

Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to guide strategic decisions



The Foundation

3.9K

Total Purchases

Transactions analyzed

18

Data Points

Features per customer

4

Categories

Product types tracked

Key Features Captured

- Customer demographics: Age, Gender, Location
- Purchase details: Category, Amount, Season, Size, Color
- Behavior metrics: Discounts, Reviews, Frequency, Shipping
- Subscription status tracking

PHASE 1

Data Preparation in Python

01

Data Loading & Exploration

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

02

Cleaning & Standardization

Imputed 37 missing Review Ratings, renamed columns to snake_case

03

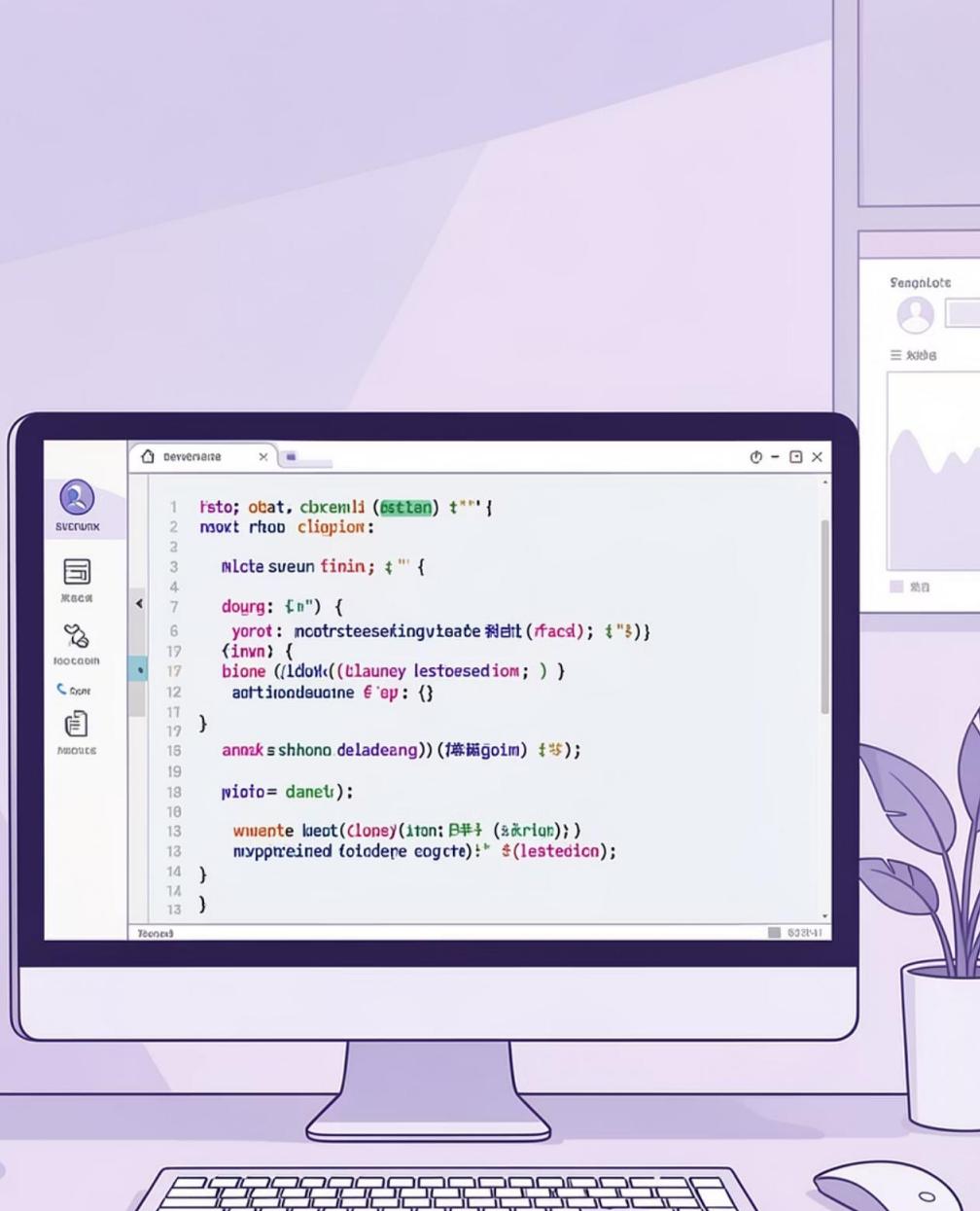
Feature Engineering

Created age_group bins and purchase_frequency_days metrics

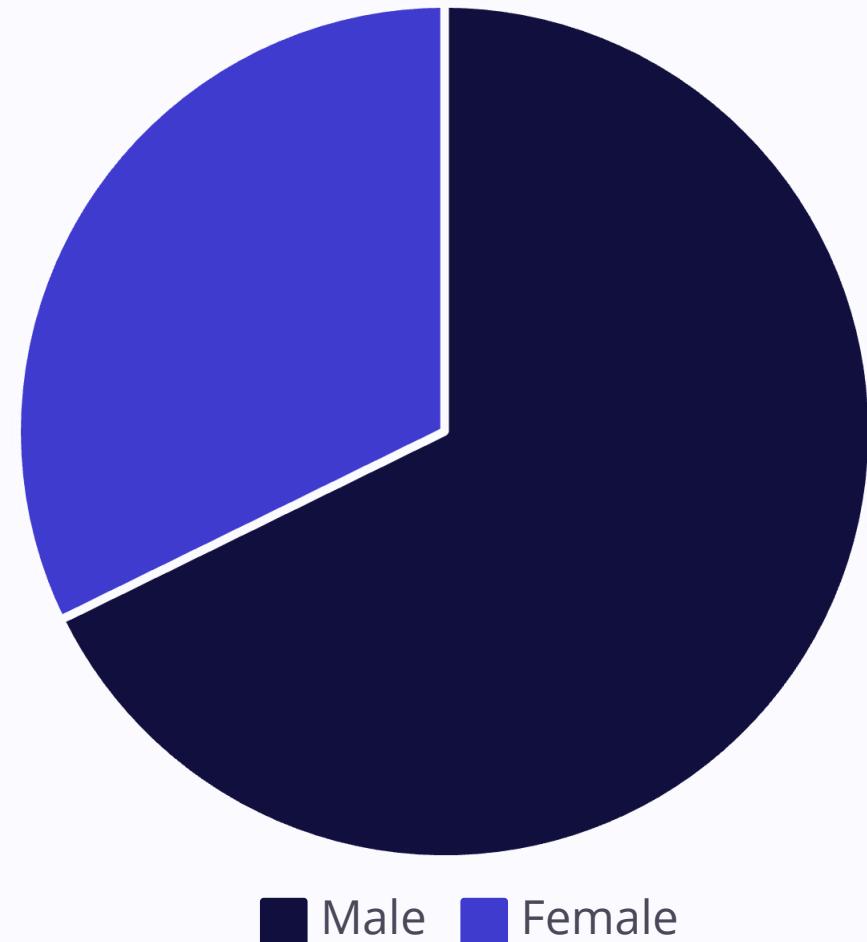
04

Database Integration

Connected to PostgreSQL and loaded cleaned data for SQL analysis



Revenue Insights by Gender



Male Customers Drive Revenue

Male shoppers generate 68% of total revenue despite representing 68% of customer base.

Total revenue analyzed: **\$233,081**

Customer Segmentation Analysis



Loyal Customers

3,116 customers

80% of customer base

Returning

701 customers

18% showing repeat behavior

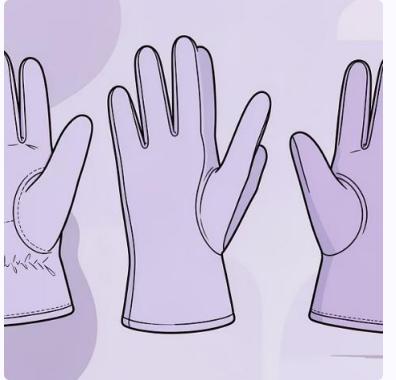
New

83 customers

2% first-time buyers

Strong loyalty foundation with opportunity to convert returning customers

Top-Rated Products



Gloves

⭐ 3.86 rating



Sandals

⭐ 3.84 rating



Boots

⭐ 3.82 rating



Hat

⭐ 3.80 rating

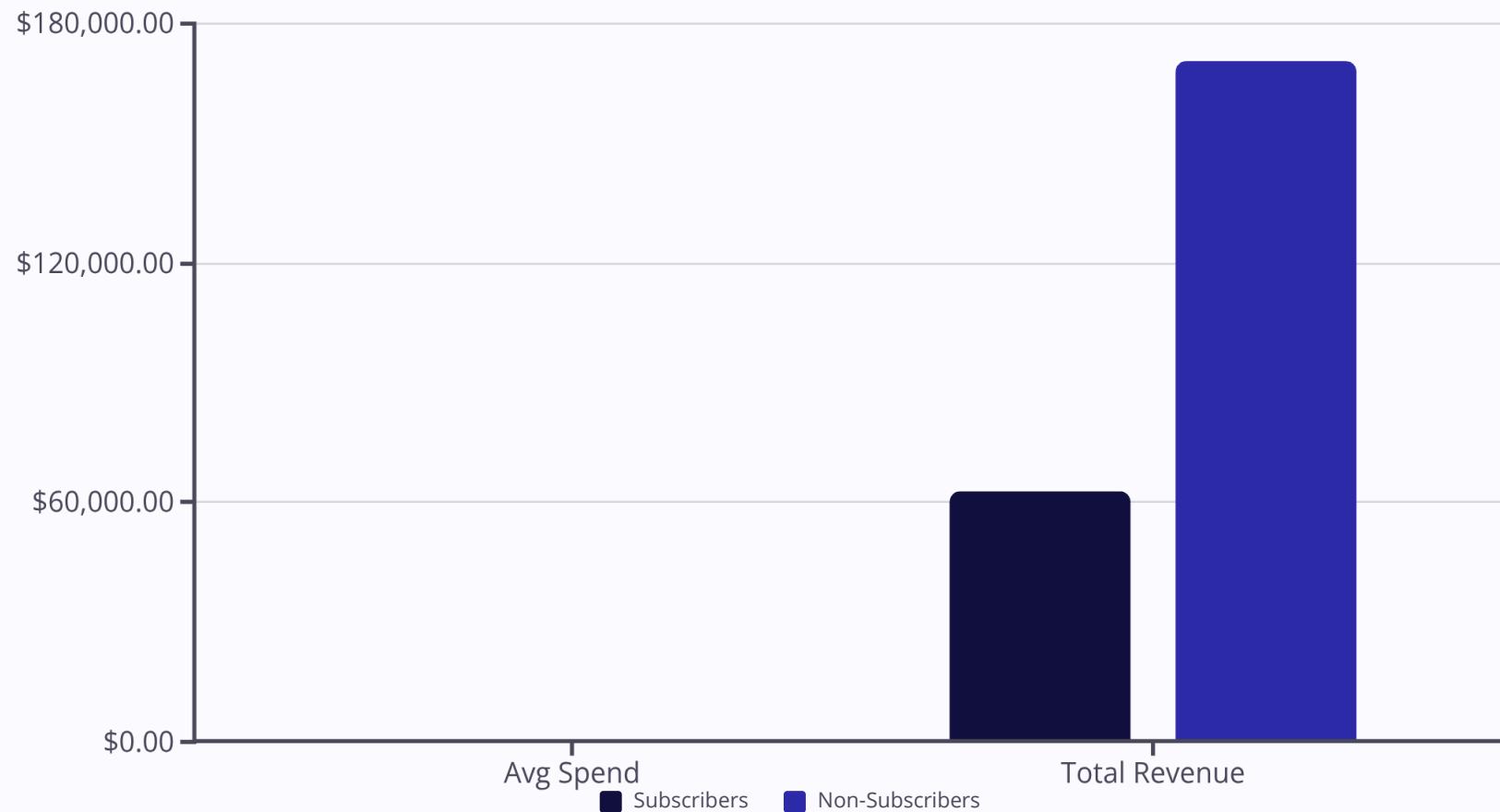


Skirt

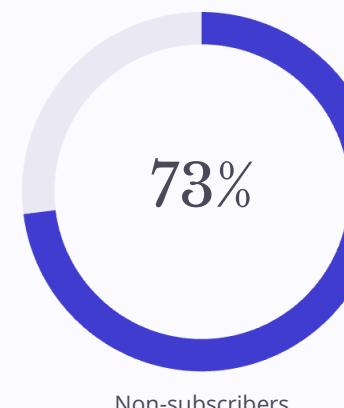
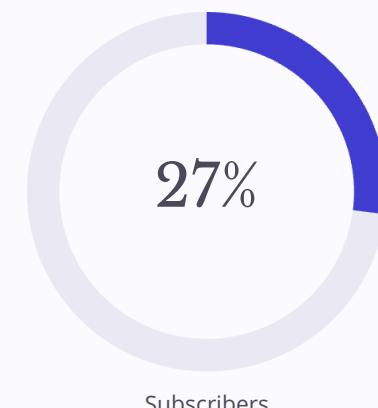
⭐ 3.78 rating

SUBSCRIPTION COMPARISON

Subscribers vs. Non-Subscribers



Key Findings



Similar spending patterns but massive untapped subscription potential



Interactive Dashboard Highlights

Revenue by Category

Clothing leads at \$100K, followed by Accessories at \$70K

Age Group Performance

Young Adults generate highest revenue at \$62K

Key Metrics

Avg purchase: \$59.76 | Avg rating: 3.75 stars



STRATEGIC RECOMMENDATIONS

Action Plan for Growth



Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers



Loyalty Programs

Reward repeat buyers to grow loyal segment



Targeted Marketing

Focus on high-revenue age groups and express shipping users

Next Steps

Review Discount Policy

Balance sales boosts with margin control—839 high spenders used discounts

Product Positioning

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

Monitor & Iterate

Track dashboard metrics and refine strategies quarterly

