Customer Shopping Behavior Analysis

Analyzing 3,900 customer transactions to uncover spending patterns, preferences, and strategic opportunities for business growth.

Dataset Overview

3,900
Total Transactions

Customer purchases analyzed

18
Data Points

Features per transaction

4
Product Categories

Clothing, Accessories, Footwear, Outerwear

50
Locations

Geographic coverage

Data Preparation & Analysis

01

Data Loading & Exploration

Imported dataset using pandas, examined structure with df.info() and summary statistics.
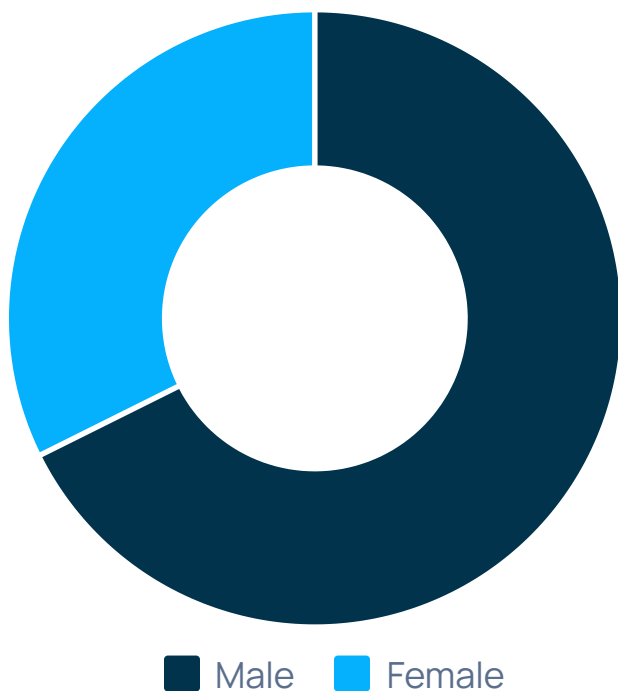
02

Data Cleaning

Handled 37 missing Review Rating values using median imputation by category. Standardized columns to snake case.

03

Feature Engineering

Created age_group bins and purchase_frequency_days. Removed redundant promo_code_used column.

04

Database Integration

Connected to PostgreSQL and loaded cleaned data for advanced SQL analysis.

Revenue Insights by Gender
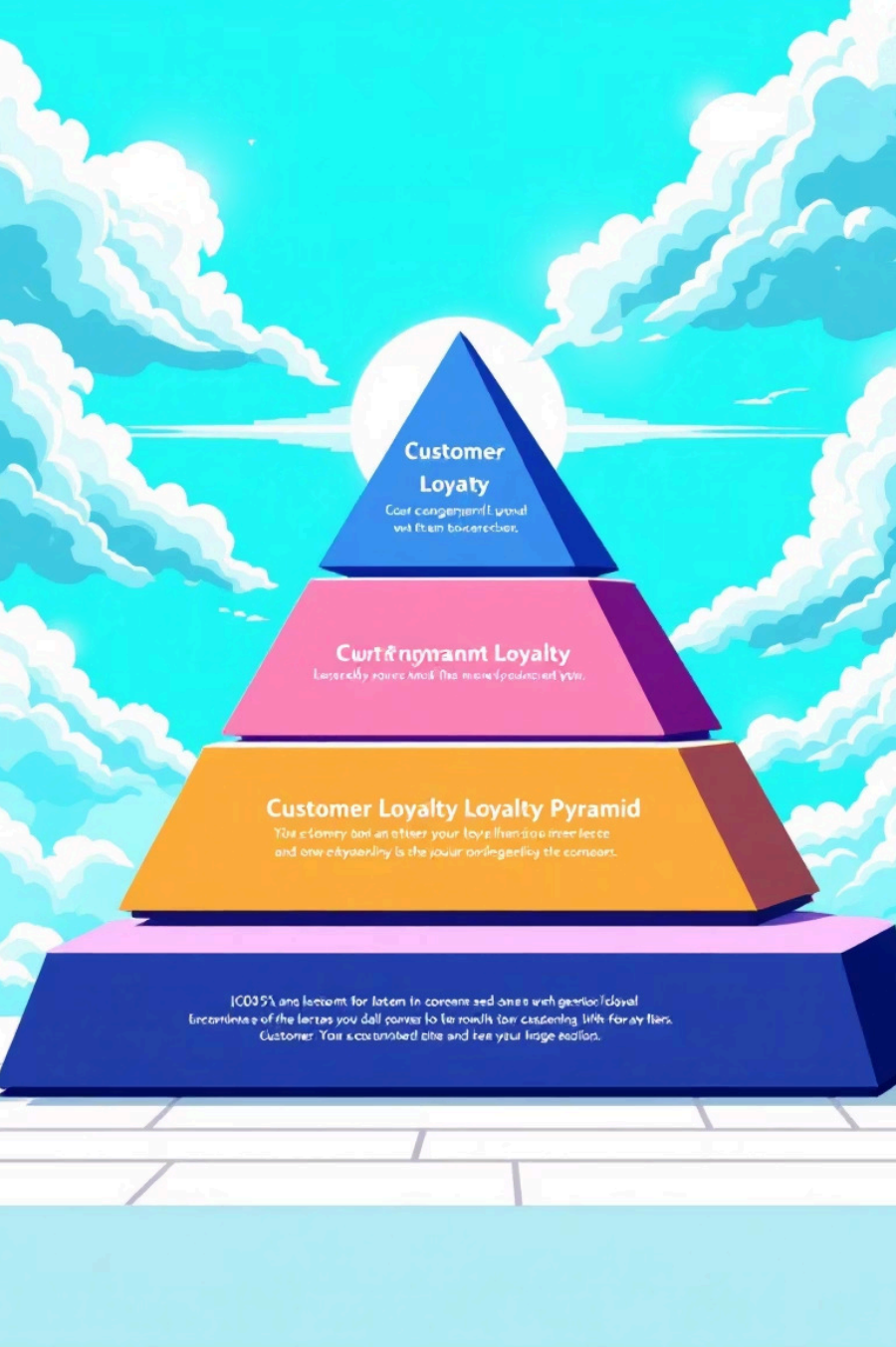

Male   Female

Male Customers Drive Revenue

Male customers generate **$157,890** in revenue compared to **$75,191** from female customers.

This 68% male revenue share suggests opportunities for targeted marketing campaigns.

Top-Rated Products

77%

Gloves

Highest average rating at 3.86

77%

Sandals

Strong performance at 3.84

76%

Boots

Rated 3.82 by customers

76%

Hat

Solid rating of 3.80

76%

Skirt

Rated 3.78 overall

Customer Segmentation Analysis

Loyal Customers

3,116 customers (80%)

Repeat buyers with strong purchase history

Returning Customers

701 customers (18%)
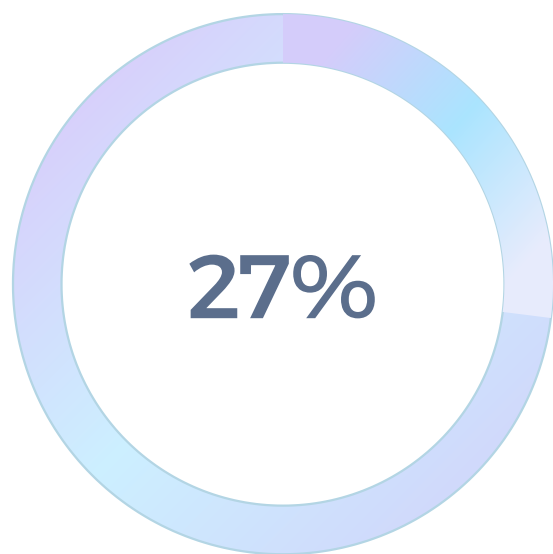
Growing engagement potential

New Customers

83 customers (2%)

Fresh acquisition opportunities

The dominant loyal segment presents opportunities to convert returning customers through targeted loyalty programs.
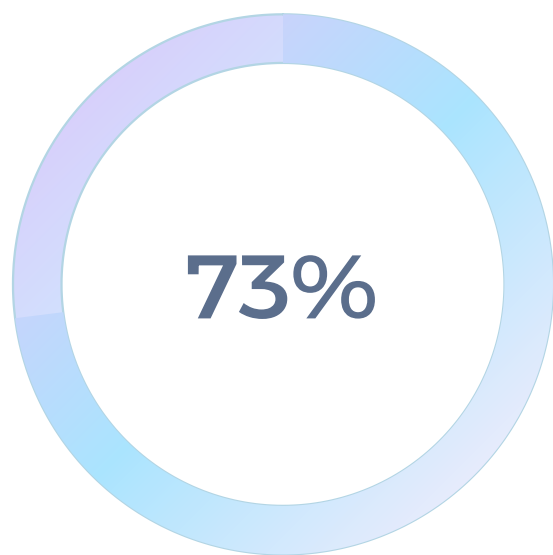
Subscription vs. Non-Subscription Performance

Subscription Status

27%

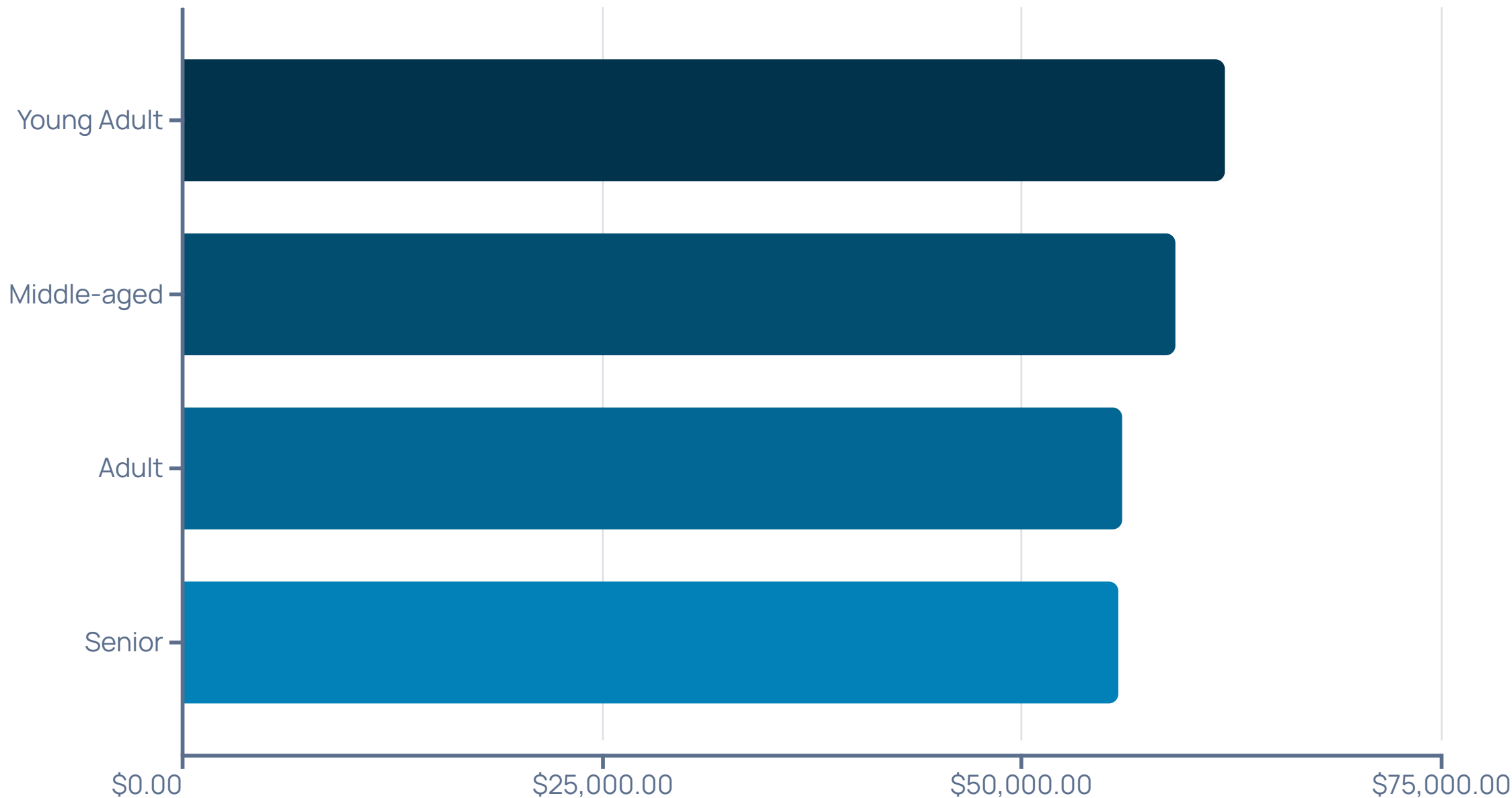**Subscribers**

1,053 customers

73%

Non-Subscribers

2,847 customers

Revenue Comparison

- **Subscribers:** $59.49 avg spend, $62,645 total revenue
- **Non-Subscribers:** $59.87 avg spend, $170,436 total revenue

Similar spending patterns suggest subscription benefits need stronger value proposition.

Revenue by Age Group

Young adults lead revenue generation at **$62,143**, followed closely by middle-aged customers. Relatively balanced distribution across age groups.

Made with GAMMA

Key Dashboard Metrics

3.9K Customers

Total customer base analyzed

$59.76 Average Purchase

Consistent spending patterns

3.75 Average Rating

Strong customer satisfaction

Strategic Recommendations

Boost Subscriptions

Promote exclusive benefits and perks to convert the 73% non-subscriber base into recurring revenue.

Customer Loyalty Programs

Reward repeat buyers to move 701 returning customers into the loyal segment of 3,116.

Review Discount Policy

Balance promotional sales boosts with margin control—839 high-spending discount users identified.

Product Positioning

Highlight top-rated products (Gloves, Sandals, Boots) and best-sellers in marketing campaigns.

Targeted Marketing

Focus efforts on high-revenue young adults and express-shipping users for maximum ROI.