Customer Shopping Behavior Analysis

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

Dataset at a Glance

3.9K
Total Purchases
Transactions analyzed across all categories

$59.76
Avg Purchase
Mean transaction value

3.75
Avg Rating
Customer satisfaction score

Data Preparation & Cleaning

01

Data Loading

Imported dataset using pandas, explored structure

02

Missing Data

Imputed 37 missing Review Ratings using median by category

03

Standardization

Renamed columns to snake_case for consistency

04

Feature Engineering
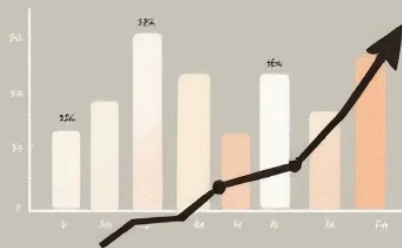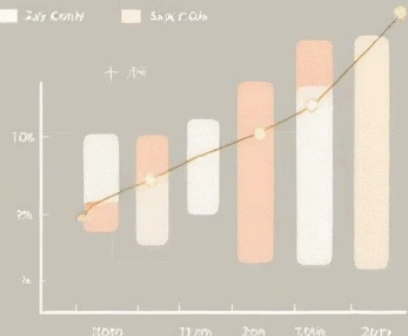
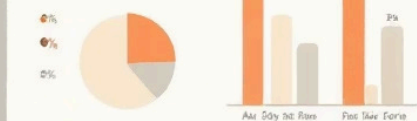Created age_group and purchase_frequency_days columns

05

Database Integration
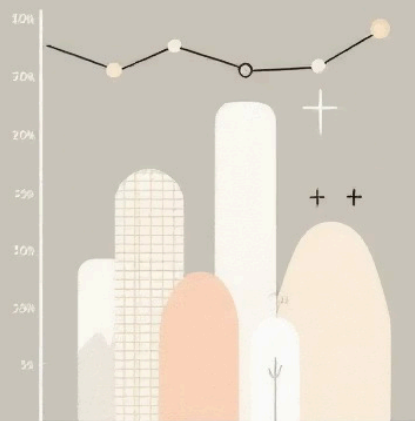
Connected to PostgreSQL for SQL analysis

Revenue Insights

Gender Revenue Split

Male customers: $157,890

Female customers: $75,191

Male shoppers generate 2x more revenue

Subscription Impact

Subscribers (27%): $62,645 total

Non-subscribers (73%): $170,436 total

Similar avg spend: ~$59.50

High-Value Discount Users

839 Customers

Used discounts but spent above average

Smart Shoppers

Discount-savvy yet high-spending segment

Key Opportunity

Prime targets for loyalty programs

These customers prove discounts don't always mean lower revenue—strategic promotions can drive high-value purchases
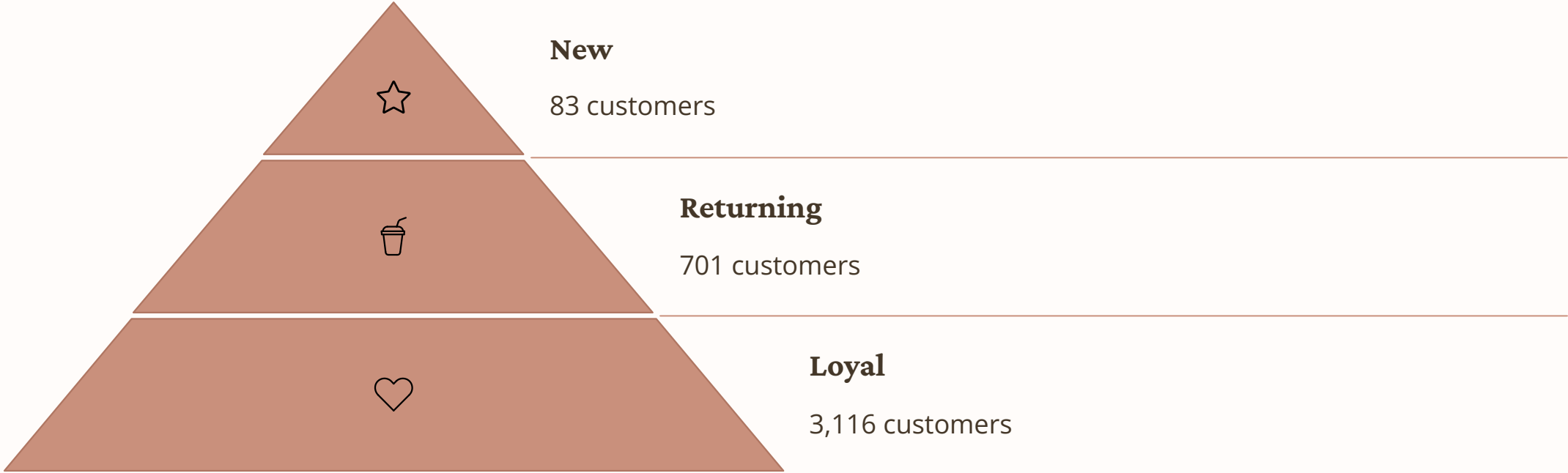
Product Performance

Top 5 Products by Rating

1. **Gloves** – 3.86 rating
2. **Sandals** – 3.84 rating
3. **Boots** – 3.82 rating
4. **Hat** – 3.80 rating
5. **Skirt** – 3.78 rating

Discount-Dependent Items

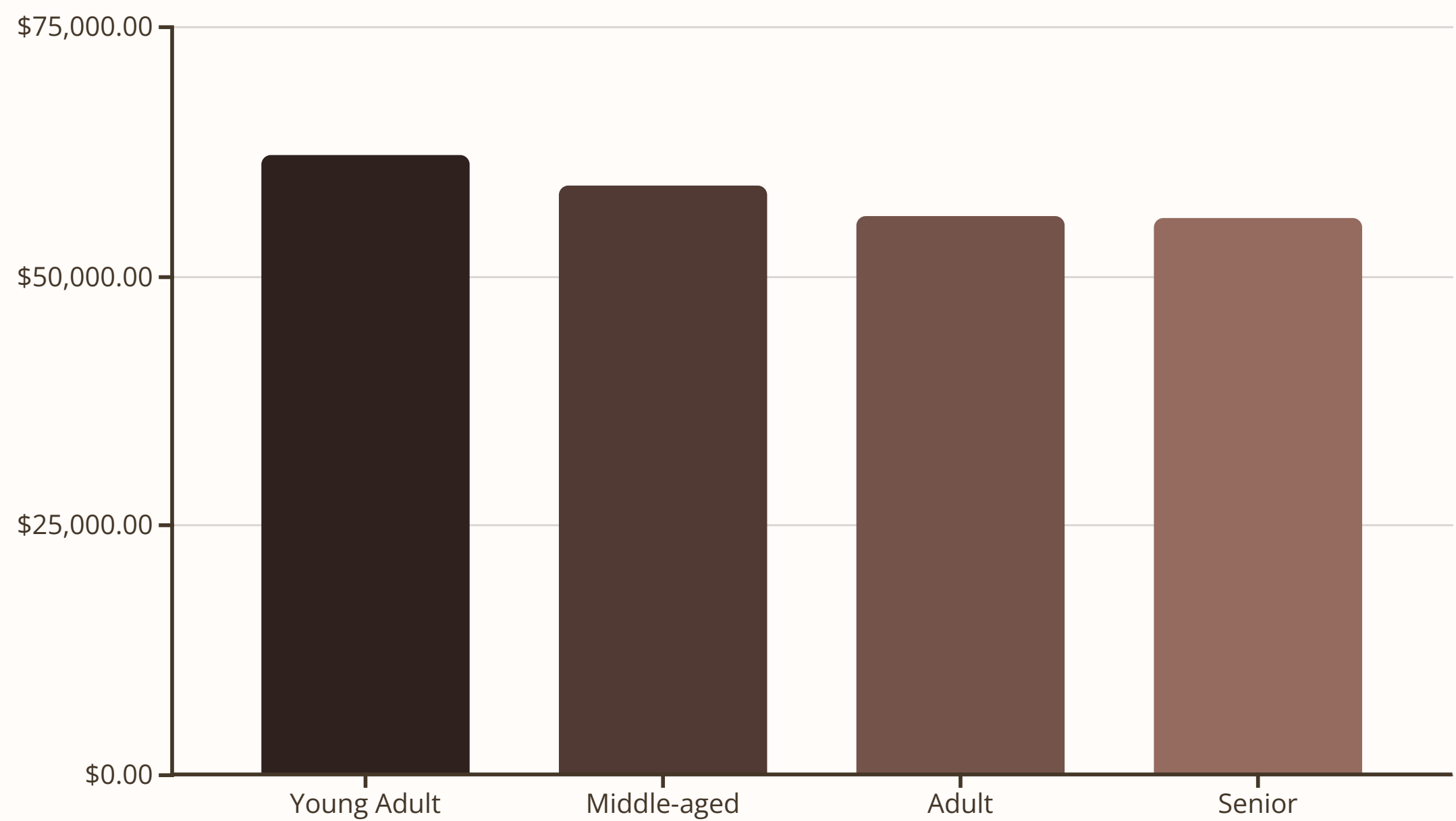- Hat: 50% discount rate
- Sneakers: 49.66%
- Coat: 49.07%

Loyalty Distribution

New

83 customers

Returning

701 customers

Loyal

3,116 customers

80% of customers are in the Loyal segment—strong retention foundation

Made with GAMMA

Age Group Revenue Analysis

Young Adults lead revenue generation, followed closely by middle-aged shoppers

Shipping preference: Express shipping users spend $60.48 avg vs. $58.46 for Standard

Interactive Dashboard

Real-Time Filtering

Subscription status, gender, category, shipping type

Visual Analytics

Revenue by category, sales by age group, subscription distribution

Key Metrics

Customer count, avg purchase, review ratings at a glance

Strategic Actions

Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers

Loyalty Programs

Reward repeat buyers, move Returning to Loyal segment

Review Discount Policy

Balance sales boosts with margin control on high-discount items

Targeted Marketing

Focus on Young Adults, express shipping users, top-rated products