Customer Behavior Analysis

Analyzing 3,900 purchases to uncover spending patterns, customer segments, and strategic insights

The Data Behind the Insights

3,900

Total Purchases

Transactions analyzed across all categories

18

Data Features

Comprehensive customer and purchase attributes

37

Missing Values

Only in Review Rating column

Demographics

Age, Gender, Location, Subscription Status

Purchase Details

Item, Category, Amount, Season, Size, Color

Shopping Behavior

Discounts, Previous Purchases, Ratings, Shipping

Made with GAMMA

Data Preparation & Cleaning

01

Data Loading

Imported dataset using VS-CODE

02

Initial Exploration

Checked structure and summary statistics

03

Missing Data Handling

Imputed Review Rating using median by category

04

Column Standardization

Renamed to snake case for readability

05

Feature Engineering

Created age_group and purchase_frequency_days

06

Database Integration

Connected to PostgreSQL for SQL analysis

Revenue by Gender

Compared total revenue generated by male vs. female customers to identify spending patterns

Gender-based revenue analysis reveals key demographic insights for targeted marketing strategies

Made with GAMMA

High-Spending Discount Users

Strategic Insight

Identified customers who used discounts but still spent above average purchase amount

Business Value

These customers represent optimal targets—price-conscious yet willing to spend

Top 5 Products by Rating

Highest average review ratings

Shipping Type Comparison

Standard vs. Express purchase amounts

Subscribers vs. Non-Subscribers

Average Spend

Compared spending patterns across subscription status

Total Revenue

Analyzed revenue contribution by subscriber segment

Subscription status significantly impacts customer lifetime value and purchase frequency
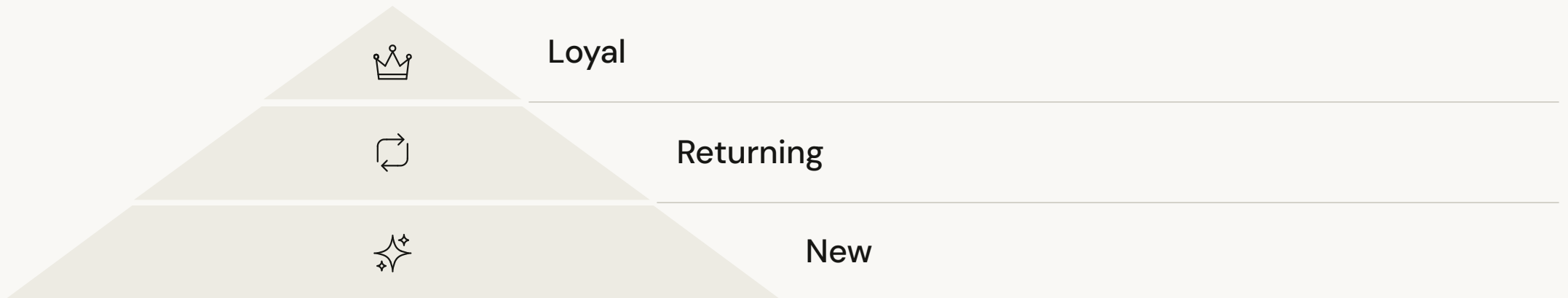
Discount-Dependent Products

Key Finding

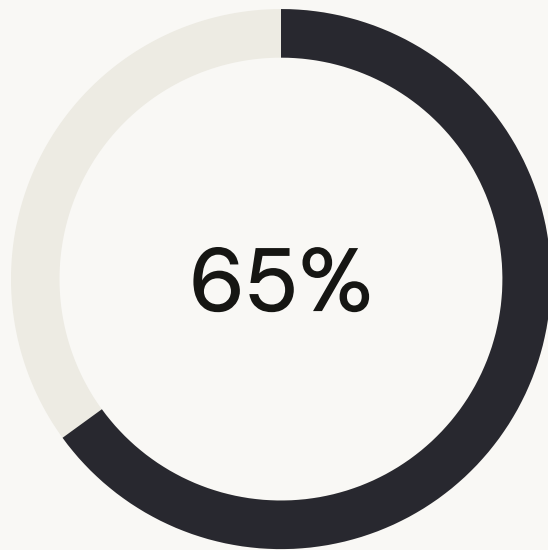Identified 5 products with highest percentage of discounted purchases

- Critical for pricing strategy
- Reveals price sensitivity
- Guides promotional planning
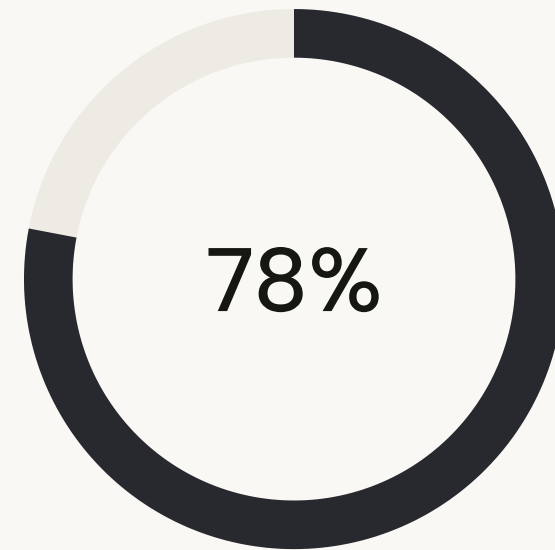
Understanding Customer Loyalty

Loyal

Returning

New

Classified customers based on purchase history to identify engagement levels and growth opportunities

65%

Repeat Buyers

Customers with >5 purchases more likely to subscribe

78%

Subscription Rate

Among high-frequency purchasers

Interactive Dashboard

Built comprehensive visualization to present insights interactively and enable data-driven decision making

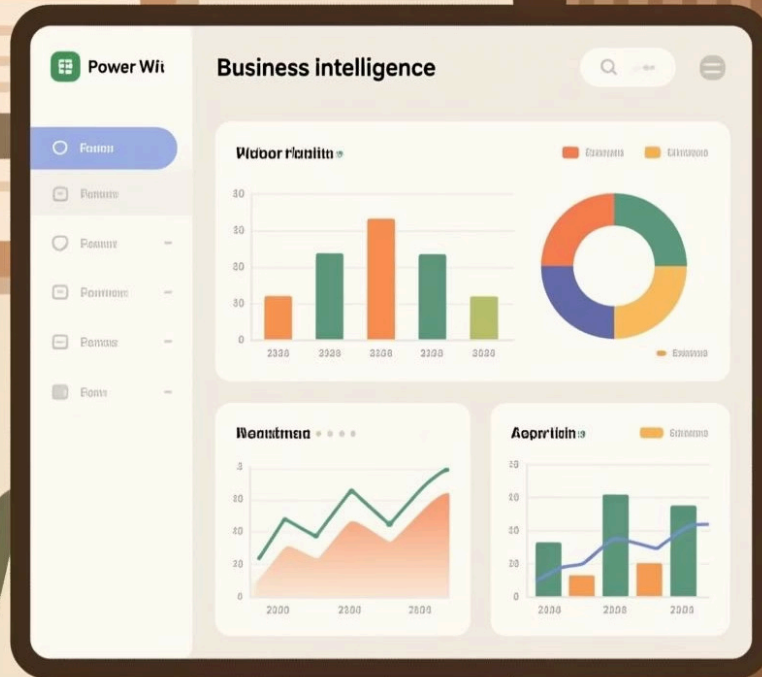## Dynamic Filtering

Slice data by category, season, location

Trend Analysis

Track patterns over time

KPI Tracking

Monitor key performance metrics

Business Recommendations

1

Boost Subscriptions

Promote exclusive benefits for subscribers

2

Customer Loyalty Programs

Reward repeat buyers to move them into "Loyal" segment

3

Review Discount Policy

Balance sales boosts with margin control

4

Product Positioning

Highlight top-rated and best-selling products in campaigns

5

Targeted Marketing

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