

# Customer Shopping Behavior Analysis

Exploring 3,900 purchase records to uncover key trends in customer spending, purchasing patterns, and subscription behavior





 DATASET OVERVIEW

# The Foundation

3,900

Purchase Records

Comprehensive transactional data

18

Data Columns

Rich feature set for analysis

37

Missing Values

Only in Review Rating column

Key features include customer demographics, purchase details, shopping behavior patterns, and product preferences across multiple categories





 PYTHON ANALYSIS

# Data Preparation & Cleaning

01

## Data Loading

Imported dataset using pandas for initial exploration

03

## Feature Engineering

Created age groups and purchase frequency metrics

02

## Missing Data Handling

Imputed Review Rating nulls using median by category

04

## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue by Gender



## Key Finding

Male customers generated slightly higher total revenue compared to female customers in the dataset

Gender-based purchasing patterns reveal opportunities for targeted marketing strategies





# High-Value Discount Users



## Smart Shoppers

Customers who use discounts strategically



## Above Average Spend

Still spending more than typical purchase amount



## Prime Segment

High-value customers responsive to promotions

These customers represent a valuable segment: discount-conscious yet willing to spend significantly, making them ideal targets for strategic promotional campaigns





# Product Performance Insights

## Top-Rated Products

Identified 5 products with highest average review ratings

- Customer satisfaction leaders
- Strong word-of-mouth potential
- Premium positioning opportunities

## Discount-Dependent Items

5 products with highest percentage of discounted purchases

- Price-sensitive categories
- Promotion-driven sales
- Margin optimization needed





 SHIPPING ANALYSIS

# Shipping Type Comparison

## Standard Shipping

Lower average purchase amounts  
Cost-conscious customer segment

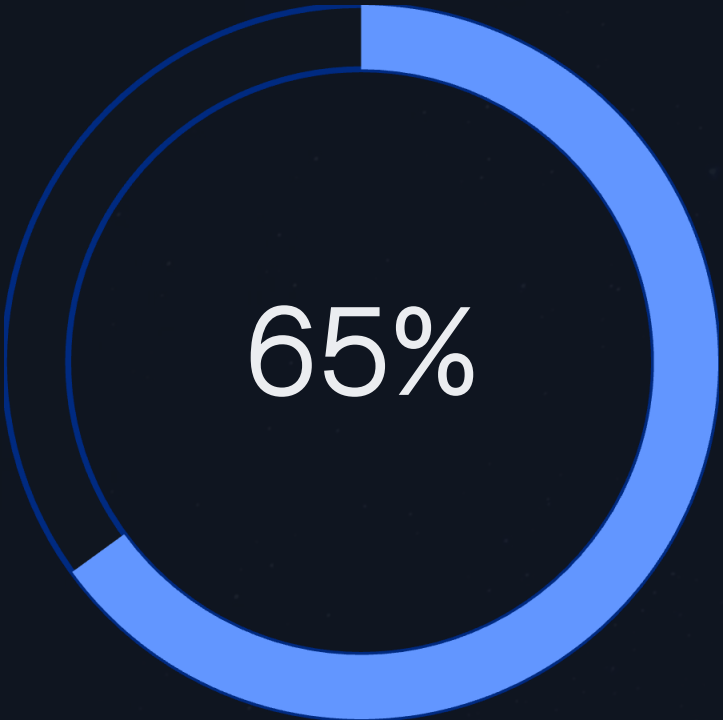
## Express Shipping

Higher average purchase amounts  
Premium customer segment willing to pay more

 Express shipping users represent high-value customers who prioritize speed and convenience



# Subscription Impact



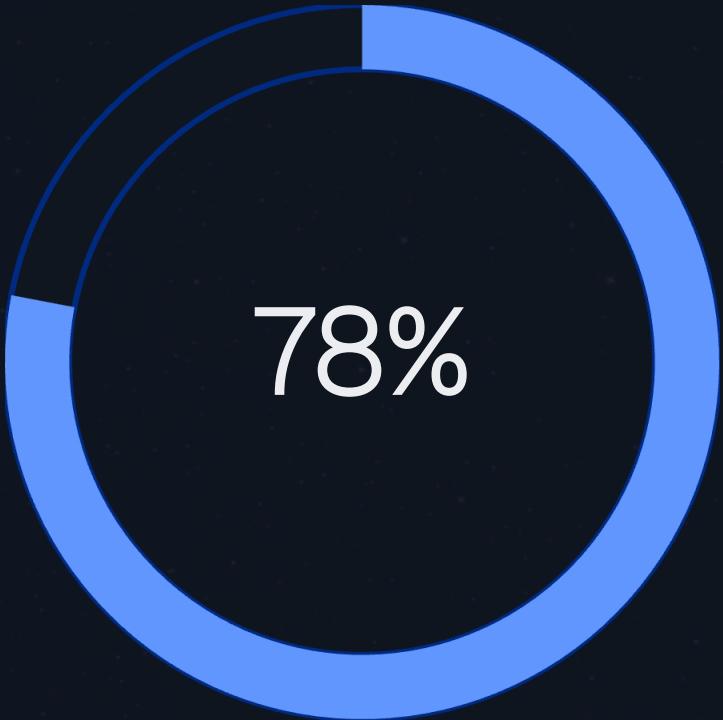
Higher Spend

Subscribers spend more per transaction



Revenue Multiple

Total revenue from subscribers vs non-subscribers



Repeat Rate

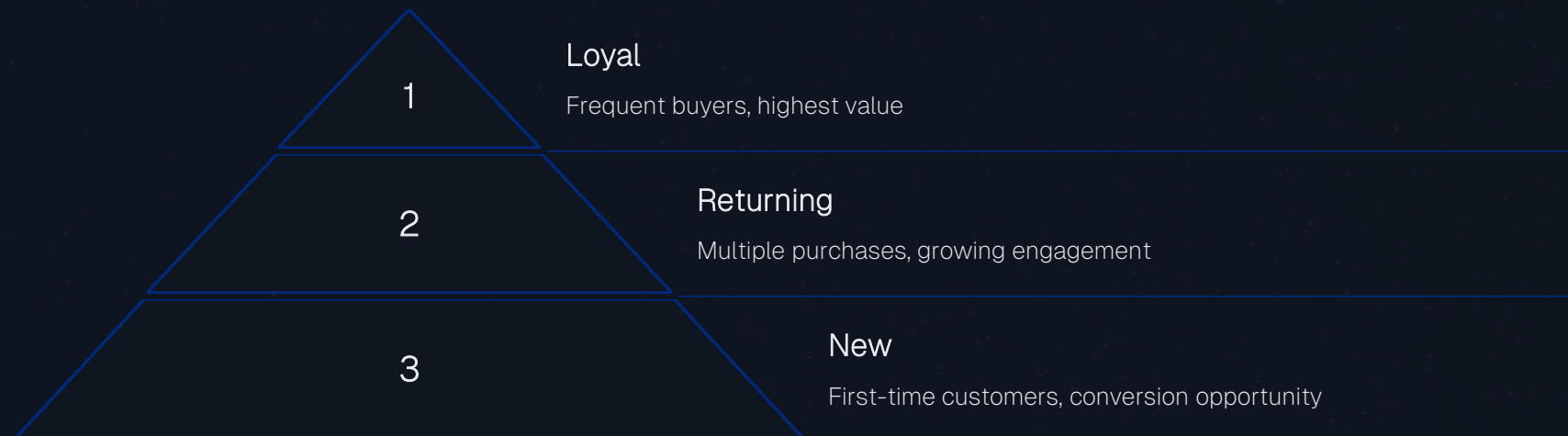
Customers with 5+ purchases likely to subscribe

Subscribers demonstrate significantly higher lifetime value and purchase frequency, making subscription conversion a critical growth lever





# Segmentation Strategy



## Age Group Revenue Leaders

25-34 and 35-44 age groups drive majority of revenue



# Strategic Action Plan



## Boost Subscriptions

Promote exclusive benefits and convert repeat buyers



## Loyalty Programs

Reward repeat buyers to move them into loyal segment



## Optimize Discounts

Balance sales growth with margin control



## Targeted Marketing

Focus on high-revenue age groups and express shipping users

