

# Customer Shopping Behavior Analysis



OVERVIEW

# Dataset at a Glance

**3,900**

## Total Purchases

Transactions analyzed  
across all categories

**18**

## Data Points

Features per customer  
transaction

**50**

## Locations

Geographic coverage

**4**

## Categories

Product segments  
tracked



# Data Preparation Process



## Data Loading & Exploration

Imported dataset, checked structure with df.info() and summary statistics



## Missing Data Handling

Imputed 37 missing Review Rating values using median by category



## Feature Engineering

Created age\_group bins and purchase\_frequency\_days columns



## Data Consistency

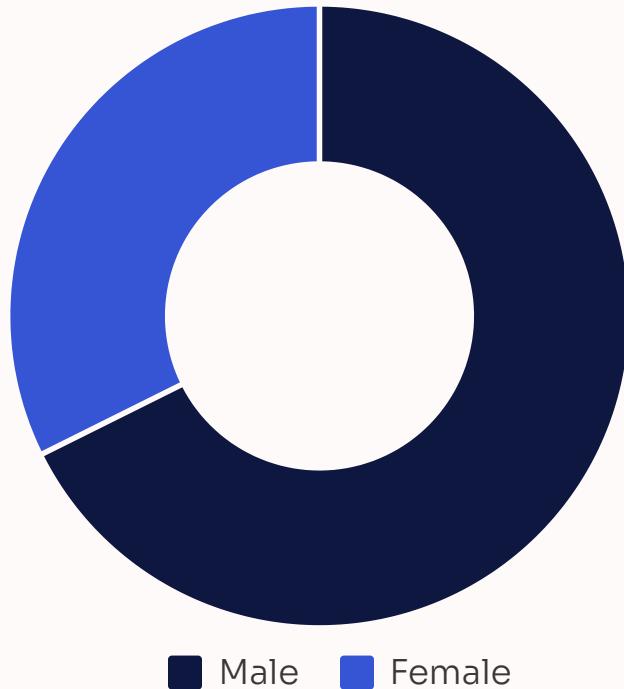
Dropped redundant promo\_code\_used column, standardized naming



## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue by Gender



**\$233K Total Revenue**

Male customers generate **68%** of total revenue, significantly outpacing female customers

CUSTOMER SEGMENTS

# Who Are Our Customers?

## Loyal Customers

**3,116 customers**

80% of customer base

## Returning

**701 customers**

18% showing repeat behavior

## New Customers

**83 customers**

2% first-time buyers



Made with **GAMMA**

# Top Products & Ratings

## Highest Rated Items

- **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

## Discount Leaders



**Hat**



**Sneakers**



**Coat**

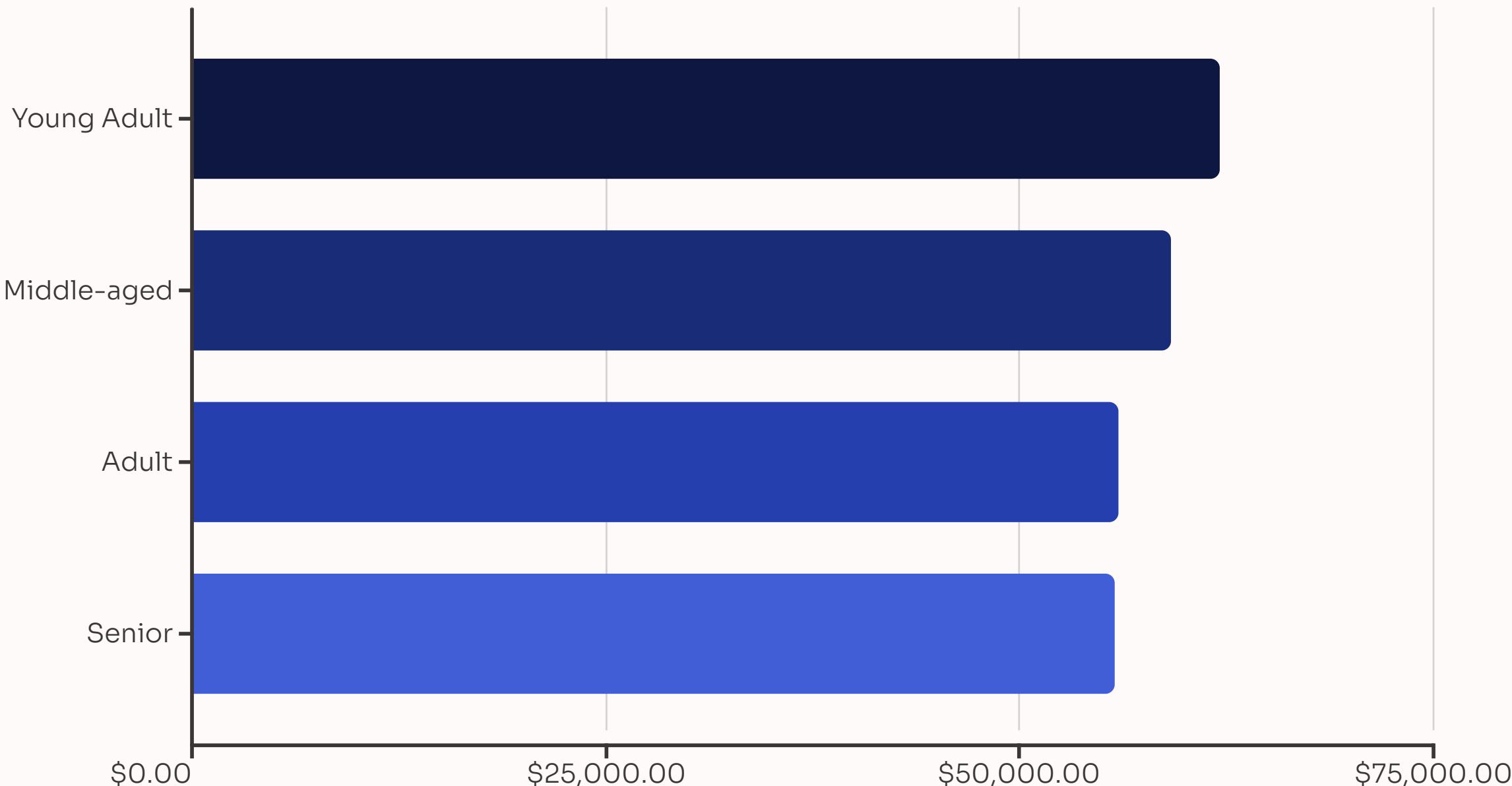


**Sweater**



**Pants**

# Revenue by Age Group



Young adults lead revenue generation, but all age groups contribute relatively evenly

# Interactive Analytics

**3.9K Customers**

Total customer base analyzed

**3.75 Rating**

Strong customer satisfaction

**\$59.76 Avg Purchase**

Consistent spending across segments

## Customer Behavior Dashboard



Customers

**\$59.76**

Average Purchase Amount

Subscription Status



No  
73%

Revenue by Category



Sales by Age

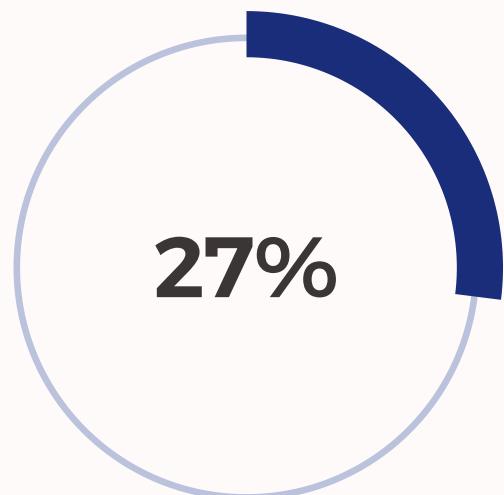
Young Adult

Middle-aged

Senior

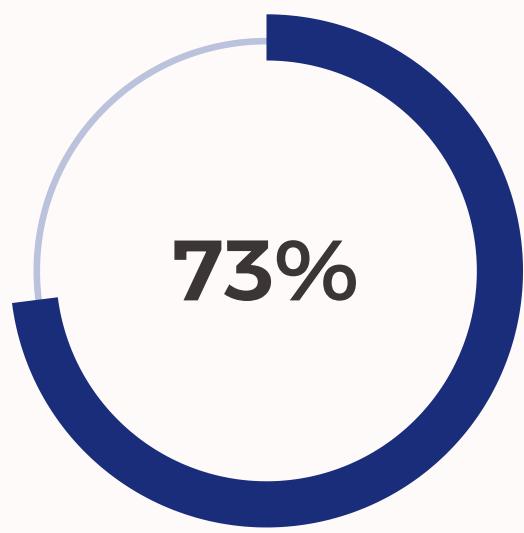
Adult

# Subscription Insights



## Subscribers

1,053 customers



## Non-Subscribers

2,847 customers

## Key Finding

Subscribers and non-subscribers show similar average spend (\$59.49 vs \$59.87)

Repeat buyers with 5+ purchases:  
**958 subscribers** vs 2,518 non-subscribers



# Business Recommendations

1

## Boost Subscriptions

Promote exclusive benefits to convert the 73% non-subscriber base

2

## Customer Loyalty Programs

Reward repeat buyers to accelerate movement into "Loyal" segment

3

## Review Discount Policy

Balance sales boosts with margin control—50% discount rate on some items

4

## Product Positioning

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

5

## Targeted Marketing

Focus on high-revenue young adults and express-shipping users