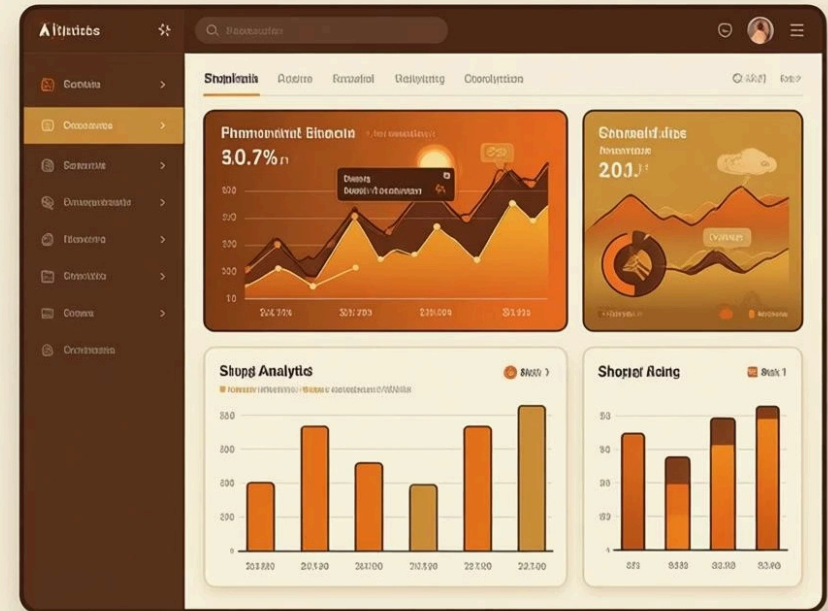


# Customer Purchase Behavior Analysis

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

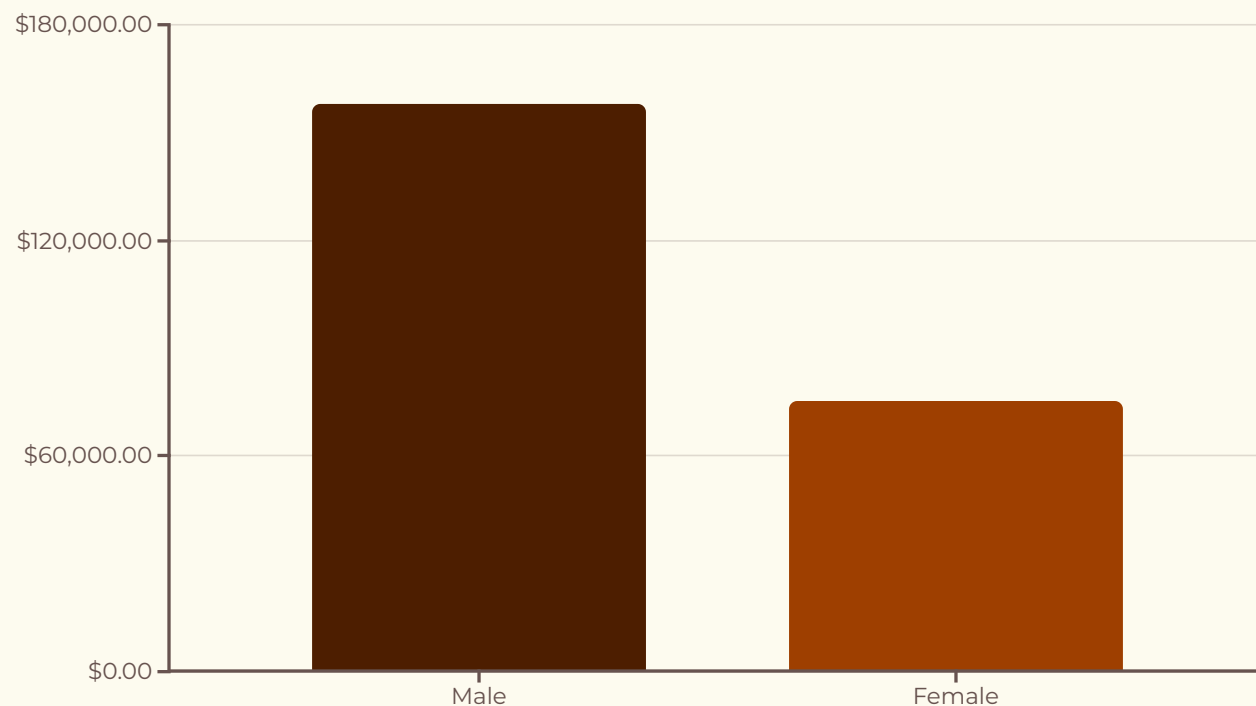
Created age groups and purchase frequency columns

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

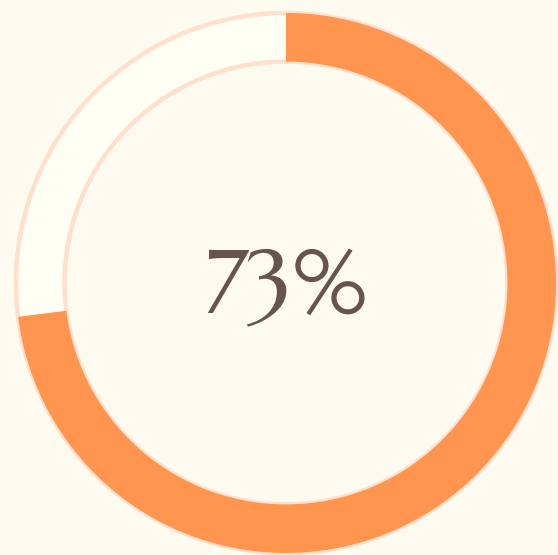
- Gloves  
3.86 average rating
- Sandals  
3.84 average rating
- Boots  
3.82 average rating
- Hat  
3.80 average rating
- Skirt  
3.78 average rating



Highlight these top-rated products in marketing campaigns

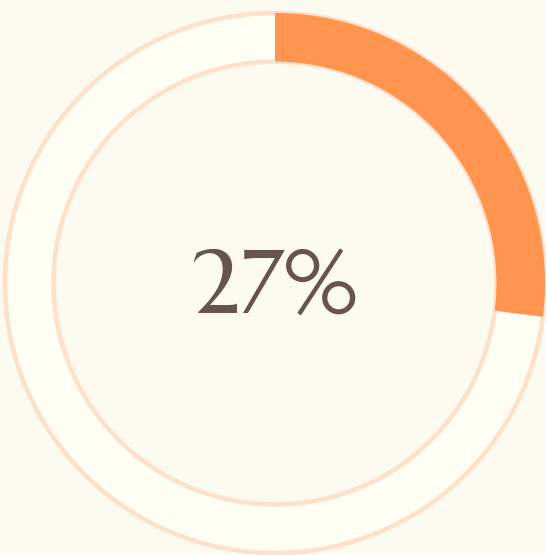


# Subscription Analysis



Non-Subscribers

2,847 customers, \$59.87 avg spend



Subscribers

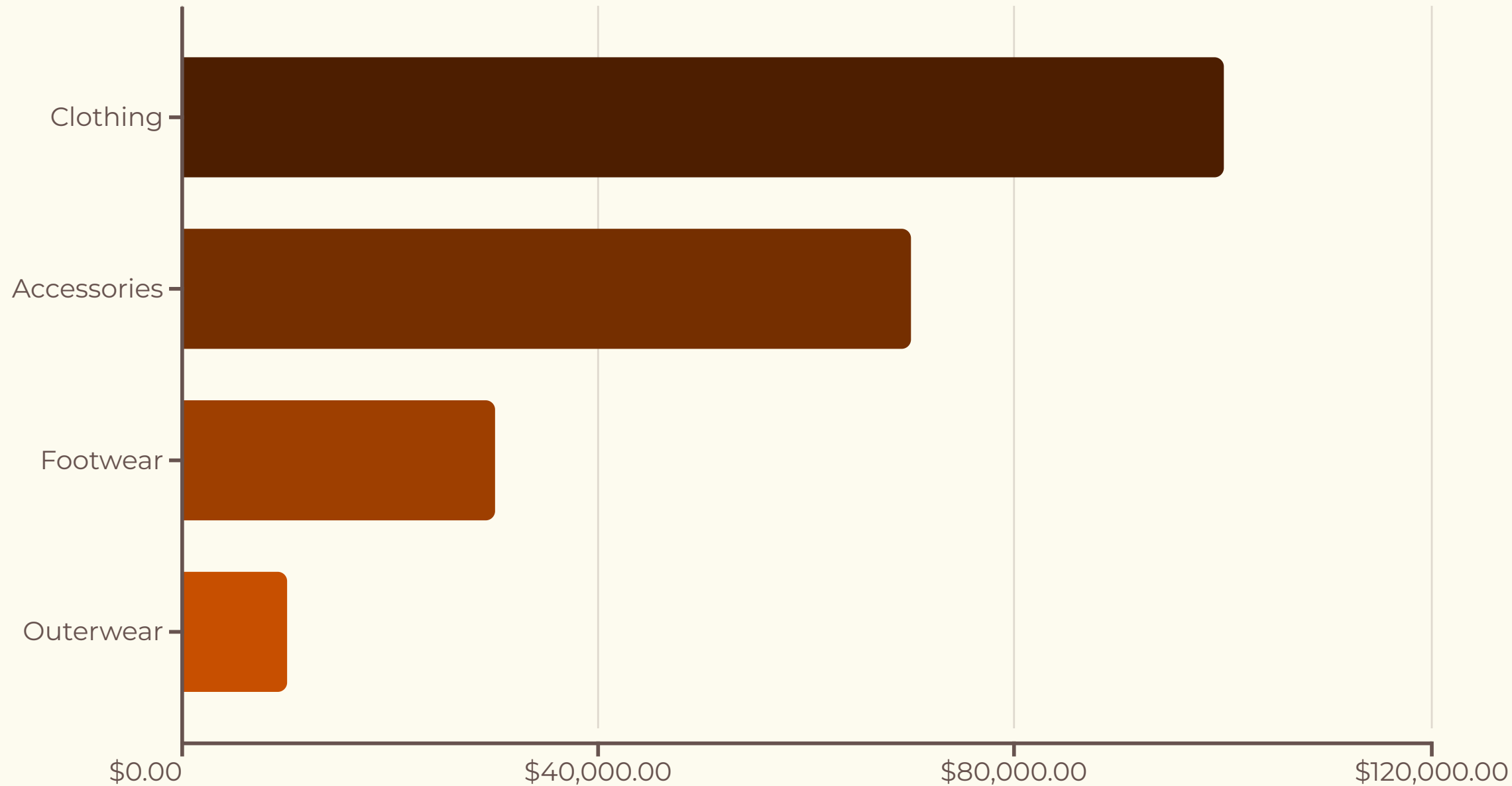
1,053 customers, \$59.49 avg spend

## Revenue Impact

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



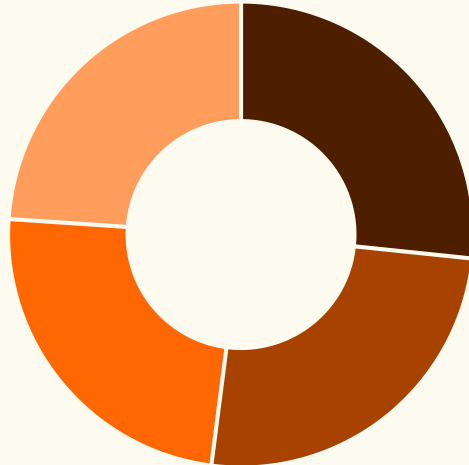
# Revenue by Category



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



# Age Group Insights



■ Young Adult

■ Middle-aged

■ Adult

■ Senior

## Targeting Strategy

Young adults lead revenue generation

Average customer age: **44 years**

Age range: 18-70 years



# 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