

# Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to guide strategic business decisions through data-driven analysis of spending patterns, customer segments, and product preferences.





# Dataset Overview

## Scale

3,900 purchases analyzed across 18 data columns

## Customer Data

Demographics, subscription status, location, and age

## Purchase Details

Categories, amounts, seasons, sizes, colors, and ratings

## Behavior Metrics

Discounts, promo codes, frequency, and shipping preferences

# Data Preparation & Cleaning

01

## Data Loading

Imported dataset using pandas for Python analysis

02

## Initial Exploration

Checked structure and generated summary statistics

03

## Missing Data

Imputed 37 missing Review Rating values using category medians

04

## Feature Engineering

Created age groups and purchase frequency metrics; standardized column names

05

## Database Integration

Loaded cleaned data into PostgreSQL for SQL analysis

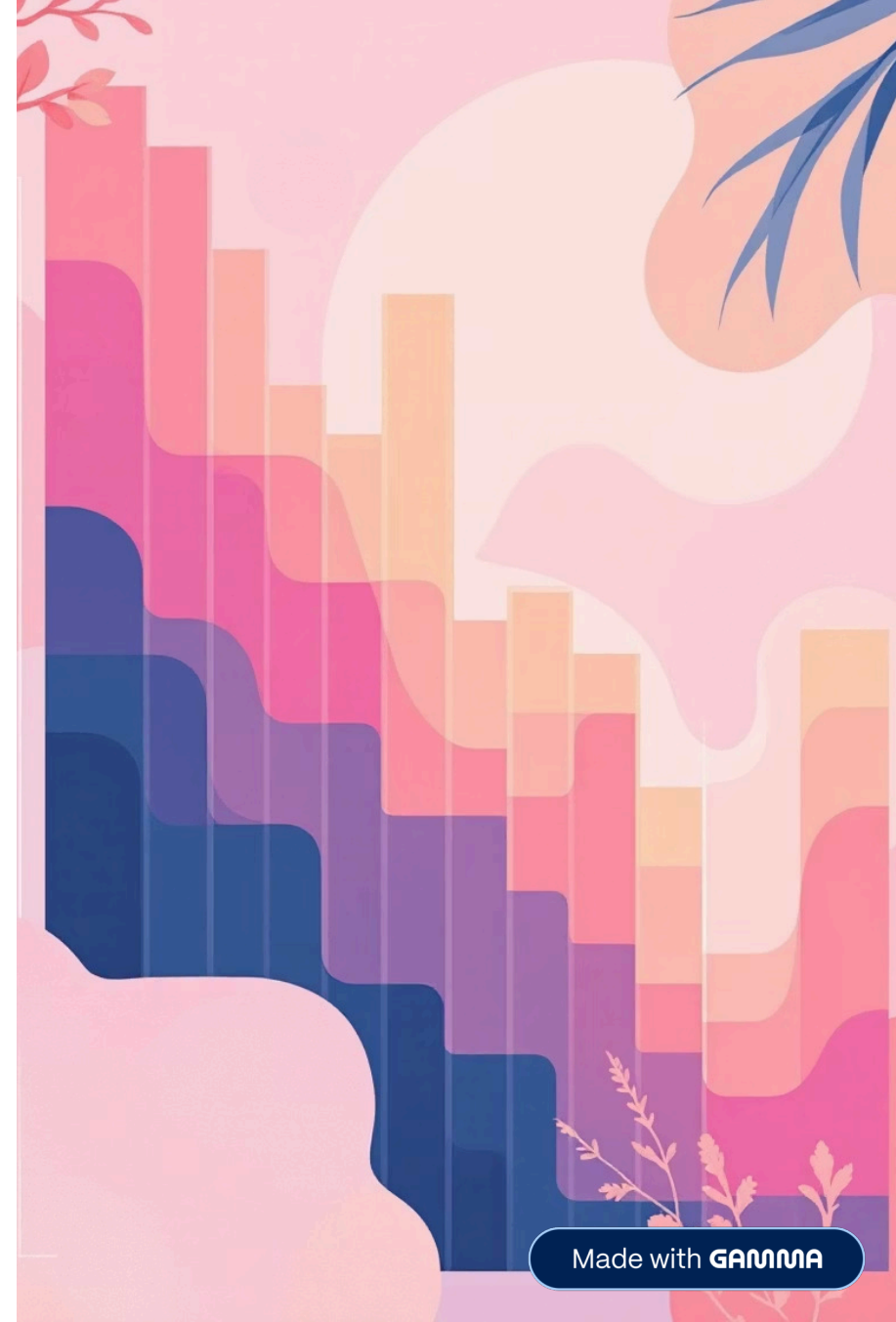
# Revenue Insights by Demographics

## Gender Analysis

Compared total revenue generated by male versus female customers to identify spending patterns across demographics.

## Age Group Performance

Calculated revenue contribution by age group to target marketing efforts on highest-value segments.



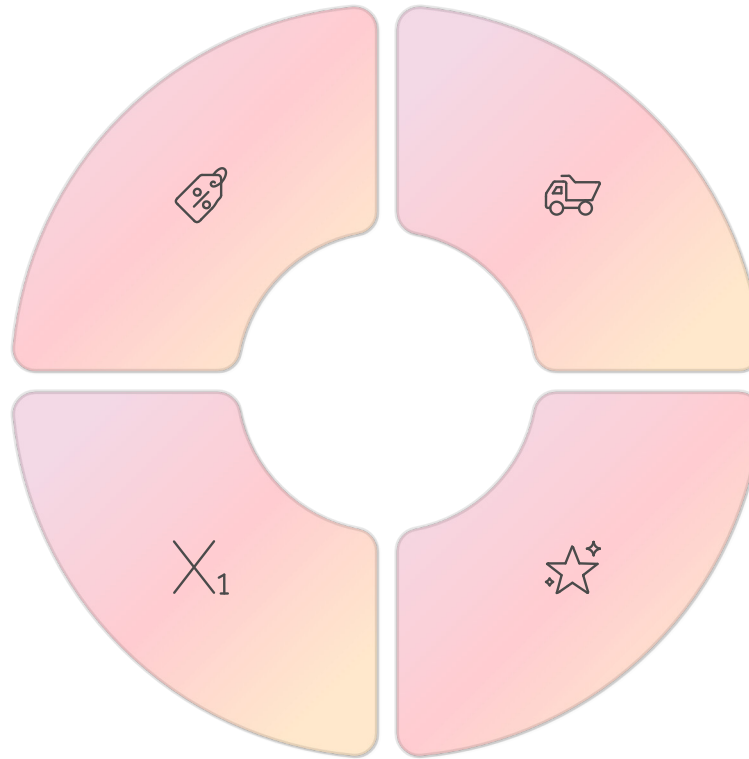
# Customer Spending Patterns

## High-Spending Discount Users

Customers using discounts who still spend above average purchase amounts

## Subscriber Value

Subscribers generate higher average spend and total revenue versus non-subscribers



## Shipping Type Impact

Express shipping users spend more than standard shipping customers

## Top-Rated Products

Five products with highest average review ratings drive customer satisfaction

# Discount Strategy Analysis

## Discount Dependency

Five products show highest percentage of discounted purchases, indicating price sensitivity and potential margin concerns.

## Strategic Opportunity

Balance sales boosts from discounts with margin control to optimize profitability without eroding brand value.



# Customer Segmentation

1

## New Customers

First-time buyers entering the customer base

2

## Returning Customers

Repeat purchasers showing engagement and interest

3

## Loyal Customers

High-frequency buyers with 5+ purchases demonstrating strong brand loyalty

Customers with more than 5 purchases are significantly more likely to subscribe, indicating strong correlation between repeat behavior and subscription adoption.





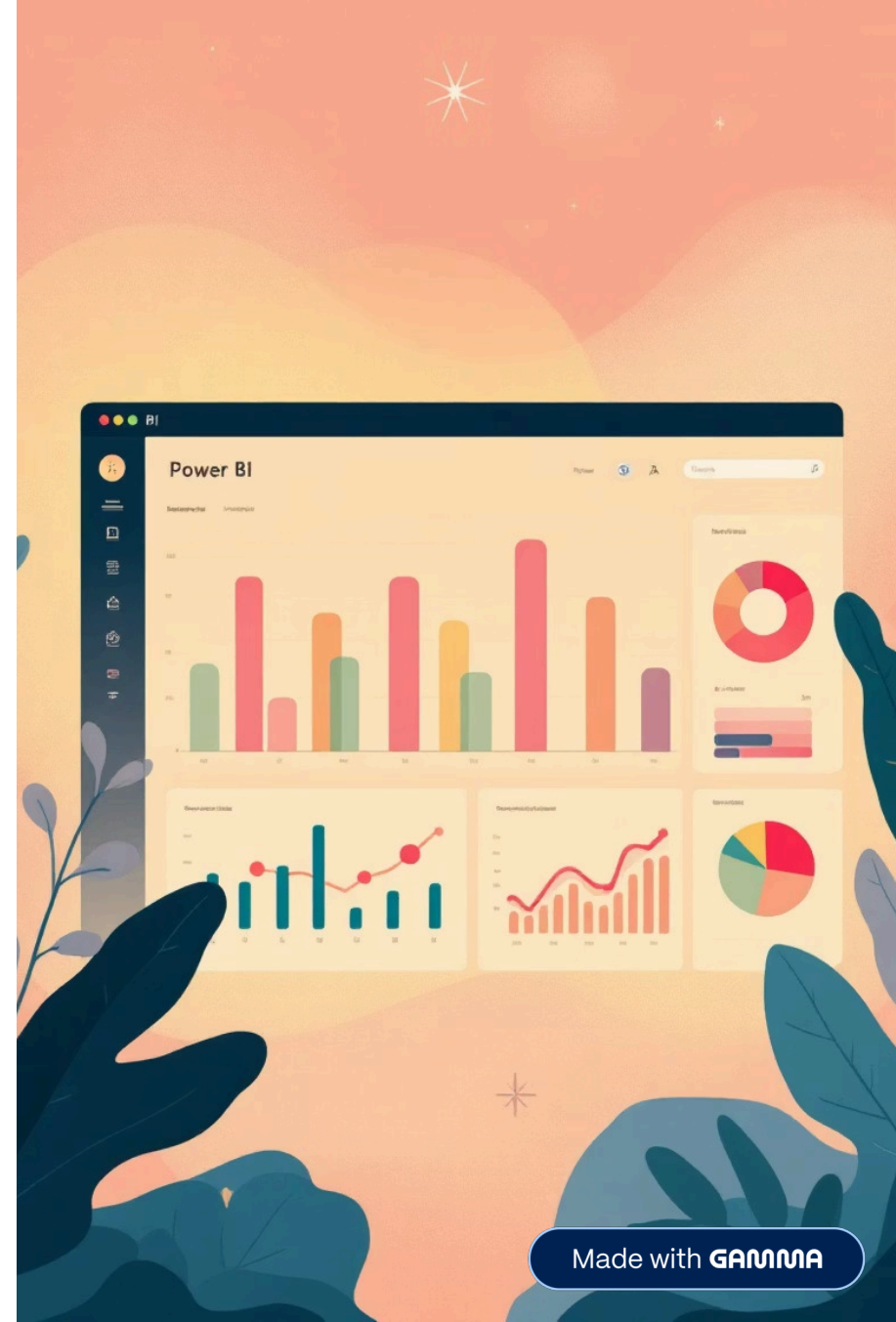
# Product Performance by Category

Analysis identified top 3 products within each category to guide inventory and marketing decisions. High-performing products should be highlighted in campaigns and campaigns should emphasize best-selling items.



# Interactive Power BI Dashboard

Comprehensive visual dashboard consolidating all insights for real-time monitoring of customer behavior, revenue trends, and segment performance across demographics and product categories.



# Strategic Recommendations

## Boost Subscriptions

Promote exclusive benefits for subscribers to increase recurring revenue

## Loyalty Programs

Reward repeat buyers to move customers into the Loyal segment

## Targeted Marketing

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

## Product Positioning

Highlight top-rated and best-selling products in campaigns