

Customer Shopping Behavior Analysis

Analyzing 3,900 purchases to uncover spending patterns, customer segments, and strategic insights





Dataset Overview

3,900

Total Purchases

Transactions analyzed

18

Data Columns

Features tracked

50

Locations

Geographic coverage

25

Products

Items purchased

Data Preparation Process

01

Data Loading

Imported dataset using pandas

02

Exploration

Analyzed structure and summary statistics

03

Missing Data

Imputed 37 missing review ratings by category median

04

Feature Engineering

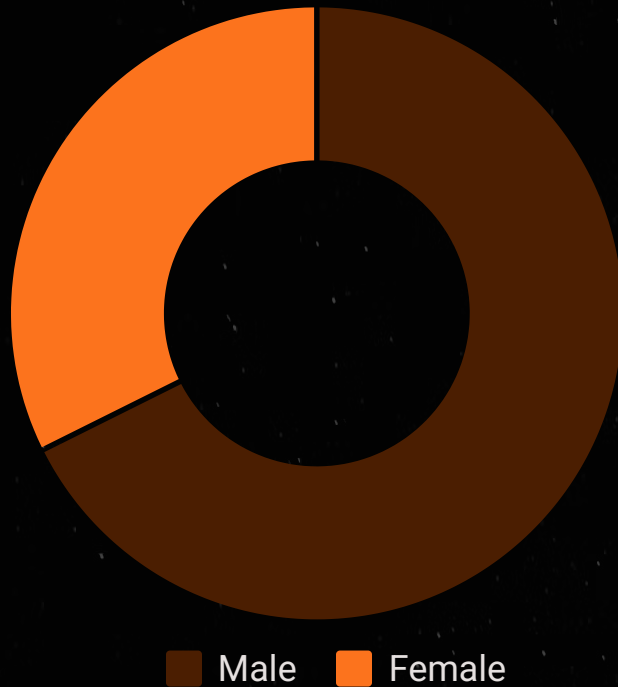
Created age groups and purchase frequency columns

05

Database Integration

Loaded cleaned data into PostgreSQL

Revenue by Gender



Male Customers Drive Revenue

Male customers generate 68% of total revenue at \$157,890 vs. female customers at \$75,191



Top Products & Shipping Insights

Highest Rated Products

1. Gloves (3.86)
2. Sandals (3.84)
3. Boots (3.82)
4. Hat (3.80)
5. Skirt (3.78)

Shipping Preferences

Express: \$60.48 avg

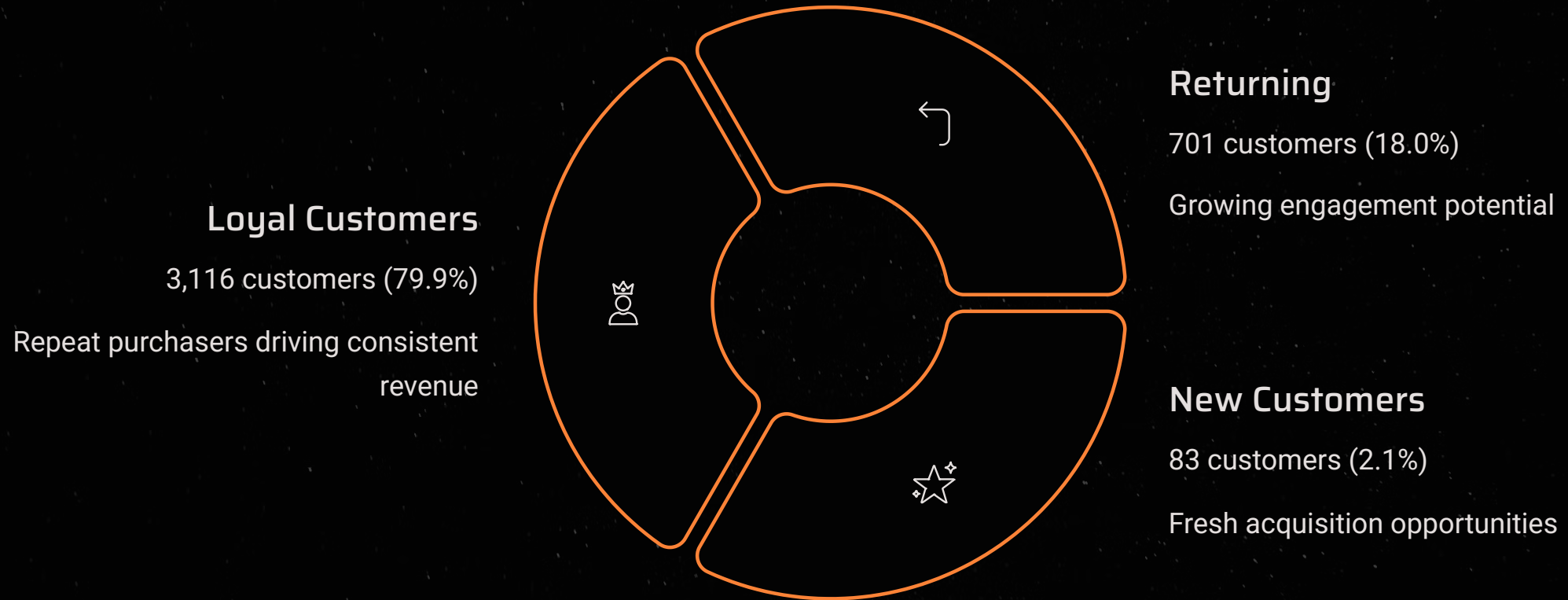
Standard: \$58.46 avg

Express users spend 3.5% more per purchase

Discount-Dependent Items

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

Customer Segmentation



Subscription Analysis

Subscribers vs. Non-Subscribers

- Subscribers: 1,053 customers
- Avg spend: \$59.49
- Total revenue: \$62,645

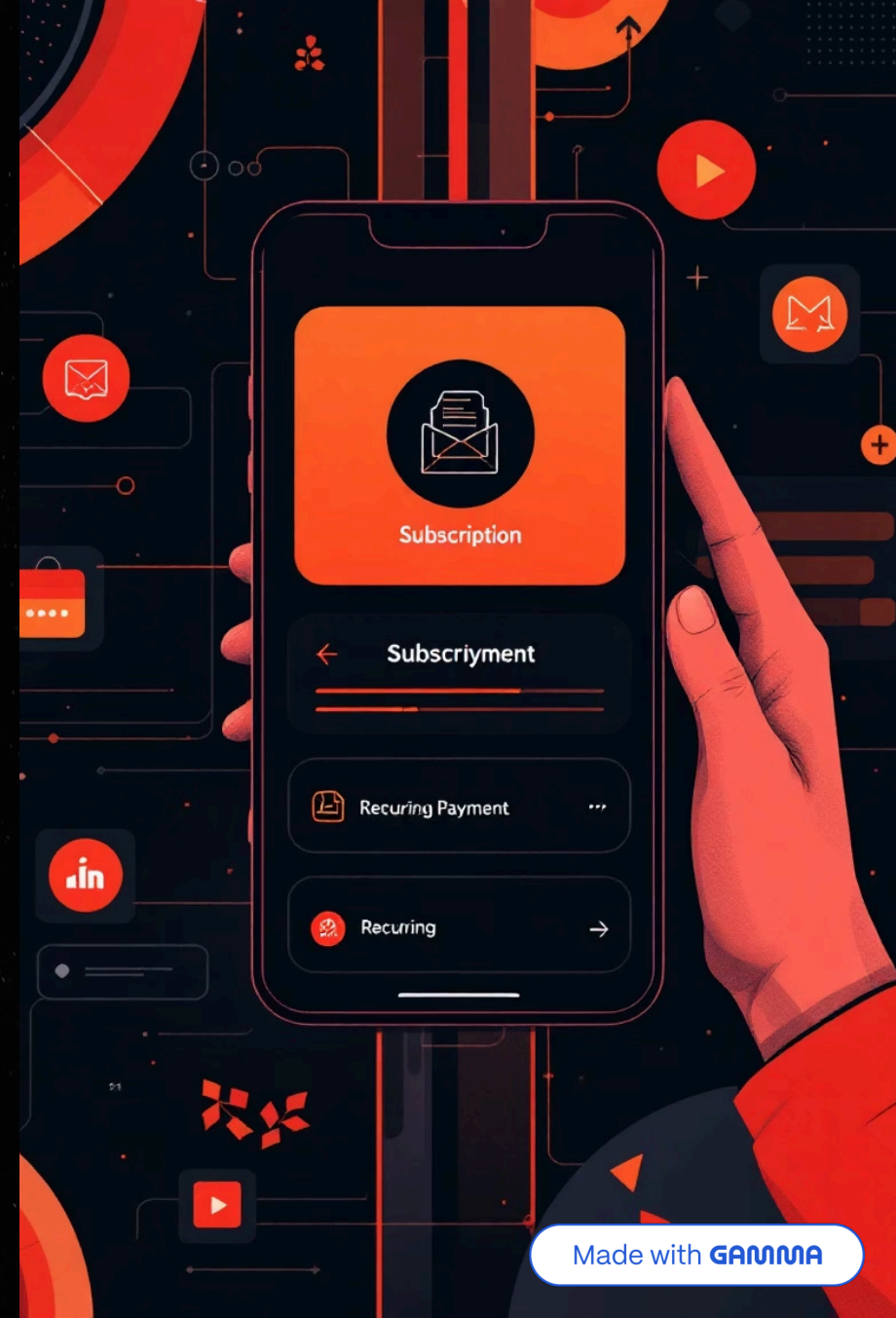
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- Non-subscribers: 2,847 customers
 - Avg spend: \$59.87
 - Total revenue: \$170,436

Repeat Buyers & Subscriptions

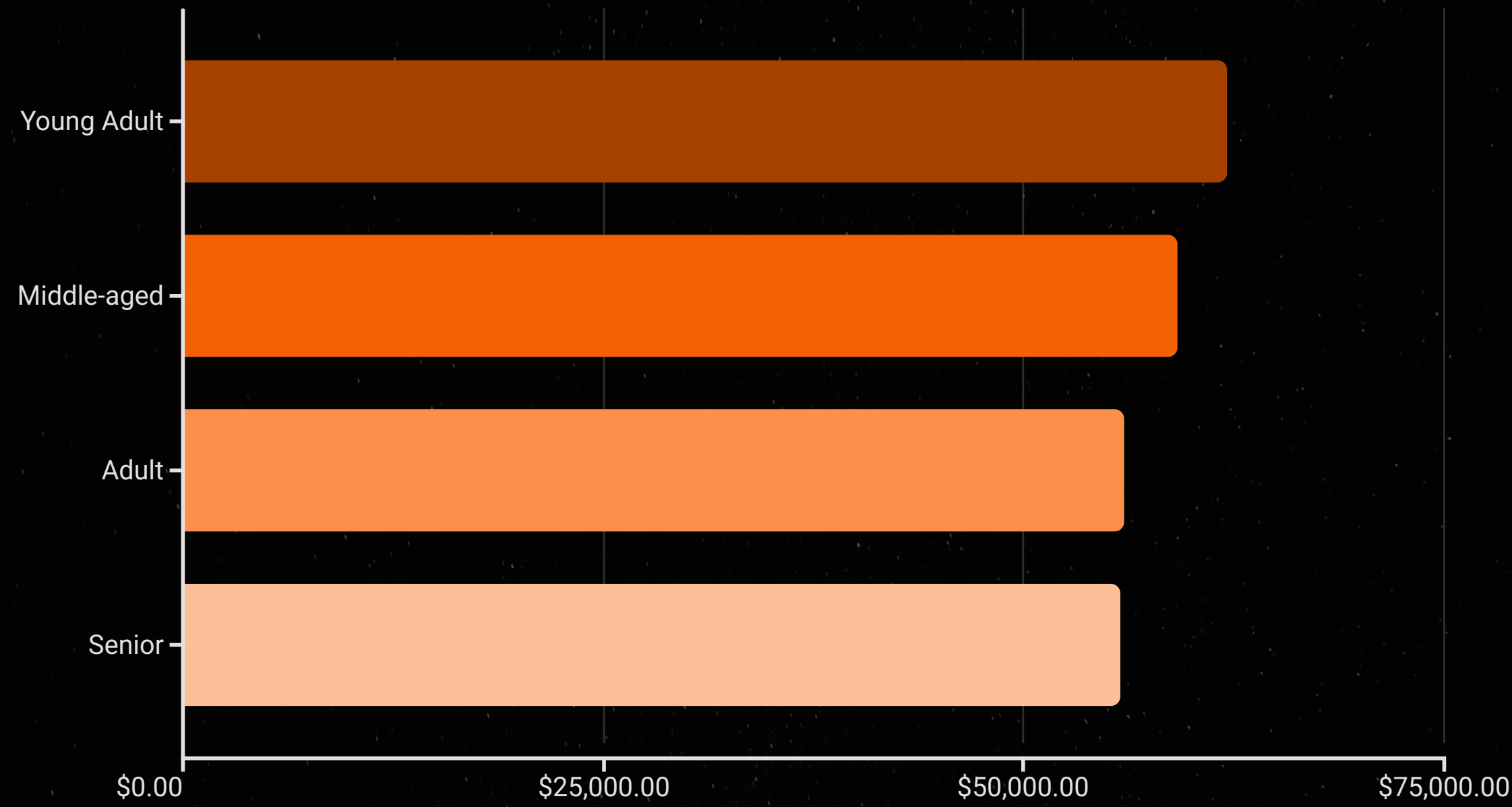
Customers with 5+ purchases:

- 958 are subscribers
- 2,518 are not subscribed

Opportunity: Convert loyal non-subscribers



Revenue by Age Group



Young adults lead revenue generation, followed closely by middle-aged customers. All segments show balanced contribution.

Customer Behavior Dashboard

K

customers

\$59.76

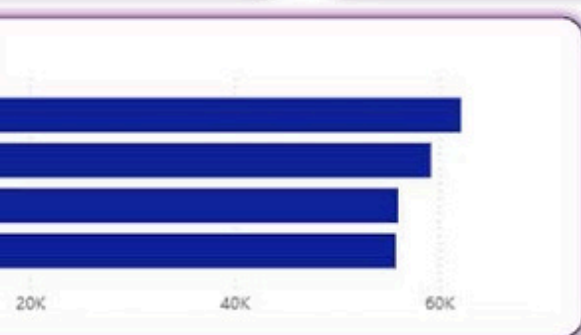
Average Purchase Amount

Description Status



No 73%

Revenue by Category



Sales by Age Group



Power BI Dashboard

Interactive visualization presenting key insights across customer segments, product performance, and revenue trends

Strategic Recommendations

1

Boost Subscriptions

Promote exclusive benefits to convert 2,518 loyal non-subscribers

2

Loyalty Programs

Reward repeat buyers to strengthen the 79.9% loyal segment

3

Review Discount Policy

Balance sales boosts with margin control on high-discount items

4

Product Positioning

Highlight top-rated products (Gloves, Sandals, Boots) in campaigns

5

Targeted Marketing

Focus on young adults and express-shipping users for maximum ROI