

Customer Shopping Behavior Analysis

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



Project Scope

Dataset Size

3,900 transactions analyzed

18 key features tracked

Customer Data

Demographics, purchase history, subscription status

Purchase Details

Categories, amounts, seasons, discounts, ratings

Behavior Metrics

Frequency, shipping preferences, review ratings



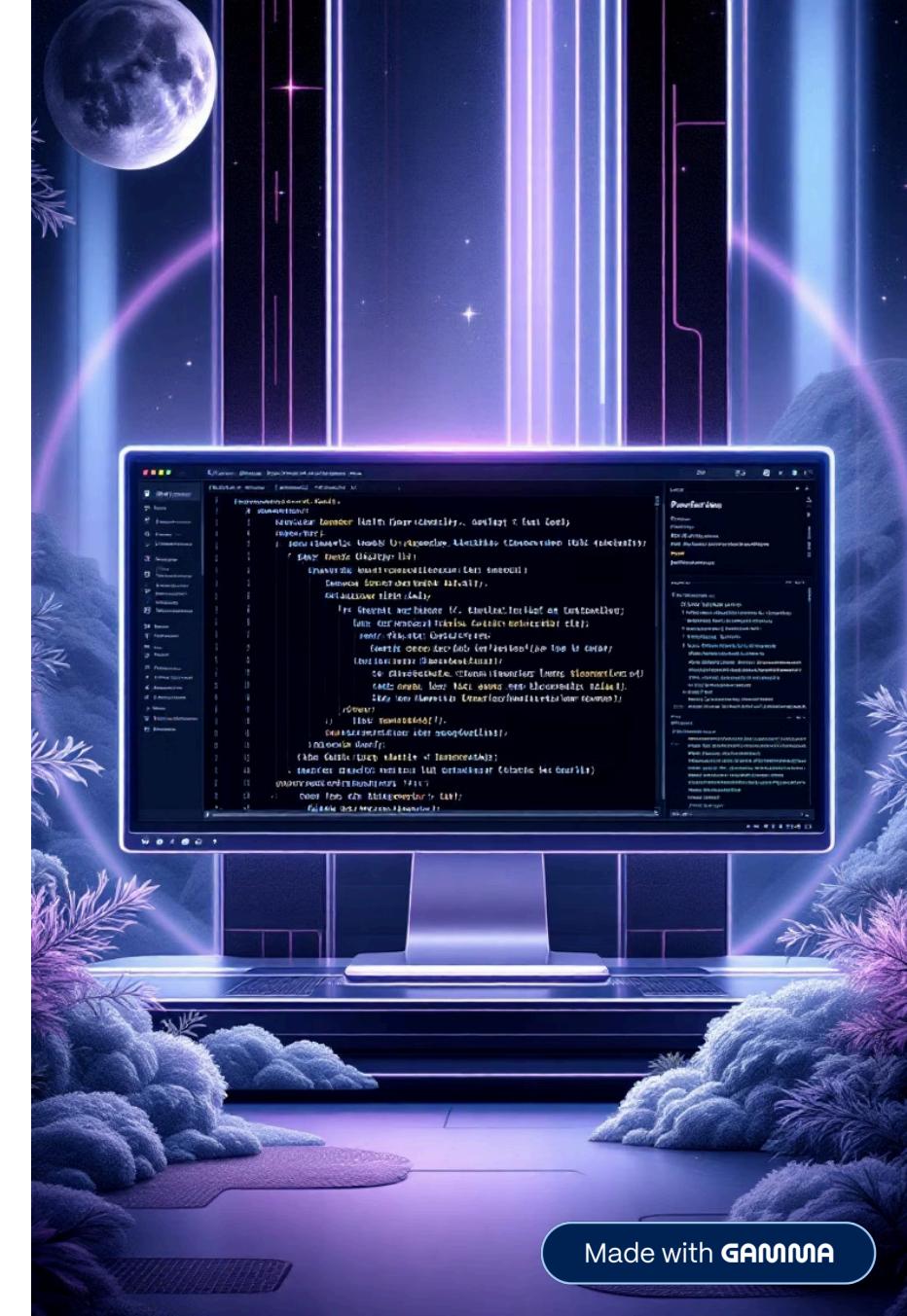
Data Preparation & Cleaning

Data Processing

- Loaded dataset with pandas
- Explored structure and statistics
- Imputed 37 missing Review Ratings using median
- Standardized columns to snake case

Feature Engineering

- Created age_group bins
- Added purchase_frequency_days
- Removed redundant promo_code_used
- Integrated with PostgreSQL



Revenue Analysis

\$157K

Male Revenue

68% of total revenue

\$75K

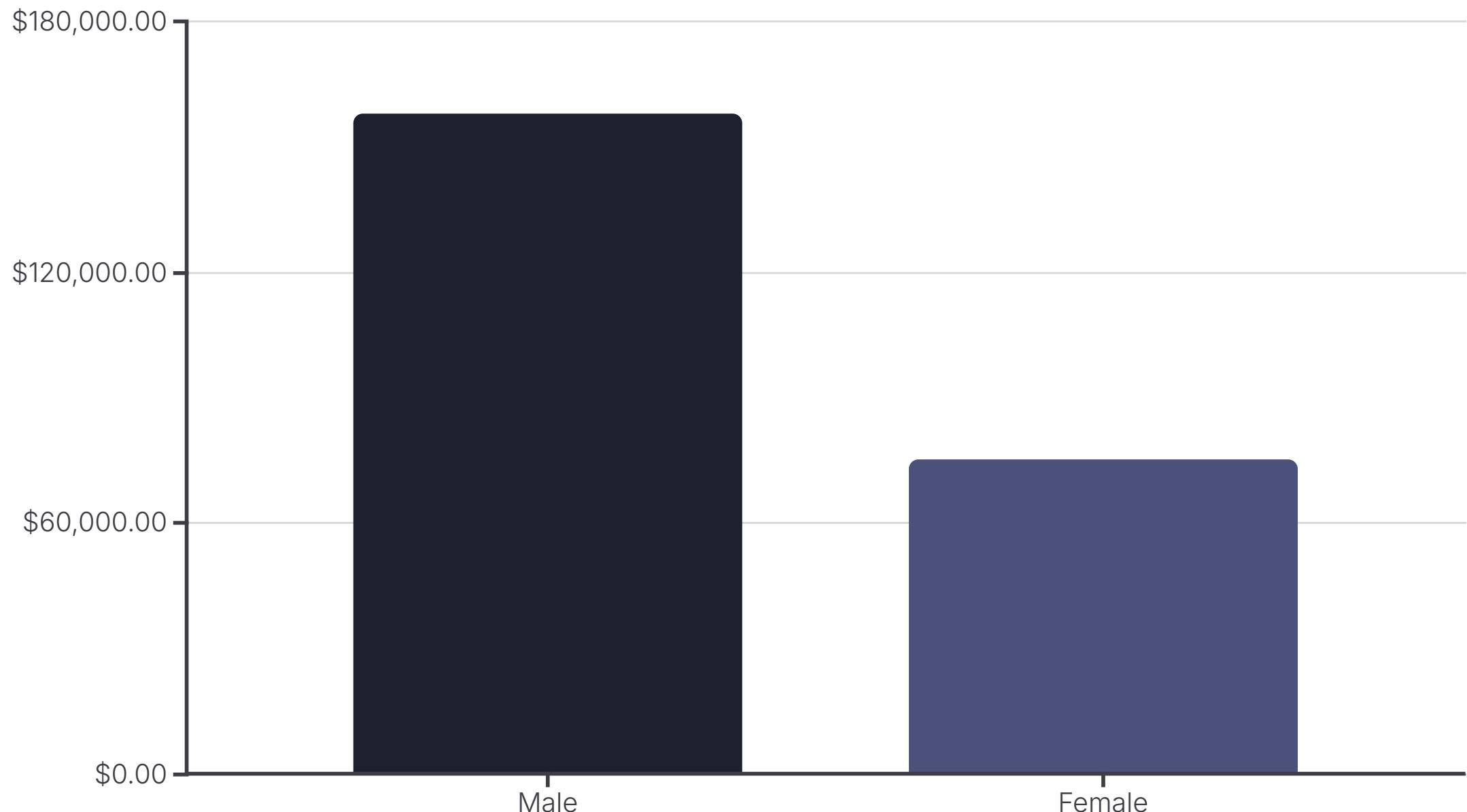
Female Revenue

32% of total revenue

839

High Spenders

Used discounts, spent above average



Top Performing Products

Gloves

3.86 avg rating

Sandals

3.84 avg rating

Boots

3.82 avg rating

Hat

3.80 avg rating

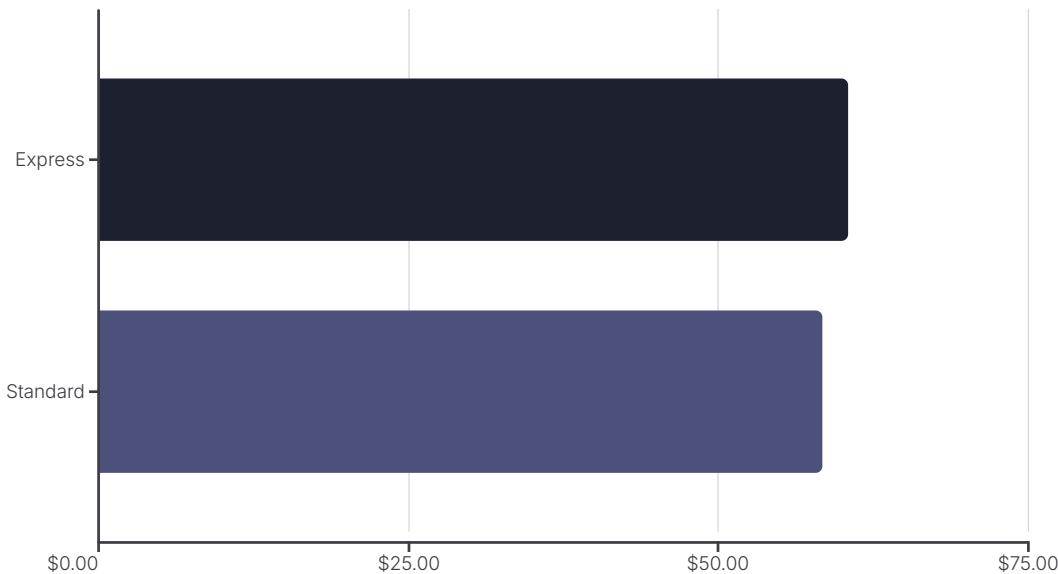
Skirt

3.78 avg rating

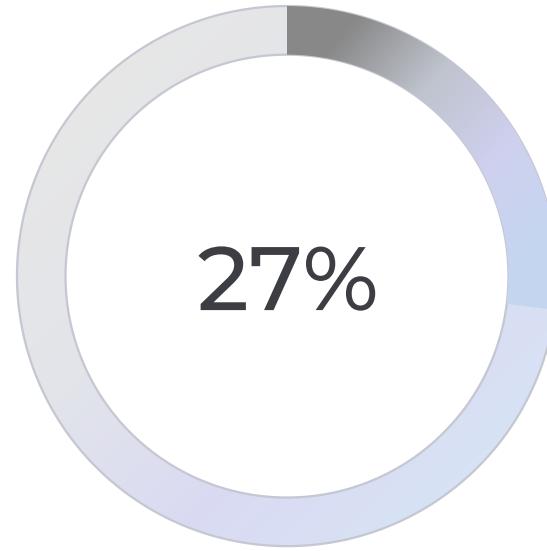
Shipping & Subscription Insights

Shipping Type Impact

Express shipping customers spend slightly more

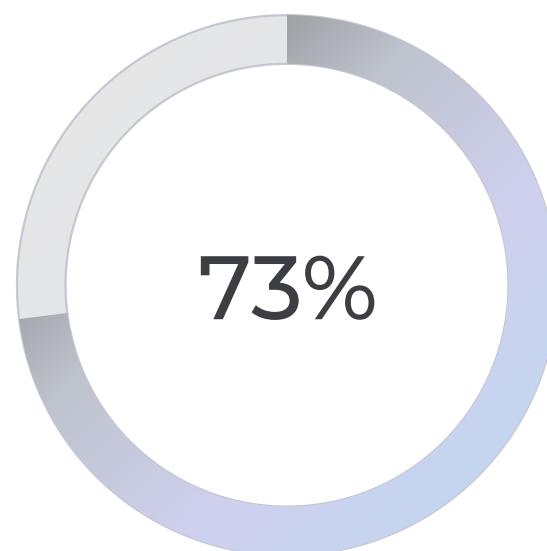


Subscription Status



Subscribers

1,053 customers

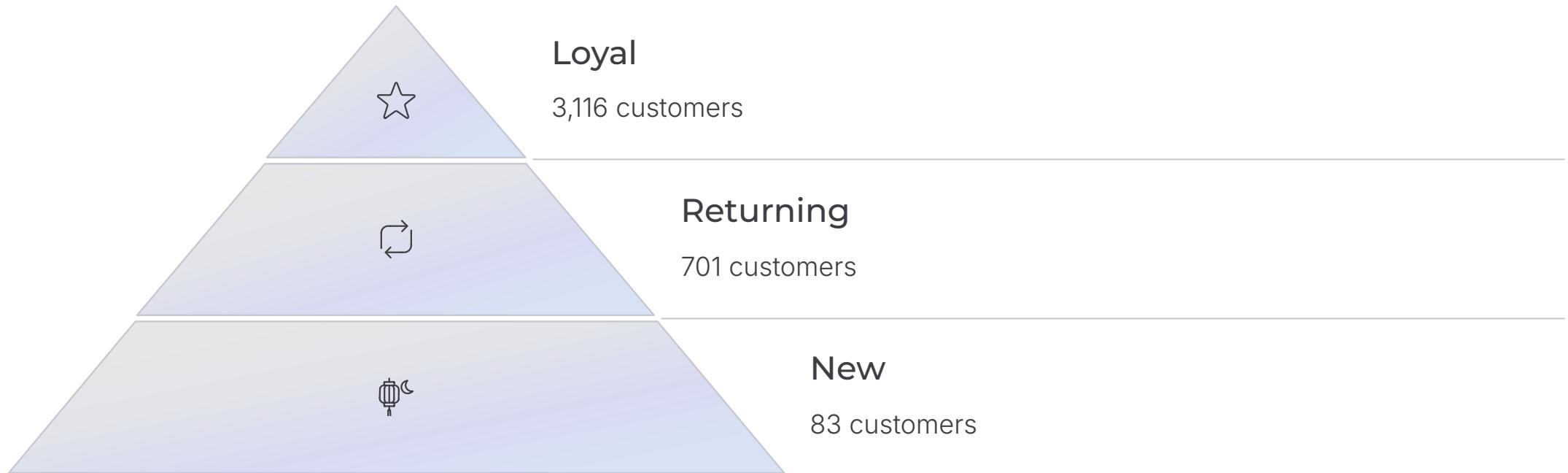


Non-Subscribers

2,847 customers

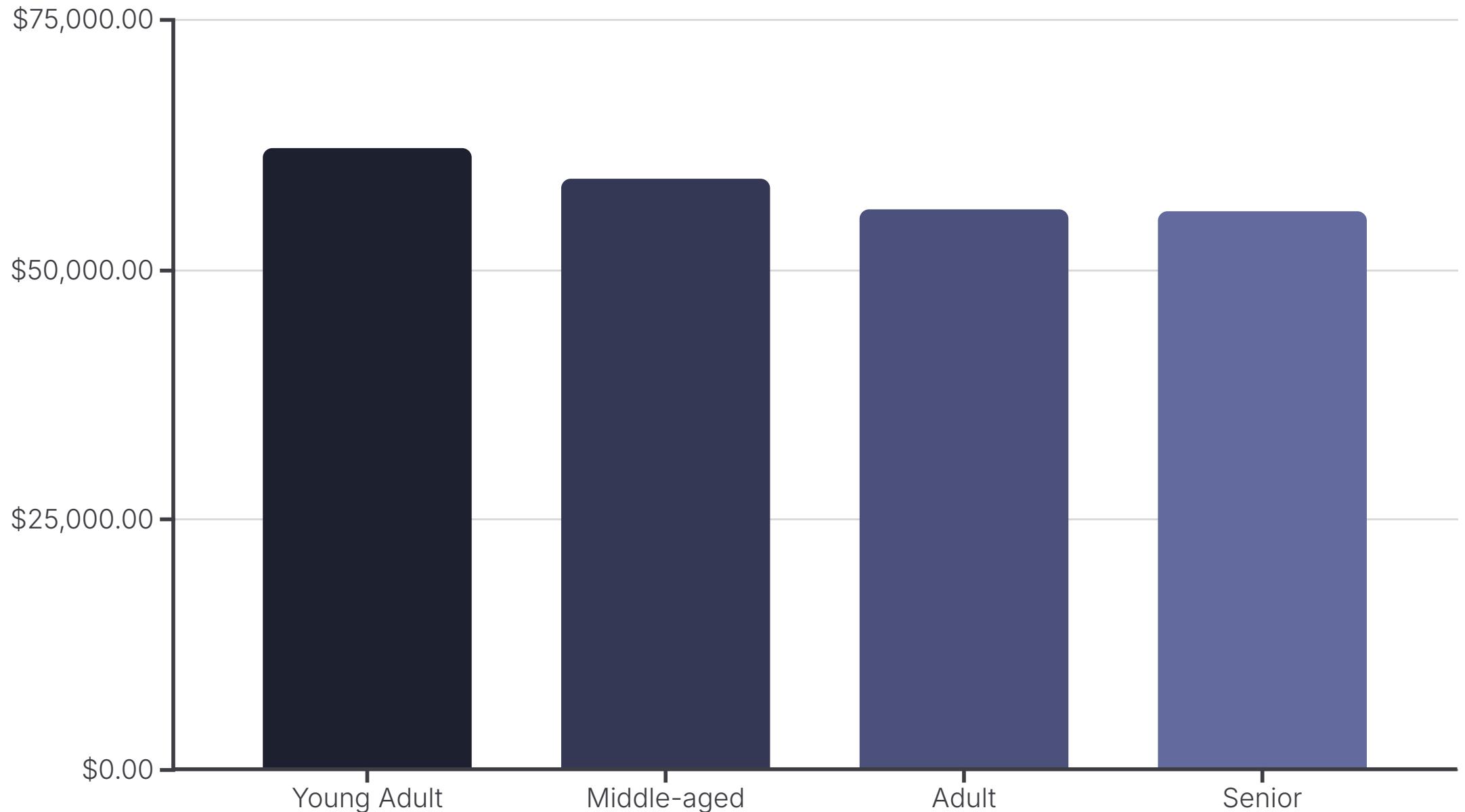
Subscribers: \$59.49 avg spend | Non-subscribers: \$59.87 avg spend

Customer Segmentation



Majority of customers fall into the Loyal segment, indicating strong retention

Revenue by Age Group



Young adults generate highest revenue, followed closely by middle-aged customers



POWER BI

Interactive Dashboard

Key Metrics

3.9K customers | \$59.76 avg purchase | 3.75 avg rating

Dynamic Filters

Subscription, gender, category, shipping type

Visual Insights

Revenue and sales by category, age group, subscription status

Strategic Business Actions



Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers



Loyalty Programs

Reward repeat buyers to strengthen loyal segment



Review Discount Policy

Balance sales boosts with margin control



Product Positioning

Highlight top-rated items in marketing campaigns



Targeted Marketing

Focus on high-revenue age groups and express shipping users