



# Customer Shopping Behavior Analysis

Uncovering insights from **3,900 transactions** across product categories, demographics, and purchase patterns.

DATA ANALYTICS

RETAIL INTELLIGENCE

# Dataset at a Glance

3,900

Transactions

18

Features

4

Categories

Demographics · Purchase details · Behavior signals · Review ratings

YIC		口普菱樂分	寛祖	¥30
寮果牛裏胡穴		精鑄鑄	精鑄鑄	3,300
大早荷木果抱房		小菜餚	2,90	7600
日らひあらこそり		1.0	¥220	¥500
葉用檳野月叻		190	¥600	5100
精鑄鑄		REAL ADVANCED	¥000	830
RETAL SBE	3,66	¥220	¥0930	730
	801		¥89,38	¥1000
	420	11	¥,3.80	¥300
	3,560	12,89	4,70	¥5,0,80
	31,87			3,600
		¥125,50	3,00	3,9
		3390,60	10	312
		0,0,00		¥300
		124,09,1,6	¥51,30	30
		712,5387,80	19945	¥,68
		9,09	9,09	30
				Made with GAMMA

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# Data Preparation in Python

1

Load & Explore

pandas, df.info(), describe()

2

Clean & Impute

Median imputation for 37 missing review ratings

3

Engineer Features

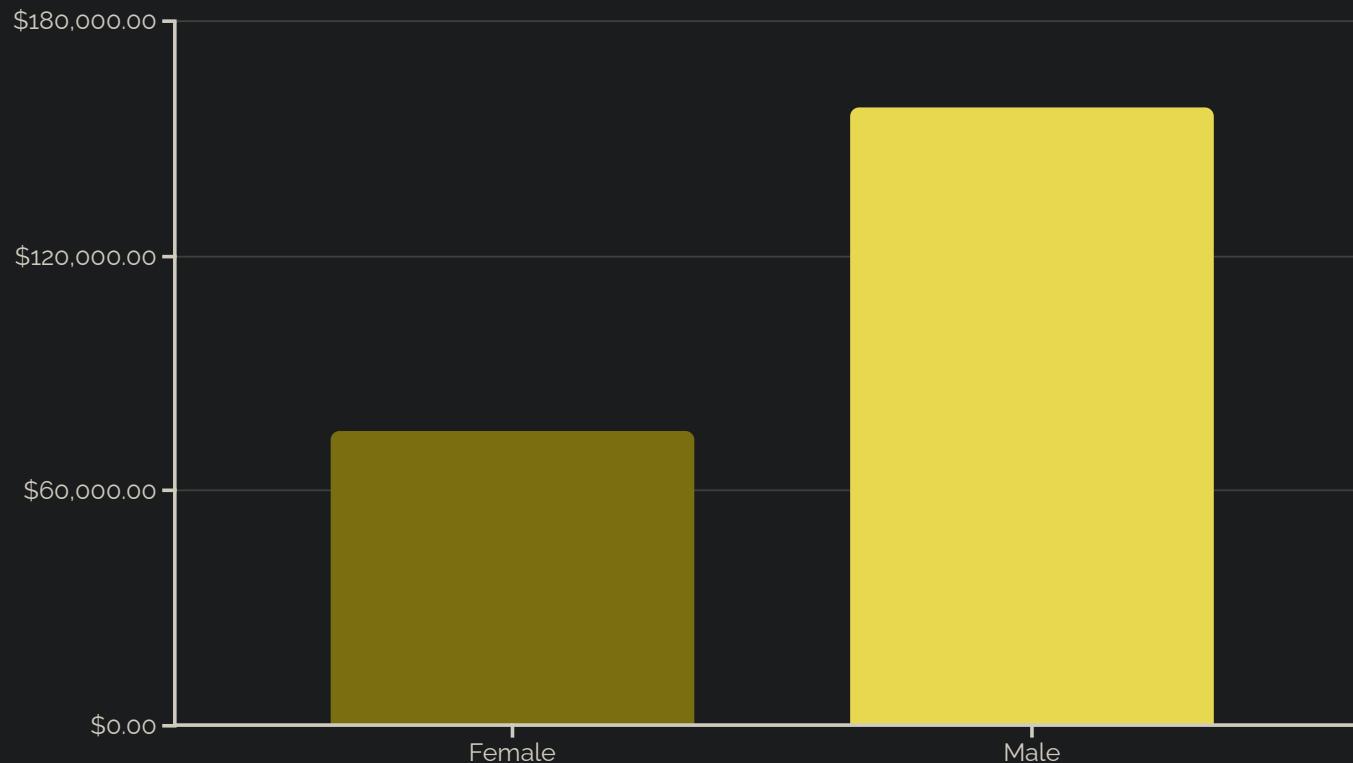
age\_group bins · purchase\_frequency\_days

4

Load to PostgreSQL

Cleaned DataFrame exported for SQL analysis

# Revenue & Spending Insights



## Key Findings

- Male customers generate **2x more revenue** than female
- **839 discount users** still spent above average
- Express shipping avg: **\$60.48** vs. Standard: **\$58.46**

# Top-Rated Products



Gloves

Rating: **3.86**



Sandals

Rating: **3.84**



Boots

Rating: **3.82**

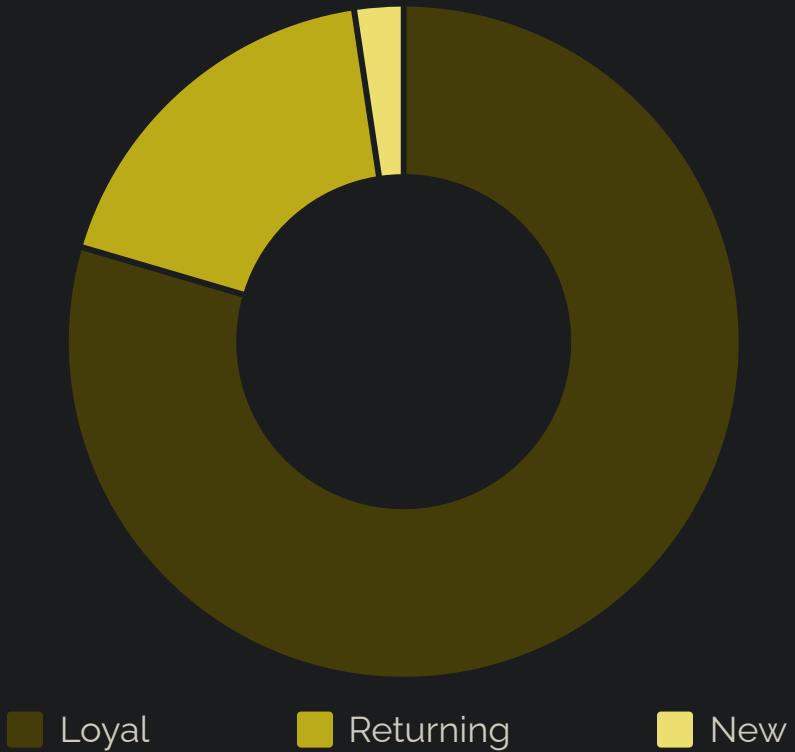
Hat

Rating: **3.80**

Skirt

Rating: **3.78**

# Customer Segmentation



## Loyalty Dominates

**80%** of customers are **Loyal** — a strong retention foundation.

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

# Subscription vs. Non-Subscription

## Subscribers

**1,053** customers · **27%**

Avg spend: \$59.49 · Revenue: \$62,645

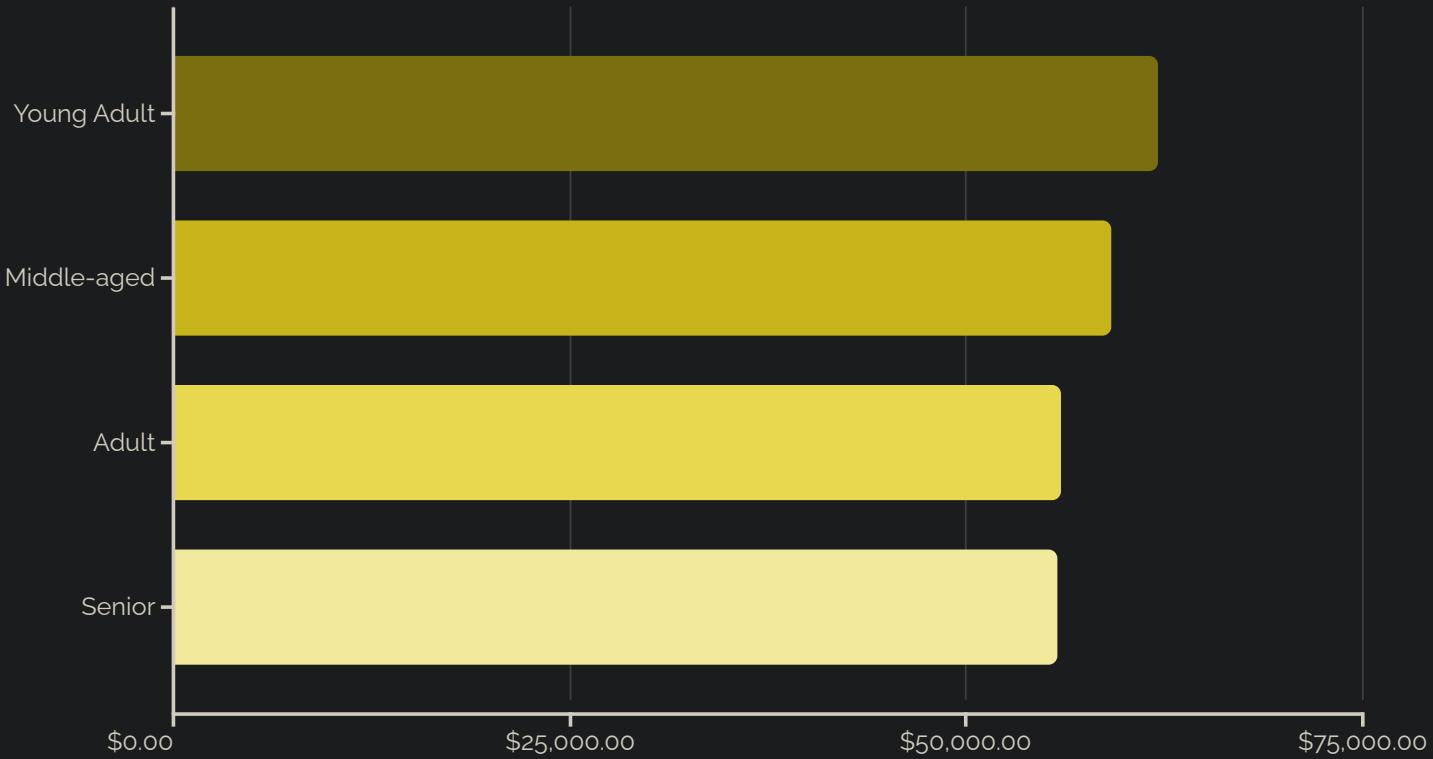
## Non-Subscribers

**2,847** customers · **73%**

Avg spend: \$59.87 · Revenue: \$170,436

- ❑ Spend per customer is nearly equal — **volume**, not loyalty perks, drives the revenue gap.

# Revenue by Age Group



## Young Adults Lead

**Young Adults** contribute the highest revenue at **\$62,143**.

Revenue is relatively balanced across all age groups — no segment should be ignored.



# Power BI Dashboard

**3.9K**

Customers

**\$59.76**

Avg Purchase

**3.75**

Avg Rating



# Business Recommendations

- Boost Subscriptions  
Promote exclusive subscriber benefits
  - Loyalty Programs  
Reward repeat buyers to grow the Loyal segment
  - Review Discount Policy  
Balance sales boosts with margin control
  - Targeted Marketing  
Focus on Young Adults & express-shipping users