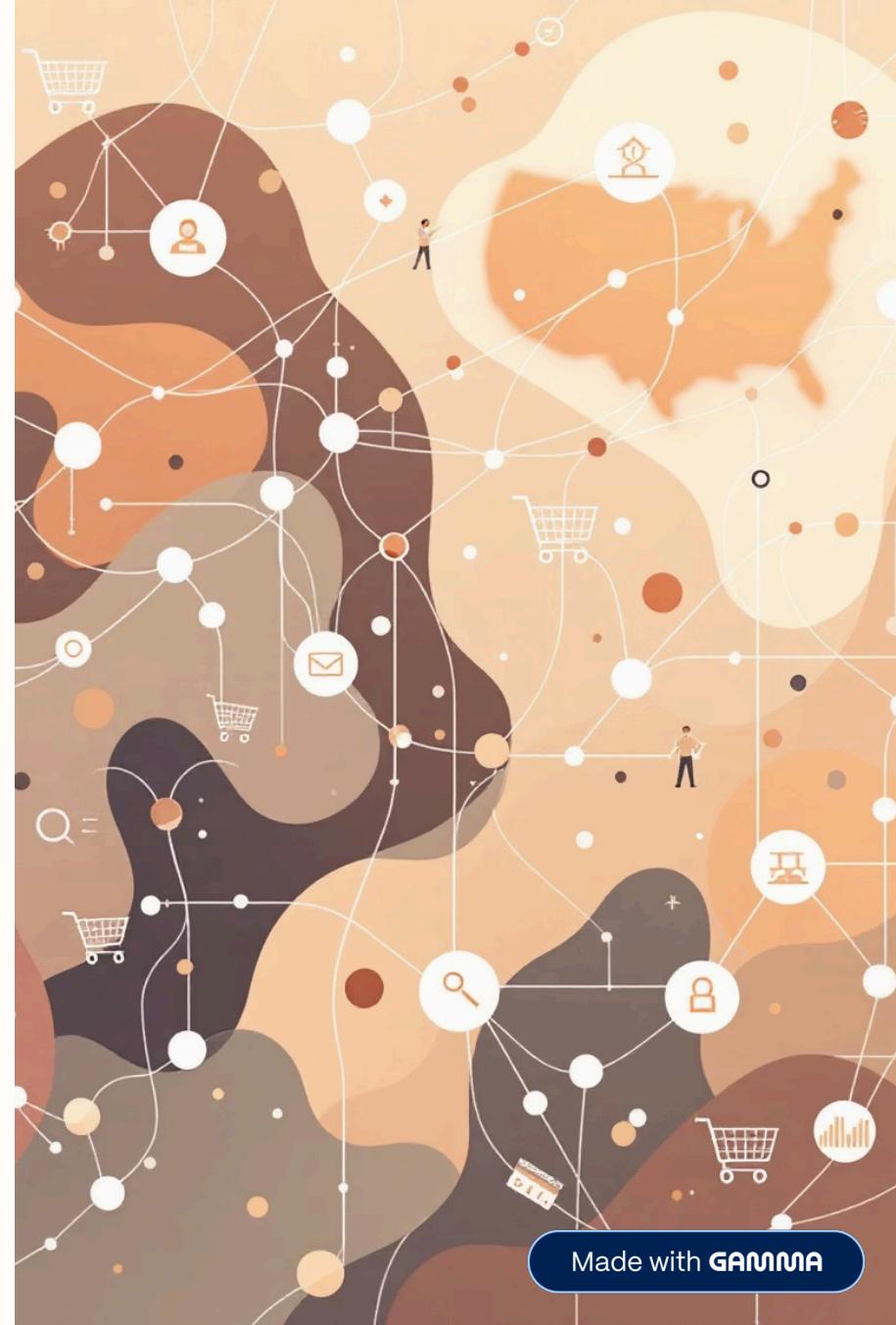


Customer Shopping Behavior Analysis

Uncovering insights from transactional data to guide strategic business decisions.



Made with **GAMMA**



Project Overview & Goals

Analyze 3,900 Purchases

Across various product categories.

Uncover Key Insights

Spending patterns, segments, preferences, subscriptions.

Guide Decisions

Inform business strategy effectively.

Dataset Summary

Rows: 3,900

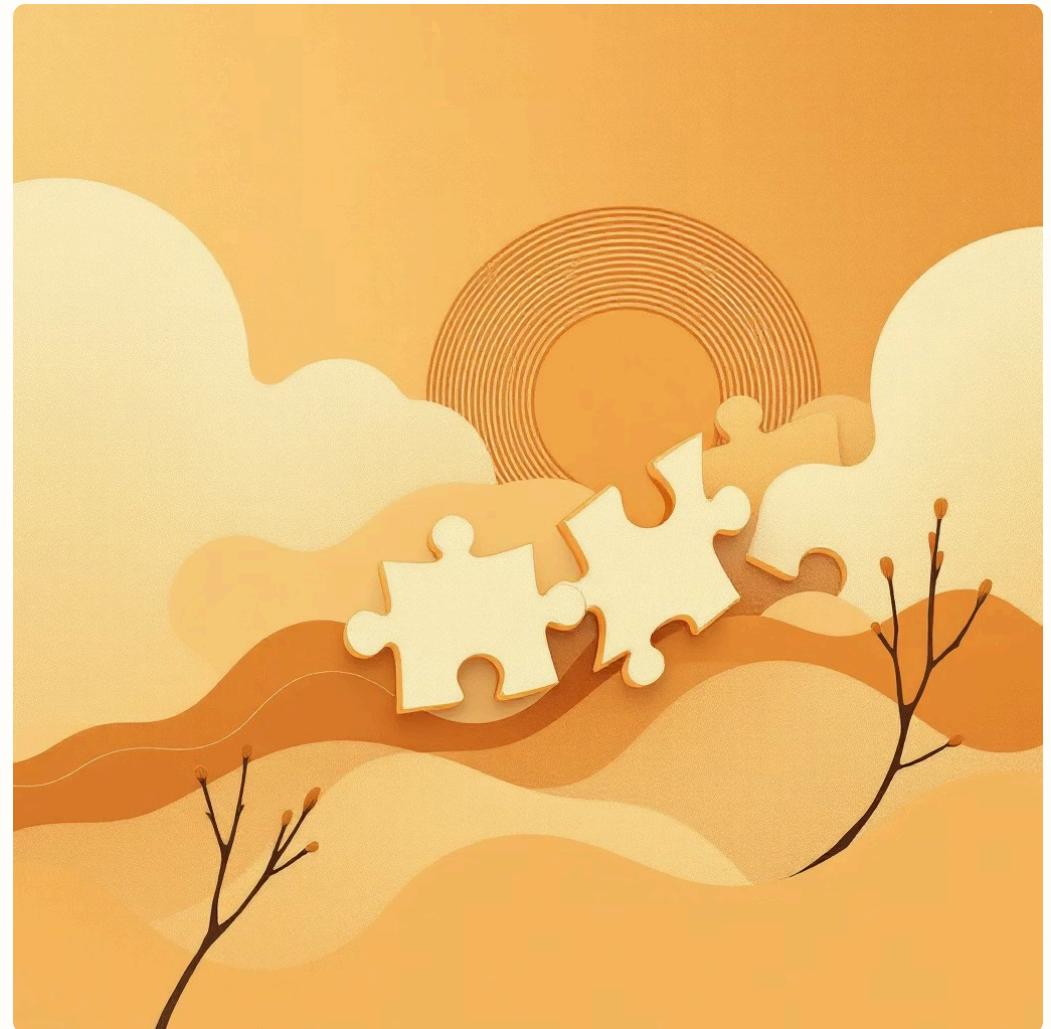
Columns: 18

Key Features:

- Customer demographics (Age, Gender, Location, Subscription)
- Purchase details (Item, Category, Amount, Season, Size, Color)
- Shopping behavior (Discount, Promo, Previous Purchases, Frequency, Review, Shipping)

Missing Data:

37 values in Review Rating column.



Exploratory Data Analysis (Python)

01

Data Preparation & Cleaning

Loading, initial exploration, missing data handling (median imputation for Review Rating).

02

Column Standardization

Renamed to snake_case for readability.

03

Feature Engineering

Created age_group and purchase_frequency_days.

04

Data Consistency

Dropped redundant promo_code_used.

05

Database Integration

Loaded cleaned data to PostgreSQL for SQL analysis.



SQL Analysis: Key Business Insights



Revenue by Gender

Male: \$157,890, Female: \$75,191



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, Express: \$60.48 (Avg. Purchase)



SQL Analysis: Customer & Product Focus

1

Subscribers vs. Non-Subscribers

Non-subscribers: Higher total revenue (\$170,436) and avg. spend (\$59.87).

2

Discount-Dependent Products

Hat (50%), Sneakers (49.66%), Coat (49.07%), Sweater (48.17%), Pants (47.37%).

3

Repeat Buyers & Subscriptions

958 repeat buyers are subscribers, 2518 are not.

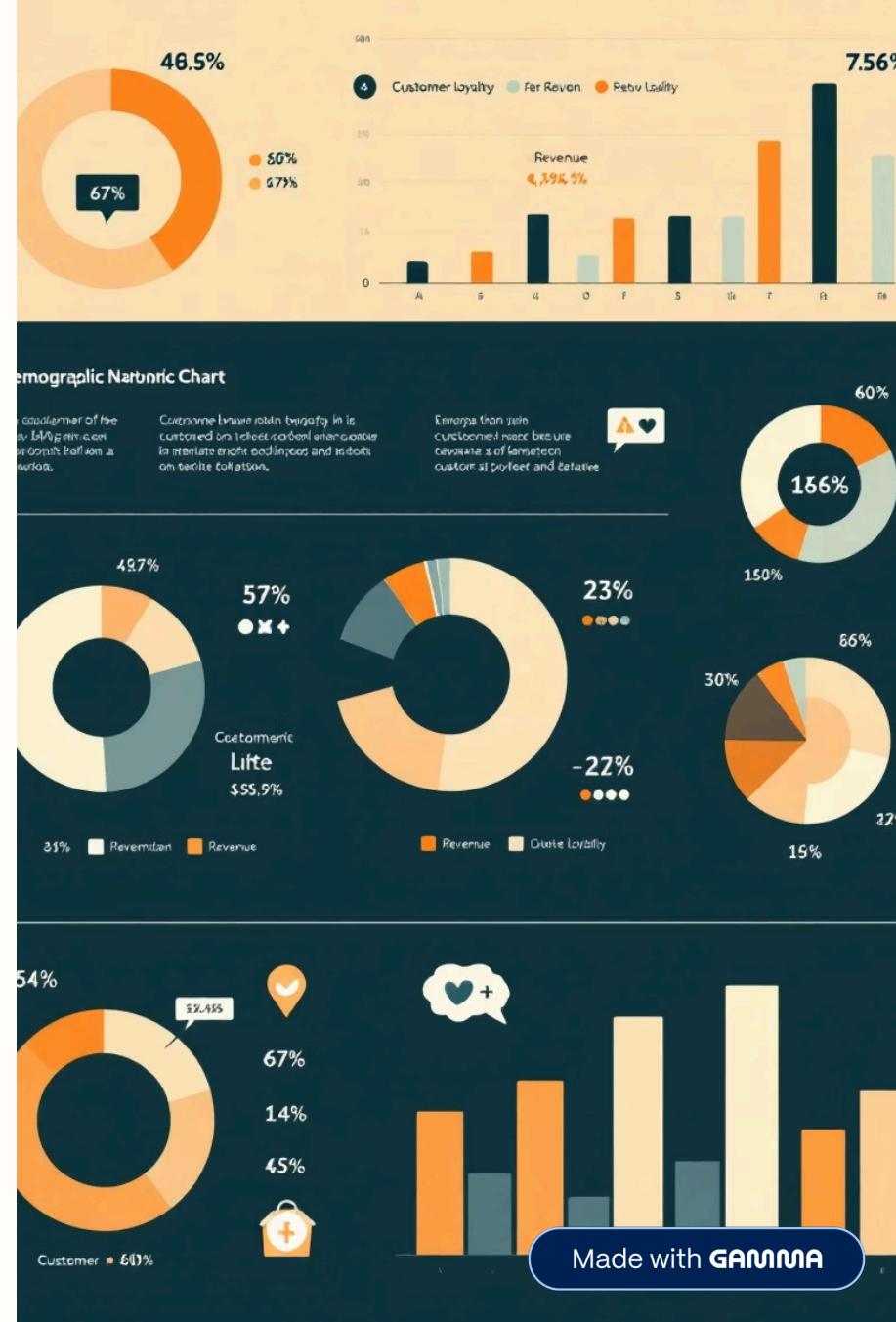
Customer Segmentation & Age Group Revenue

Customer Segments:

- Loyal: 3116
- Returning: 701
- New: 83

Revenue by Age Group:

- Young Adult: \$62,143
- Middle-aged: \$59,197
- Adult: \$55,978
- Senior: \$55,763



Top Products per Category

Accessories

Top Products:

- Jewelry
- Sunglasses



Clothing

Top Products:

- Blouse
- Pants



Footwear

Top Products:

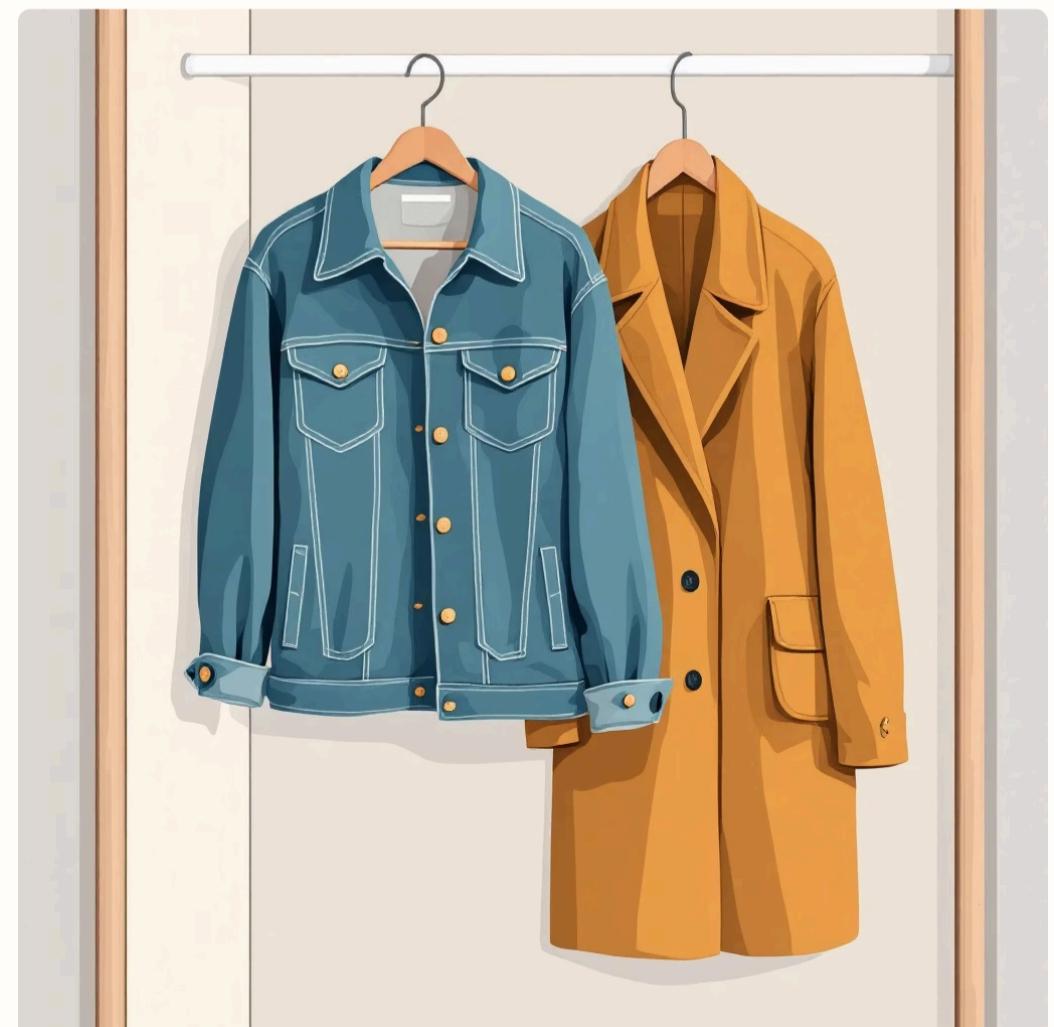
- Sandals
- Shoes



Outerwear

Top Products:

- Jacket
- Coat



Customer Behavior Dashboard

3.9K

Number of Customers

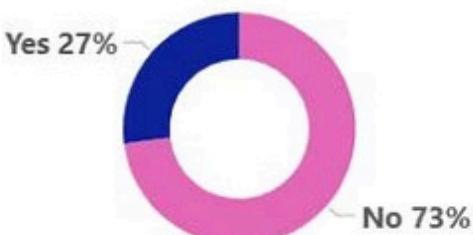
\$59.76

Average Purchase Amount

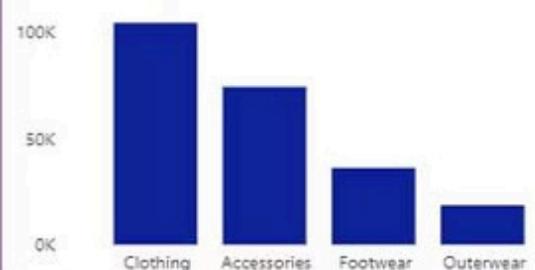
3

Average

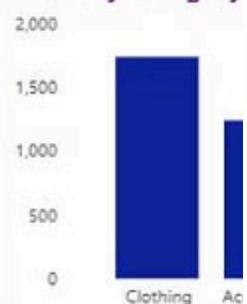
% of Customers by Subscription Status



Revenue by Category



Sales by Category



Revenue by Age Group



Sales by Age Group



Power BI Dashboard

Interactive visualization of all insights
for easy exploration.

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/best-selling products.

→ Targeted Marketing

Focus on high-revenue age groups and express-shipping users.