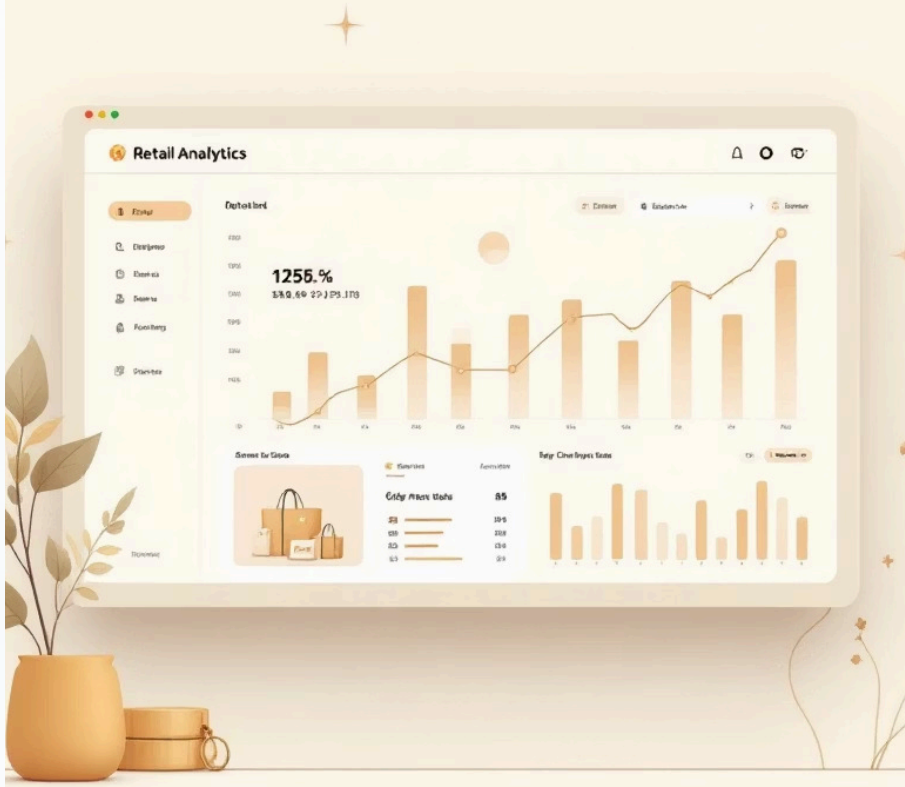
Customer Shopping Behavior Analysis

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



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Dataset at a Glance

3,900

Total Purchases

Transactions analyzed across all categories

18

Data Points

Features tracked per customer

$59.76

Avg Purchase

Mean transaction value

3.75

Avg Rating

Customer satisfaction score

Key Features Tracked

- Customer demographics & location
- Purchase details & preferences
- Shopping behavior patterns
- Subscription & loyalty metrics

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Data Preparation Journey

01

Data Loading

Imported dataset using pandas for analysis

02

Exploration

Summary statistics and structure validation

03

Cleaning

Imputed 37 missing review ratings by category median

04

Feature Engineering

Created age groups and purchase frequency metrics

05

Database Integration

Loaded cleaned data into PostgreSQL for SQL analysis

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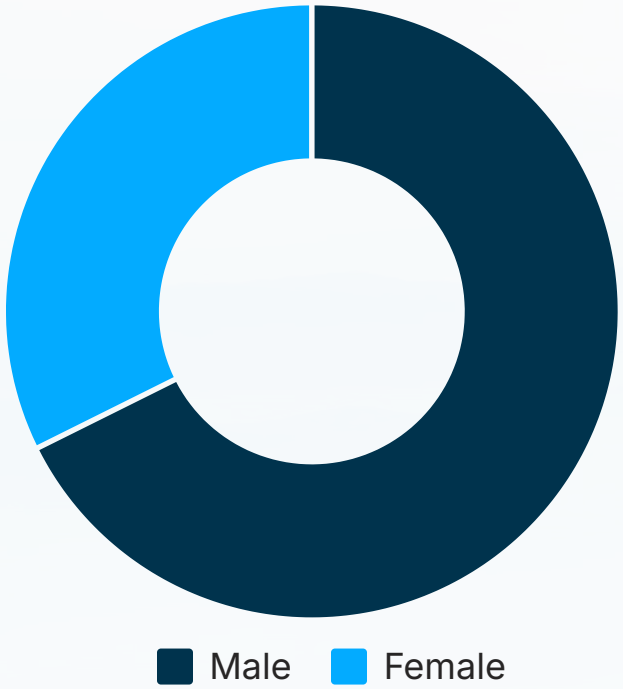
Revenue Insights by Gender



Key Finding

Male customers generate **2.1x more revenue** than female customers

Total revenue: $233,081

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Top Performing Products

1

Gloves

Highest rated: **3.86** average rating

2

Sandals

Strong performer: **3.84** average rating

3

Boots

Customer favorite: **3.82** average rating

4

Hat

Popular choice: **3.80** average rating

5

Skirt

Top 5 rated: **3.78** average rating

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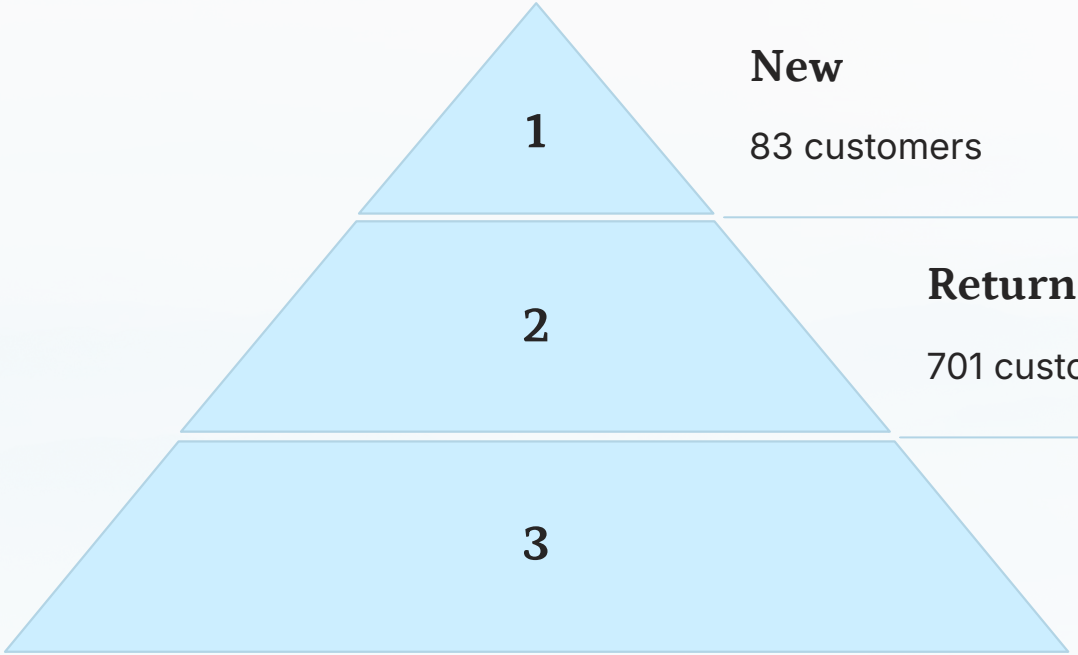
Customer Segmentation Analysis



New

83 customers

Returning

701 customers

Loyal

3,116 customers

80% of customers are in the Loyal segment, showing strong retention

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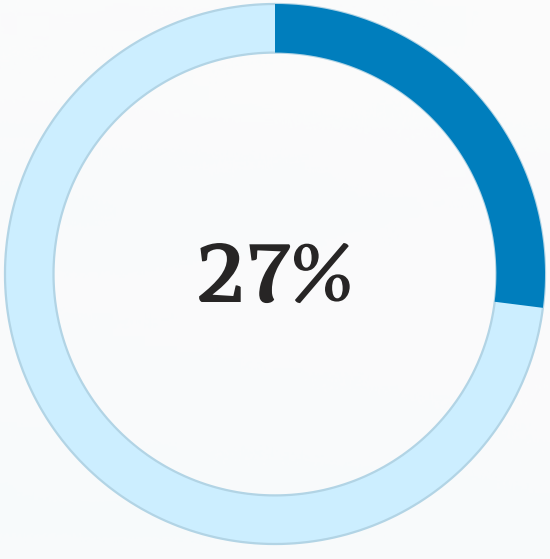
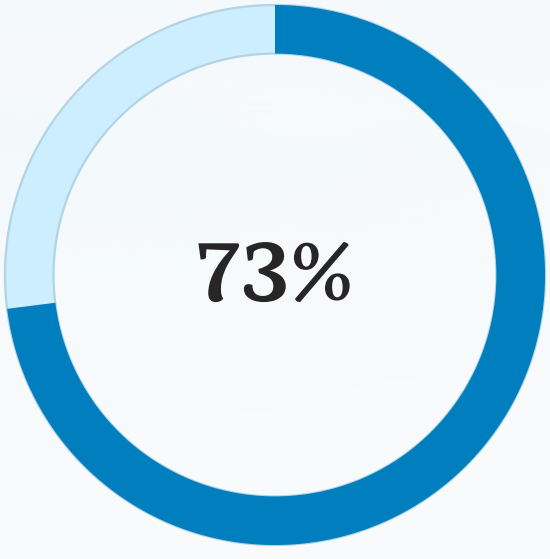
Subscription Impact



Subscribers

1,053 customers



Non-Subscribers

2,847 customers

Spending Patterns

- Subscribers: **$59.49** avg spend
- Non-subscribers: **$59.87** avg spend
- Minimal difference in purchase amounts

Repeat buyers (>5 purchases): **958 subscribers** vs 2,518 non-subscribers

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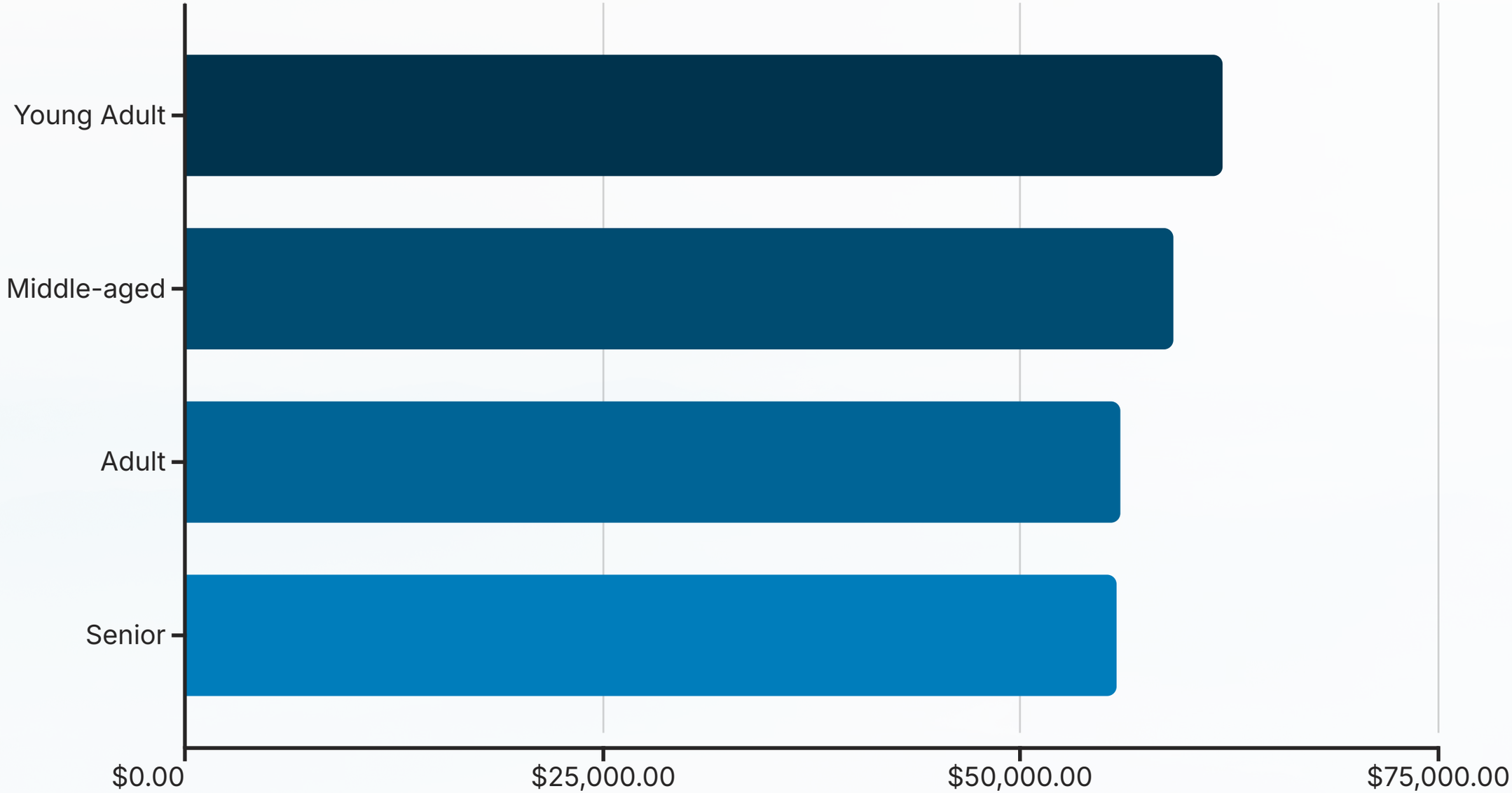
Revenue by Age Group



Young adults lead revenue generation, followed closely by middle-aged customers

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Discount Strategy Insights

High-Value Discount Users

839 customers used discounts but spent above average ($60+)

Top Discounted Products

Hat (50%), Sneakers (49.7%), Coat (49.1%)

Shipping Preferences

Express shipping: **$60.48** avg vs Standard: **$58.46** avg

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Strategic Recommendations

Boost Subscriptions

Promote exclusive benefits to convert non-subscribers

Loyalty Programs

Reward repeat buyers to strengthen retention

Optimize Discounts

Balance sales growth with margin control

Targeted Marketing

Focus on high-revenue age groups and express shipping users

Product Positioning

Highlight top-rated items in campaigns

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