



# Customer Shopping Behavior Analysis

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



# Dataset Overview

3,900

Total Purchases  
Transactions analyzed

18

Data Points  
Features per purchase

50

Locations  
Geographic coverage

25

Products  
Items tracked



# Data Preparation Journey

01

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## Data Loading

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

02

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## Missing Data Handling

Imputed 37 missing Review Ratings using median by category

03

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## Feature Engineering

Created age\_group and purchase\_frequency\_days columns

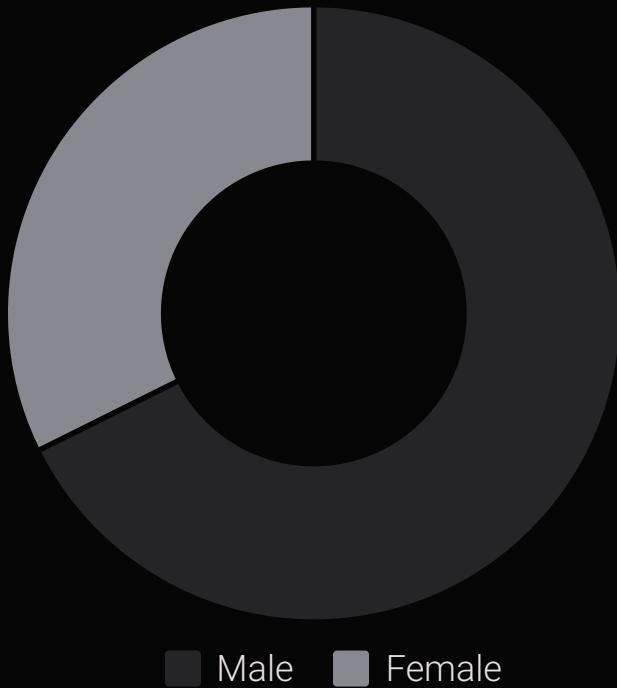
04

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## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue by Gender



## Key Finding

Male customers generate 68% of total revenue

Female segment shows opportunity for targeted growth campaigns



# Customer Segmentation Insights

## Loyal Customers

**3,116 customers**

Largest segment driving repeat business

## Returning Buyers

**701 customers**

Growth opportunity segment

## New Customers

**83 customers**

Smallest segment needing nurture

958 repeat buyers (>5 purchases) have subscriptions vs. 2,518 without

# Top Performing Products

## Gloves

Highest rating: 3.86 stars

## Sandals

Rating: 3.84 stars

## Boots

Rating: 3.82 stars

## Category Leaders

- Clothing: Blouse (171 orders)
- Accessories: Jewelry (171 orders)
- Footwear: Sandals (160 orders)

## Discount Dependent

Hat leads with 50% discount rate, followed by Sneakers at 49.66%

# Subscription vs. Non-Subscription



## Subscribers

**1,053 customers**

Average spend: \$59.49

Total revenue: \$62,645

## Non-Subscribers

**2,847 customers**

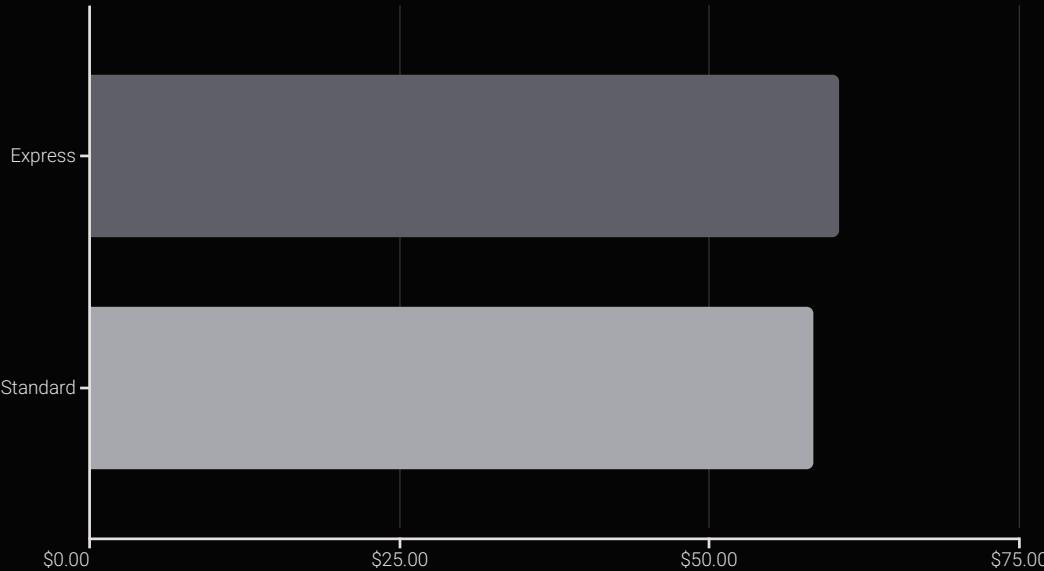
Average spend: \$59.87

Total revenue: \$170,436

- Similar spending patterns suggest subscription benefits need stronger value proposition

# Shipping & Discount Analysis

## Shipping Type Impact

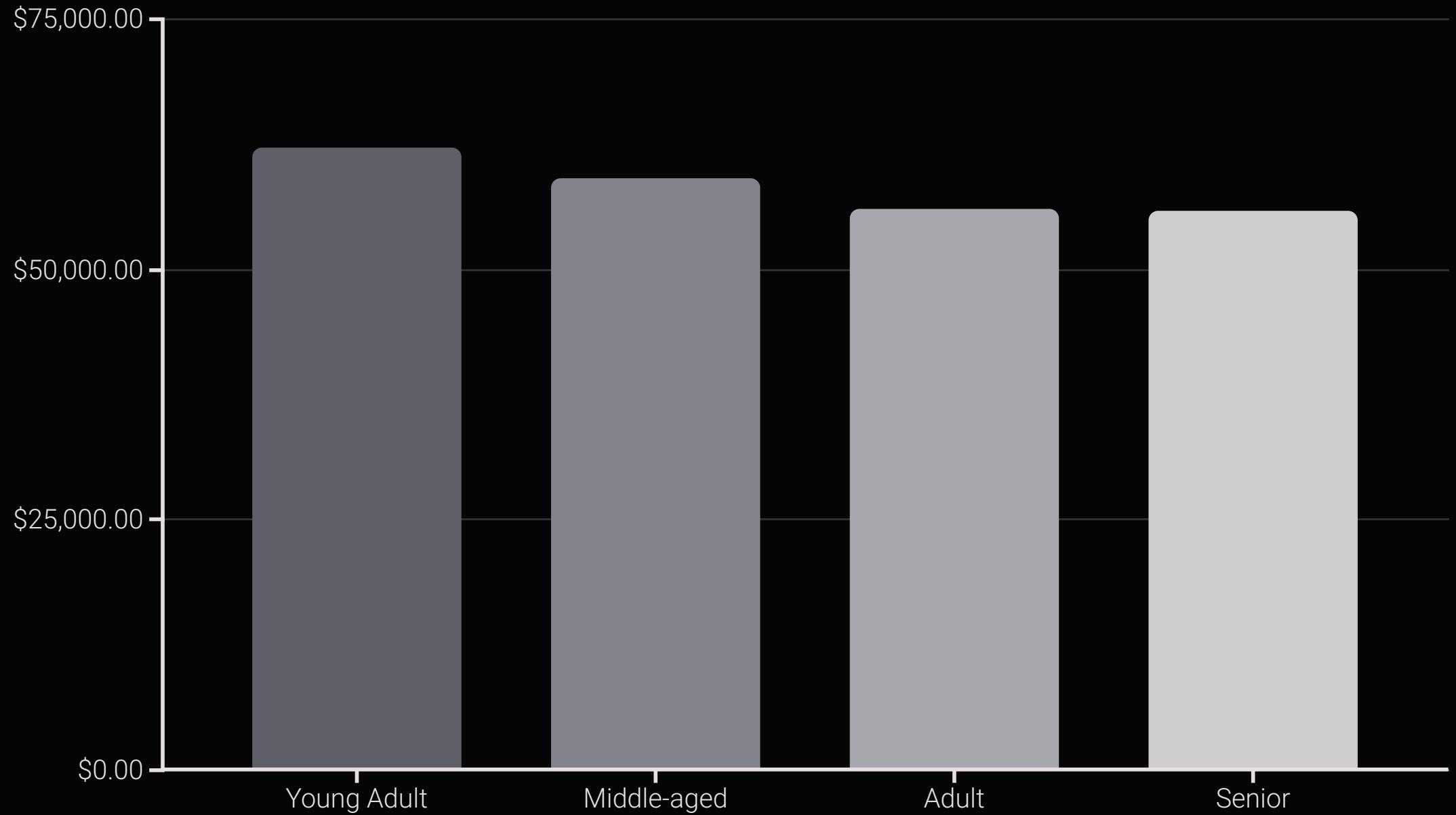


## High-Value Discount Users

**839 customers** used discounts but spent above \$59.76 average

Discounts drive volume without sacrificing basket size

# Revenue by Age Group



Young Adults lead revenue generation, followed closely by Middle-aged segment

# Strategic Recommendations



## Boost Subscriptions

Promote exclusive benefits to convert non-subscribers



## Loyalty Programs

Reward repeat buyers to grow Loyal segment



## Review Discounts

Balance sales boosts with margin control



## Targeted Marketing

Focus on high-revenue age groups and express shipping users



## Product Positioning

Highlight top-rated items in campaigns