

Customer Shopping Behavior Analysis

Uncovering insights from transactional data to guide strategic business decisions.





Project Overview

1

Data Analysis

3,900 purchases analyzed across categories.

2

Key Insights

Spending patterns, customer segments, product preferences.

3

Strategic Goals

Optimize operations, reduce costs, improve forecasting.

Dataset Summary

Data Points

- 3,900 Rows
- 18 Columns

Key Features

- Customer Demographics
- Purchase Details
- Shopping Behavior



Missing Data

37 values in Review Rating column.

Exploratory Data Analysis (Python)

01

Data Loading & Exploration

Imported with pandas, checked structure and statistics.

02

Data Cleaning

Imputed missing 'Review Rating' with median, standardized column names.

03

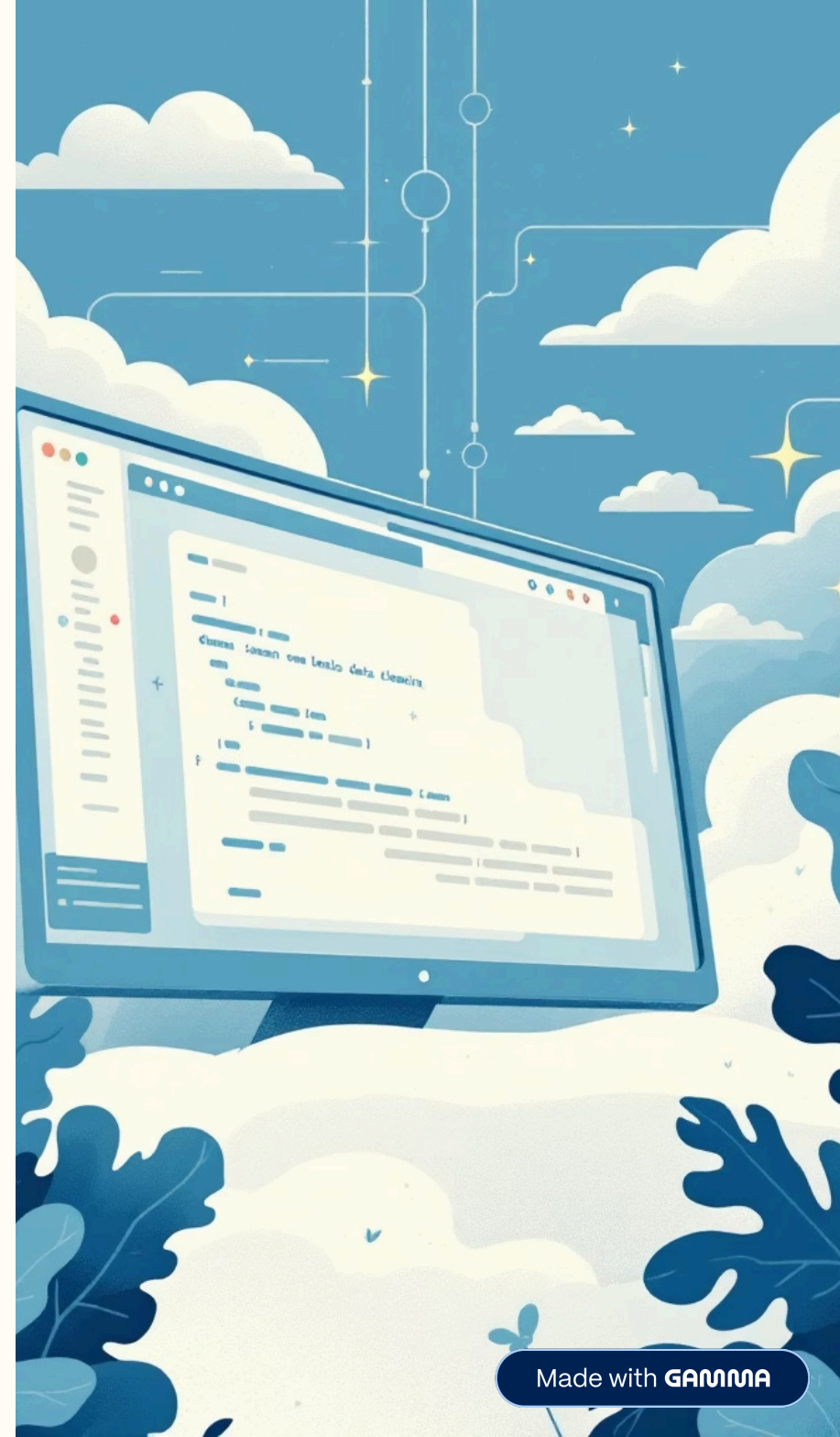
Feature Engineering

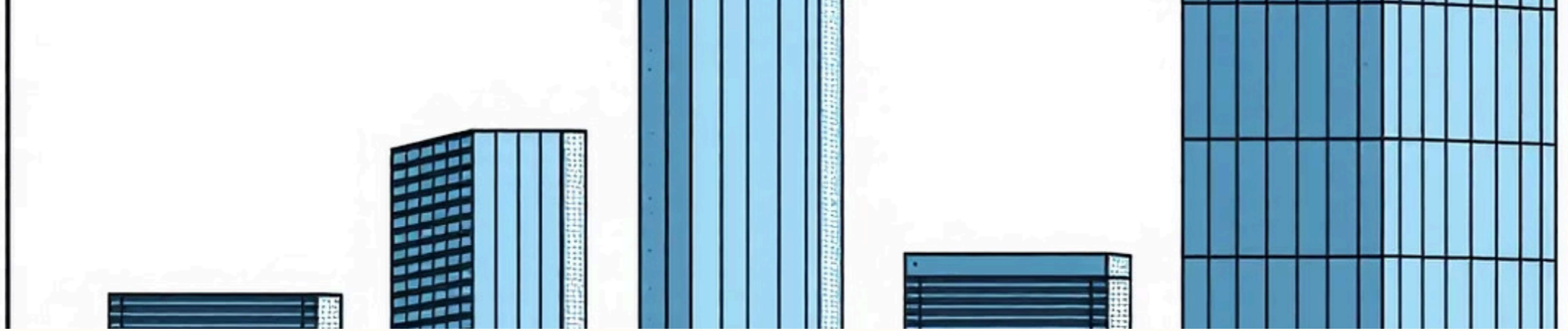
Created 'age_group' and 'purchase_frequency_days'.

04

Python-Based Data Analysis

Python for further analysis using data manipulation and analytical techniques.





Key Python Analysis Findings

1

Revenue by Gender

Male: \$157,890

Female: \$75,191

2

Top 5 Products by Rating

Gloves, Sandals, Boots, Hat, Skirt.

3

Shipping Type Comparison

Express: \$60.48 avg.

Standard: \$58.46 avg.

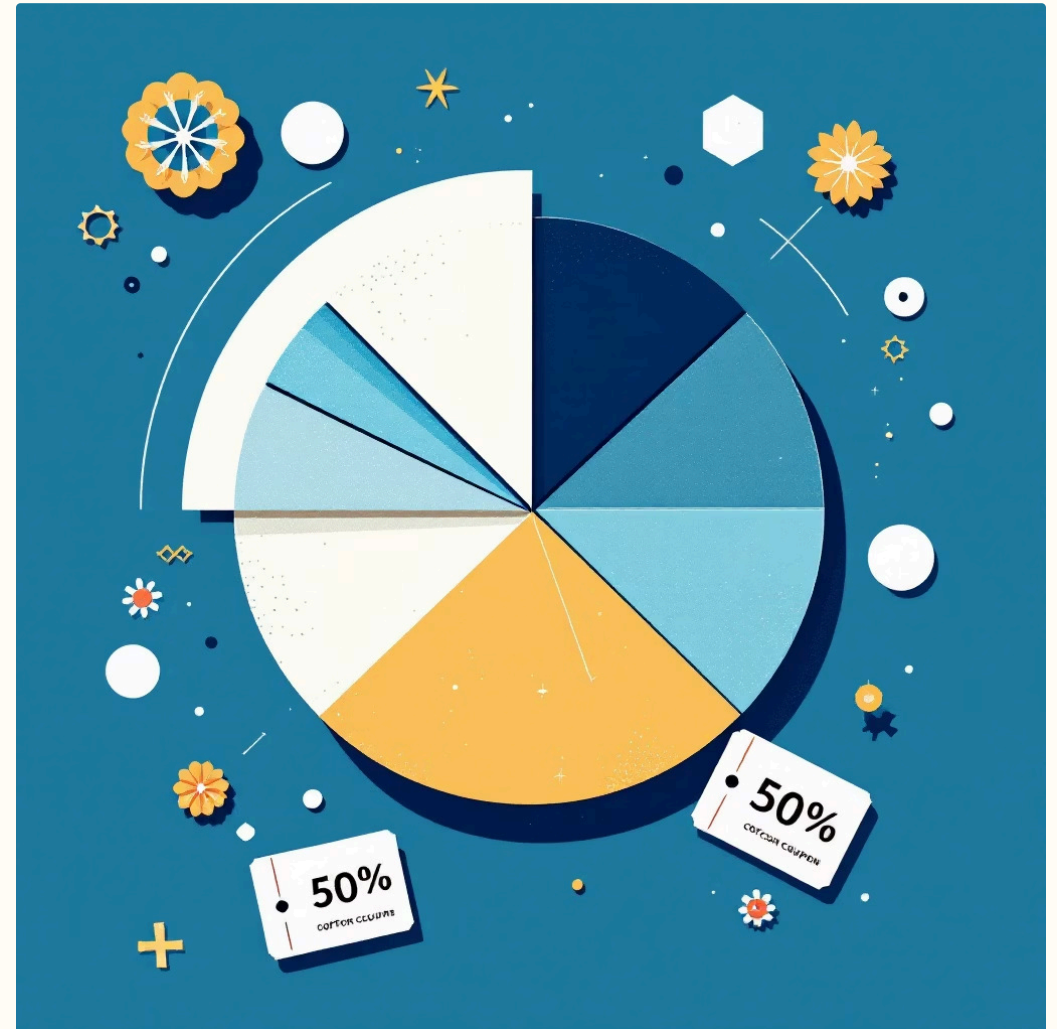
Subscription & Discount Insights

Subscribers vs. Non-Subscribers

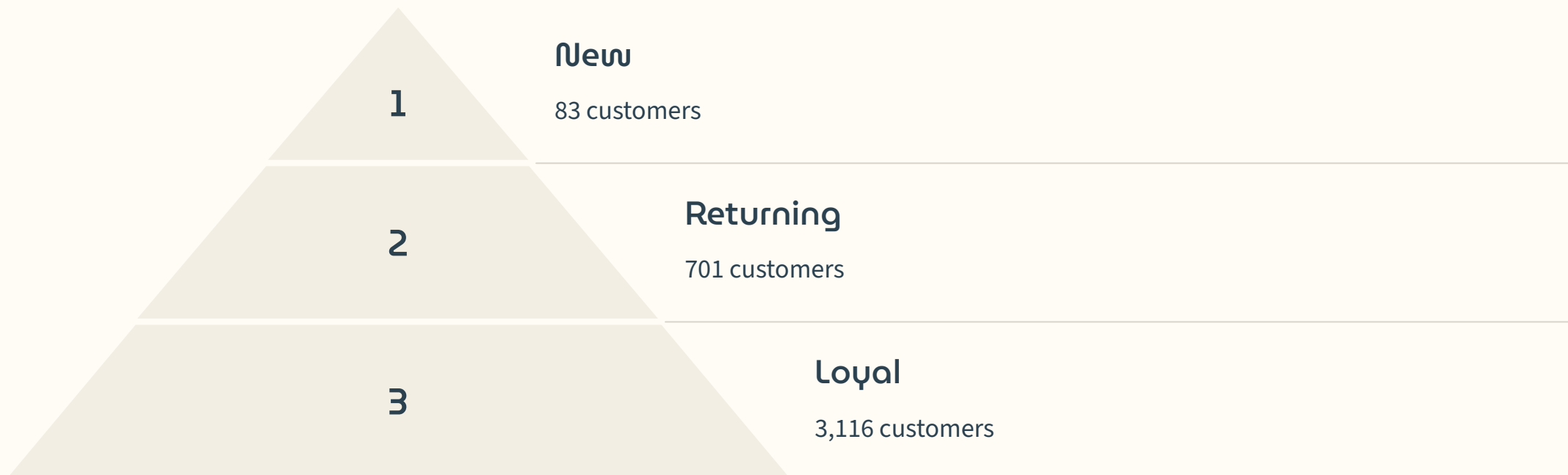
- Avg Spend: Similar
- Total Revenue: Non-Subscribers higher (\$170,436 vs \$62,645)

Discount-Dependent Products

- Hat (50%)
- Sneakers (49.66%)
- Coat (49.07%)



Customer Segmentation



Top Products & Age Group Revenue

Top 3 Products per Category

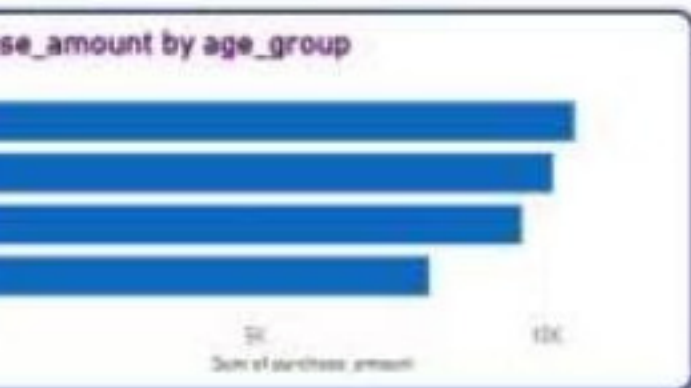
- Accessories: Jewelry, Belt, Sunglasses
- Clothing: Blouse, Pants, Shirt
- Footwear: Sandals, Shoes, Sneakers
- Outerwear: Jacket, Coat

Revenue by Age Group

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



Customer Behavior Dashboard



Power BI Dashboard

Interactive visualizations for key insights.

Business Recommendations



Boost Subscriptions

Promote exclusive benefits.



Customer Loyalty

Reward repeat buyers.



Review Discount Policy

Balance sales with margins.



Targeted Marketing

Focus on high-revenue groups.

