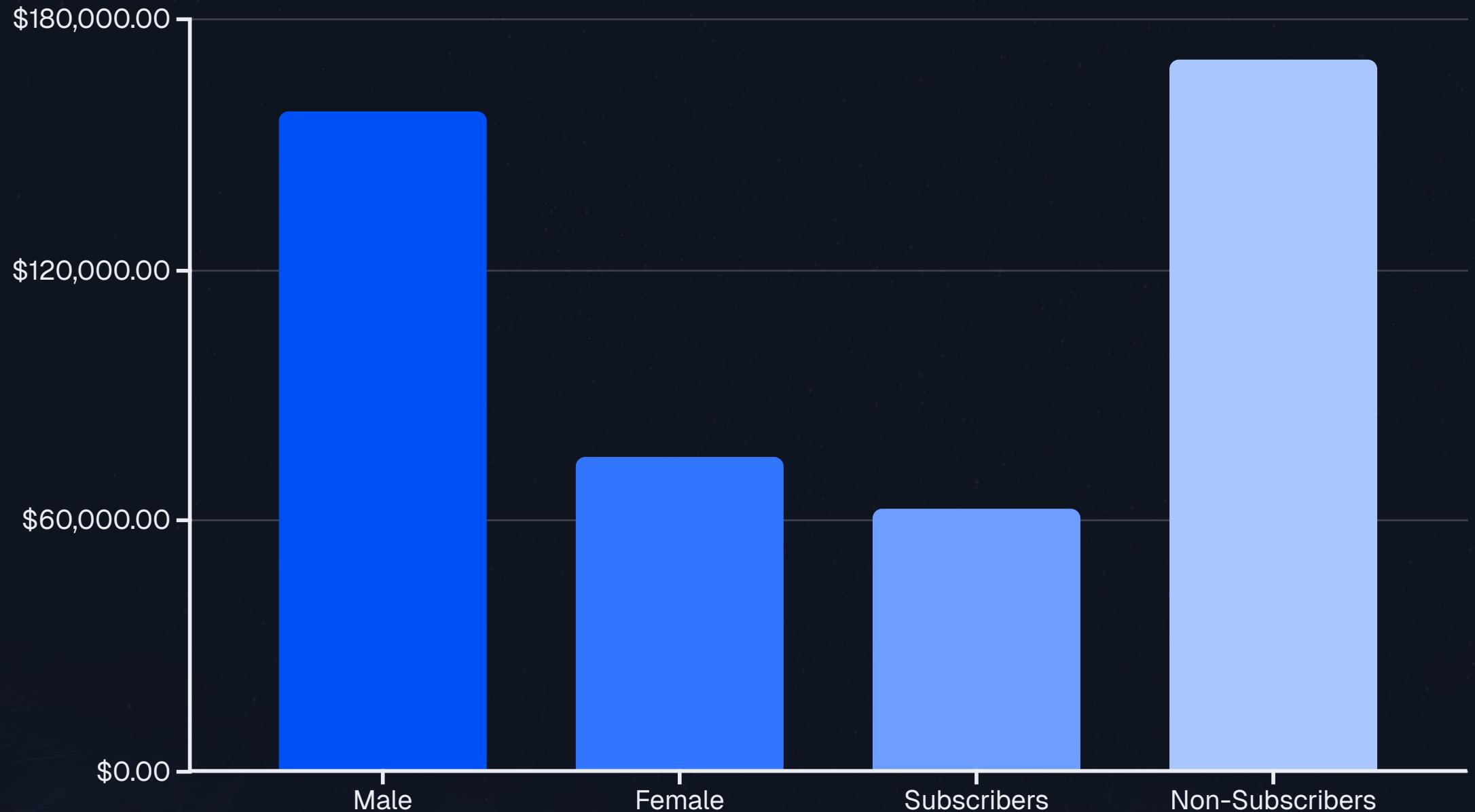


Subscribers



Used Discounts

Revenue Analysis



Gender Gap

Male customers generate 2.1x more revenue than female customers

Subscription Impact

Non-subscribers dominate total revenue despite lower avg spend (\$59.87 vs \$59.49)

CATEGORIES

Product Performance



Clothing

1,737 sales | \$100K revenue

Top: Blouse, Pants, Shirt



Accessories

1,200 sales | \$70K revenue

Top: Jewelry, Sunglasses, Belt



Footwear

500 sales | \$30K revenue

Top: Sandals, Shoes, Sneakers

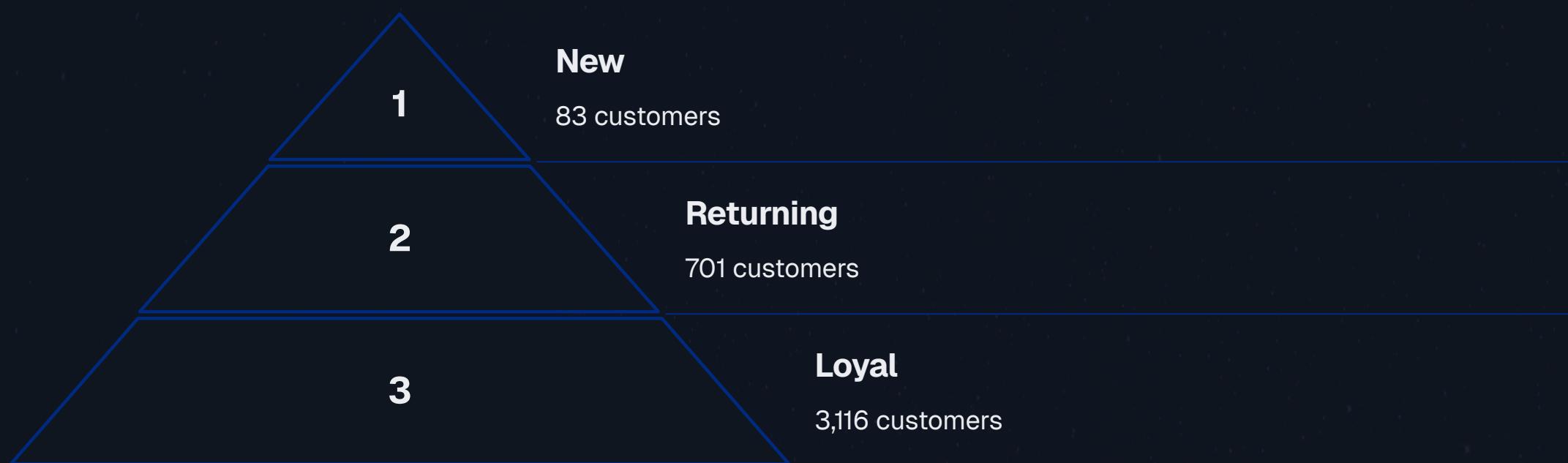


Outerwear

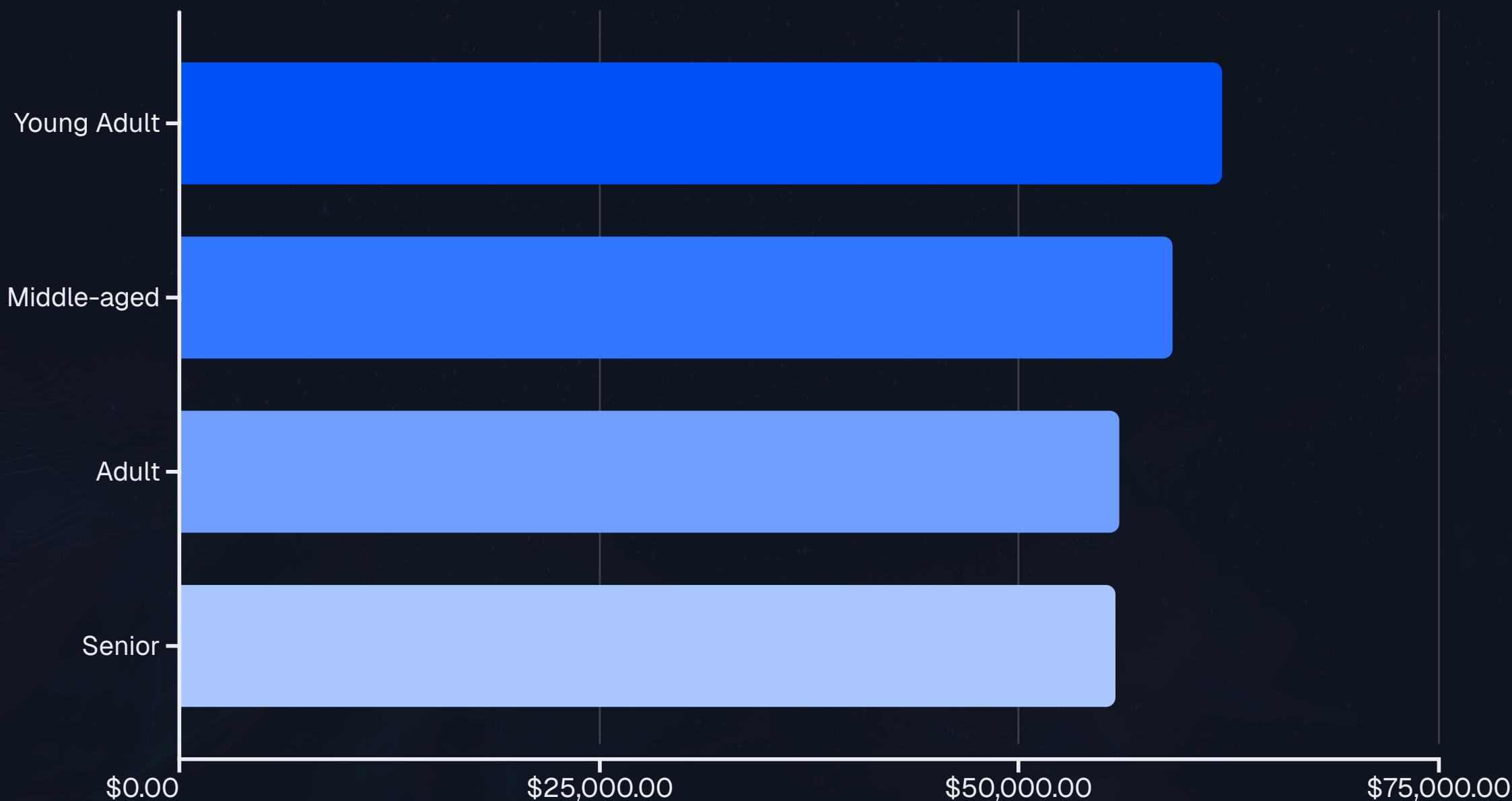
200 sales | \$10K revenue

Top: Jacket, Coat

Customer Segments



Customer classification based on purchase history reveals strong loyalty base





INSIGHTS

Discount & Shipping Patterns

High-Spending Discount Users

839 customers used discounts but spent above average

Discount-Dependent Products

1. Hat (50%)
2. Sneakers (49.66%)
3. Coat (49.07%)
4. Sweater (48.17%)
5. Pants (47.37%)



Standard Shipping

\$58.46 avg purchase



Express Shipping

\$60.48 avg purchase

□ Express shipping users spend 3.5% more on average



Business Recommendations



Boost Subscriptions

Promote exclusive benefits to convert non-subscribers



Loyalty Programs

Reward repeat buyers to grow loyal segment



Review Discounts

Balance sales boosts with margin control

Product Positioning

Highlight top-rated items: Gloves (3.86), Sandals (3.84), Boots (3.82)

Targeted Marketing

Focus on Young Adults and express-shipping users for highest ROI