

Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to guide strategic business decisions through data-driven analysis of spending patterns, customer segments, and product preferences.





 DATASET OVERVIEW

The Foundation: Our Data

3,900

Total Purchases

Transactions analyzed

18

Data Points

Features per transaction

4

Categories

Product segments

Dataset includes customer demographics, purchase details, and shopping behavior across clothing, accessories, footwear, and outerwear categories.

Python Analysis Pipeline

01

Data Loading & Exploration

Imported dataset and performed initial structure analysis

02

Missing Data Handling

Imputed 37 missing review ratings using category medians

03

Feature Engineering

Created age groups and purchase frequency metrics

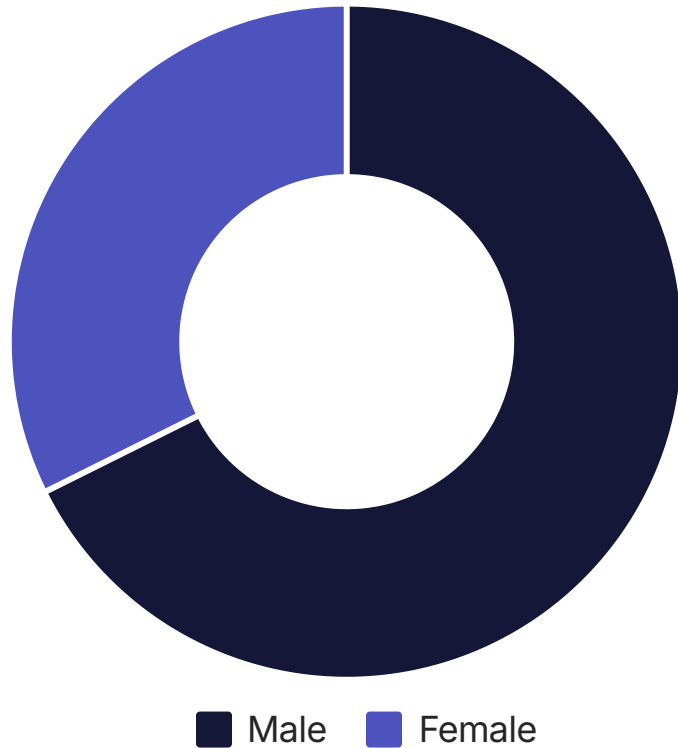
04

Database Integration

Connected to PostgreSQL for advanced SQL analysis



Revenue Insights by Gender



Male Customers Drive Revenue

Male customers generated \$157,890 in total revenue, representing 68% of all purchases, compared to \$75,191 from female customers at 32%.

This significant gap suggests opportunities for targeted marketing campaigns to increase female customer engagement and spending.

Customer Segmentation Reveals Loyalty

Loyal Customers

3,116 customers

80% of customer
base with strong
repeat purchase
behavior

Returning Customers

701 customers

18% showing
moderate
engagement and
growth potential

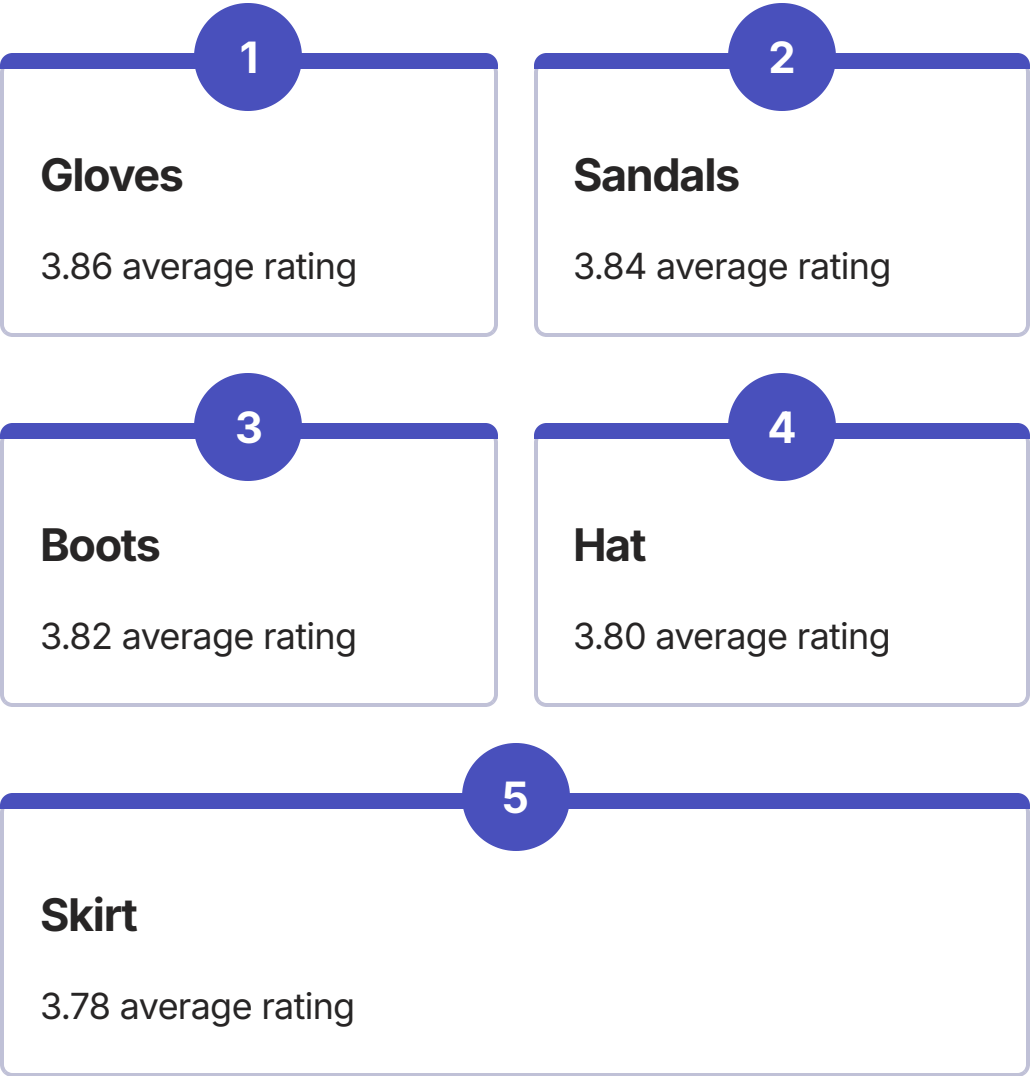
New Customers

83 customers

2% representing
fresh acquisition
opportunities



Product Performance Analysis



Top-Rated Products

Customer satisfaction remains consistently high across top products, with ratings ranging from 3.78 to 3.86 out of 5.0.

These high-performing items should be featured prominently in marketing campaigns and inventory planning.

Smart Discounting Strategy

High-Value Discount Users

839 customers used discounts but still spent above the \$59.76 average purchase amount, ranging from \$62 to \$97 per transaction.

Discount-Dependent Products

Hats (50%), Sneakers (49.66%), and Coats (49.07%) show highest discount usage rates, suggesting price sensitivity in these categories.



Subscription & Shipping Insights

Key Findings

Subscription Status

Only 27% (1,053) customers are subscribers, representing untapped revenue potential of \$62,645 vs. \$170,436 from non-subscribers.

Shipping Preferences

Express shipping users spend \$60.48 on average vs. \$58.46 for standard shipping, indicating willingness to pay premium for speed.

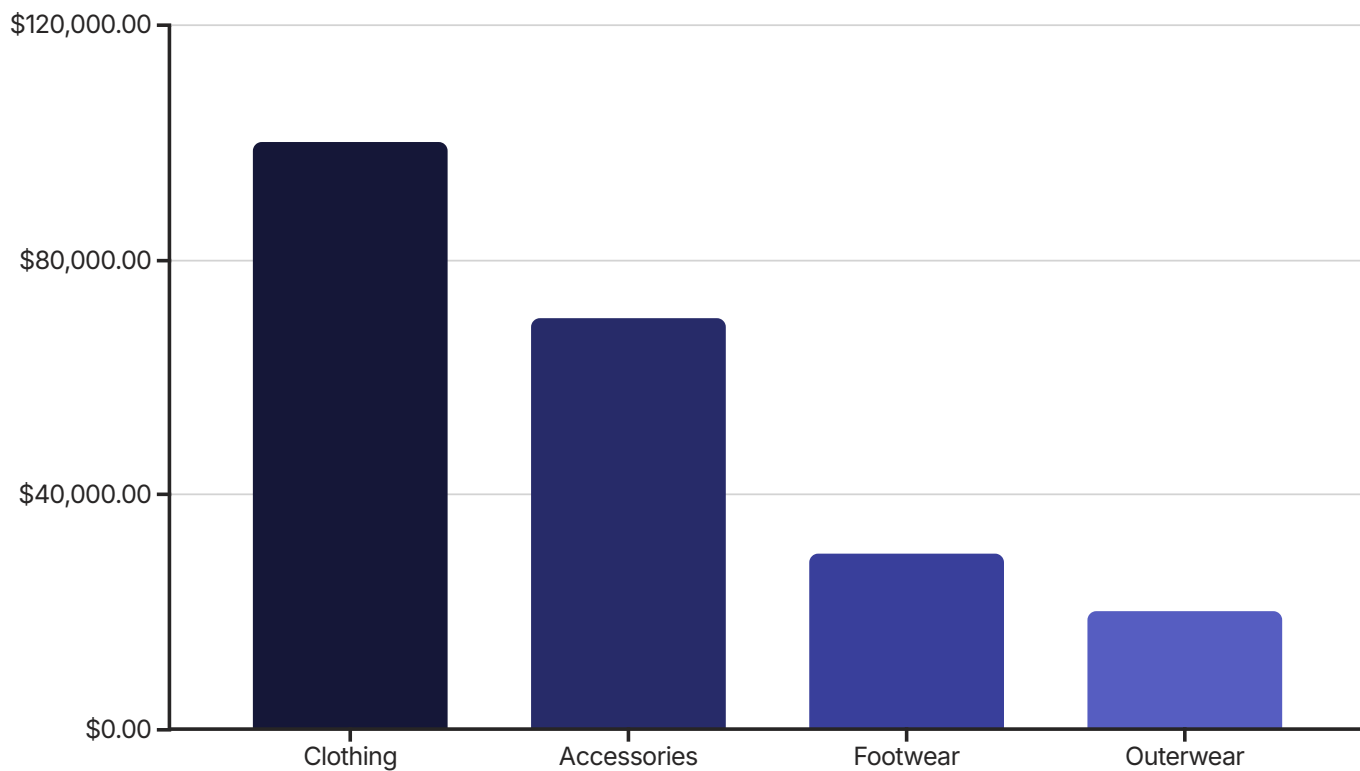
Repeat Buyer Behavior

958 subscribers are repeat buyers (>5 purchases) compared to 2,518 non-subscribers, showing subscription correlation with loyalty.



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Revenue Distribution Across Segments



Category Performance

Clothing dominates with \$100K revenue (45%), followed by Accessories at \$70K (32%). Young Adults lead age groups with \$62,143 in total spending.

Interactive dashboard enables real-time filtering by gender, category, and shipping type for deeper insights.

Strategic Recommendations



Boost Subscriptions

Promote exclusive benefits to convert the 73% non-subscriber base



Loyalty Programs

Reward repeat buyers to accelerate movement into loyal segment



Targeted Marketing

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



Product Positioning

Highlight top-rated items in campaigns while reviewing discount policy

