

Customer Purchase Behavior Analysis

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



DATASET OVERVIEW

The Foundation

3,900

Total Purchases

Transactions
analyzed

18

Data Points

Features per
customer

50

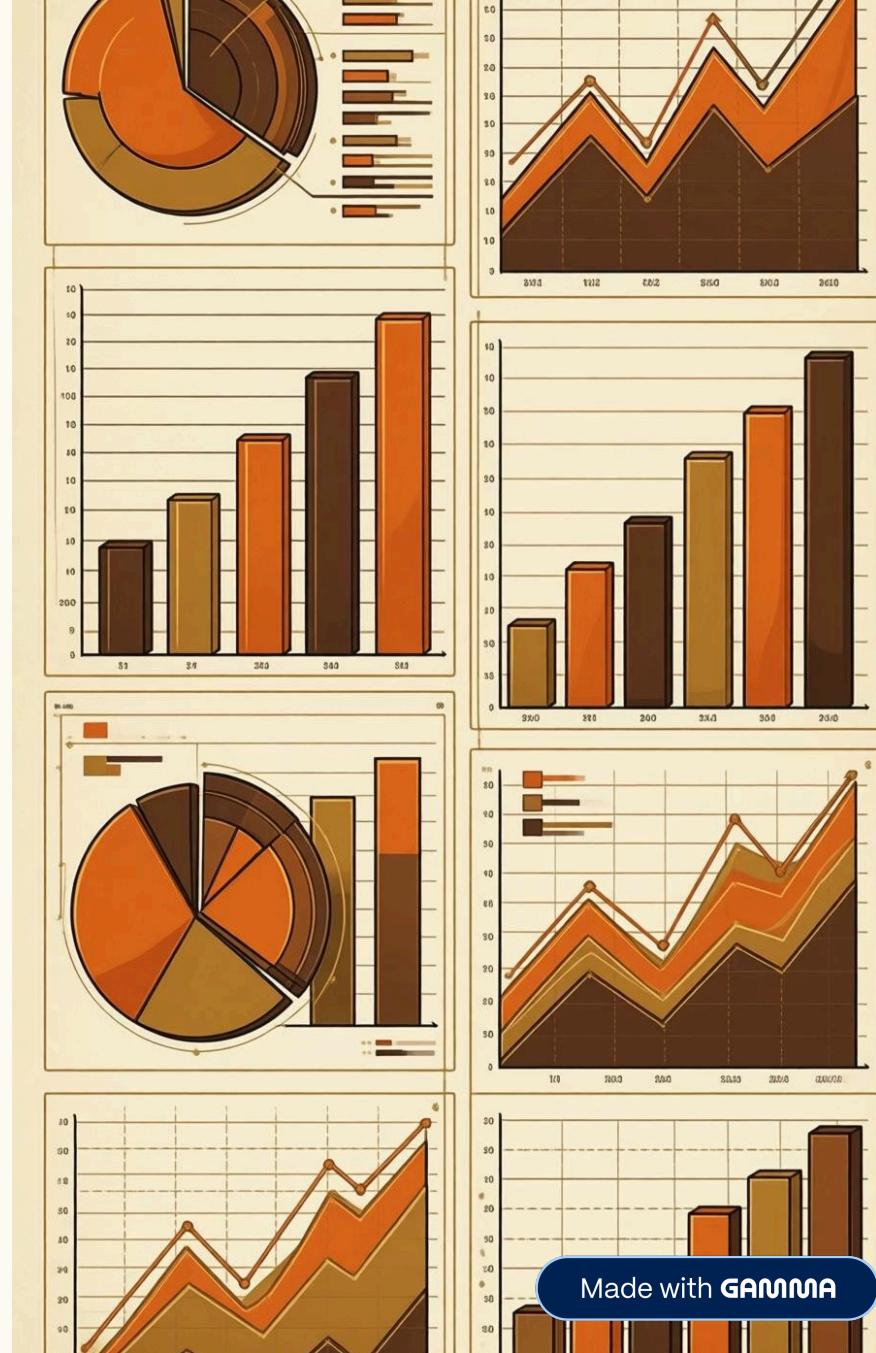
Locations

Geographic spread

25

Products

Items tracked





Data Preparation Pipeline

O1

Data Loading

Imported dataset using pandas

O2

Exploration

Structure check and summary statistics

O3

Missing Data

Imputed 37 missing review ratings by category median

O4

Feature Engineering

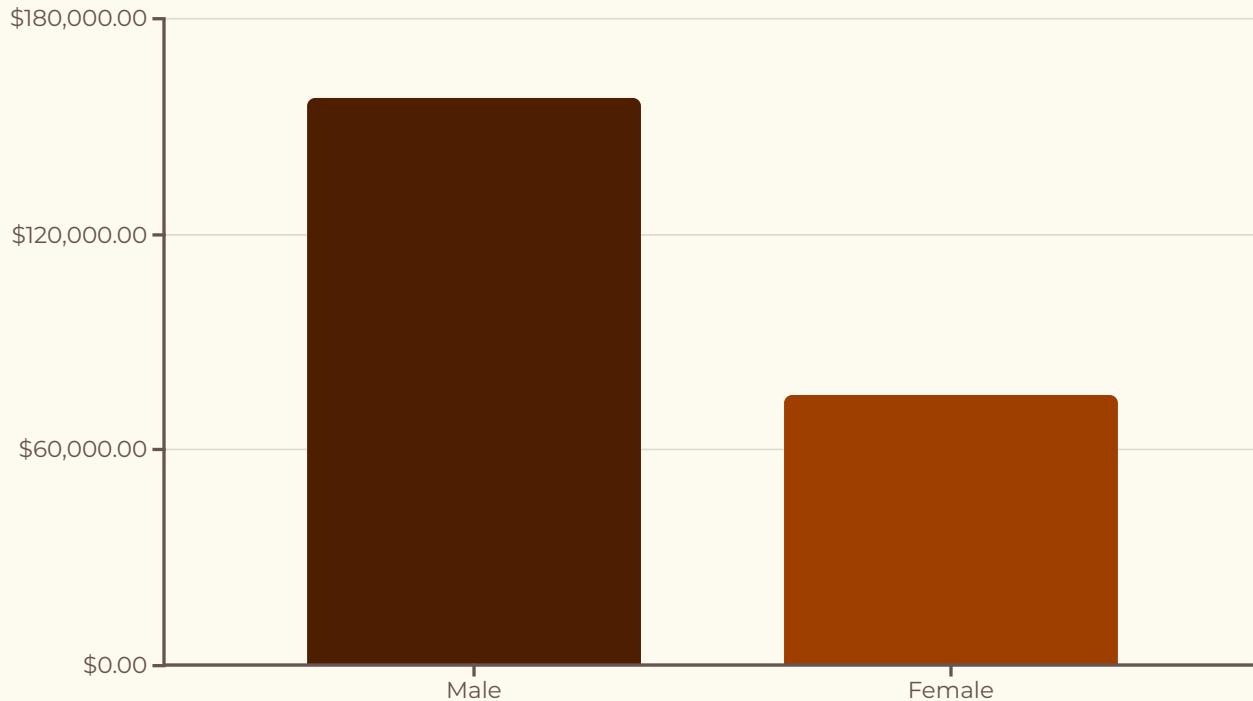
Created age groups and purchase frequency columns

O5

Database Integration

Loaded cleaned data into PostgreSQL

Revenue by Gender



Key Finding

Male customers generate **2.1x more revenue** than female customers

Strategic opportunity for targeted campaigns



Customer Segmentation

Loyal Customers

3,116 customers

Highest value segment

Returning

701 customers

Growth opportunity

New Buyers

83 customers

Conversion focus

Top Products by Rating

- Gloves

3.86 average rating

- Sandals

3.84 average rating

- Boots

3.82 average rating

- Hat

3.80 average rating

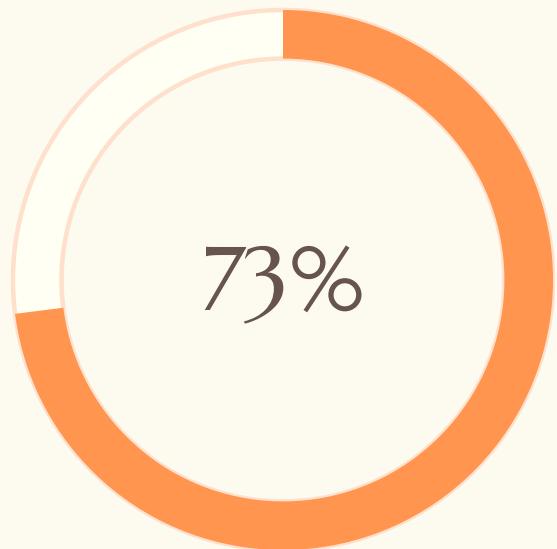
- Skirt

3.78 average rating



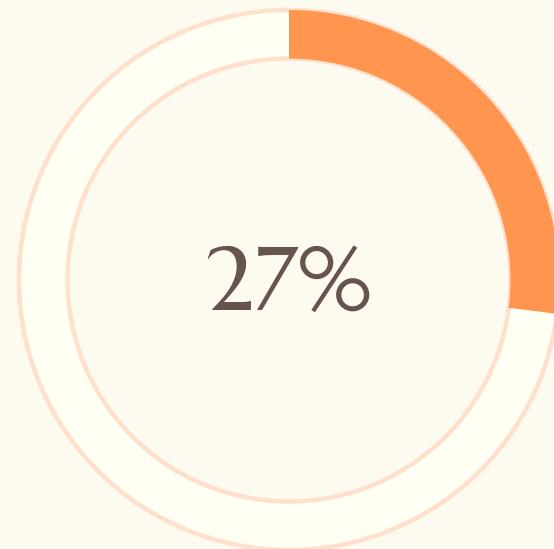
Highlight these top-rated products in marketing campaigns

Subscription Analysis



Non-Subscribers

2,847 customers, \$59.87 avg spend



Subscribers

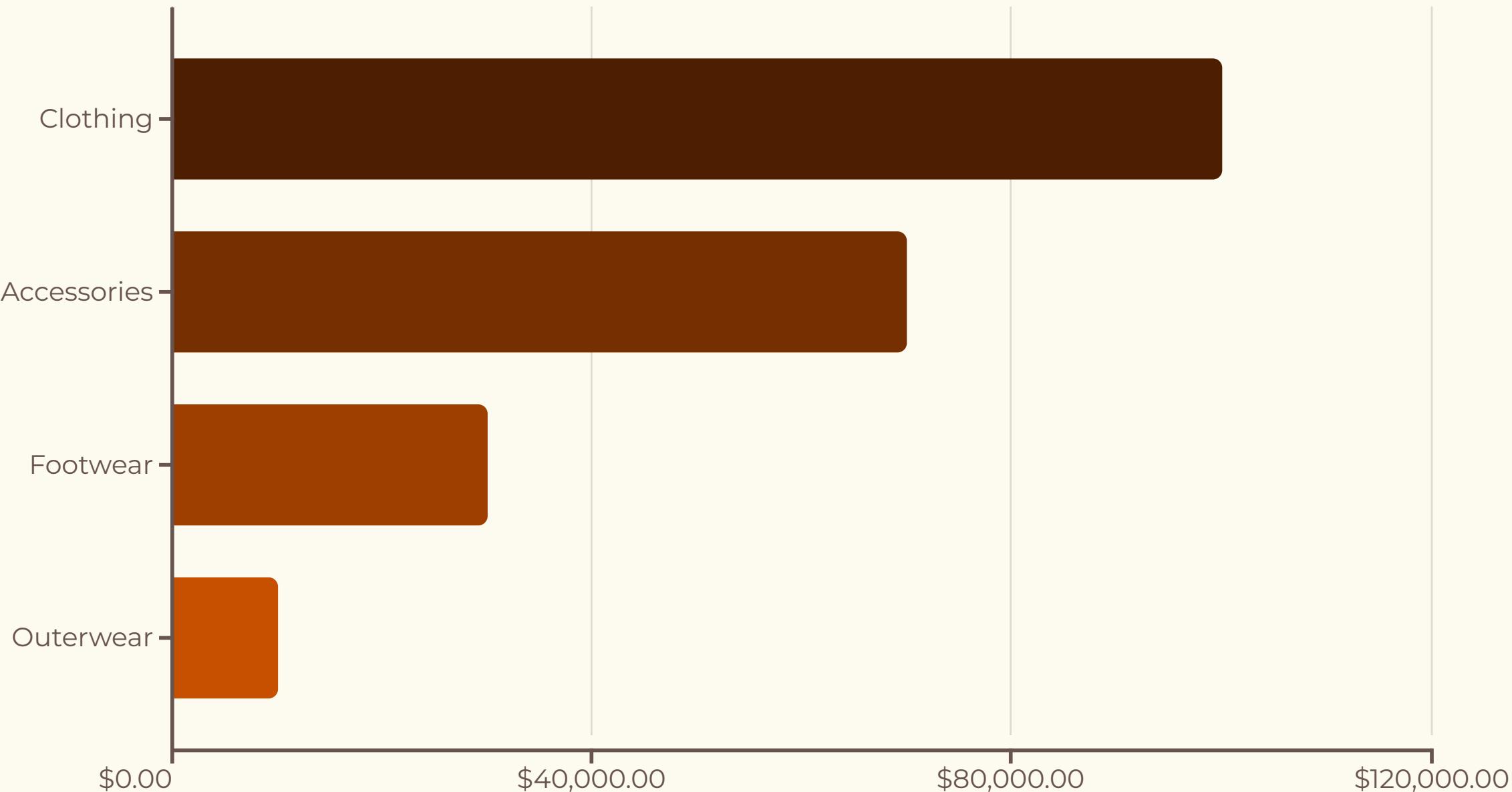
1,053 customers, \$59.49 avg spend

Revenue Impact

- Subscribers: \$62,645 total
- Non-subscribers: \$170,436 total
- 958 repeat buyers are subscribers

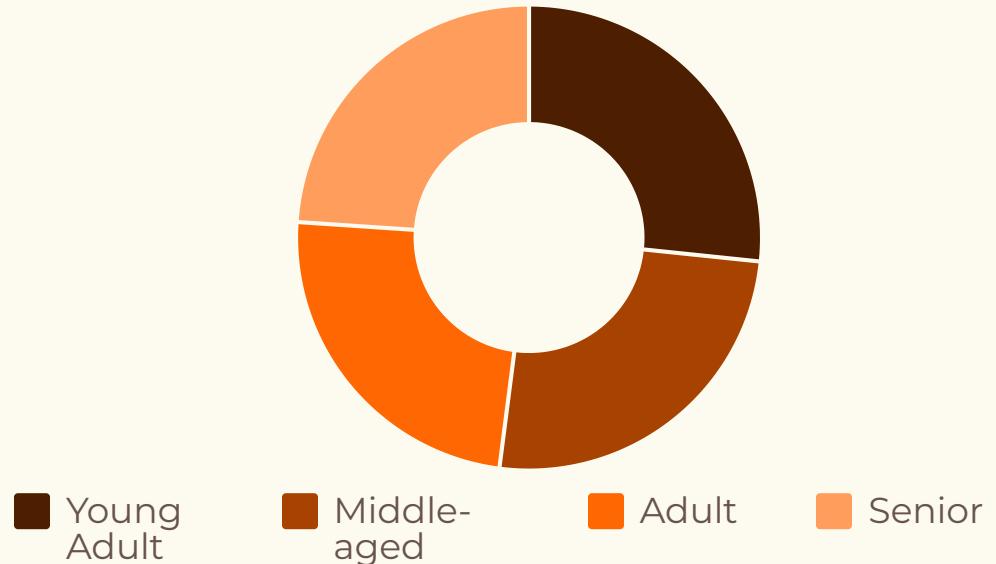


Revenue by Category



Clothing dominates with 1,737 purchases. Top items: Blouse (171), Pants (171), Shirt (169)

Age Group Insights



Targeting Strategy

Young adults lead revenue generation

Average customer age: **44 years**

Age range: 18-70 years



ACTION ITEMS

Business Recommendations

Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers

Loyalty Programs

Reward repeat buyers to grow loyal segment beyond 3,116

Review Discount Policy

839 high-spending discount users—balance sales with margins

Product Positioning

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

Targeted Marketing

Focus on young adults and express shipping users for maximum ROI