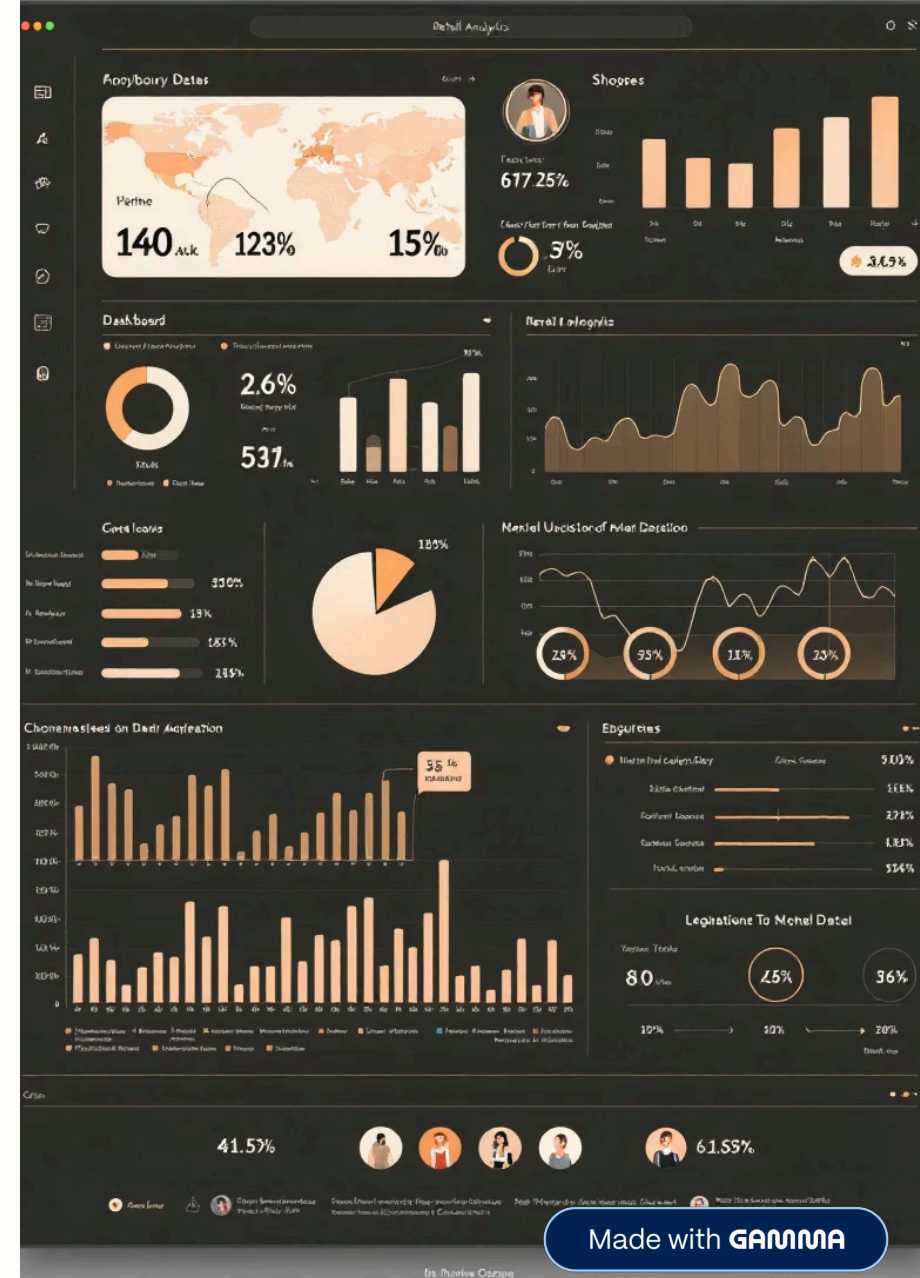# Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to drive strategic business decisions

Dataset Overview

3,900
Total Purchases
Transactions analyzed

18
Data Points
Features per transaction

37
Missing Values
In review ratings only

Customer Demographics

- Age, Gender, Location
- Subscription Status

Shopping Behavior

- Purchase patterns & frequency
- Discounts & promo codes
- Review ratings & shipping

Data Preparation Process

Data Loading

Imported dataset using pandas for analysis

Initial Exploration

Generated summary statistics and checked data structure

Data Cleaning

Imputed missing review ratings using median per category

Feature Engineering

Created age groups and purchase frequency columns

Database Integration

Loaded cleaned data into PostgreSQL for SQL analysis

Revenue Insights

Gender Comparison

Male vs. female customer revenue analyzed

High-Spending Discount Users
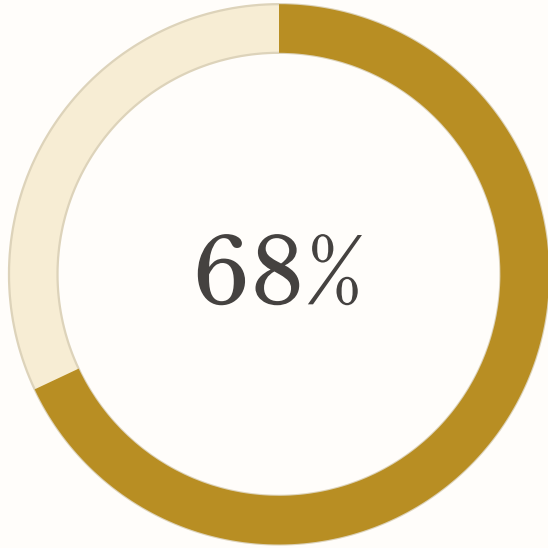
Customers using discounts but spending above average

Shipping Type Impact

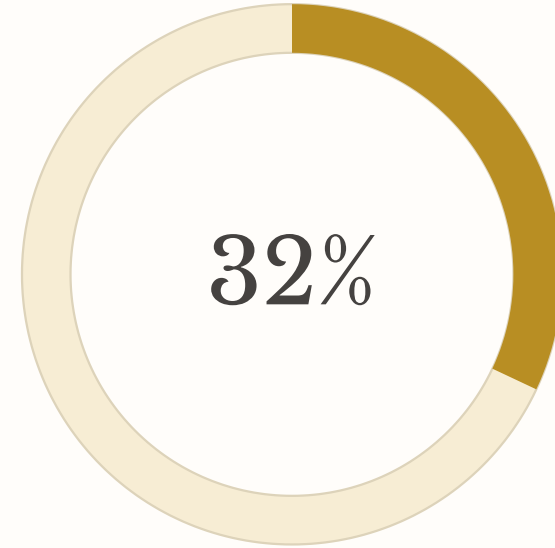Express: **Higher average purchase amounts**

Standard: Lower spend per transaction

Subscription Analysis

68%

Repeat buyers (>5 purchases) more likely to subscribe

32%

Higher average spend among subscribers vs. non–subscribers

Subscribers generate significantly higher total revenue and demonstrate stronger purchase loyalty

Made with GAMMA

Product Performance

Top-Rated Products

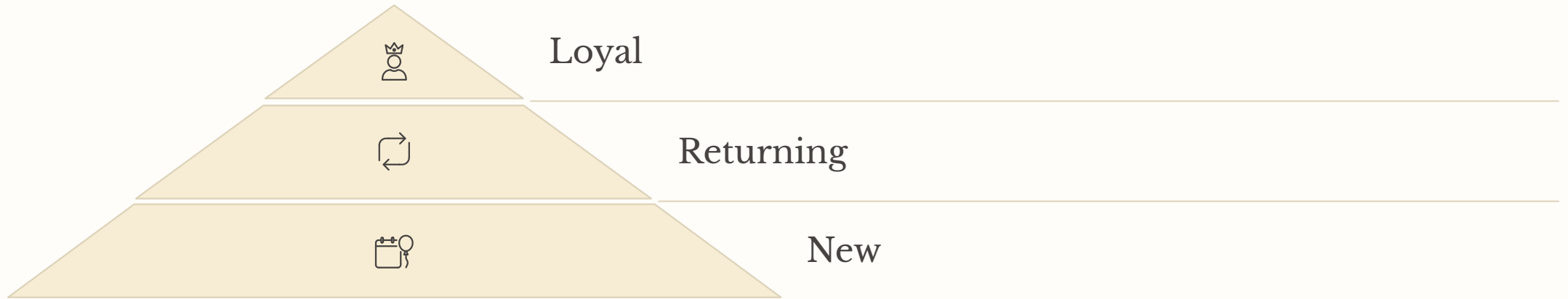Highest average review ratings identified across categories

Discount Leaders

5 products with highest percentage of discounted purchases
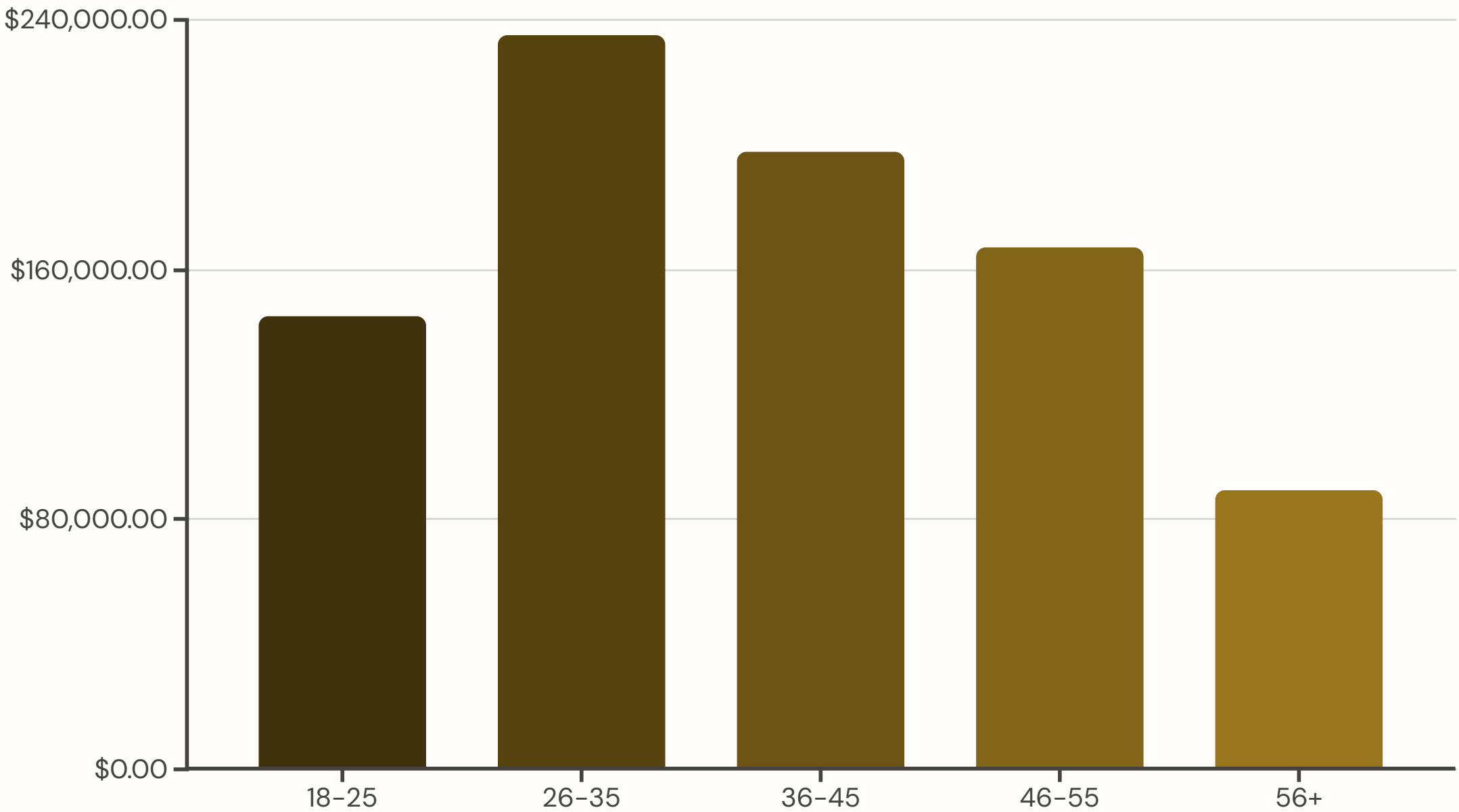

SHLF

Category Winners

Top 3 most purchased products identified within each category

Made with GAMMA

Customer Segmentation

Loyal

Returning

New

Customers classified based on purchase history and frequency patterns

Age Group Revenue Distribution

26–35 age group drives highest revenue contribution, followed by 36–45 segment

Made with GAMMA

Strategic Recommendations

1

Boost Subscriptions

Promote exclusive benefits and offers for subscribers

2

Customer Loyalty Programs

Reward repeat buyers to transition into "Loyal" segment

3

Review Discount Policy

Balance sales boosts with margin control

4

Product Positioning

Highlight best-selling and top-rated products in campaigns

5

Targeted Marketing

Focus on high-revenue age groups and express shipping customers

Key Takeaways

Data-Driven Decisions

3,900 purchases analyzed to uncover actionable insights

Revenue Opportunities

Subscription and loyalty programs drive higher customer value

Strategic Focus

Target high-value segments with personalized marketing