Customer Shopping Behaviour Analysis

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

Project Overview

Goal
Analyze spending patterns, segments, preferences, and subscription behavior.
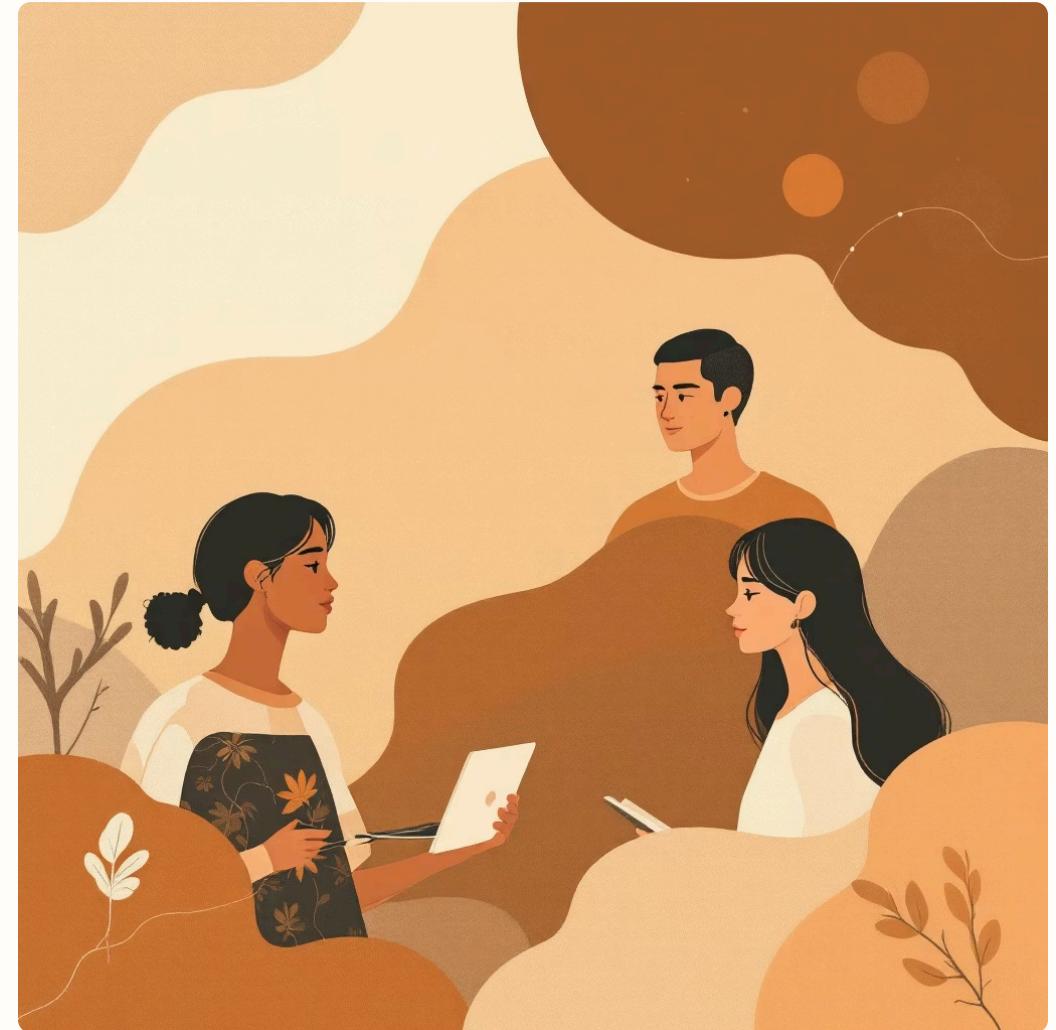
Data Source
Transactional data from 3,900 customer purchases.

Impact
Inform strategic business decisions and future-proof growth.

Made with GAMMA

Dataset Summary

- **Rows:** 3,900
- **Columns:** 18
- **Key Features:**
  - Demographics (Age, Gender, Location)
  - Purchase details (Item, Category, Amount)
  - Behavior (Discount, Promo, Reviews)

Missing Data: 37 values in Review Rating column.

Exploratory Data Analysis (Python)

01

Data Loading & Exploration

Pandas import, df.info(), .describe().

02

Missing Data Handling

Imputed Review Rating with median by category.

03

Column Standardization

Renamed to snake_case for readability.

04

Feature Engineering
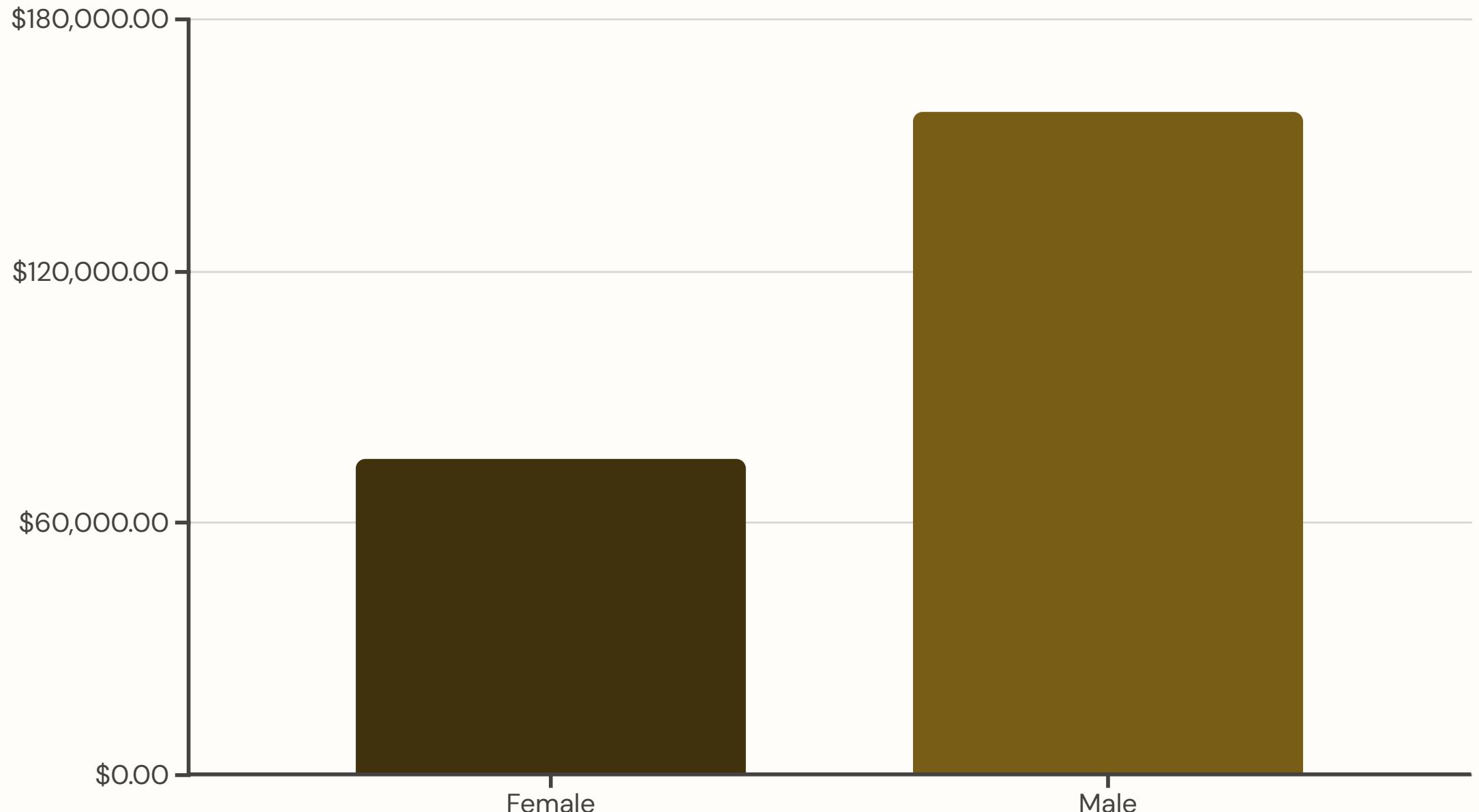
Created age_group and purchase_frequency_days.

05

Database Integration

Loaded cleaned data to PostgreSQL for SQL analysis.
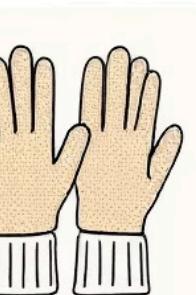
Revenue by Gender

Male customers generated significantly higher revenue.

Top 5 Highest-Rated Products

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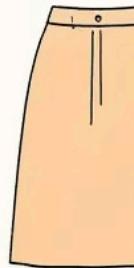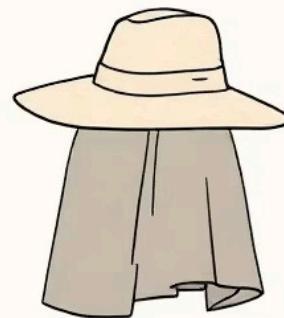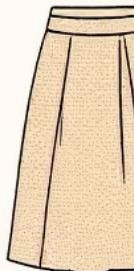
Top Products & Shipping

Top 5 Products by Rating

- Gloves: 3.86
- Sandals: 3.84
- Boots: 3.82
- Hat: 3.80
- Skirt: 3.78

Shipping Type Comparison

- Standard: $58.46 avg.
- Express: $60.48 avg.

Subscription & Discount Insights

Subscribers vs. Non-Subscribers

Subscribers (1053) have slightly lower average spend ($59.49) than non-subscribers ($59.87).

Discount-Dependent Products

Hat (50%), Sneakers (49.66%), Coat (49.07%) show highest discount usage.

Customer Segmentation

Loyal
3,116 customers

Returning
701 customers

New
83 customers

Segmented based on purchase history.

customer segmentation

LOYAL — Customer customent from and enain pretents.

Retuрning — New customer ost for mour customers

New customers — Dapir wild custome for there and customers.

Key Business Recommendations

→ **Boost Subscriptions**

Promote exclusive benefits.

→ **Customer Loyalty Programs**

Reward repeat buyers.

→ **Review Discount Policy**

Balance sales with margin control.

→ **Product Positioning**

Highlight top-rated products.

→ **Targeted Marketing**

Focus on high-revenue age groups.

Interactive Dashboard in Power BI

Visualizing insights for dynamic decision-making.

The Power BI dashboard provides a comprehensive view of customer shopping behavior.