Customer Shopping Behavior Analysis

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

The Foundation

3,900

Total Purchases

Transactions analyzed

18

Data Points

Features per transaction

37

Missing Values

In review ratings only

Demographics

Age, gender, location, subscription status

Purchase Details

Item, category, amount, season, size, color

Behavior Patterns

Discounts, frequency, ratings, shipping preferences

Made with GAMMA

Data Preparation & Cleaning

01

Data Loading

Imported dataset using pandas

02

Initial Exploration

Structure check and summary statistics

03

Missing Data Handling

Imputed review ratings using category medians

04

Standardization

Renamed columns to snake case

05
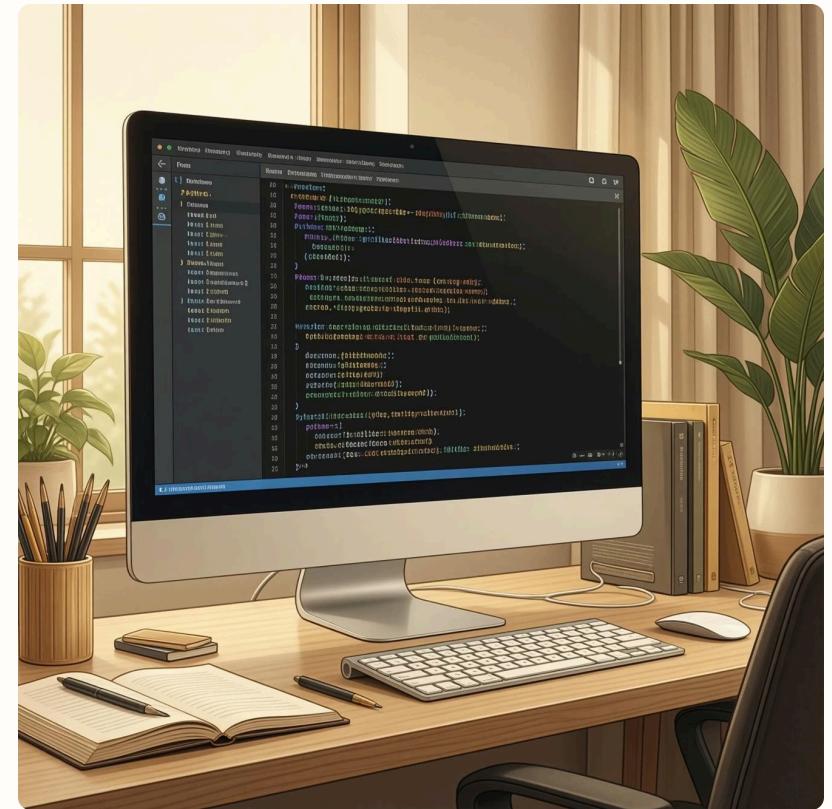
Feature Engineering

Created age groups and purchase frequency metrics

06

Database Integration

Connected to PostgreSQL for SQL analysis

Revenue by Gender

Key Finding

Analyzed total revenue generated by male vs. female customers to identify spending patterns

Business Impact

Enables targeted marketing strategies based on gender-specific preferences

High-Value Discount Users

Discovery
Identified customers using discounts while spending above average

Insight
Discounts don't always mean lower-value customers

Opportunity
Strategic discount targeting can maintain margins while boosting volume

Product Performance Analysis

Top 5 Products by Rating

Identified highest-rated products for promotional focus
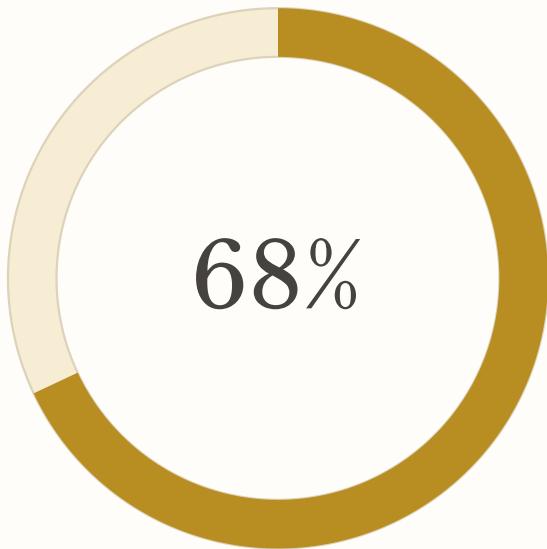
Shipping Preferences

Compared average purchase amounts: Standard vs. Express shipping
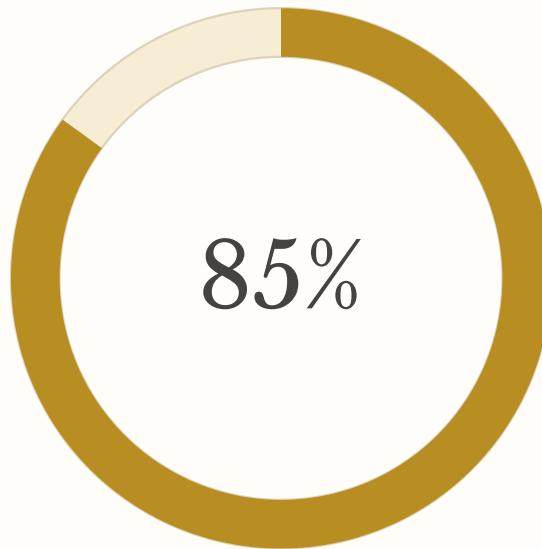
📝 Express shipping users show higher average purchase amounts

Made with GAMMA
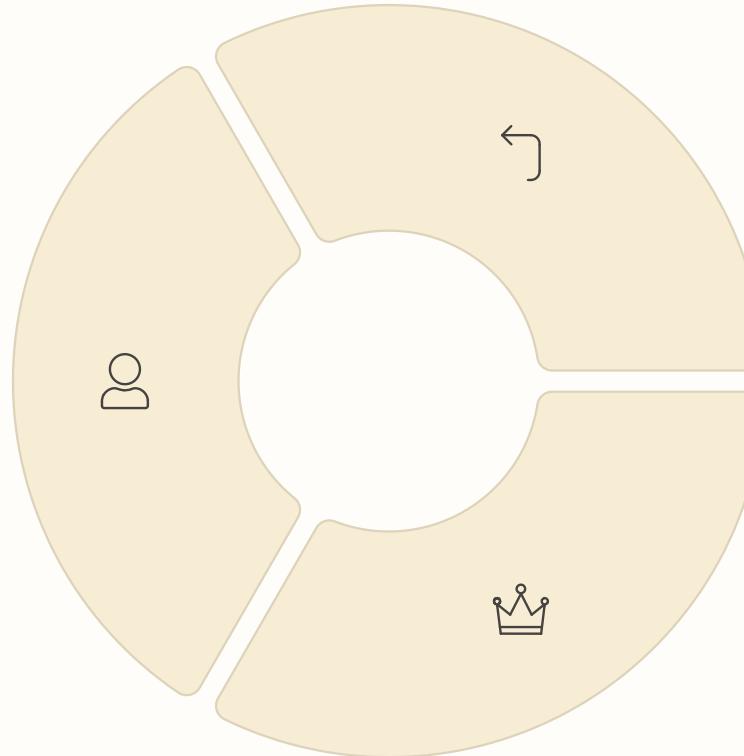
Customer Segmentation

Returning

2-5 purchases, building loyalty

New Customers

First-time purchasers requiring onboarding

Loyal

5+ purchases, highest lifetime value

Age Group Revenue

25-34 and 35-44 age groups contribute highest revenue

Top Products per Category

Identified best-sellers within each product category

Made with GAMMA

POWER BI

Interactive Dashboard

Visual insights for real–time decision making across all key metrics

Strategic Recommendations

Boost Subscriptions
Promote exclusive benefits for subscribers

Loyalty Programs
Reward repeat buyers to move into "Loyal" segment

Review Discounts
Balance sales boosts with margin control

Product Positioning
Highlight top-rated and best-selling items

Targeted Marketing
Focus on high-revenue age groups and express-shipping users