

# 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

**3,900**

## Total Purchases

Transactions analyzed across various product categories

**18**

## Data Columns

Comprehensive features covering demographics and behavior

**4**

## Product Categories

Clothing, Footwear, Accessories, and Outerwear

**50**

## Locations

Geographic diversity across customer base

# Data Preparation Journey



## Data Loading

Imported dataset using pandas and performed initial exploration with `df.info()` and `.describe()`



## Data Cleaning

Handled 37 missing values in Review Rating using median imputation by category



## Feature Engineering

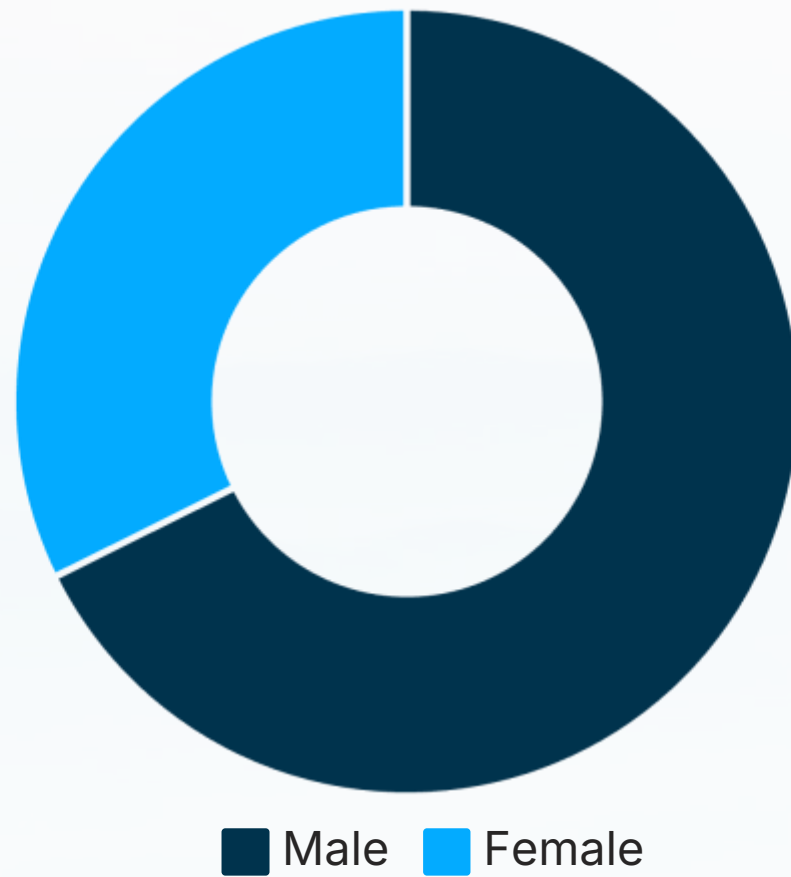
Created `age_group` bins and `purchase_frequency_days` for deeper insights



## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue Insights by Gender



## Key Finding

Male customers generate 68% of total revenue, more than double female customer spending.

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

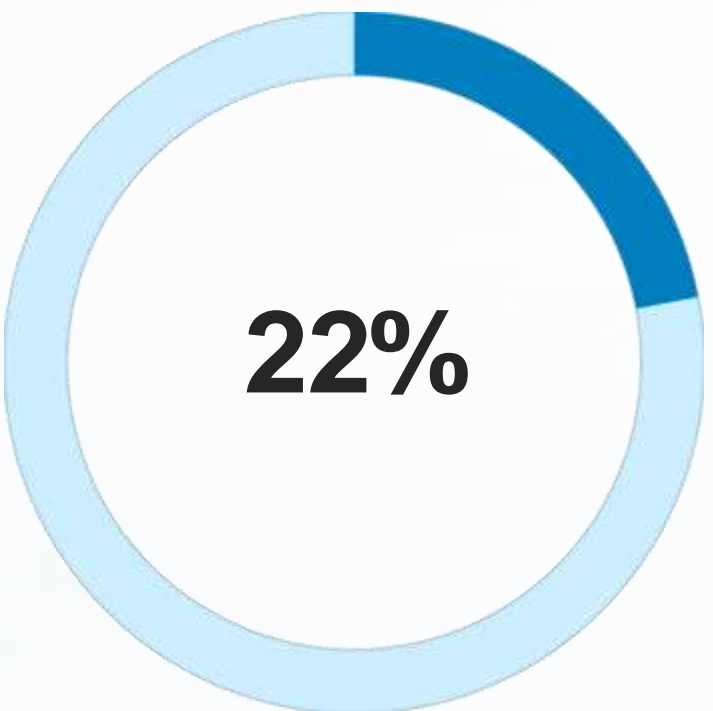


# Smart Discount Users



**High-Value Discount Shoppers**

Customers who used discounts but still spent above average purchase amount



**Percentage of Total**

Represents savvy shoppers who maximize value without sacrificing quality

These customers demonstrate that discounts can drive premium purchases, not just bargain hunting. Strategic discount placement could boost both volume and revenue.

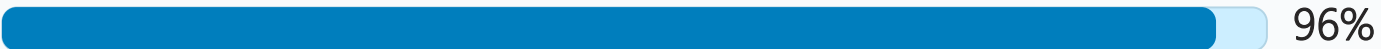
# Product Performance Leaders

## Top-Rated Products



Gloves

3.86 average rating



Sandals

3.84 average rating



Boots

3.82 average rating



Hat

3.80 average rating

## Shipping Preferences

Express Shipping: \$60.48 average purchase

Standard Shipping: \$58.46 average purchase

Express shipping customers spend 3.5% more on average, indicating higher-value customer segments willing to pay for convenience.

# Subscription Status Analysis

## Non-Subscribers

2,847 customers

Average spend: \$59.87

Total revenue: \$170,436

Represents 73% of customer base and majority of revenue

## Subscribers

1,053 customers

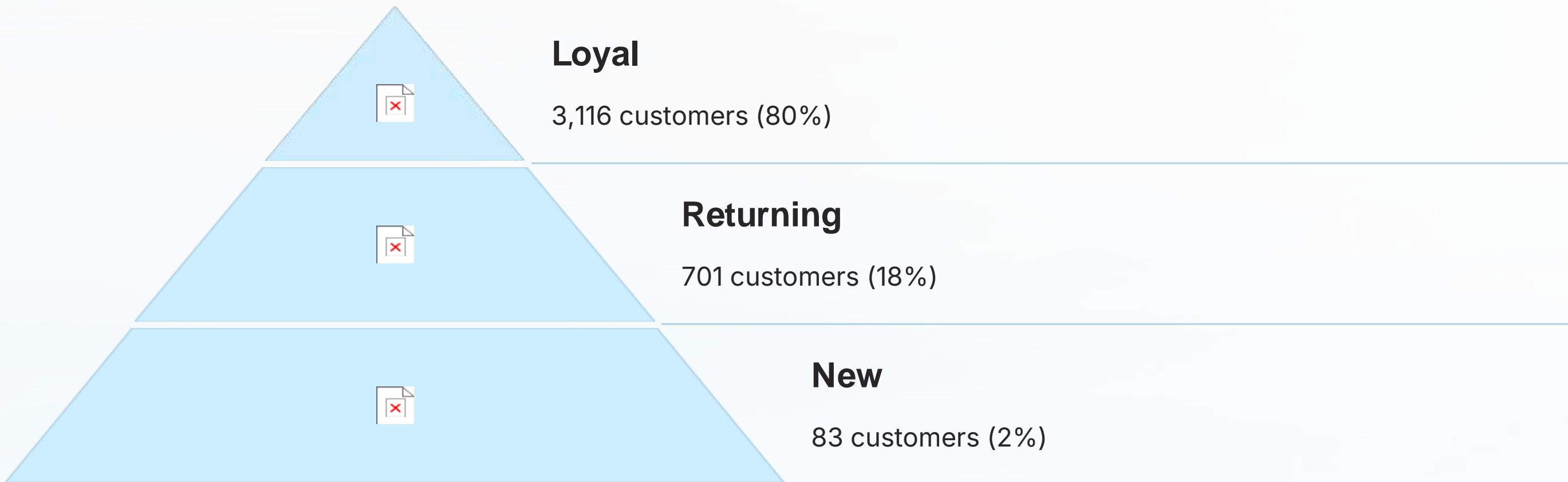
Average spend: \$59.49

Total revenue: \$62,645

Similar spending patterns suggest untapped subscription potential



# Customer Loyalty Breakdown



Strong loyal customer base indicates successful retention. Focus on converting returning customers to loyal status and improving new customer acquisition strategies.

**Repeat Buyer Insight:** Of 3,476 customers with 5+ purchases, only 958 (28%) are subscribers, revealing significant subscription growth opportunity.



# Revenue by Age Demographics



# Strategic Recommendations

## Boost Subscriptions

Promote exclusive benefits targeting repeat buyers—only 28% of frequent shoppers currently subscribe

## Customer Loyalty Programs

Reward repeat buyers to accelerate movement into the loyal segment (currently 80%)

## Review Discount Policy

Balance sales boosts with margin control—839 high-spenders use discounts effectively

## Product Positioning

Highlight top-rated products (Gloves, Sandals, Boots) in marketing campaigns

## Targeted Marketing

Focus on young adults and express-shipping users for premium product campaigns