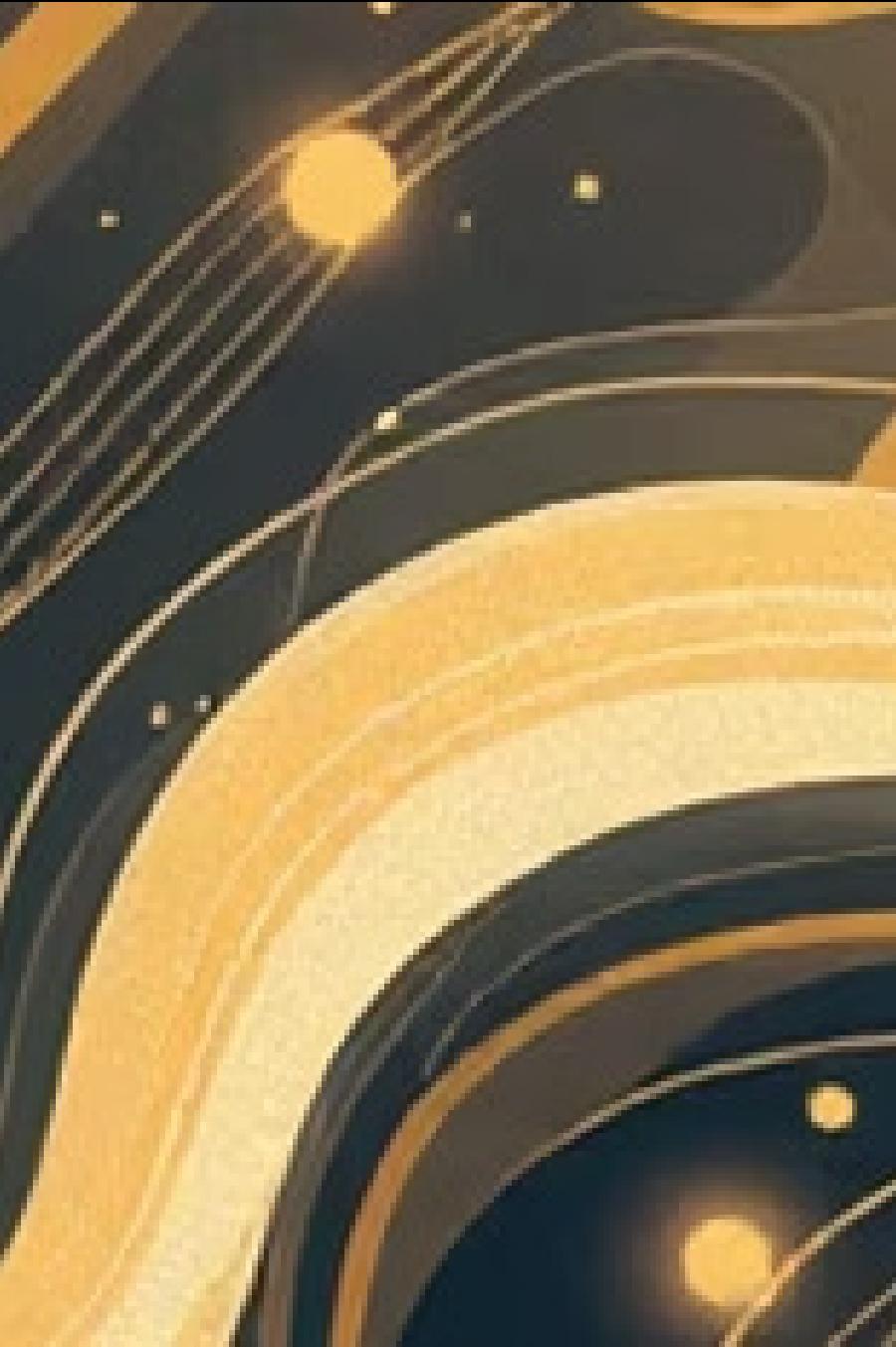




Customer Shopping Behavior Analysis

Uncovering actionable insights from 3,900 customer purchases to drive data-informed marketing strategies and revenue optimization



Dataset Overview

3,900

Total Purchases

Comprehensive
transaction records
analyzed

18

Data Columns

Rich customer
demographics &
behavioral data

37

Missing Values

Only in Review Rating
column—minimal
cleanup needed

Data Preparation Process

01

Data Loading

Imported comprehensive dataset using pandas library for efficient processing

02

Initial Exploration

Conducted thorough structure checks and generated summary statistics

03

Missing Data Handling

Imputed Review Rating gaps with median values to preserve data integrity

04

Feature Engineering

Created actionable age groups and calculated purchase frequency metrics

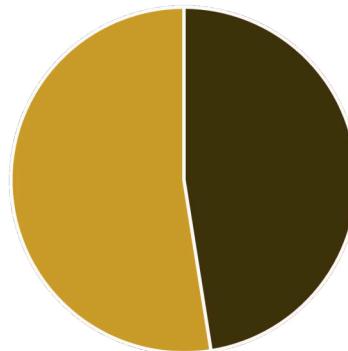
05

Database Integration

Connected to PostgreSQL for scalable analysis and reporting capabilities



Revenue by Gender Analysis



Key Insight

Female customers

generate slightly higher total revenue compared to male customers

Gender-targeted marketing campaigns and product positioning could unlock significant revenue optimization opportunities

High-Value Discount Users

A unique segment: customers who spend **above average** while actively leveraging discount opportunities

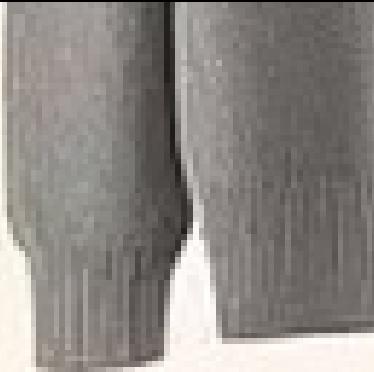
Smart Shoppers Profile

Premium customers who maximize value through strategic discount usage—willing to spend but seeking perceived value

Strategic Opportunity

Target this affluent segment with exclusive VIP offers, early access promotions, and tiered loyalty rewards





5 5.5 Star



Clothing cedar

Top-Rated Products



5

Blouse

Highest customer satisfaction scores—perfect rating demonstrates exceptional product-market fit



5

Dress

Consistently excellent reviews across all customer segments—proven winner



4

Shirt

Strong customer approval with room for minor quality enhancements

Recommendation: Feature these high-performing items prominently in marketing campaigns and consider expanding product lines



Shipping Preferences Impact



Express Shipping

\$65

Average purchase amount per transaction



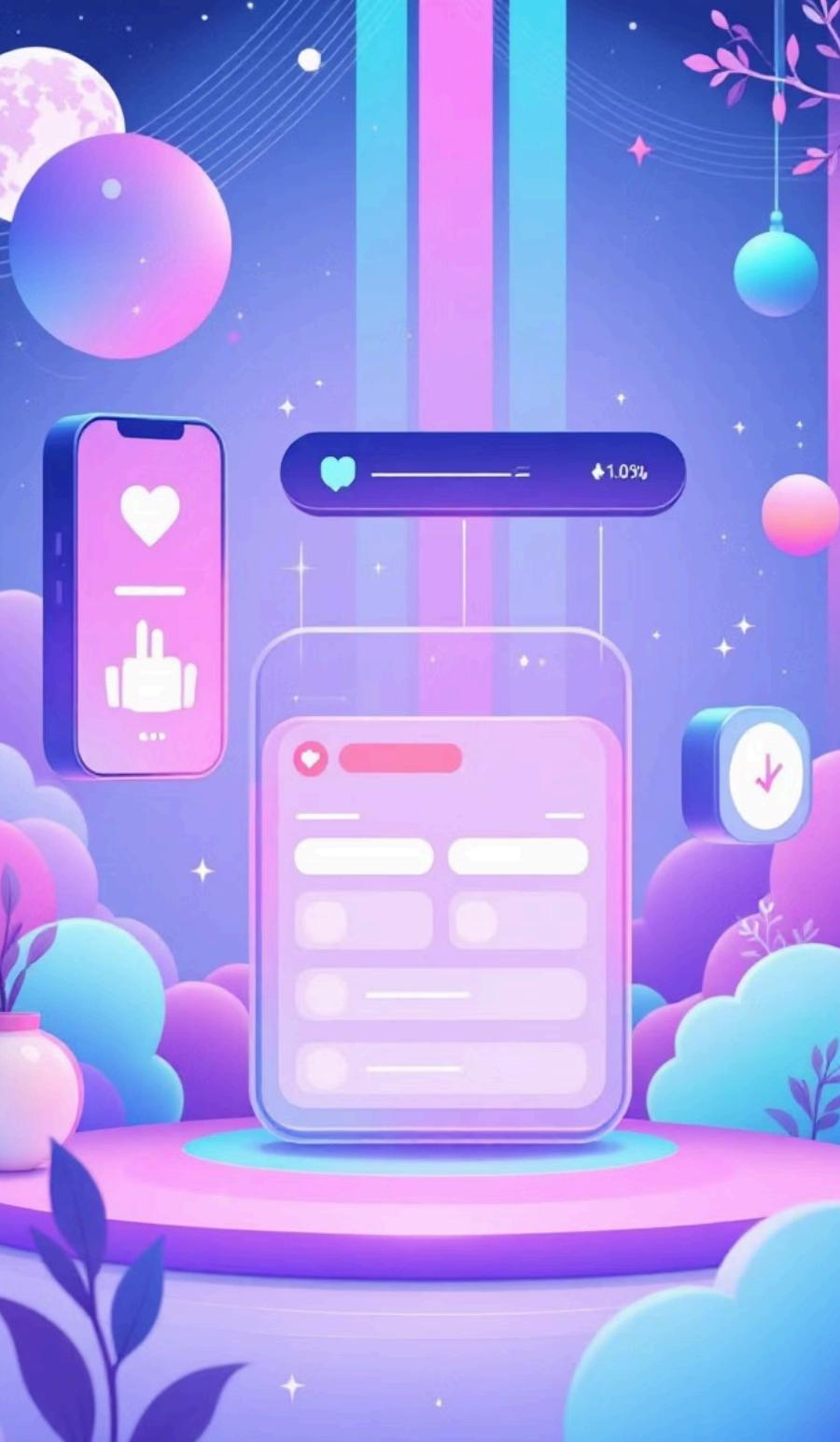
Standard Shipping

\$58

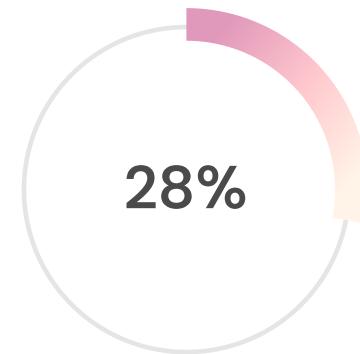
Average purchase amount per transaction



Key Finding: Express shipping customers spend **12% more** per transaction—indicating higher purchase intent and willingness to pay premium for convenience

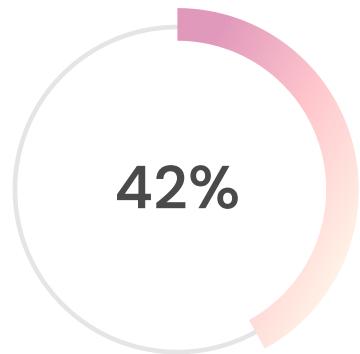


Subscription Impact



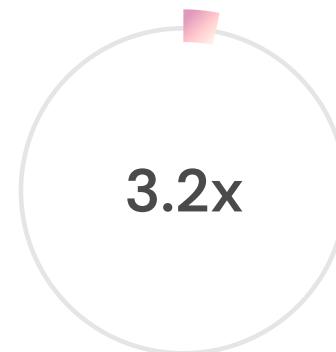
Higher Spend

Subscribers spend significantly more per transaction compared to non-subscribers



Revenue Share

Total revenue contribution from subscription customer segment

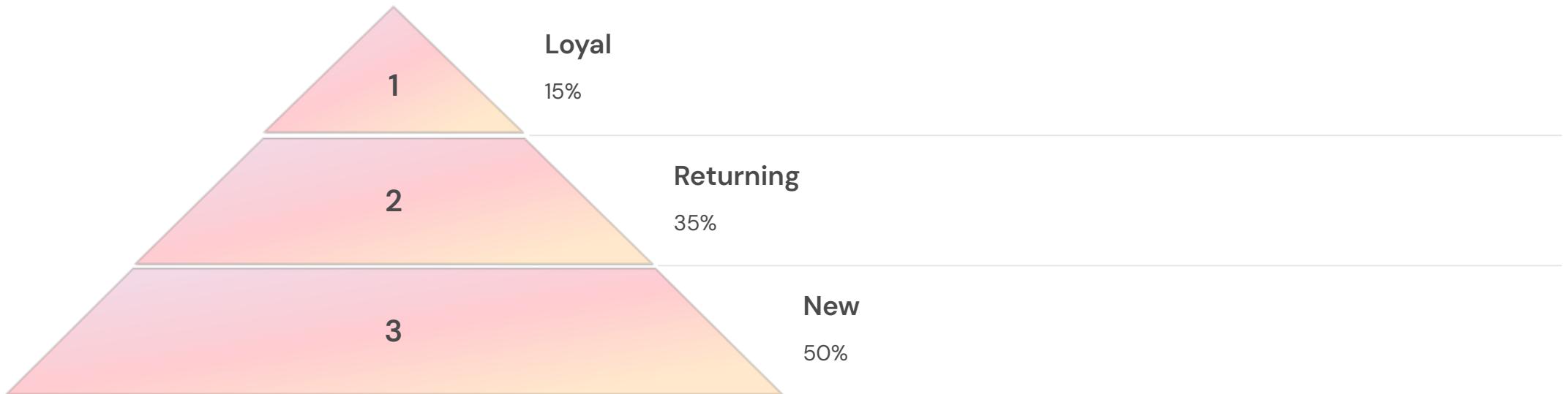


Loyalty Rate

Subscribers show dramatically higher repeat purchase frequency

Subscription programs drive predictable revenue streams and significantly boost customer lifetime value

Customer Segmentation



High-value **Loyal customers** (15%) represent repeat purchasers with strong brand affinity

Returning shoppers (35%) demonstrate growing engagement—prime conversion targets

New buyers (50%) represent the largest opportunity pool for relationship building

Strategic Focus: Design targeted campaigns to convert New → Returning → Loyal through personalized experiences

Strategic Recommendations

1

Boost Subscriptions

Promote exclusive benefits, early access, and member-only perks to drive subscription adoption

2

Loyalty Programs

Implement tiered rewards system to incentivize repeat purchases and increase customer lifetime value

3

Targeted Marketing

Focus acquisition budget on high-revenue segments: female customers, express shipping users, and discount-savvy spenders

4

Product Positioning

Feature top-rated products (Blouse, Dress) prominently across all marketing channels and paid campaigns

