

Customer Shopping Behavior Analysis

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



Dataset Overview

3,900

Total Purchases

Transactions analyzed across
all categories

18

Data Columns

Comprehensive customer
and purchase attributes

50

Locations

Geographic diversity in
customer base

25

Product Types

Wide variety of items
purchased

Key Features

- Customer demographics
- Purchase details & amounts
- Shopping behavior patterns
- Review ratings & shipping

Data Quality

Only 37 missing values in Review Rating column - minimal data cleaning required

Data Preparation Journey

01

Data Loading & Exploration

Imported dataset, checked structure and summary statistics

02

Missing Data Handling

Imputed Review Rating using median by product category

03

Feature Engineering

Created age_group and purchase_frequency_days columns

04

Data Consistency

Dropped redundant promo_code_used column

05

Database Integration

Connected to PostgreSQL for advanced SQL analysis

Revenue by Gender



Male Customers

Generate 68% of total revenue - dominant purchasing power

Female Customers

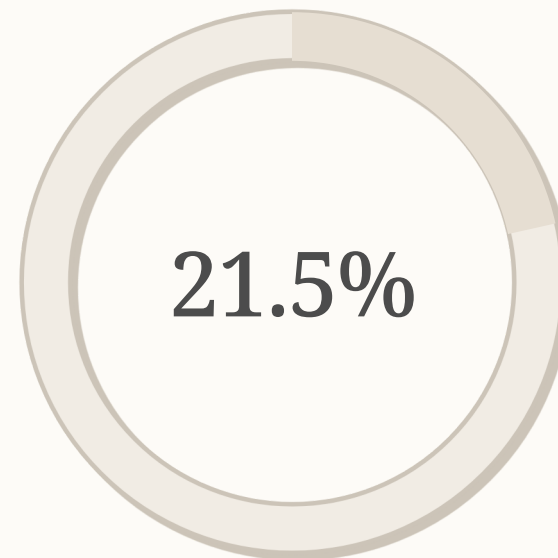
Represent untapped growth opportunity for targeted campaigns

High-Value Discount Users



Smart Shoppers

Customers using discounts while spending above average



Segment Size

Significant portion of customer base

- ❏ **Key Insight:** These customers are price-conscious but high-value - perfect targets for loyalty programs that balance discounts with increased purchase frequency



Product Performance Insights

Top-Rated Products

1. Gloves - 3.86 rating
2. Sandals - 3.84 rating
3. Boots - 3.82 rating
4. Hat - 3.80 rating
5. Skirt - 3.78 rating

Discount-Dependent Items

1. Hat - 50% discount rate
2. Sneakers - 49.66%
3. Coat - 49.07%
4. Sweater - 48.17%
5. Pants - 47.37%

An illustration of two white delivery trucks driving on a multi-lane highway. The truck in the foreground is a smaller cab-over-engine model, while the one behind it is a larger conventional cab model. The background shows rolling hills under a hazy, orange-tinted sky, suggesting a sunset or sunrise scene.

Shipping & Spending Patterns

Standard Shipping

\$58.46 average purchase

Most common shipping choice

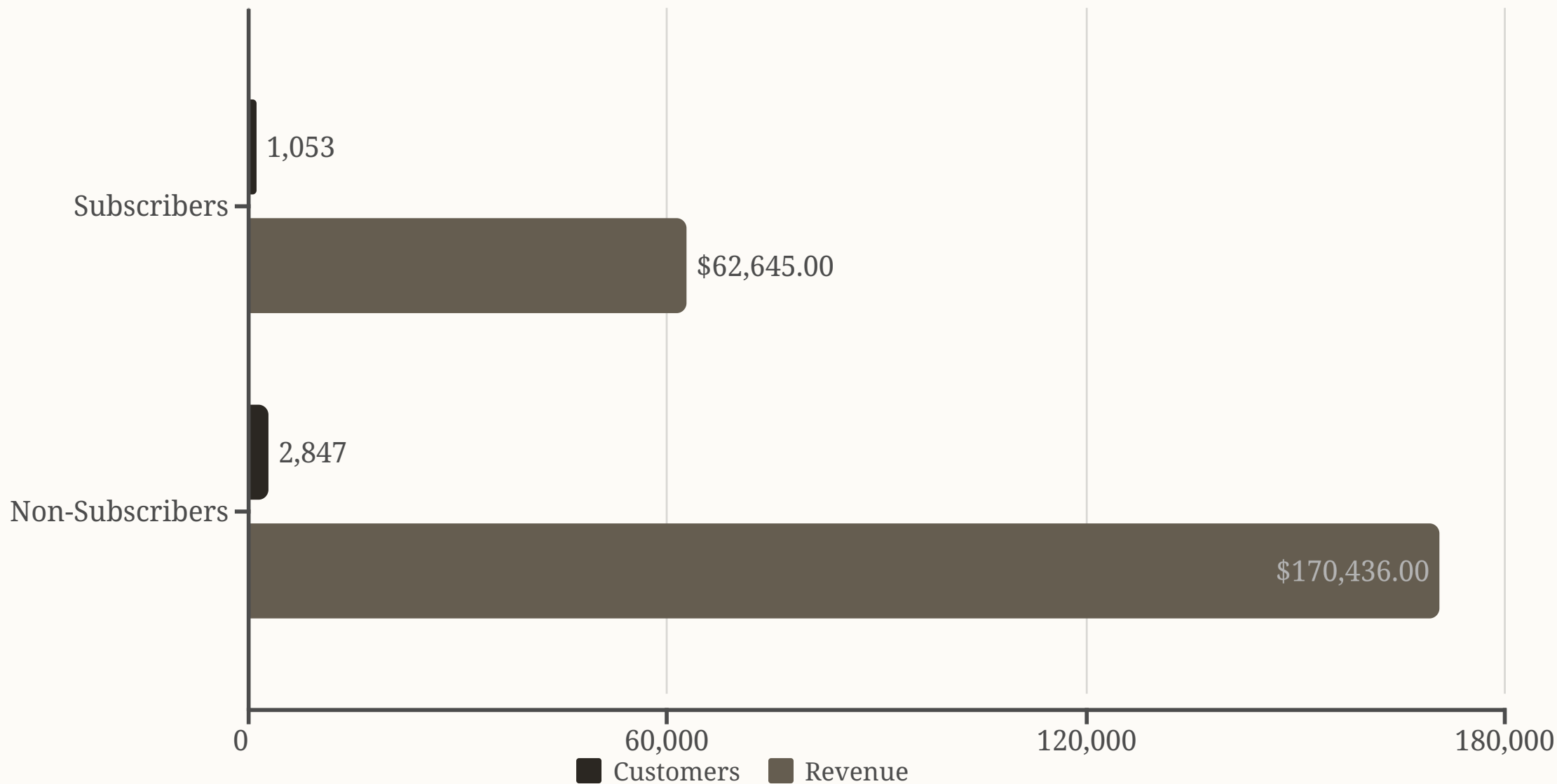
Express Shipping

\$60.48 average purchase

Higher-value customers prefer speed

Express shipping users spend 3.5% more on average - opportunity to promote premium shipping options

Subscription Analysis



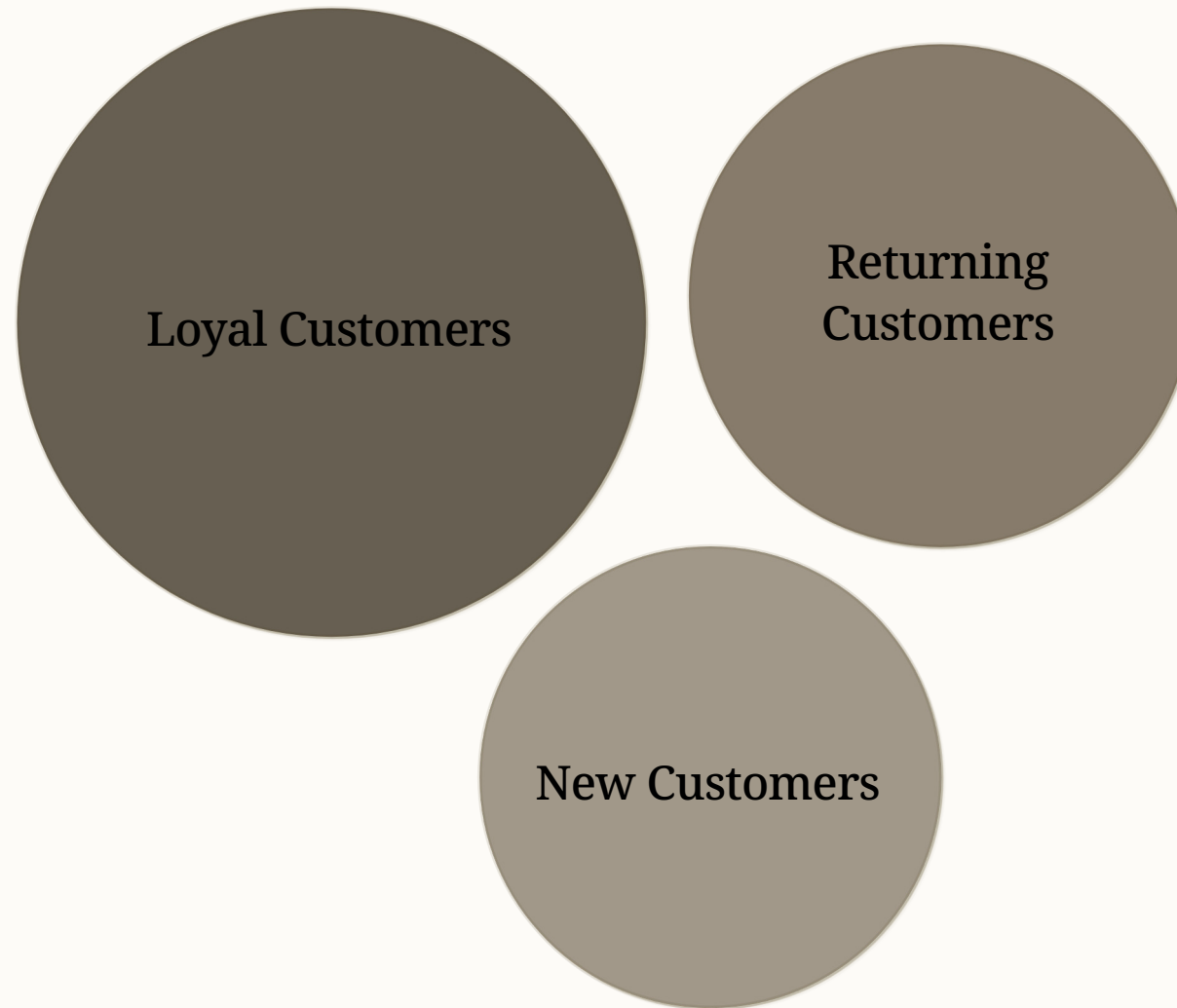
Repeat Buyers

958 subscribers with 5+ purchases vs. 2,518 non-subscribers

Opportunity

Only 27% subscription rate - massive growth potential

Customer Segmentation



Loyal (80%)

Core revenue drivers - focus on retention

Returning (18%)

Growth segment - convert to loyal

New (2%)

Acquisition opportunity

Strategic Recommendations



Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers



Loyalty Programs

Reward repeat buyers to strengthen 80% loyal segment



Review Discounts

Balance 50% discount rates with margin control



Product Positioning

Highlight top-rated items in marketing campaigns



Targeted Marketing

Focus on high-revenue segments and express shipping users