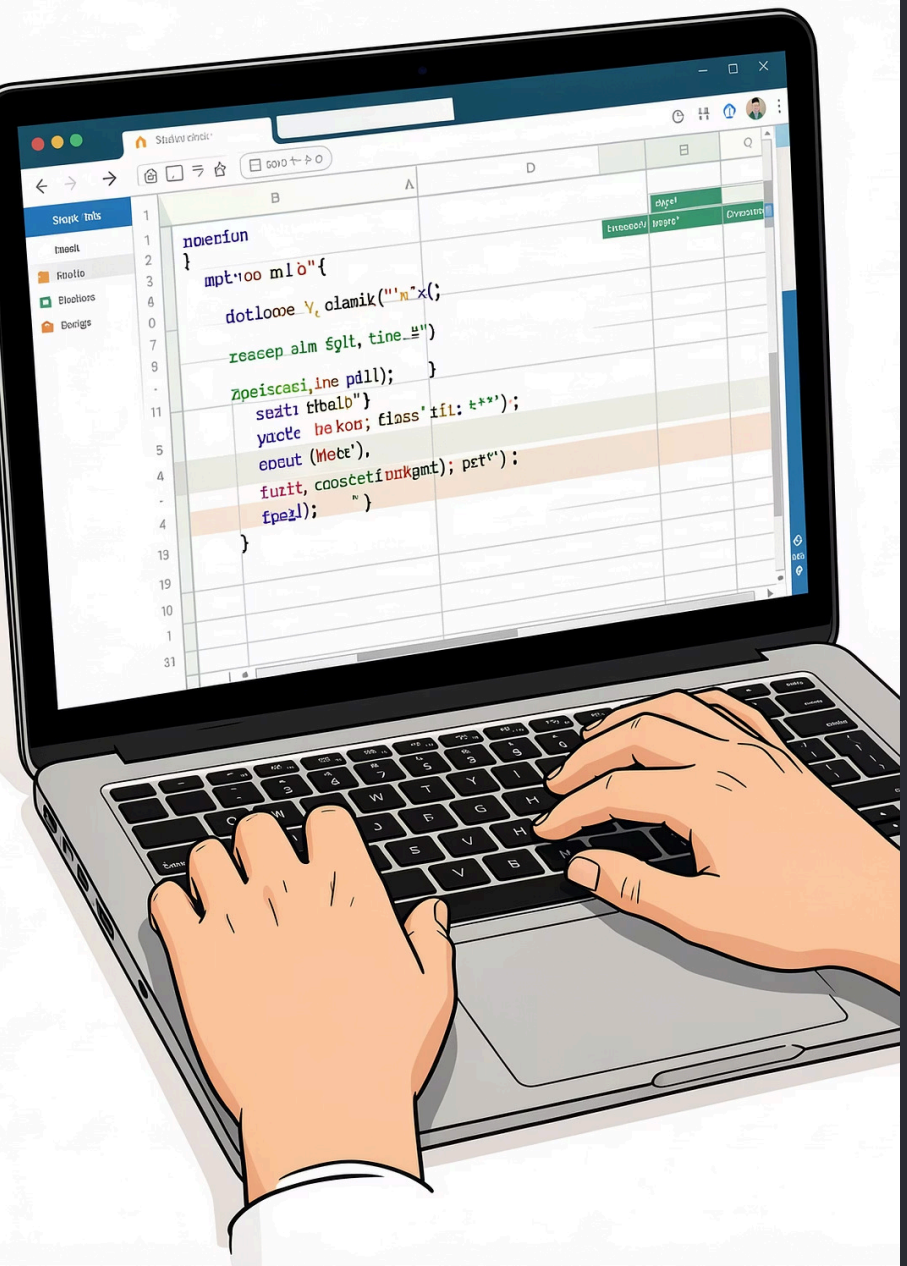
Customer Shopping Behavior Analysis



Dataset Summary

Rows & Columns

3,900 rows • 18 columns

Key Features

Demographics, Purchase details, Behavior signals

Missing Data

37 missing Review Rating values

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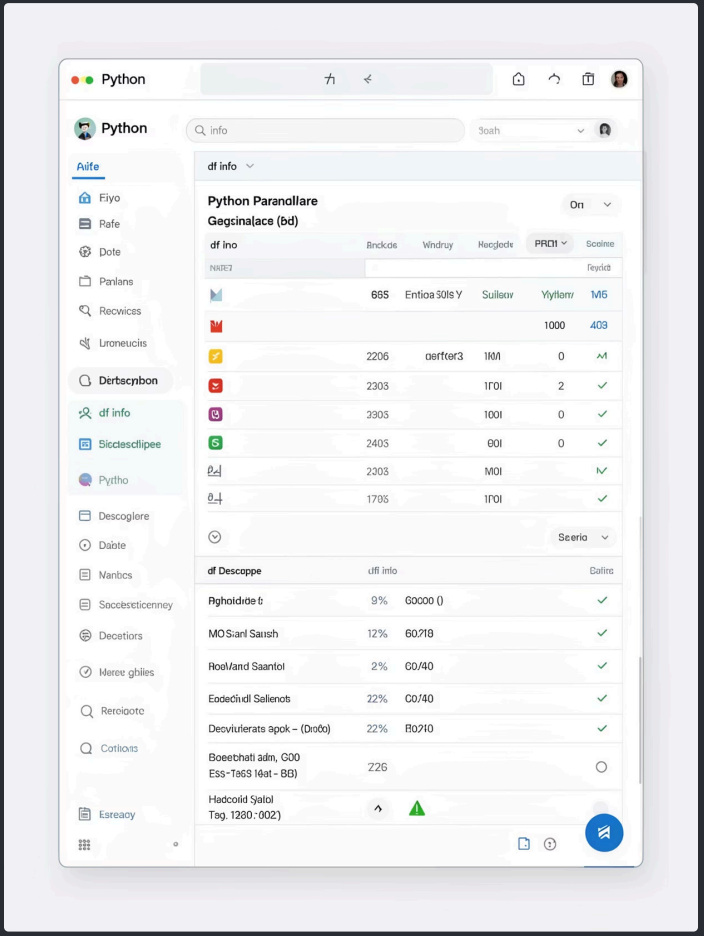

Exploratory Data Analysis

- Loaded with pandas; structure & summary checks
- Imputed Review Rating by category median
- Renamed columns to snake_case
- Engineered age_group & purchase_frequency_days

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SQL Analysis — Business Questions

Revenue by Gender

Male: 157,890 • Female: 75,191

Subscribers vs Non

Yes: 1,053 customers • Avg spend $59.49 • Revenue 62,645

Avg Purchase

$59.76 (overall)

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Top Products & Discounts

Top Rated

Gloves 3.86 • Sandals 3.84 • Boots 3.82 • Hat 3.80 • Skirt 3.78

Discount-Dependent

Hat 50% • Sneakers 49.66% • Coat 49.07% • Sweater 48.17% • Pants 47.37%

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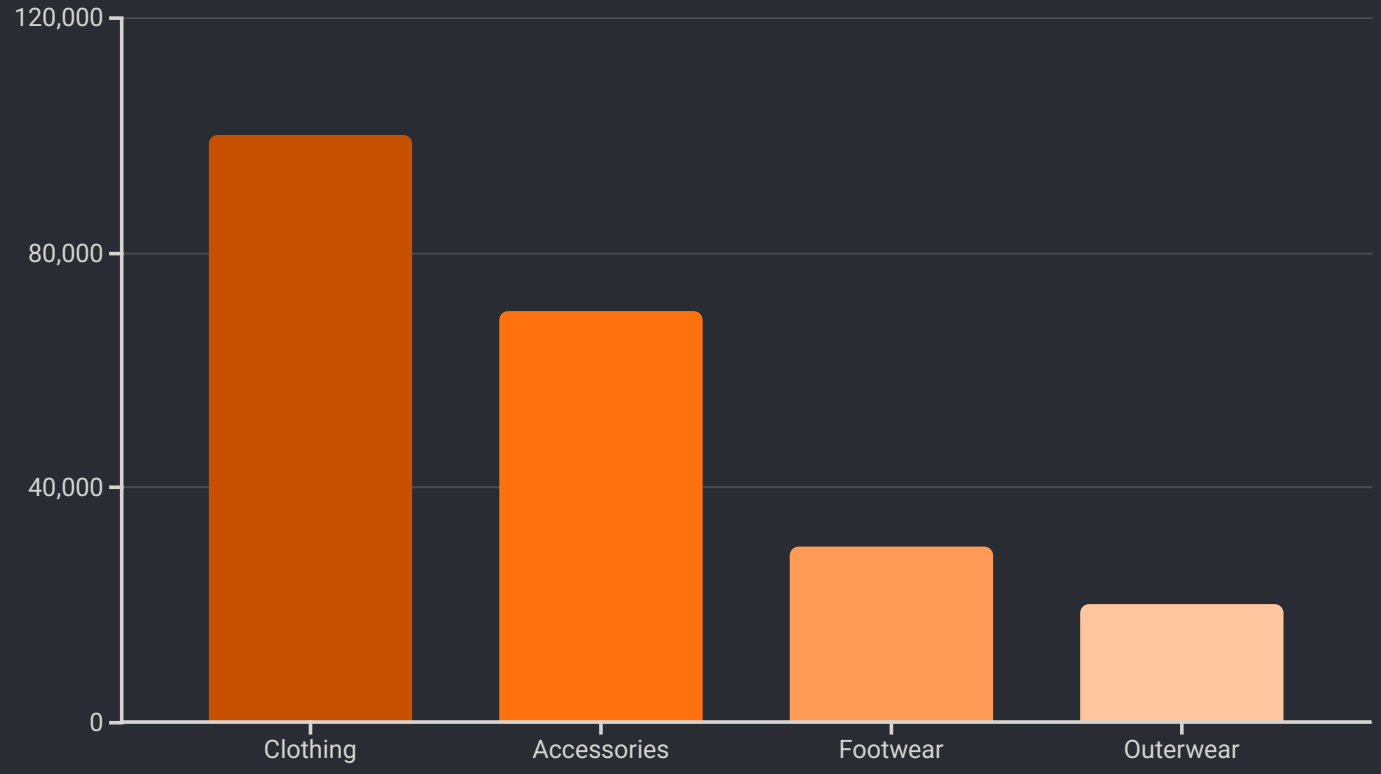

Revenue by Category

Clothing leads; prioritize assortment & margin management

Sales by category: Clothing 2,000 • Accessories 1,500 • Footwear 700 • Outerwear 400

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Dashboard Highlights (Power BI)

Key Metrics

Customers 3.9K • Avg purchase $59.76 • Avg rating 3.75

Subscription Split

Yes 27% • No 73%

Shipping Insight

Standard $58.46 • Express $60.48

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Customer Segmentation

Loyal

3,116 customers

Returning

701 customers

New

83 customers

Repeat buyers and subscription correlation reviewed

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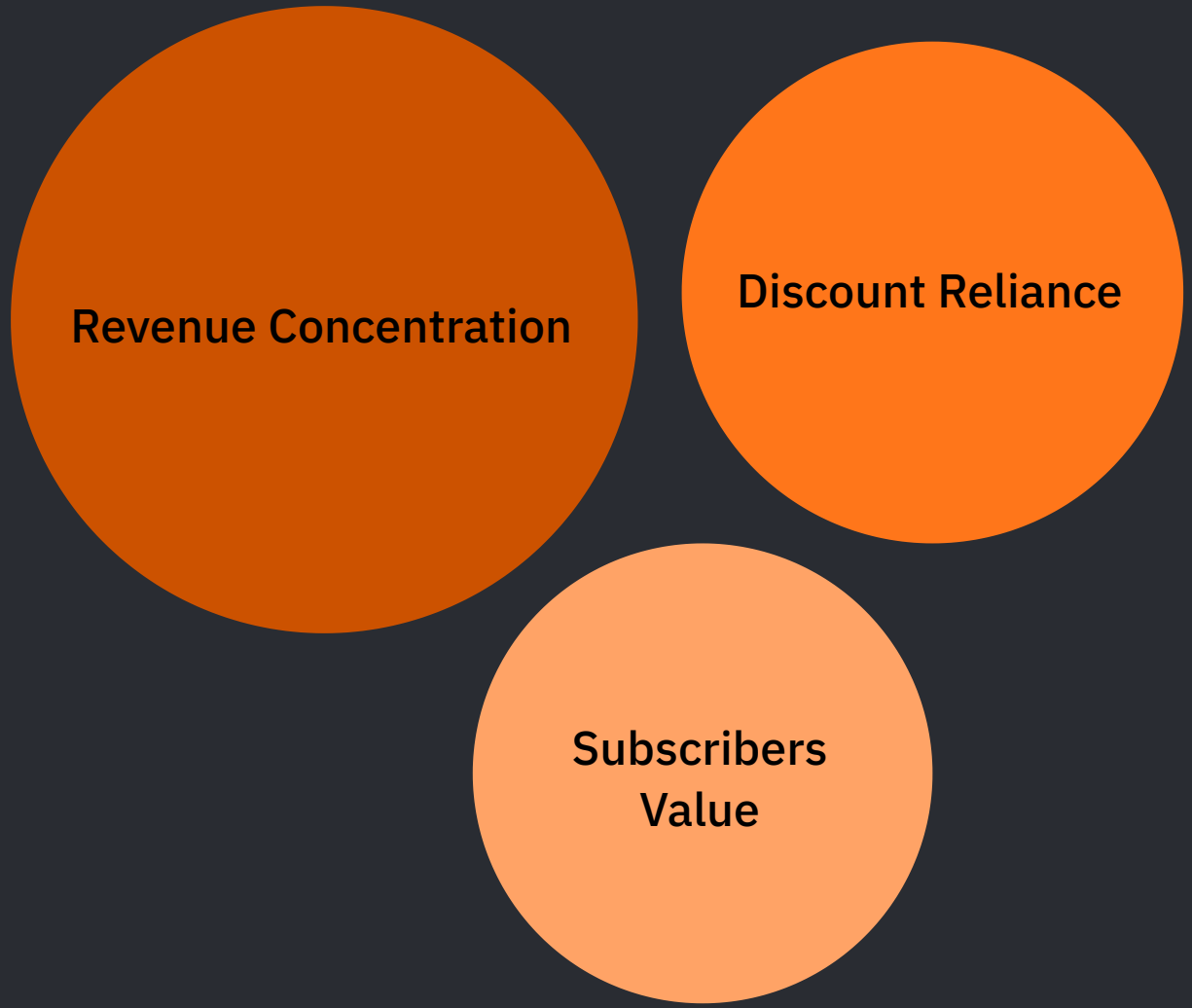

Visual summary: focus categories, discount risk, subscriber strategy

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Business Recommendations

1

Boost Subscriptions

Promote exclusive subscriber benefits

2

Loyalty Programs

Reward repeat buyers to increase loyalty

3

Review Discounts

Balance sales lift with margin control

4

Product Positioning

Highlight top-rated & best-selling items

5

Targeted Marketing

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

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