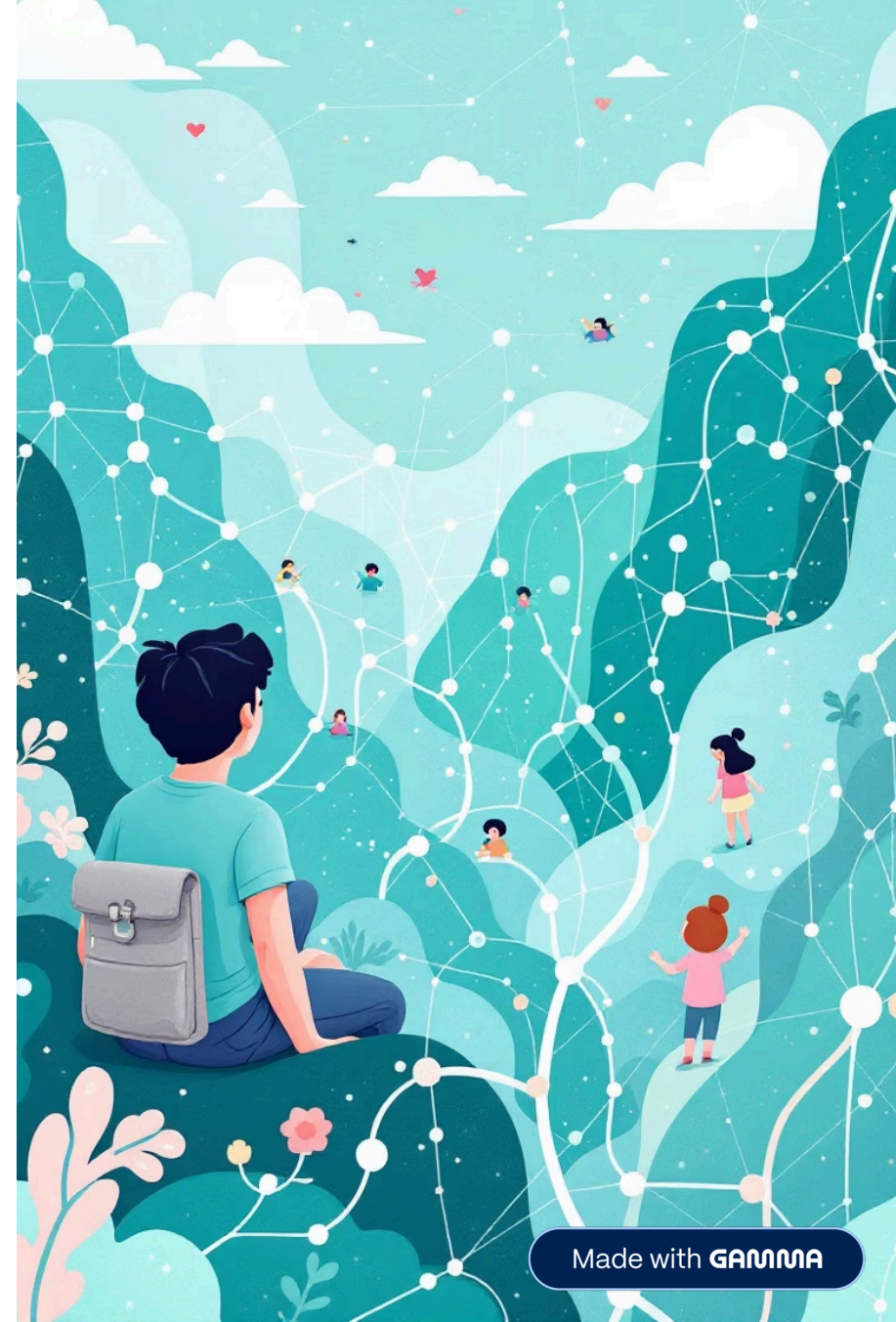


Customer Shopping Behavior Analysis

Understanding customer purchasing patterns and key behavioral insights.



Made with GAMMA

Project Overview

Goal

Analyze customer behavior, identify buying decision factors.

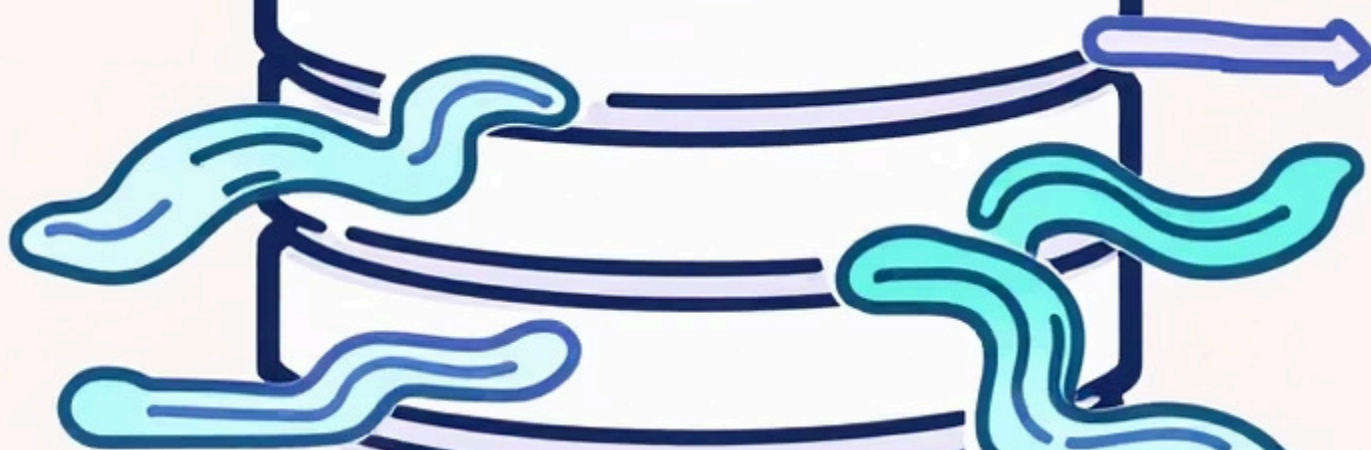
Purpose

Highlight spending patterns, preferences, engagement for better targeting.

Outcome

Support data-driven business strategies.





Dataset Summary

3,900 Rows

18 Columns

37 Missing Values

Key Features

- Customer demographics
- Purchase details
- Shopping behavior

Exploratory Data Analysis (Python)

O1

Data Loading & Initial Exploration

Imported with pandas, checked structure and summary statistics.

O2

Missing Data Handling

Imputed 'Review Rating' with median per product category.

O3

Column Standardization

Renamed columns to snake case for readability.

O4

Feature Engineering

Created 'age_group' and 'purchase_frequency_days'.

O5

Database Integration

Loaded cleaned data to PostgreSQL for SQL analysis.



Data Analysis (SQL)



Revenue by Gender

Male vs. female customer revenue.



Top 5 Products by Rating

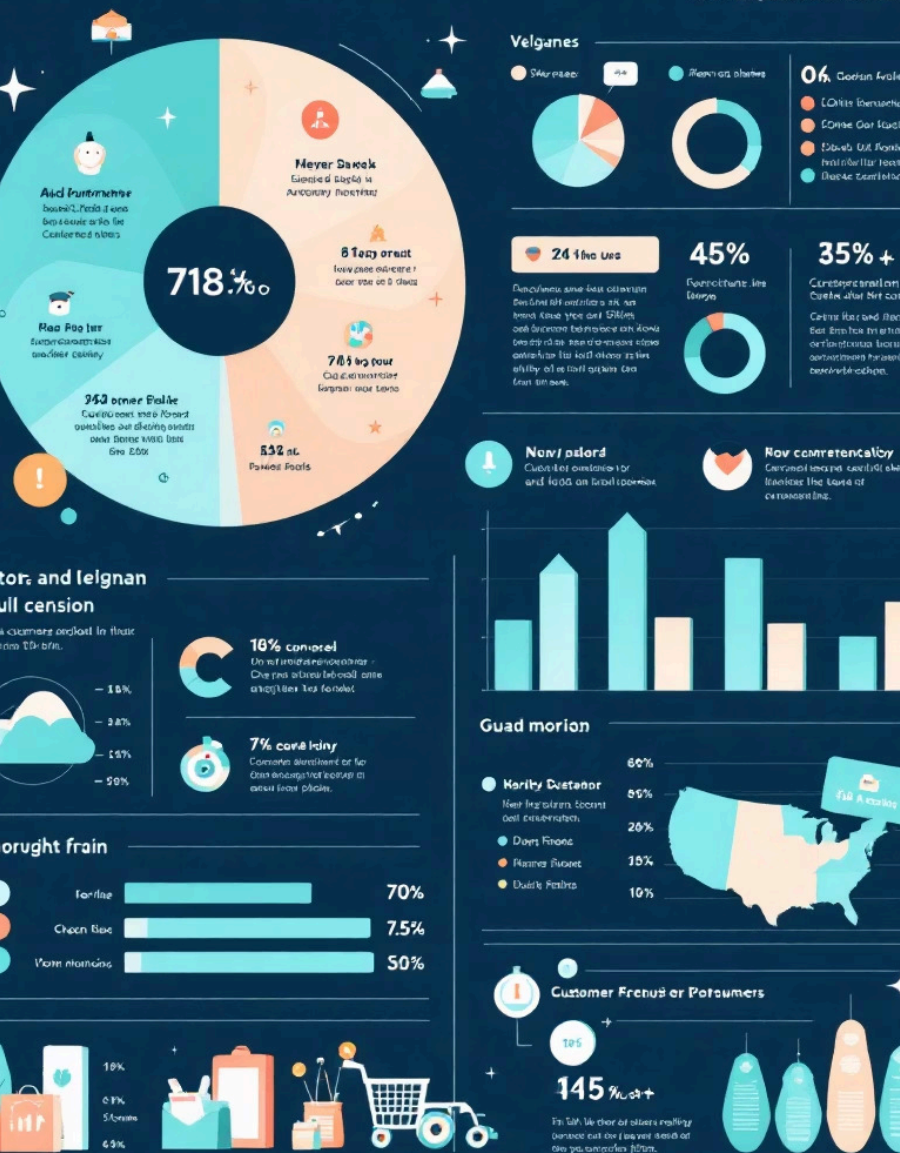
Highest average review ratings.



Shipping Type Comparison

Standard vs. Express average purchase amounts.

Customer Segmentation



SQL Insights: Customer Behavior

1

High-Spending Discount Users

Customers using discounts, spending above average.

2

Subscribers vs. Non-Subscribers

Average spend and total revenue comparison.

3

Discount-Dependent Products

Top 5 products with highest discounted purchases.



SQL Insights: Product & Loyalty

Customer Segmentation

New, Returning, Loyal segments based on history.

Top 3 Products per Category

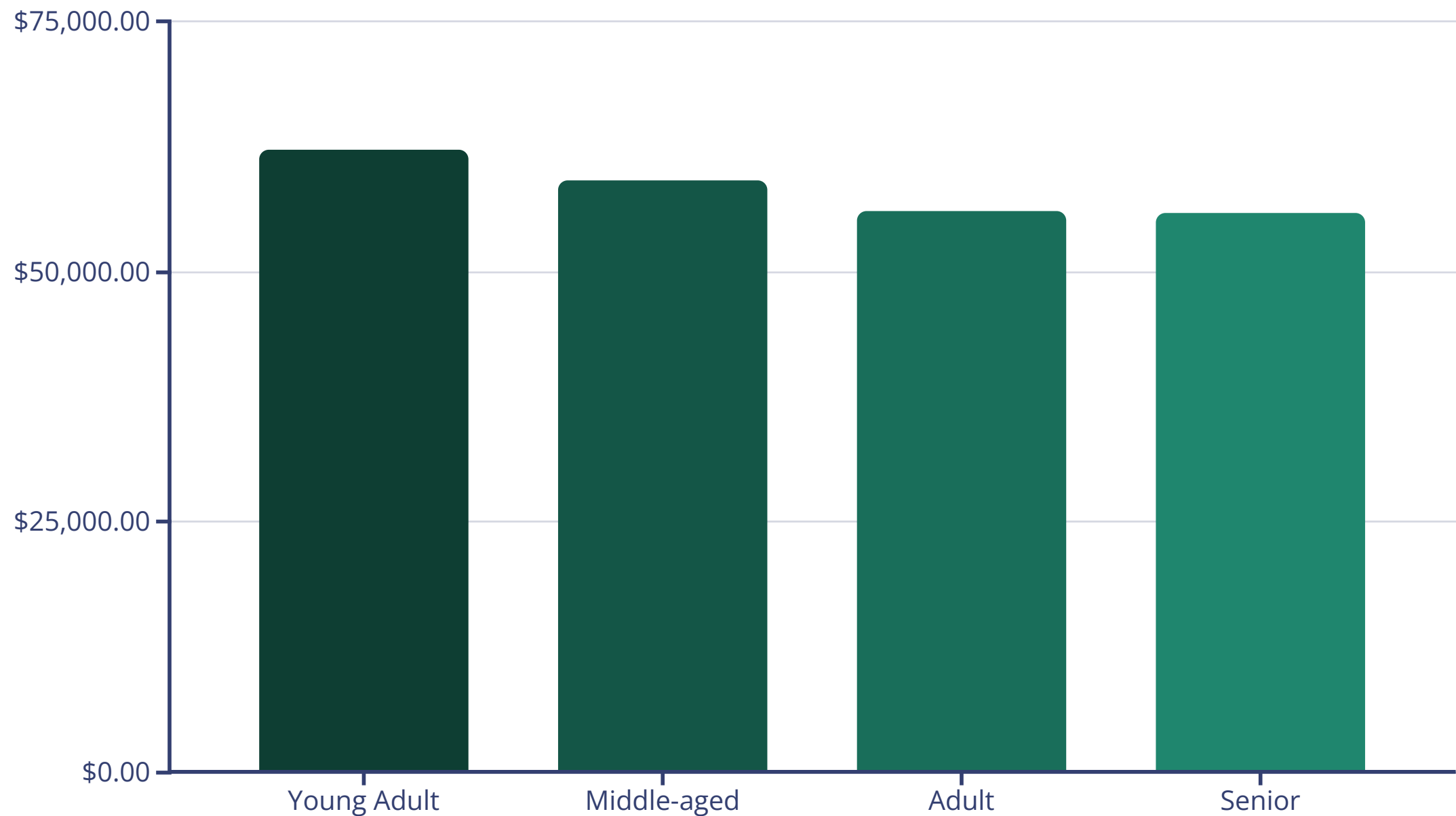
Most purchased items within each category.

Repeat Buyers & Subscriptions

Likelihood of subscription for frequent purchasers.

Revenue by Age Group

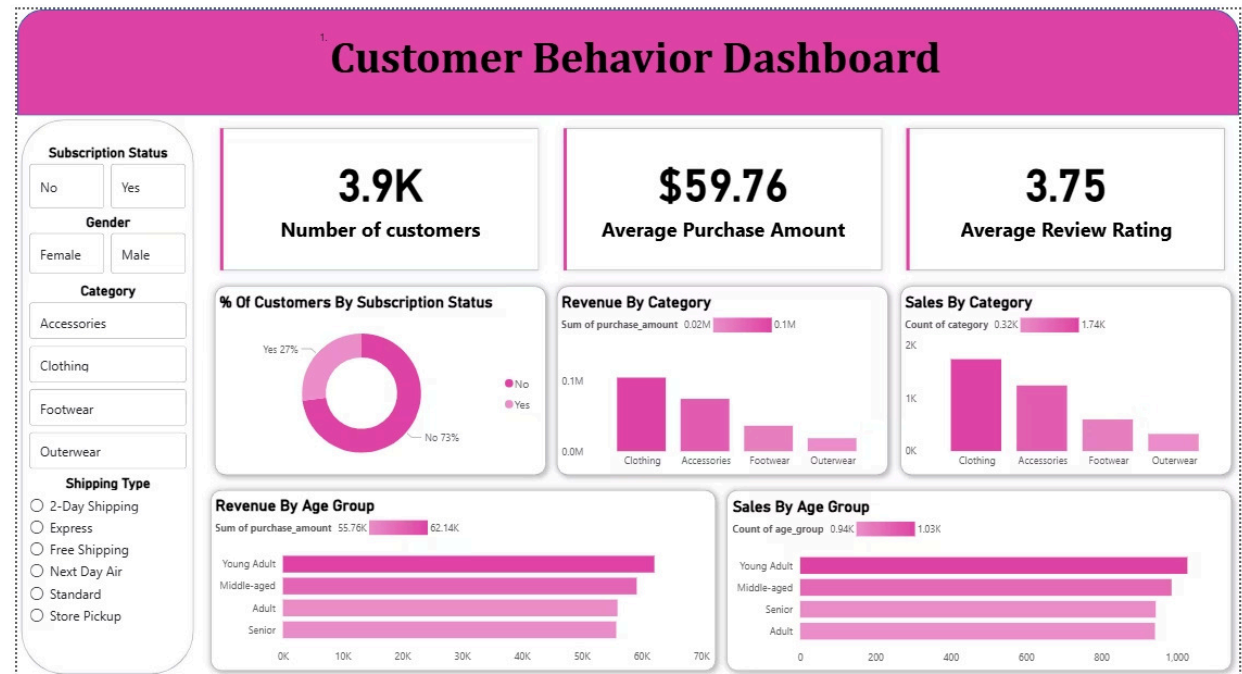
Total revenue contribution from each customer age group.



Power BI Dashboard

Interactive visualization of insights.

Visualizing complex data for actionable business decisions.



Business Recommendations



Boost Subscriptions

Promote exclusive benefits for subscribers.



Customer Loyalty Programs

Reward repeat buyers to foster loyalty.



Review Discount Policy

Balance sales boosts with margin control.



Targeted Marketing

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

