

Customer Shopping Behavior Analysis

Analyzing 3,900 transactions to unlock purchase patterns, loyalty drivers, and revenue optimization opportunities



Understanding Customer Behavior



Purchase Patterns

Identify buying behaviors across categories

Loyalty Drivers

Understand what keeps customers returning

Revenue Optimization

Uncover opportunities to maximize value

Dataset Overview

3,900

Customer Transactions

Comprehensive purchase records analyzed

18

Data Features

Demographics, purchases, behavior metrics

37

Missing Values

Imputed with category-wise median

Key Data Points

- Demographics: Age, Gender, Location
- Purchase details: Category, Amount, Season
- Behavior: Discounts, Reviews, Frequency
- Loyalty: Subscription, Previous Purchases

Data Transformation & Enhancement

01

Data Cleaning

Standardized columns, handled missing values

02

Age Segmentation

Created groups: Young Adult, Adult, Middle-aged, Senior

03

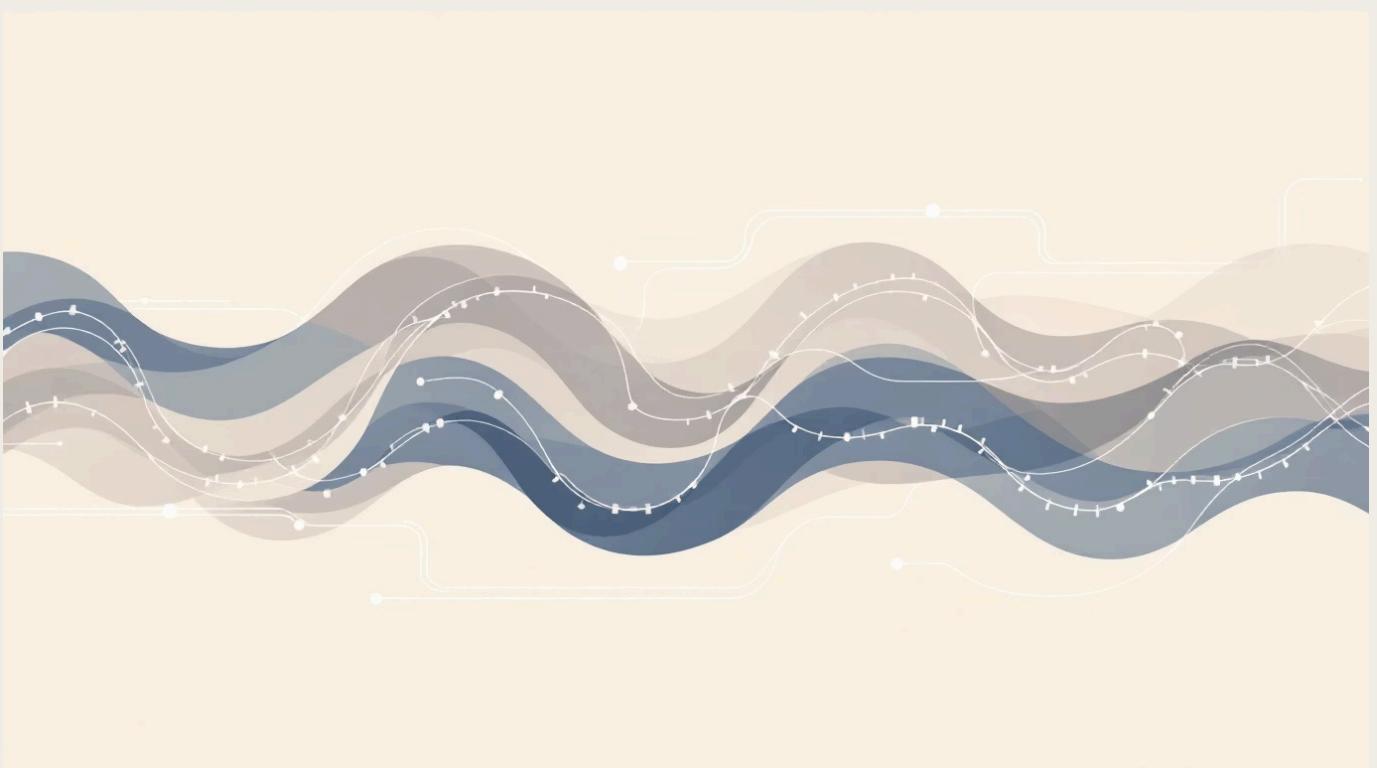
Frequency Conversion

Transformed text to numeric purchase days

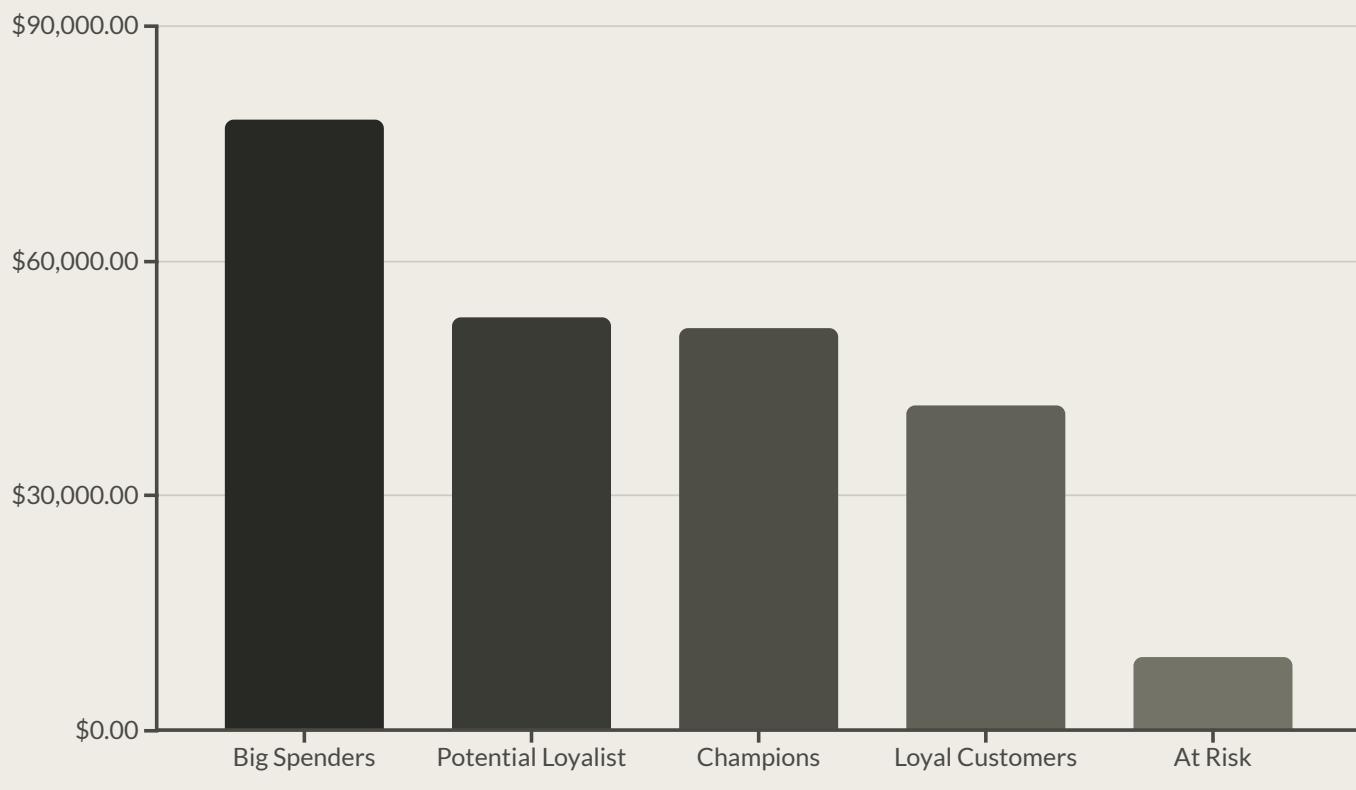
04

RFM Scoring

Calculated Recency, Frequency, Monetary metrics



Customer Segmentation Insights



Five Distinct Segments

Big Spenders lead with 33.4% revenue share
(921 customers, \$84.64 avg)

Potential Loyalists represent growth opportunity (1,211 customers, 22.6% revenue)

Champions deliver high value (866 customers, \$59.37 avg)

Loyal Customers contribute consistent revenue (683 customers, \$60.87 avg)

At Risk segment needs immediate retention efforts (219 customers)

SQL Analysis: Key Business Questions



Revenue by Gender

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

Discount Behavior

839 customers spent above average despite discounts

Top Rated Products

Gloves (3.86), Sandals (3.84),
Boots (3.82)

Shipping Comparison

Express: \$60.48 avg | Standard: \$58.46 avg



Subscriber Analysis

No significant spend difference
($p > 0.05$)

Age Group Revenue

Young Adults lead: \$62,143 total revenue

Customer Behavior Dashboard

Subscription Status

No	Yes
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Gender

Female	Male
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Category

Accessories
Clothing
Footwear
Outerwear

Shipping Type

<input type="radio"/> 2-Day Shipping
<input type="radio"/> Express
<input type="radio"/> Free Shipping
<input type="radio"/> Next Day Air
<input type="radio"/> Standard
<input type="radio"/> Store Pickup

3.9K
Number of Customers

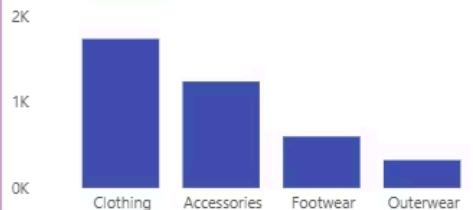
3.75
Average Review Rating

\$59.76
Average Purchase Amount

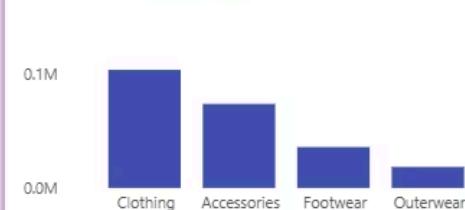
Customer Subscription Status



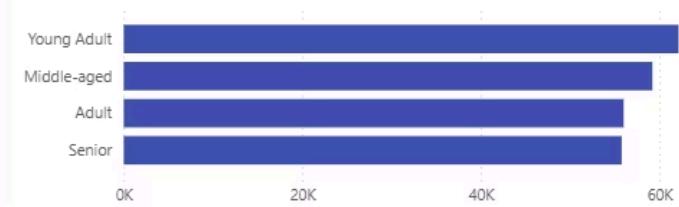
Sales by Category



Revenue by Category



Revenue by Age Group



Sales by Age Group



Power BI Dashboard

Real-Time Insights

Interactive visualizations for decision-making

Key Metrics

3.9K customers, 3.75 avg rating,
\$59.76 avg purchase

Visual Analytics

Category breakdown, age demographics, subscription status

Critical Insights Discovered

High-Value Segments

Big Spenders & Champions
drive majority of revenue

Age Demographics

Young Adults & Middle-aged are top contributors

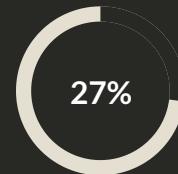
Discount Patterns

Hat, Sneakers, Coat most discounted; some high spenders use discounts

Subscription Impact

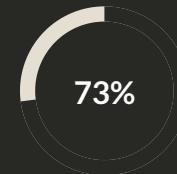
No significant spending difference between subscribers and non-subscribers (T-test $p > 0.05$)

Opportunity to enhance subscription value proposition



Subscribers

1,053 customers, \$59.49 avg
spend



Non-Subscribers

2,847 customers, \$59.87 avg
spend

Product Performance Highlights

Top-Rated Products

★★★★★  3.86

Gloves

★★★★★  3.84

Sandals

★★★★★  3.82

Boots

★★★★★  3.80

Hat

Most Purchased Items

- **Clothing:** Blouse (171), Pants (171), Shirt (169)
- **Footwear:** Sandals (160), Shoes (150)
- **Accessories:** Jewelry (171), Sunglasses (161)
- **Outerwear:** Jacket (163), Coat (161)

Business Recommendations



Boost Subscriptions

Convert repeat buyers with targeted offers



Loyalty Programs

Reward Champions & Big Spenders to retain high-value customers



Optimize Discounts

Focus on incremental revenue drivers

Product Marketing

Highlight top-rated and high-demand items

Targeted Campaigns

Personalize by age, gender, purchase patterns

Retention Strategy

Engage At-Risk customers via RFM insights