Customer Shopping Behavior Analysis

Analyzing 3,900 purchases to uncover insights into spending patterns, customer segments, and product preferences that drive strategic business decisions.

Understanding Our Data

3,900
Total Purchases
Transactions analyzed across all categories

18
Data Features
Comprehensive customer and purchase attributes

50
Locations
Geographic diversity in customer base

25
Product Types
Items across multiple categories

Dataset includes customer demographics, purchase details, shopping behavior metrics, and product information across Clothing, Footwear, Accessories, and Outerwear categories.

Made with GAMMA

Data Preparation & Cleaning

01

Data Loading

Imported dataset using pandas and explored structure with df.info() and .describe()

01

Feature Engineering

Created age_group and purchase_frequency_days columns for deeper analysis

02

Missing Data

Imputed 37 missing Review Rating values using median rating per product category

02

Data Consistency

Verified redundancy between discount_applied and promo_code_used; dropped duplicate

03

Standardization

Renamed columns to snake_case for consistency and documentation

03

Database Integration

Connected to PostgreSQL and loaded cleaned data for SQL analysis

Revenue Insights by Gender

Male Customers

$157,890

67.7% of total revenue

Female Customers

$75,191

32.3% of total revenue

Male customers generate more than double the revenue of female customers, representing a significant opportunity for targeted marketing strategies.

Made with GAMMA

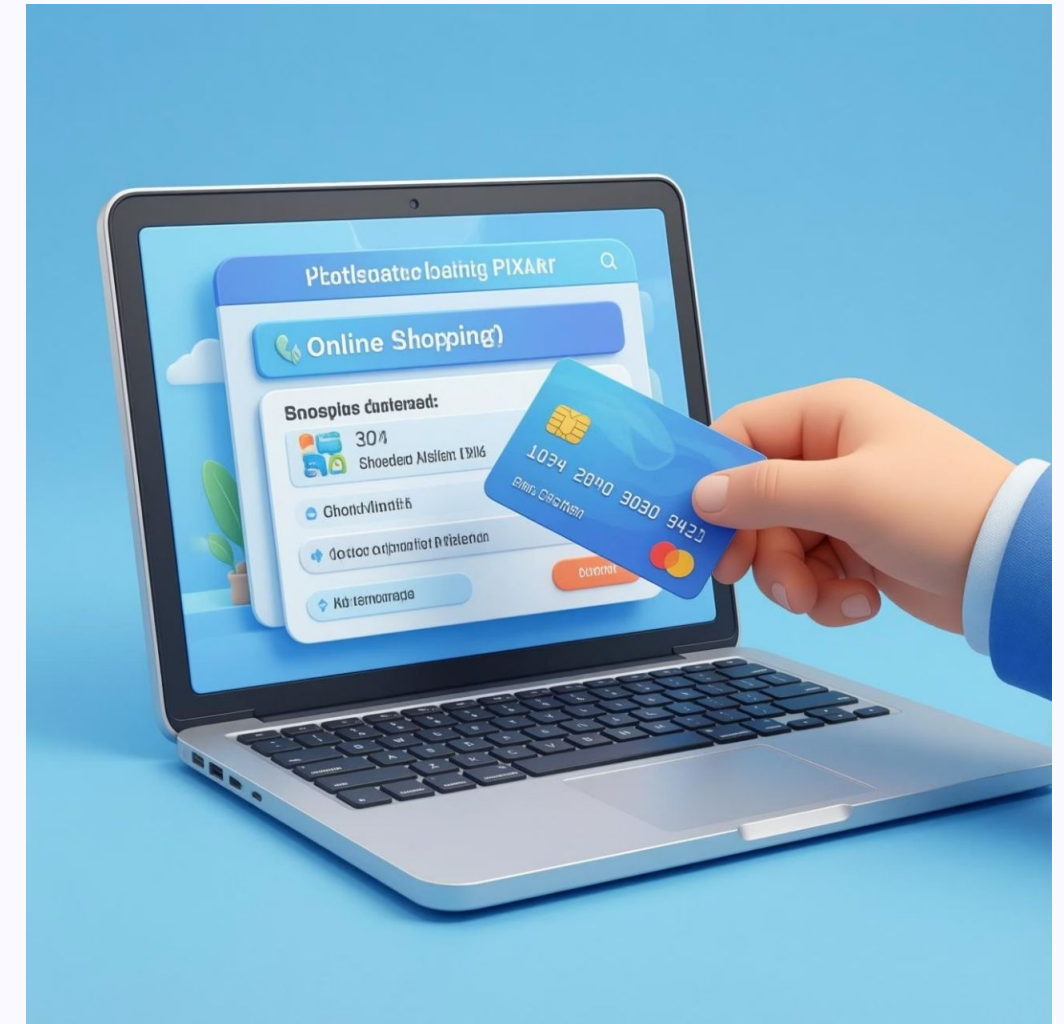# Customer Spending Patterns

High-Value Discount Users

839 customers used discounts while spending above the average purchase amount of $59.76. This segment represents savvy shoppers who seek value but maintain high spending levels.
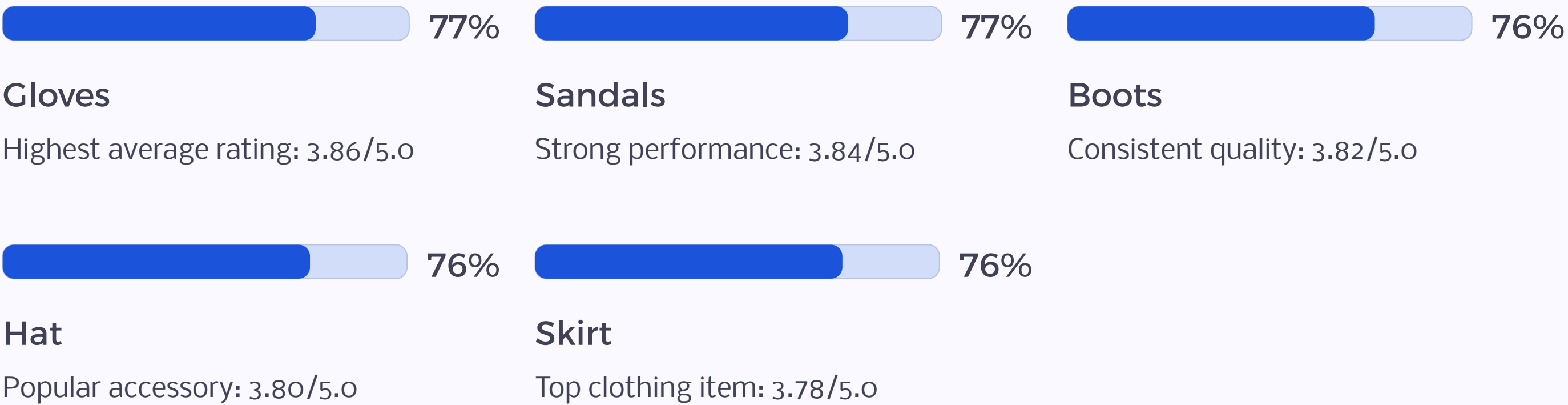
Shipping Preferences

Express Shipping: $60.48 average spend
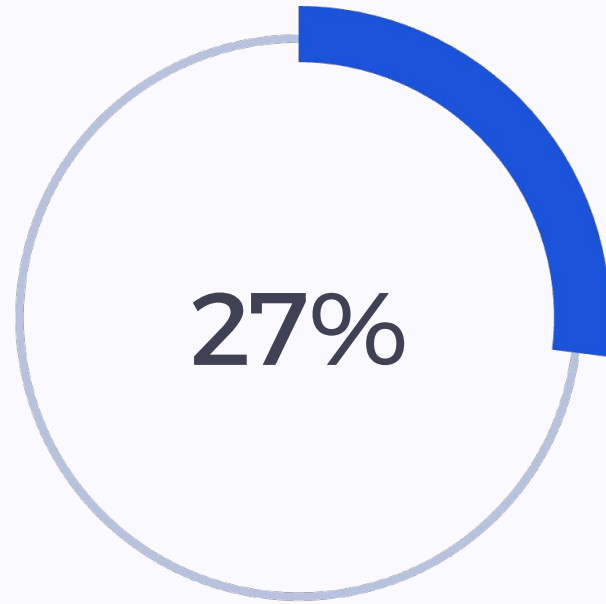
Standard Shipping: $58.46 average spend

Express shipping users spend 3.5% more on average, indicating willingness to pay for convenience.
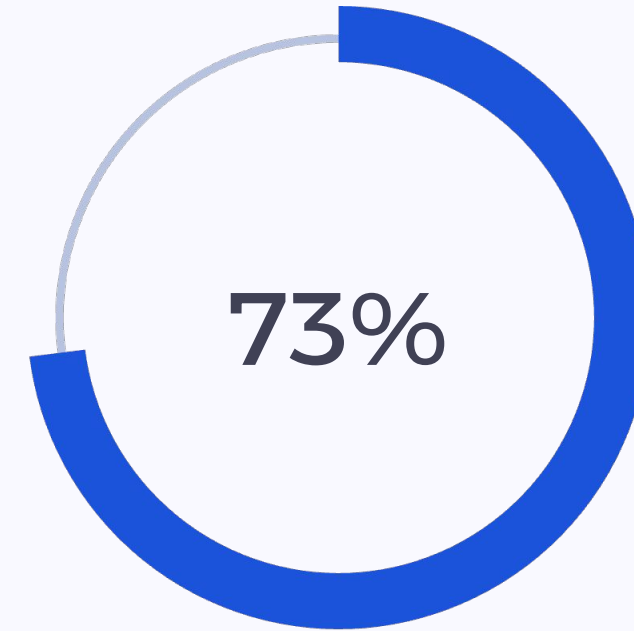
Top-Rated Products

77%

Gloves

Highest average rating: 3.86/5.0

77%

Sandals

Strong performance: 3.84/5.0

76%

Boots

Consistent quality: 3.82/5.0

76%

Hat

Popular accessory: 3.80/5.0

76%

Skirt

Top clothing item: 3.78/5.0

Made with GAMMA

Subscription Analysis

27%

Subscribers

1,053 customers with $59.49 avg spend

73%
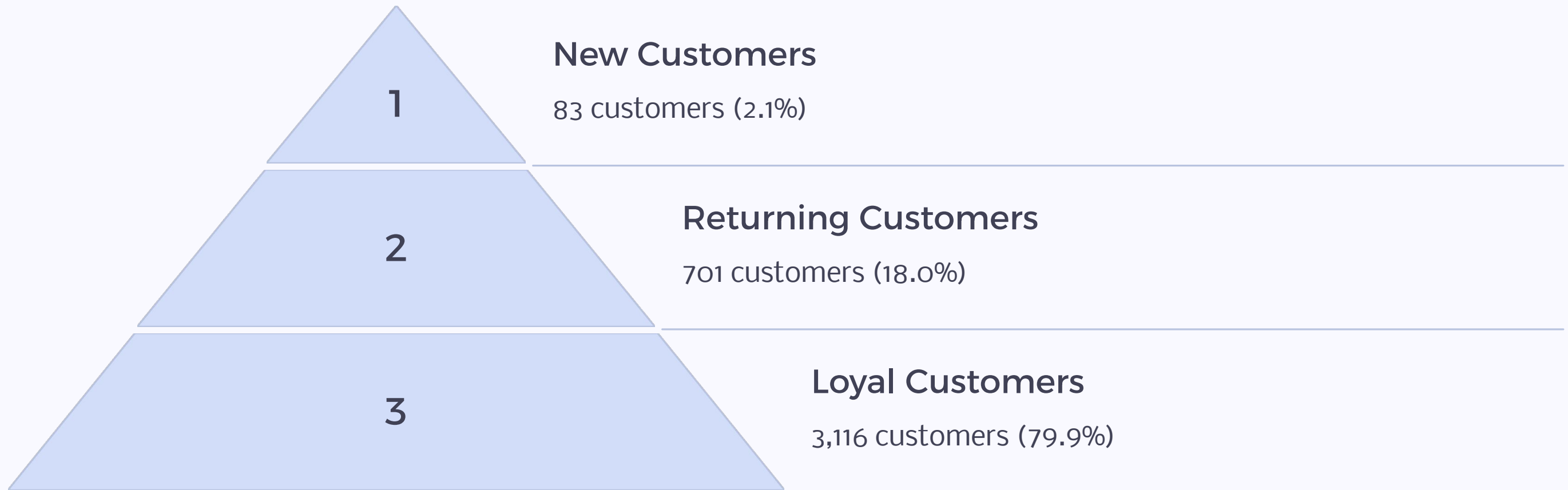
Non-Subscribers

2,847 customers with $59.87 avg spend

Key Finding

Despite similar average spending, non-subscribers generate **$170,436** in total revenue versus **$62,645** from subscribers due to volume.

Repeat Buyer Insight

Among customers with 5+ purchases: **958 are subscribers** while **2,518 are not**, revealing untapped subscription potential.

Made with GAMMA

Understanding Customer Loyalty

1 — **New Customers**
83 customers (2.1%)

2 — **Returning Customers**
701 customers (18.0%)

3 — **Loyal Customers**
3,116 customers (79.9%)

Strong loyalty base presents opportunity to convert returning customers into loyal segment through targeted engagement programs.

Made with GAMMA

Revenue by Age Demographics
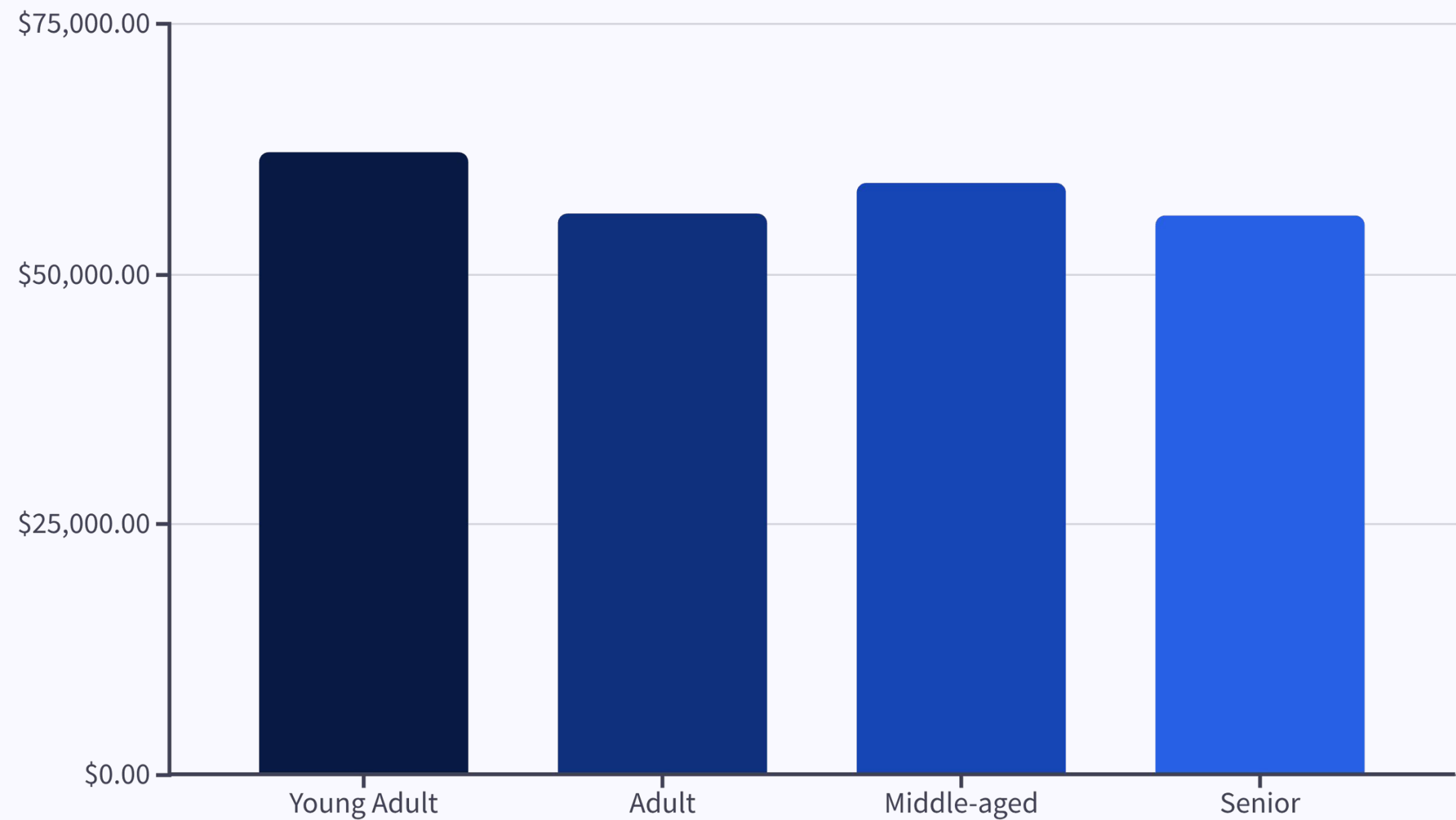
Young adults lead revenue generation at $62,143, followed closely by middle-aged customers at $59,197. Revenue distribution is relatively balanced across age groups, suggesting broad market appeal.

Business Action Plan

Boost Subscriptions

Promote exclusive benefits to convert the 2,518 repeat buyers who aren't yet subscribers. Focus on loyalty rewards and convenience.

Customer Loyalty Programs

Reward repeat buyers to accelerate movement from Returning (701) to Loyal (3,116) segment through points and personalized offers.

Review Discount Policy

Balance sales boosts with margin control. 839 high-spenders use discounts–optimize discount thresholds to maintain profitability.

Product Positioning

Highlight top-rated products (Gloves, Sandals, Boots) in marketing campaigns to drive conversion and build brand trust.

Targeted Marketing

Focus on high-revenue young adults ($62K) and express-shipping users who demonstrate higher spending and urgency.