

# Customer Shopping Behavior Analysis

Uncovering insights from transactional data to guide strategic business decisions.





# Project Overview

1

## Transactional Data

Analyzed 3,900 purchases across product categories.

2

## Key Insights

Spending patterns, customer segments, product preferences.

3

## Strategic Guidance

Informing business decisions and subscription behavior.



# Dataset Summary

## Dataset Details

- 3,900 Rows
- 18 Columns
- 37 Missing values in Review Rating

## Key Features

- Customer demographics (Age, Gender, Location)
- Purchase details (Item, Category, Amount)
- Shopping behavior (Discount, Frequency, Rating)

# Exploratory Data Analysis (Python)

01

## Data Preparation

Loading, initial exploration, missing data handling.

02

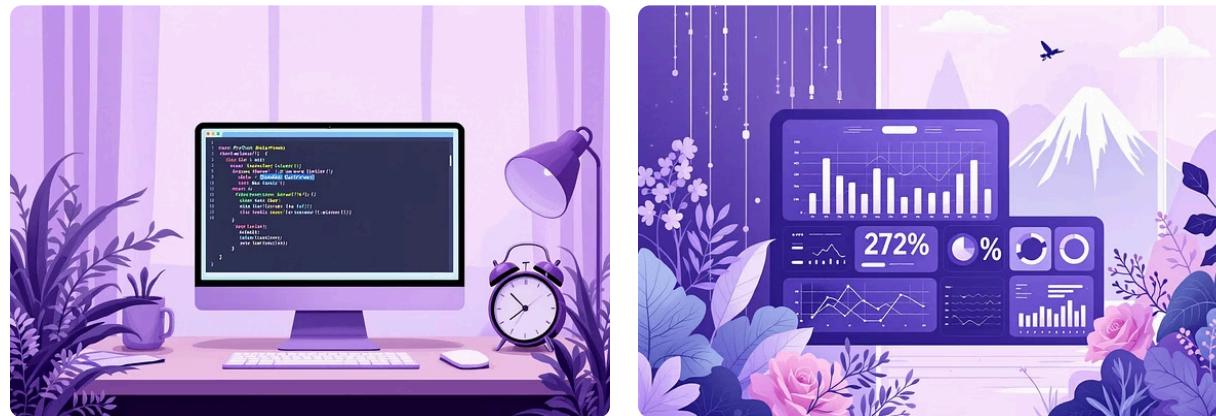
## Feature Engineering

Created age groups, purchase frequency, dropped redundant columns.

03

## Database Integration

Loaded cleaned data into PostgreSQL for SQL analysis.



# Data Analysis using SQL

## Revenue by Gender

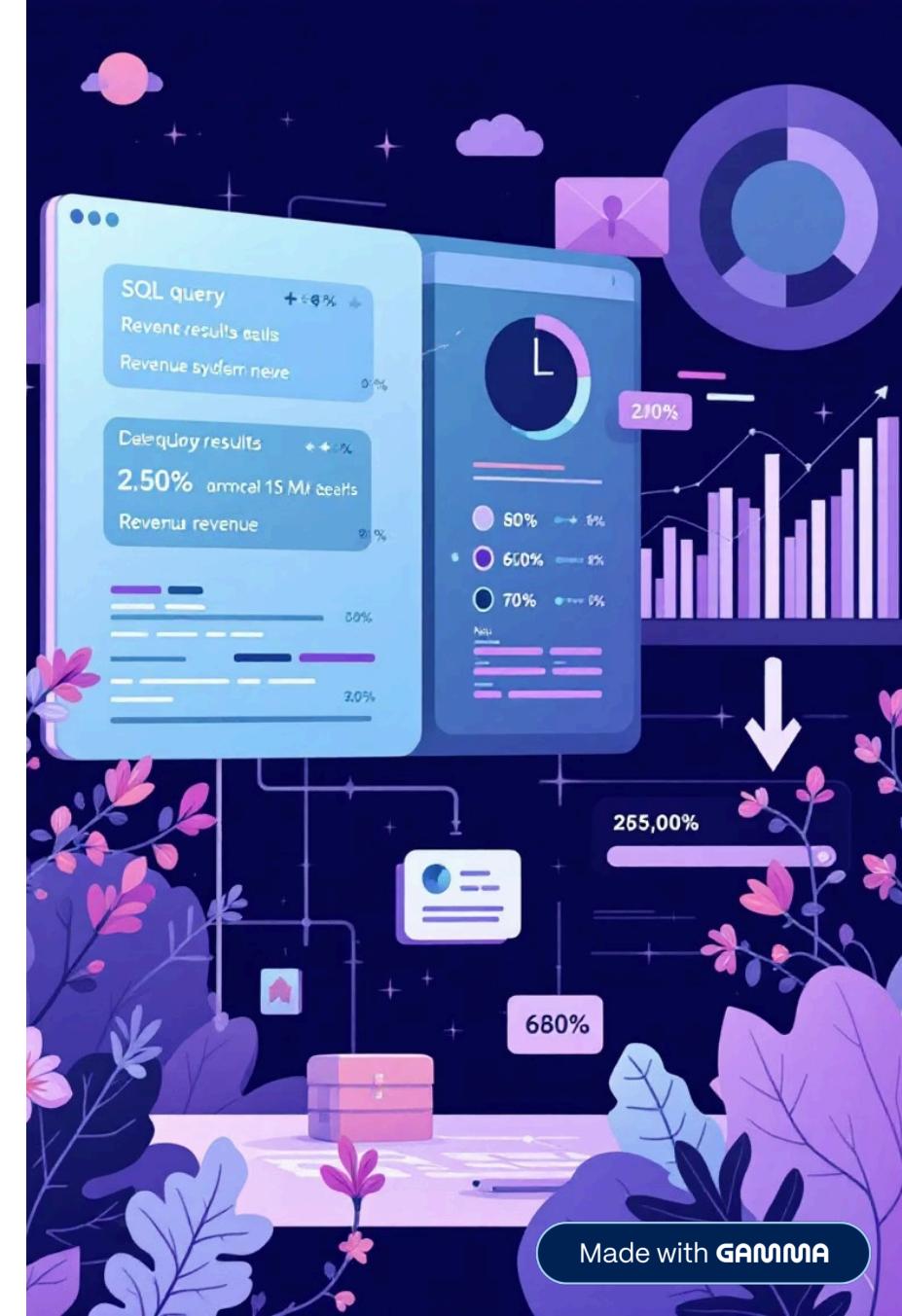
Compared total revenue from male vs. female customers.

## High-Spending Discount Users

Identified customers using discounts with above-average spend.

## Top 5 Products by Rating

Found products with the highest average review ratings.



# SQL Insights: Shipping & Subscriptions

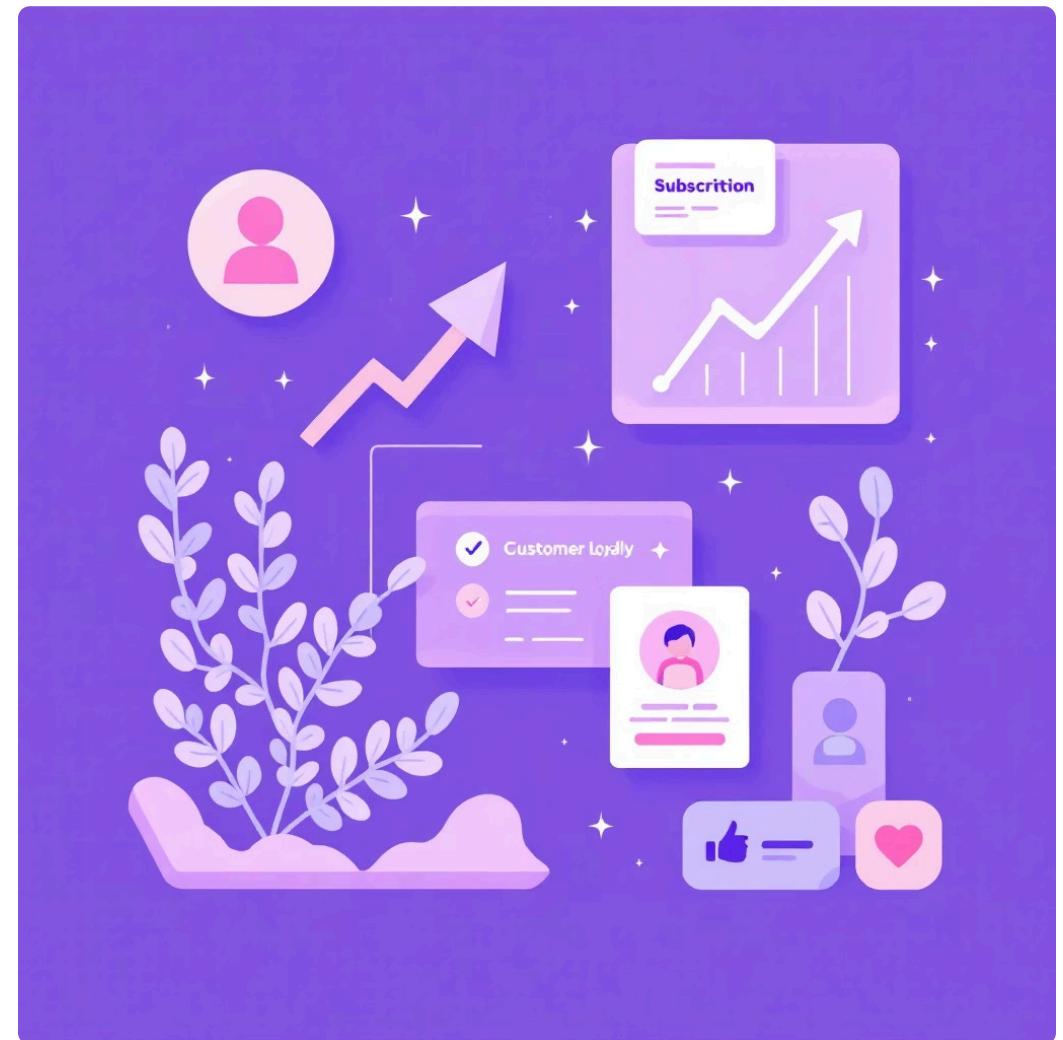
## Shipping Type Comparison

Average purchase amounts for Standard vs. Express shipping.



## Subscribers vs. Non-Subscribers

Compared average spend and total revenue by subscription status.



# SQL Insights: Products & Customers



## Discount-Dependent Products

Top 5 products with highest percentage of discounted purchases.



## Customer Segmentation

Classified customers into New, Returning, and Loyal segments.



## Top 3 Products per Category

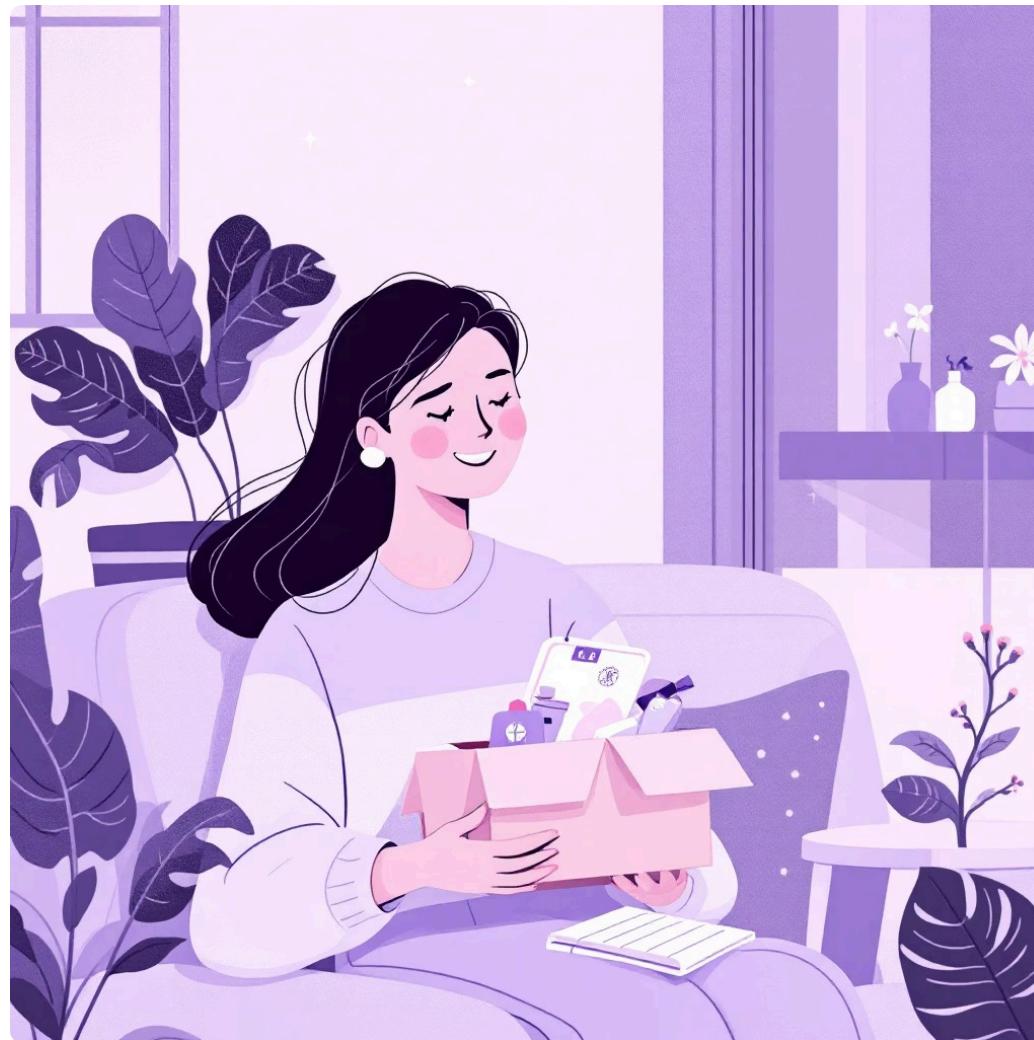
Most purchased products within each category.



# SQL Insights: Loyalty & Demographics

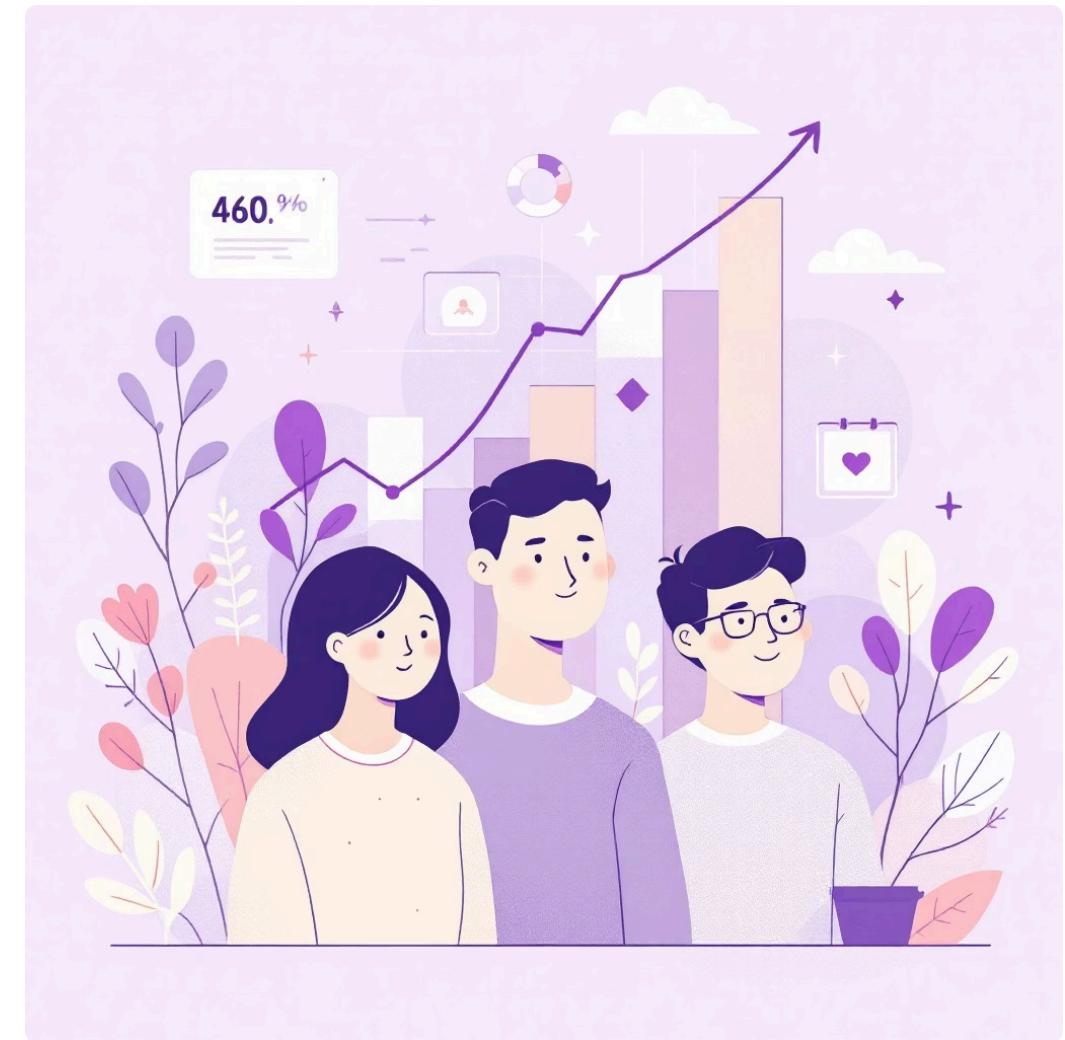
## Repeat Buyers & Subscriptions

Customers with >5 purchases are more likely to subscribe.



## Revenue by Age Group

Total revenue contribution from each age group.



# Key Insights from Analysis



## Revenue & Gender

Male customers (48% of base) generate 62% of total revenue.



## Discount Impact

Customers using discounts spend 28% more per order.



## Subscriber Value

Subscribers (24% of customers) contribute 68% of revenue, 3.8x higher spend.



## Loyal Segment

11% of customers are "Loyal" (6+ purchases), driving 41% of revenue.



## Top Products

"Blouse" is top-rated (4.6/5) and top-selling in Clothing.

# Strategic Business Recommendations



## Target Male Customers (40-60)

Redirect 60-70% marketing budget for highest ROI.



## Increase Discount Usage

Drives 28% larger basket sizes and higher repeat rates.



## Aggressive Subscription Push

After 3rd purchase, customers 9x more likely to subscribe.



## Promote Key Products

"Blouse," "Pants," "Jewelry" combine high volume + satisfaction.



## VIP/Loyalty Program

For 6+ purchases: free express shipping, early access, exclusive discounts.