

# Customer Shopping Behavior Analysis

Uncovering insights from transactional data to guide strategic business decisions.





# Project Overview & Goals

1

## Data Analysis

3,900 purchases across categories.

2

## Key Insights

Spending patterns, customer segments, product preferences.

3

## Strategic Decisions

Guide business growth and subscription behavior.

# Dataset Summary

## Rows

3,900 purchases

## Columns

18 key features

**Key Features:** Customer demographics, purchase details, shopping behavior.

**Missing Data:** 37 values in Review Rating.





# Exploratory Data Analysis (Python)

01

## Data Preparation

Loading, initial exploration, missing data handling.

02

## Feature Engineering

Age groups, purchase frequency, column standardization.

03

## Database Integration

Cleaned data loaded into PostgreSQL for SQL analysis.



# Key Business Questions (SQL)

## 1 Revenue by Gender

Male vs. Female customer revenue comparison.

## 2 High-Spending Discount Users

Customers using discounts but spending above average.

## 3 Top 5 Products by Rating

Products with highest average review ratings.

## 4 Shipping Type Comparison

Average purchase amounts for Standard vs. Express shipping.

# Subscription & Discount Insights

## Subscribers vs. Non-Subscribers

Average spend and total revenue comparison.



## Discount-Dependent Products

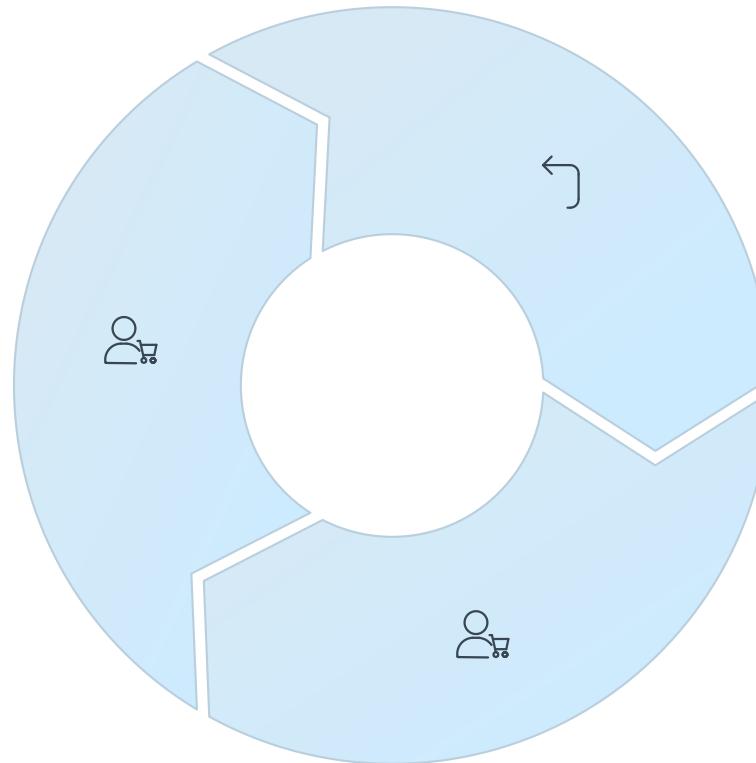
Top 5 products with highest percentage of discounted purchases.



# Customer Segmentation

## New Customers

First-time buyers.



## Returning Customers

Repeat purchases.

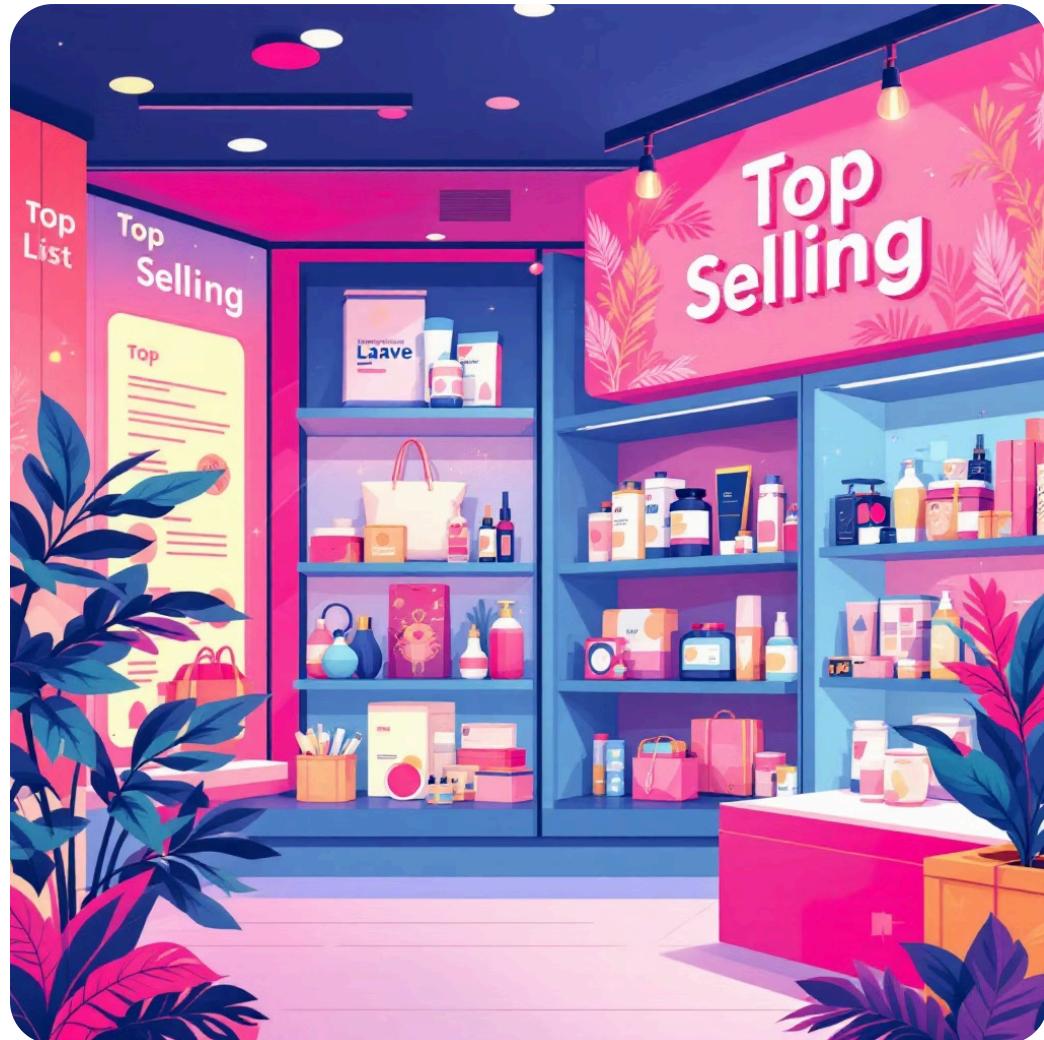
## Loyal Customers

Consistent purchase history.

# Product & Age Group Performance

## Top 3 Products per Category

Most purchased items within each product category.



## Revenue by Age Group

Total revenue contribution from each age demographic.



# Interactive Power BI Dashboard

Visualizing insights for easy comprehension and decision-making.

## Visual Presentation

Dynamic and interactive data display.

## Key Metrics

Real-time tracking of performance indicators.



# Business Recommendations

## → Boost Subscriptions

Promote exclusive benefits for subscribers.

## → Customer Loyalty Programs

Reward repeat buyers to foster loyalty.

## → Review Discount Policy

Balance sales with margin control.

## → Targeted Marketing

Focus on high-revenue age groups and express-shipping users.

