

# Customer Shopping Behavior Analysis

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





# Dataset Overview

3,900

Total Purchases

18

Transactions  
analyzed

50

Locations

25

Products  
Items tracked

Geographic coverage

# Data Preparation & Cleaning

01

## Data Loading

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

02

## Missing Data

Imputed 37 missing Review Rating values using median by category

03

## Feature Engineering

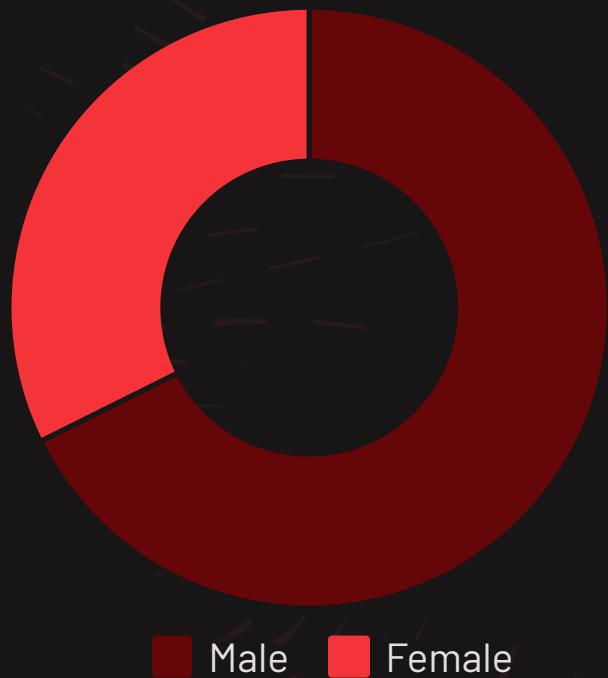
Created age\_group bins and purchase\_frequency\_days columns

04

## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue by Gender



## Key Finding

Male customers generate **68%** of total revenue

Female segment represents significant growth opportunity

# Top Products & Customer Ratings



Gloves

Rating: 3.86



Sandals

Rating: 3.84



Boots

Rating: 3.82



Hat

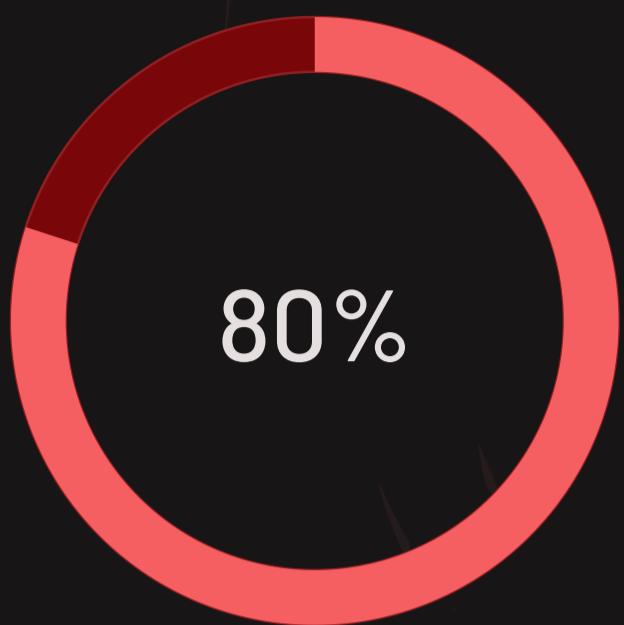
Rating: 3.80



Skirt

Rating: 3.78

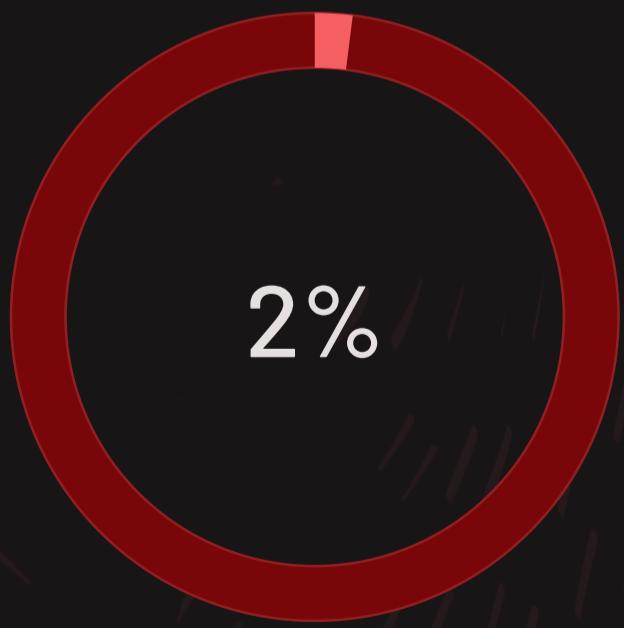
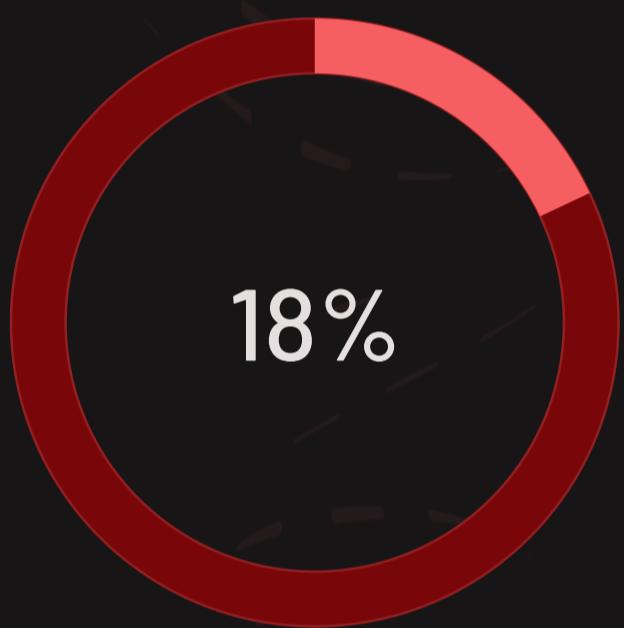
# Customer Segmentation Insights



## Strong Loyalty Base

Majority of customers are repeat buyers, indicating strong retention

Focus on converting new customers into returning segment





# Subscription vs. Non-Subscription

## Subscribers

**1,053** customers

Avg spend: **\$59.49**

Total revenue: **\$62,645**

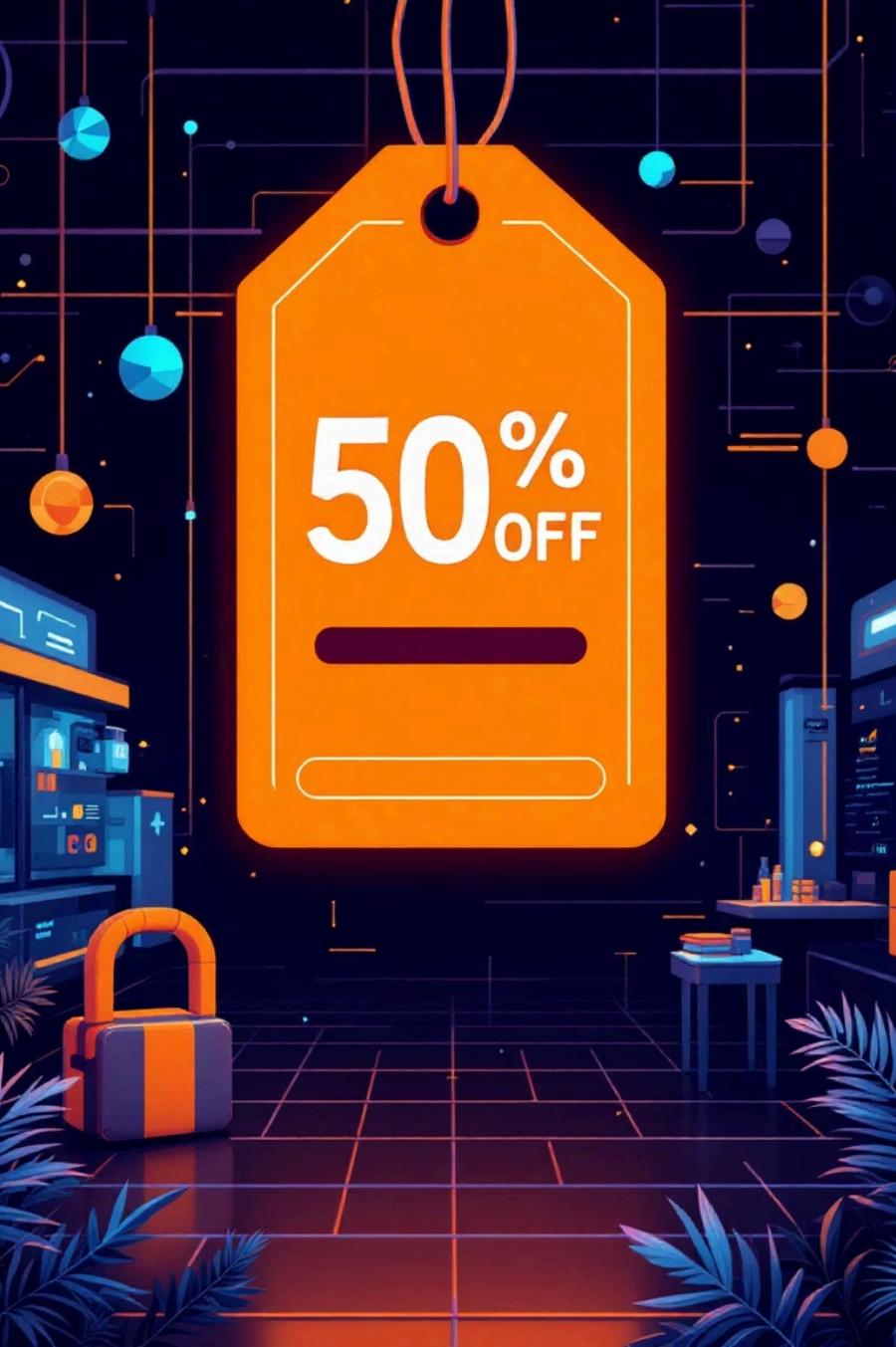
## Non-Subscribers

**2,847** customers

Avg spend: **\$59.87**

Total revenue: **\$170,436**

Similar spending patterns, but **958 repeat buyers** with 5+ purchases are subscribers—opportunity to convert high-frequency shoppers



# Discount Strategy Analysis

## High-Value Discount Users

**839 customers** used discounts but spent above average

Discounts drive volume without sacrificing quality buyers

## Top Discount-Dependent Products

- Hat: 50% discount rate
- Sneakers: 49.66%
- Coat: 49.07%
- Sweater: 48.17%
- Pants: 47.37%

# Customer Behavior Dashboard

K

customers

Subscription Status

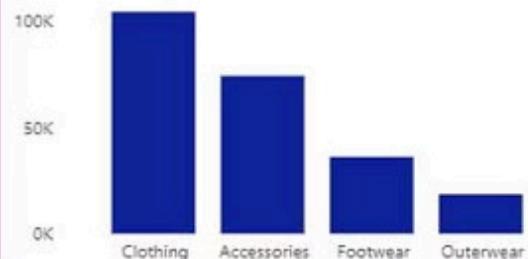


No 73%

\$59.76

Average Purchase Amount

Revenue by Category



Sales by Age Group



## Power BI Dashboard

Interactive visualization bringing all insights together for real-time decision making

# Strategic Recommendations

## Boost Subscriptions

Promote exclusive benefits to convert high-frequency shoppers

## Loyalty Programs

Reward repeat buyers to strengthen retention

## Review Discounts

Balance sales boosts with margin control

## Targeted Marketing

Focus on high-revenue age groups and express shipping users