



# Customer Shopping Behavior Analysis

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

# Dataset Overview

**3,900**

## Total Purchases

Transactions analyzed  
across all categories

**18**

## Data Points

Customer  
demographics,  
purchase details,  
shopping behavior

**25**

## Product Types

Diverse inventory  
across 4 major  
categories

**50**

## Locations

Geographic  
distribution of  
customer base



# Data Preparation Journey

01

## Data Loading & Exploration

Imported dataset, analyzed structure and summary statistics

03

## Feature Engineering

Created age groups and purchase frequency metrics

02

## Missing Data Handling

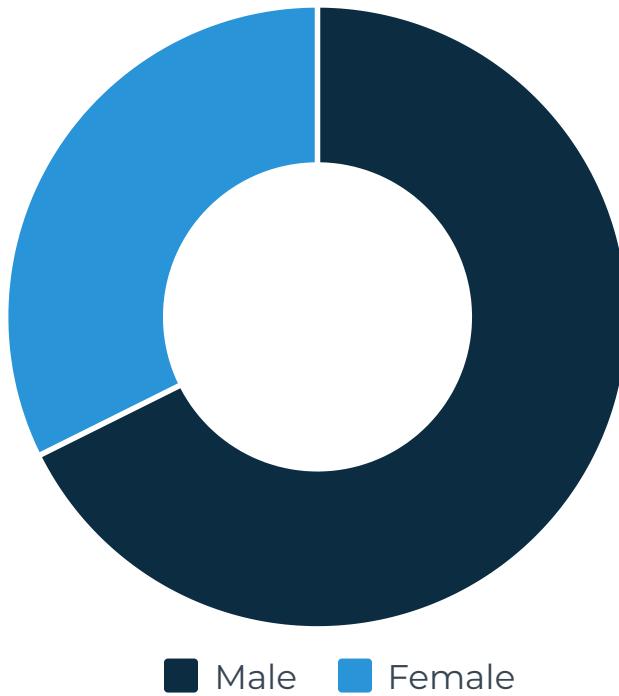
Imputed 37 missing review ratings using category medians

04

## Database Integration

Connected to PostgreSQL for advanced SQL analysis

# Revenue by Gender



## Key Insight

Male customers generate 68% of total revenue, significantly outpacing female customers.

Strategic opportunity for targeted marketing campaigns.

# Customer Segmentation Analysis

## Loyal Customers

**3,116 customers**

80% of customer base - highest retention segment

## Returning Buyers

**701 customers**

18% showing repeat purchase behavior

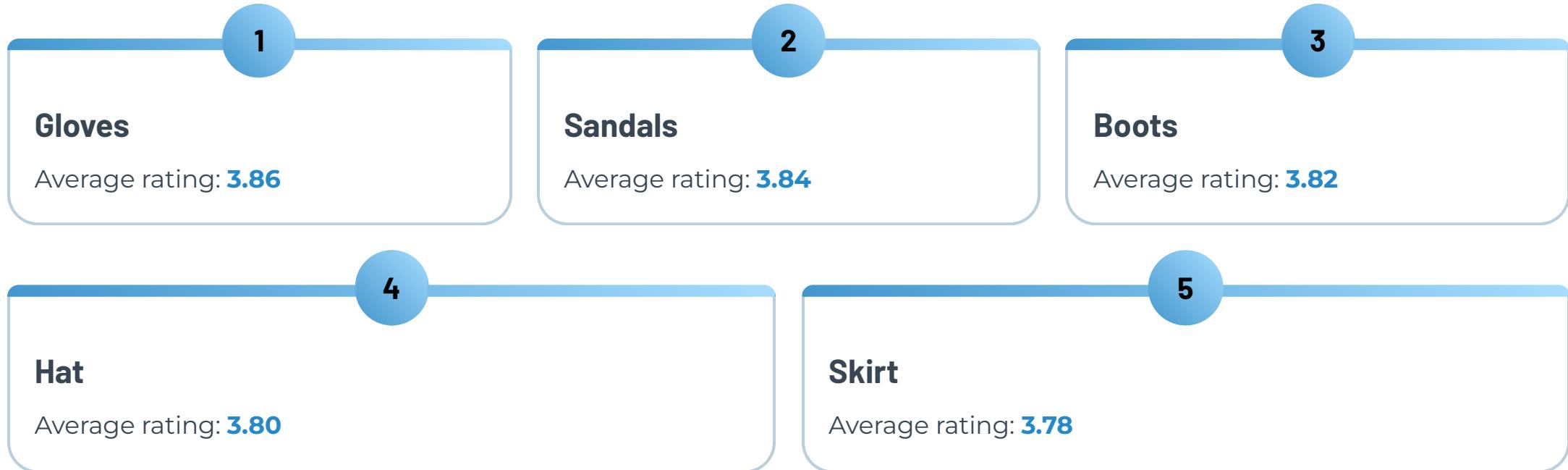
## New Customers

**83 customers**

2% - opportunity for conversion strategies



# Top-Rated Products

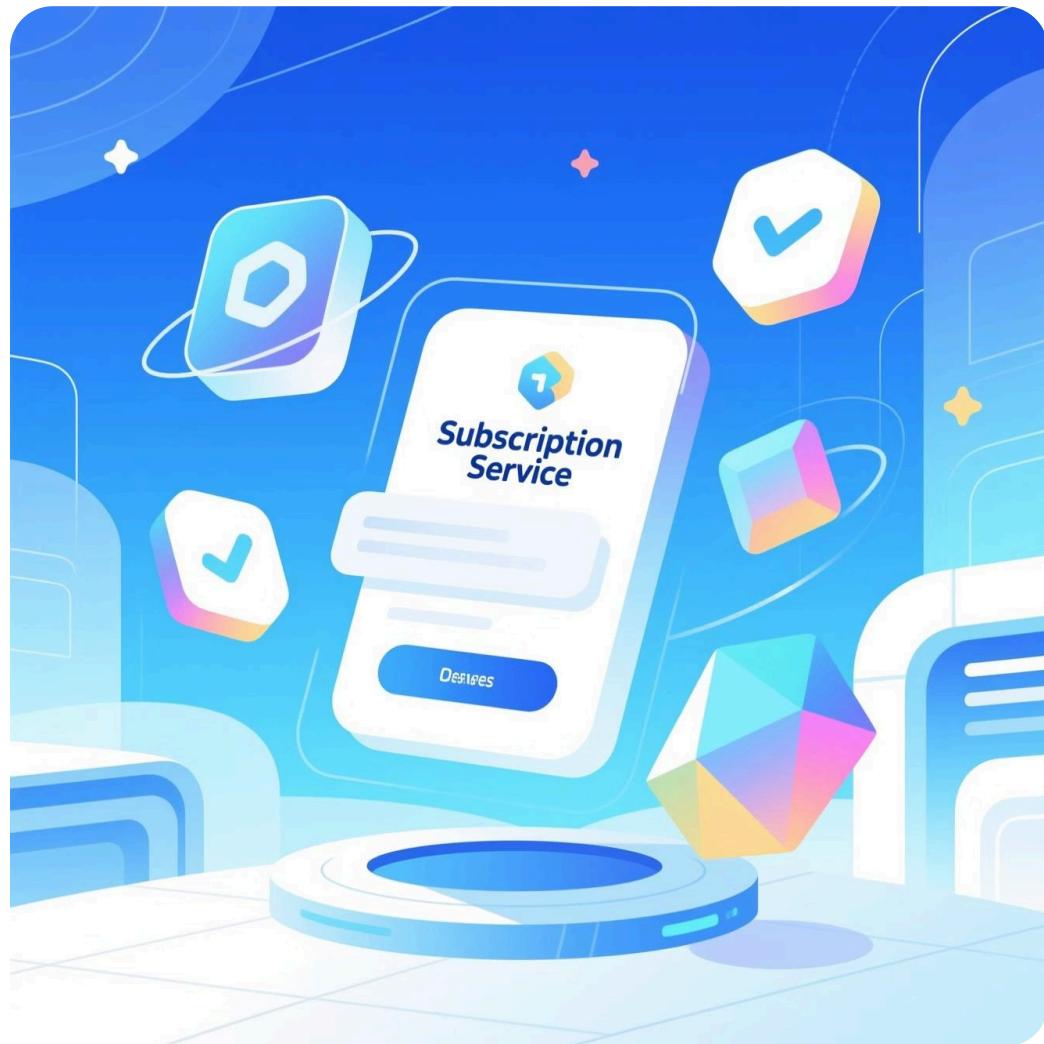


Highlight these products in marketing campaigns to drive conversions

# Subscription vs. Non-Subscription Performance

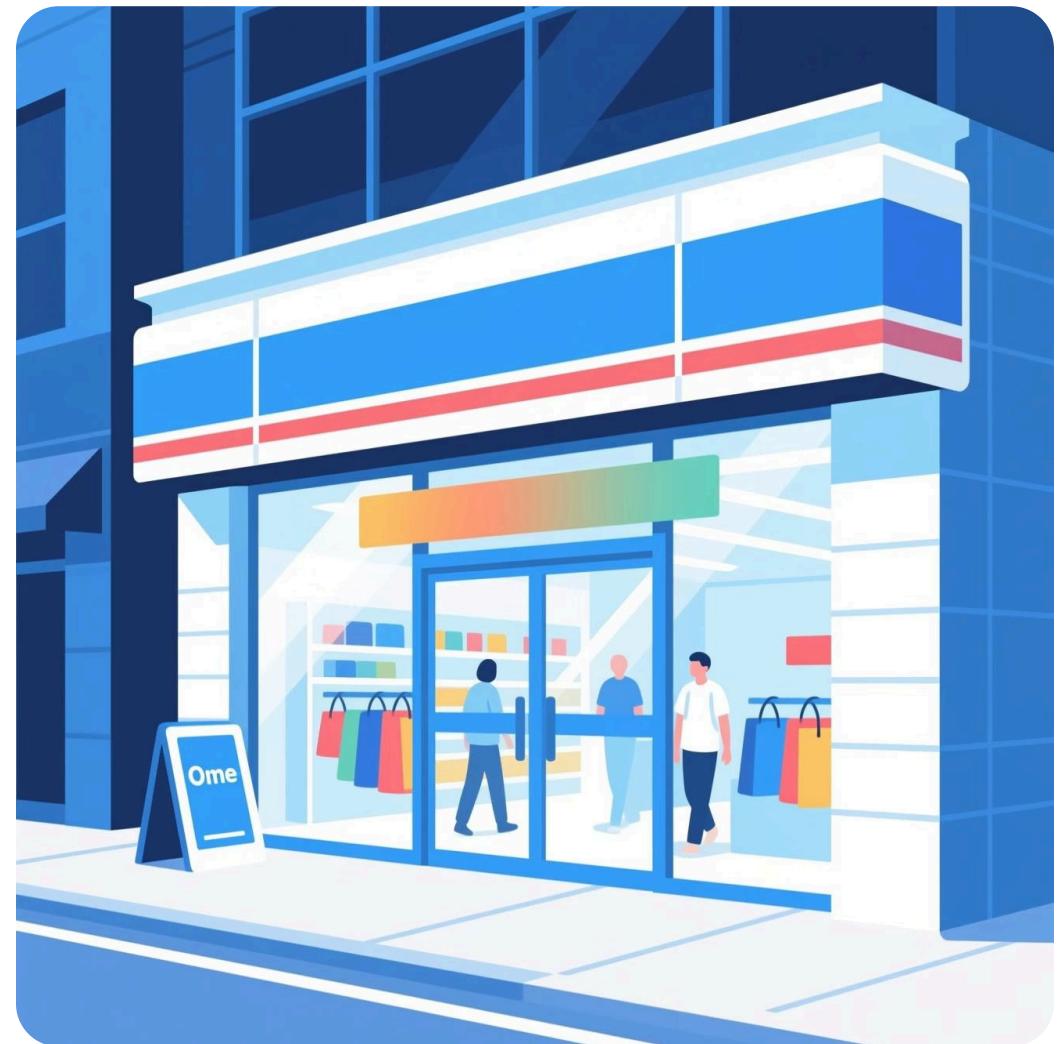
## Subscribers

- 1,053 customers (27%)
- Average spend: **\$59.49**
- Total revenue: **\$62,645**



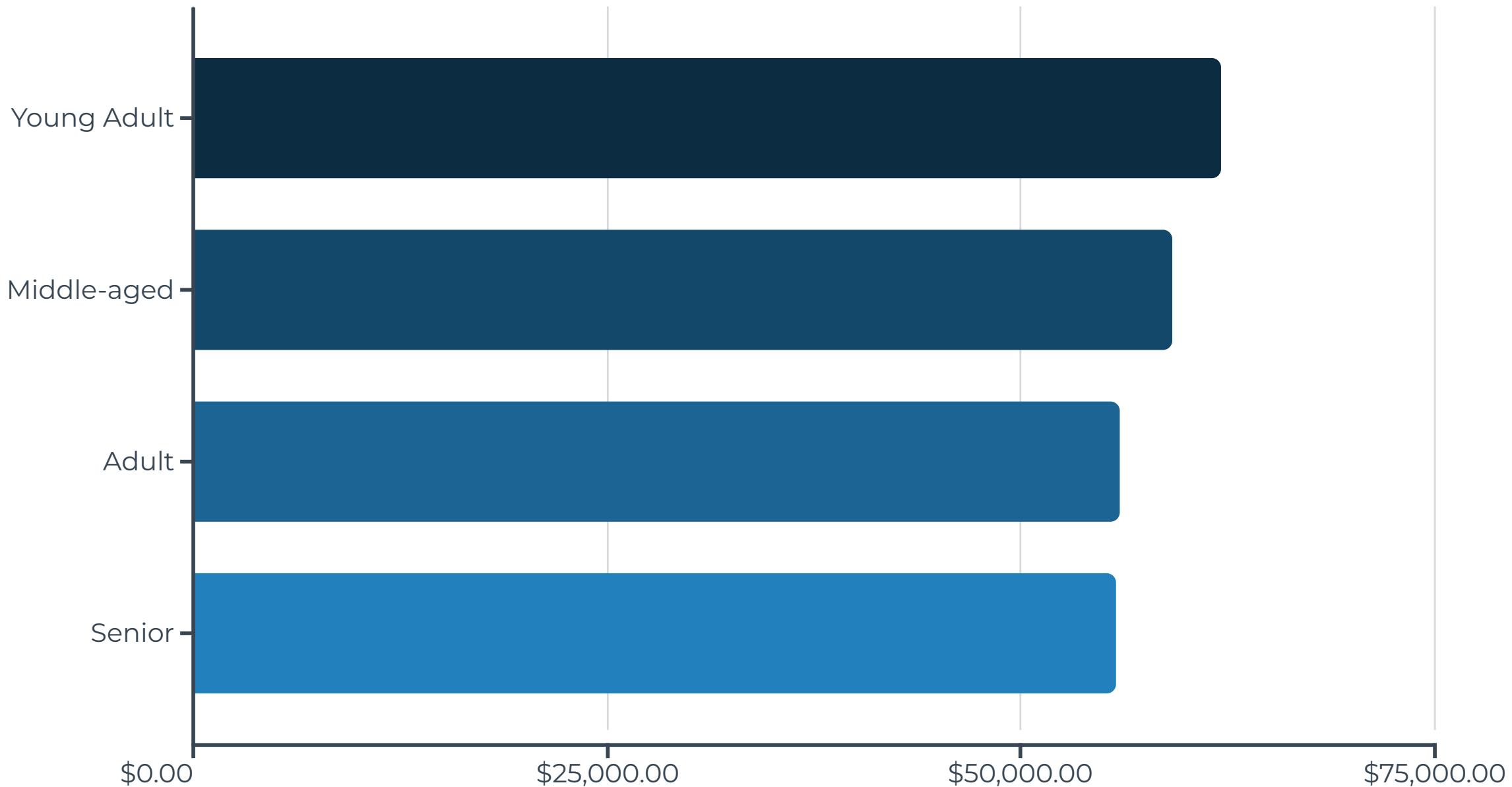
## Non-Subscribers

- 2,847 customers (73%)
- Average spend: **\$59.87**
- Total revenue: **\$170,436**



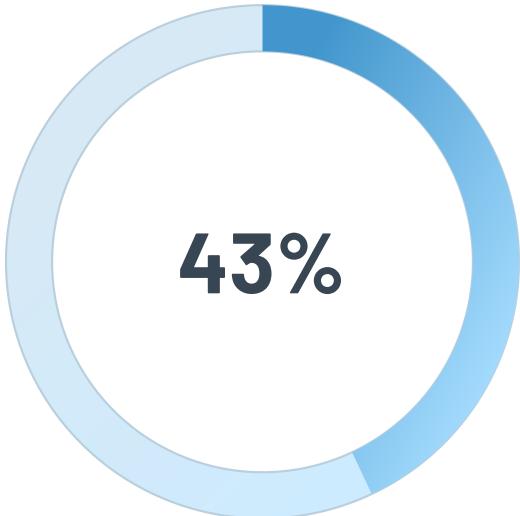
- Repeat buyers with 5+ purchases show higher subscription rates - opportunity to convert loyal customers

# Revenue by Age Group



Young adults lead revenue generation - focus marketing efforts on this demographic

# Discount Strategy Insights



## Discount Usage Rate

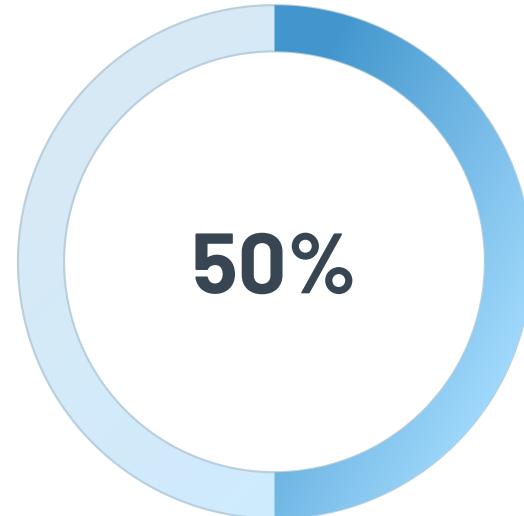
Nearly half of all purchases use discounts



## High-Value Discount Users

Customers spending above average despite discounts

Balance promotional strategies to maintain healthy profit margins



## Hat Discount Rate

Highest discount dependency among products

# Strategic Recommendations



## Boost Subscriptions

Promote exclusive benefits to convert loyal customers



## Loyalty Programs

Reward repeat buyers to increase retention



## Review Discount Policy

Balance sales growth with margin control



## Product Positioning

Highlight top-rated items in campaigns



## Targeted Marketing

Focus on high-revenue age groups and express shipping users