

Final Project Intermediate

# Retail Data Analysis:

## Customer, Product, Retention, Price Elasticity, and Average Order Value

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# CONTENT





# Objectives

Understanding the company's condition, identifying **opportunities** and **threats**, and recommending **strategies** and **anticipations**

1. Top products
2. Customer segments
3. Retention cohort
4. AOV
5. Price elasticity

# Data Cleaning

- Data filtering
- Data type adjustment
- Outlier removal
- Data subsetting

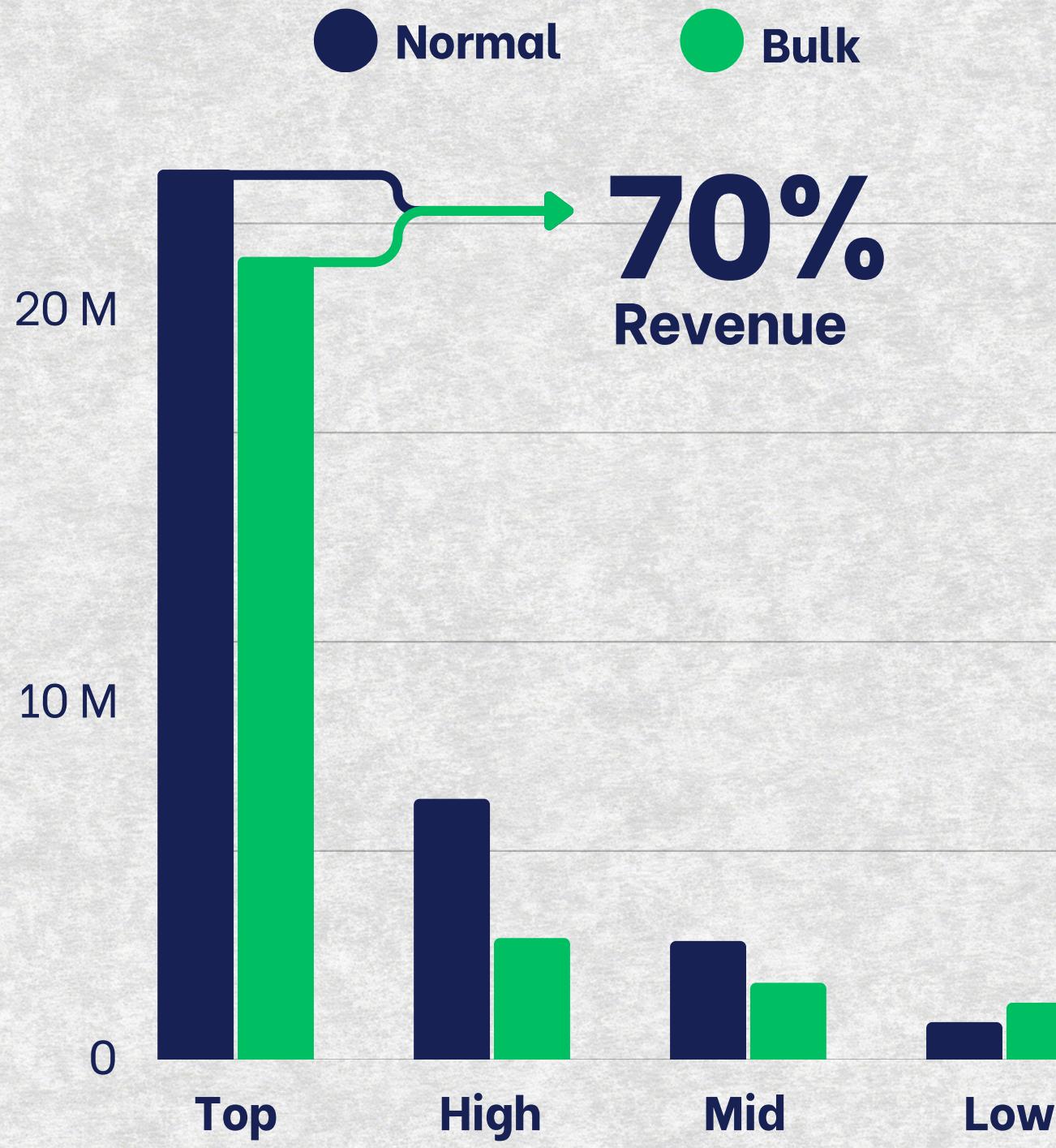
Transactions are split into  
**BULK** - **NORMAL**  
using the **90th** percentile  
of quantity cutoff

# Descriptive Statistics

Metrics	Normal	Bulk
Start date	Jan 4, 2019	
End date	Dec 12, 2019	
Customer	4.388	862
Products	3.621	3.365
Transaction	16.414	1.821
Line item	357.899	128.446

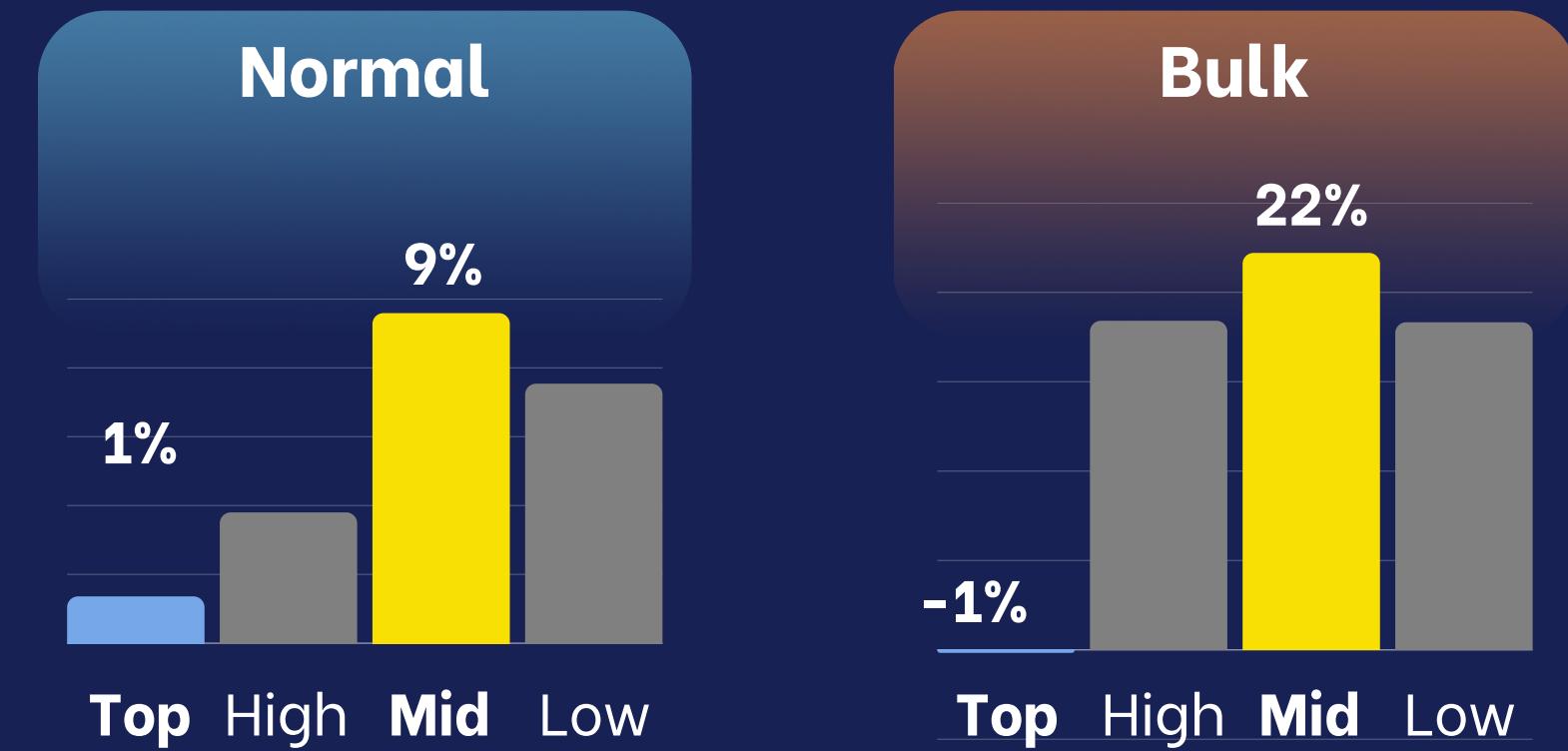
## Customer Segments Contribution

\*Customers are ranked by **total revenue** and divided into **4 quartiles**: Top, High, Mid, and Low



## Customer

### Avg Monthly Segment Growth



Mid catches up to Top:  
2.3 years in Normal, 7 months in Bulk

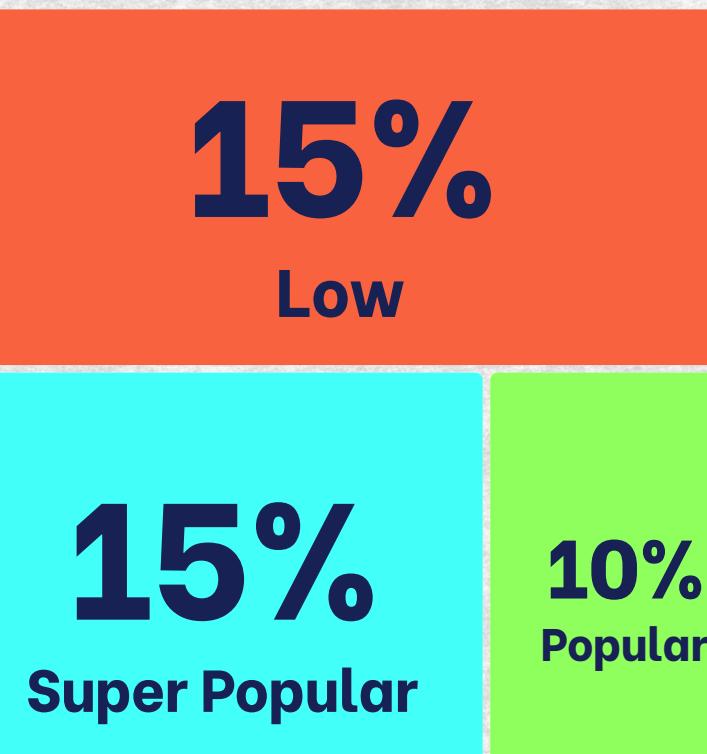
Mid customers show potential  
for increased spending

## Product Segmentation

Frequency	Revenue	Category
High	and High	Super Popular
High	and Normal	Popular
Normal	and High	Popular
Low	Low	Low
Others		Normal

### Number of Products

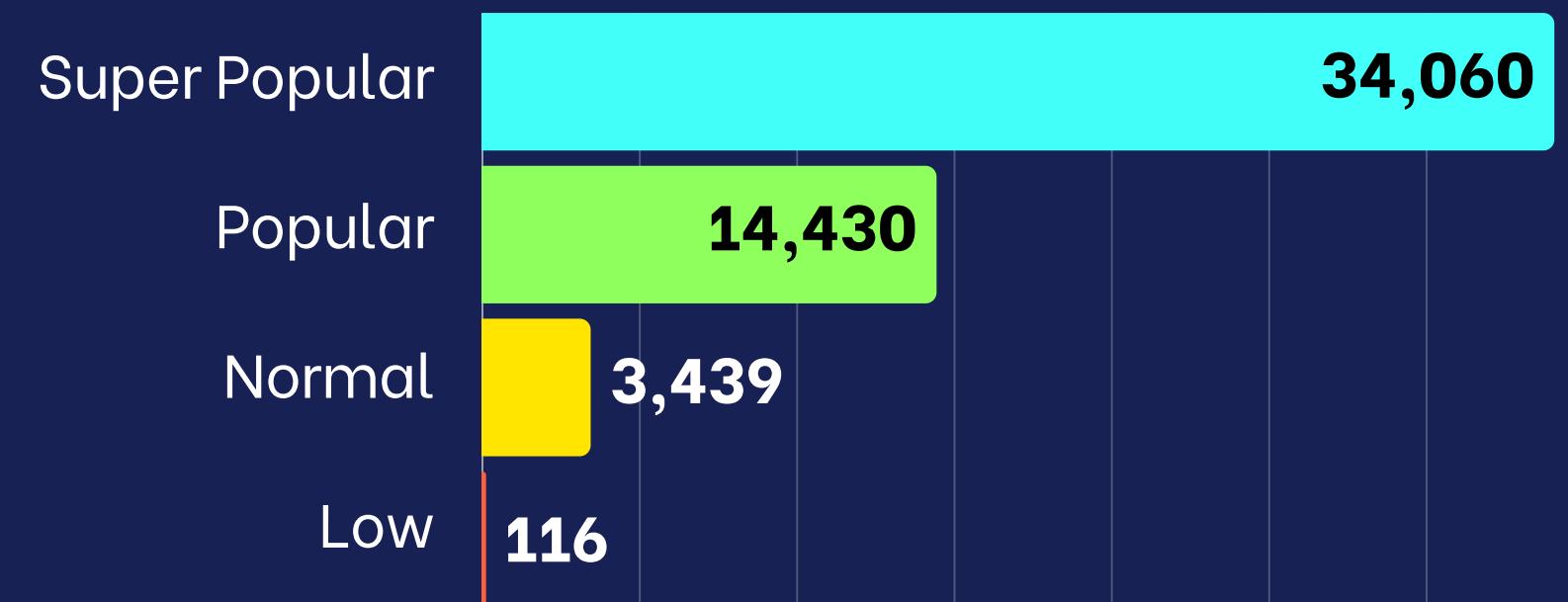
60%  
Normal



## Product

Most of the products sold are **non-essential** products such as decorations, home furnishings, electronics, etc.

### Avg Product Segment Value (\$)

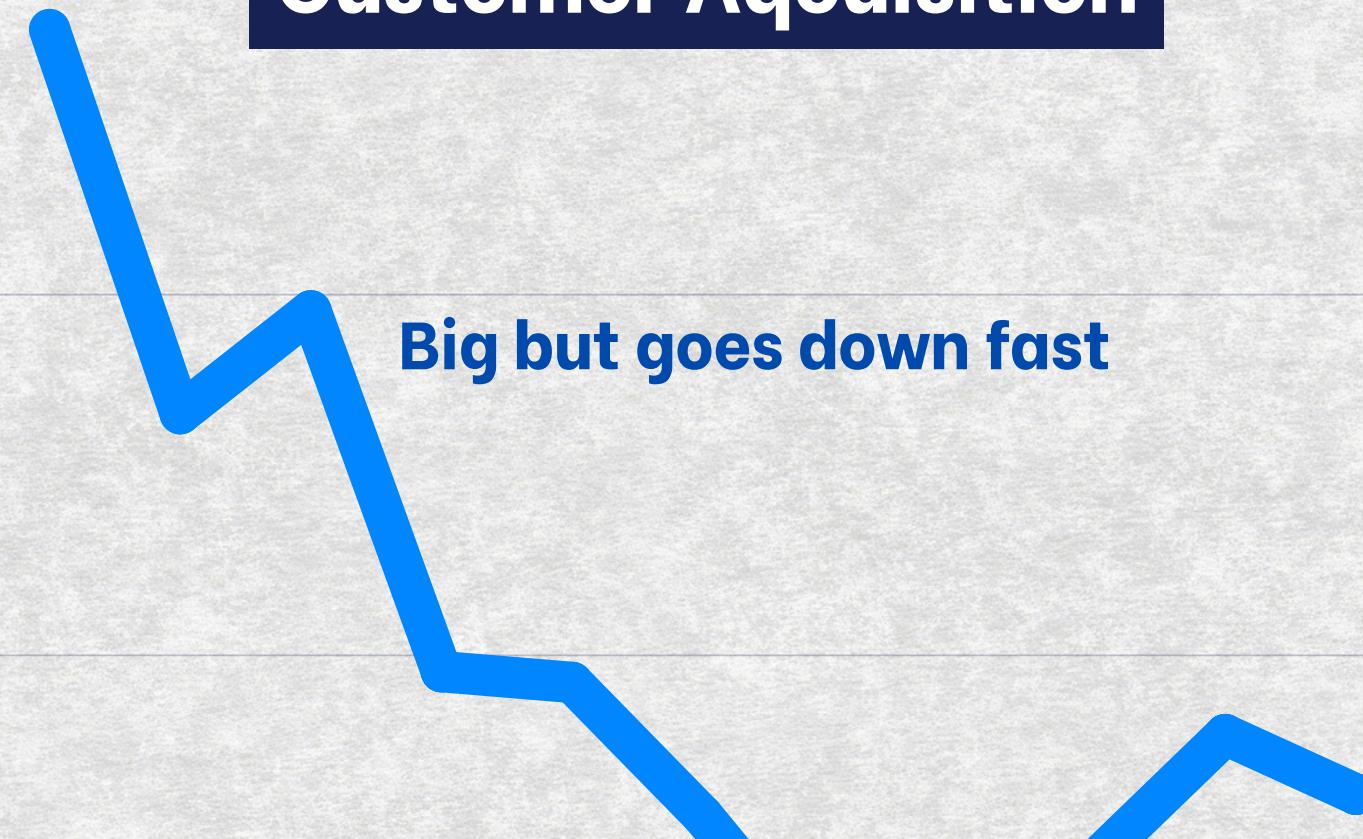


N products dominate 60% of the total products, **but SP and P contribute the most.**

# Retention

## Customer Acquisition

Big but goes down fast



Small but rebound stronger

## Monthly Retention Graph

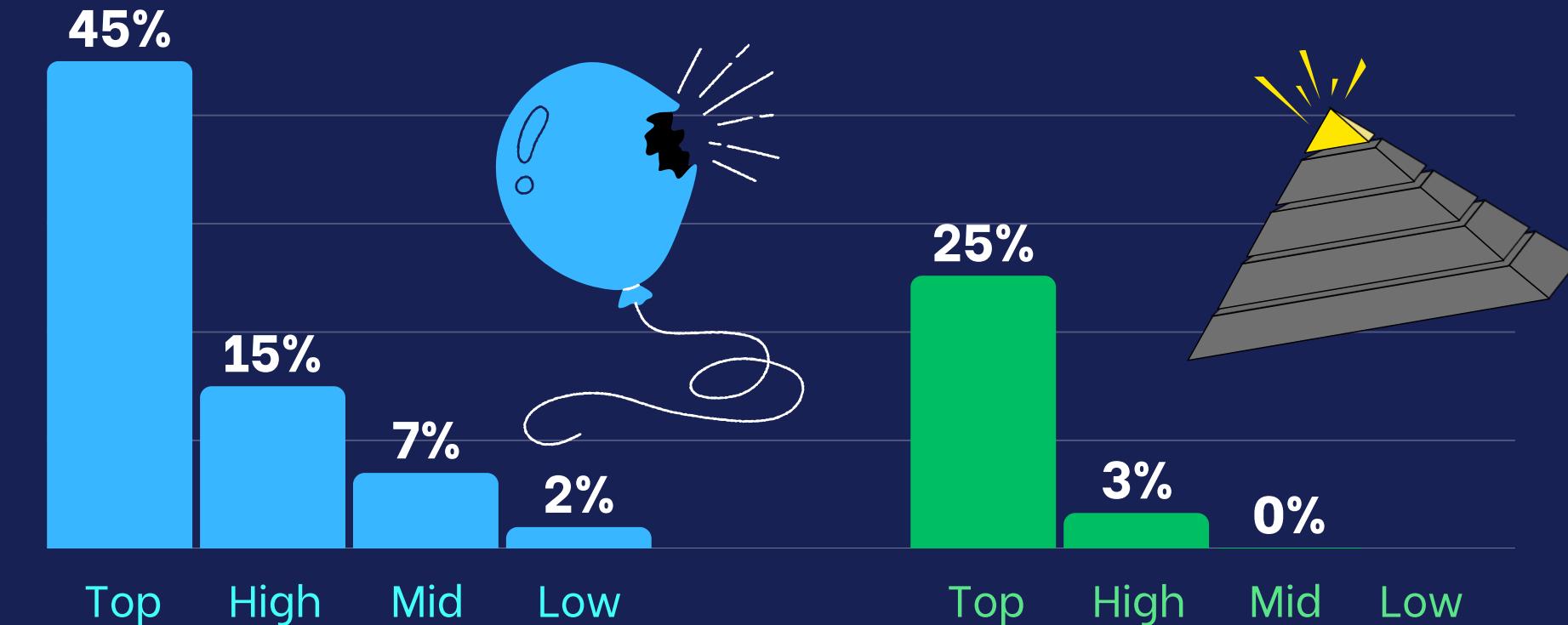
Avg Fluktuasi Graph

Normal	Bulk
30%	15%
± 11%	± 6%

Higher, volatile

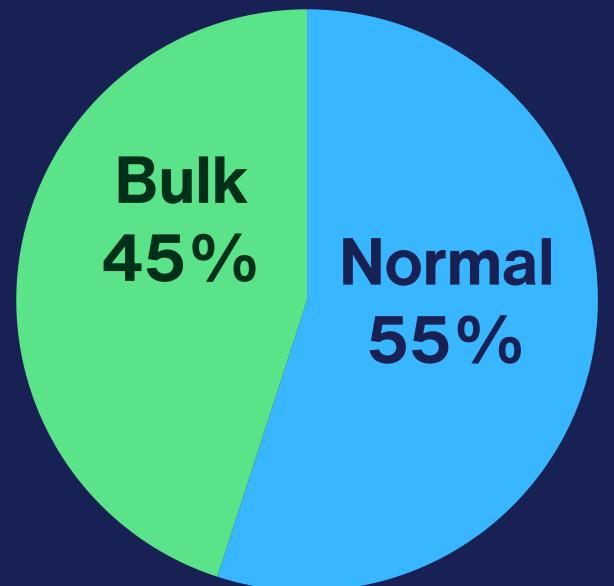
Lower, stable

## by Customer Segment



# Average Order Value

**Total Revenue**  
by transaction type



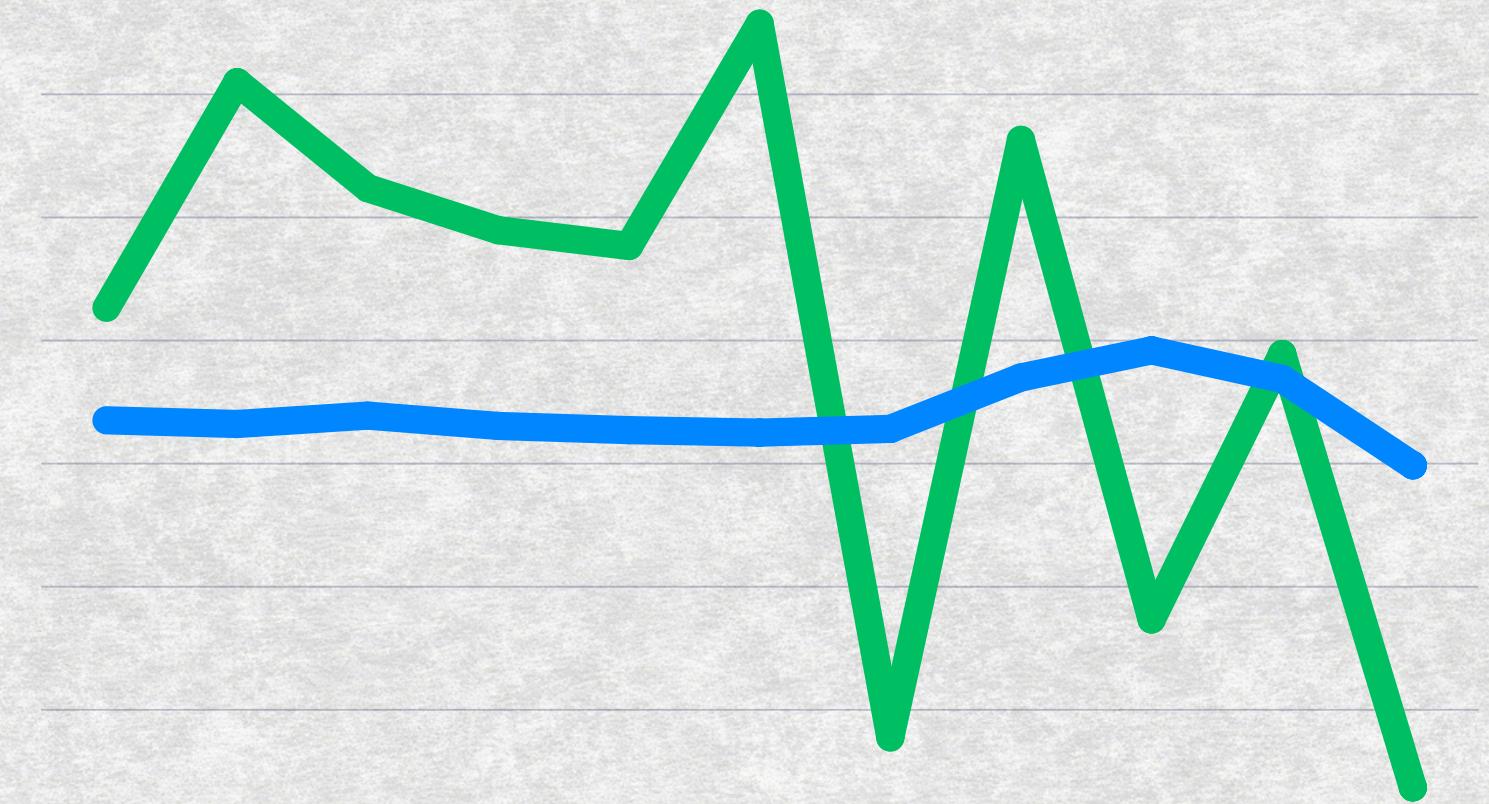
13,916,411

7 X

AOV

1,906,192

## Monthly AOV



Jan

Jun

Nov

Normal

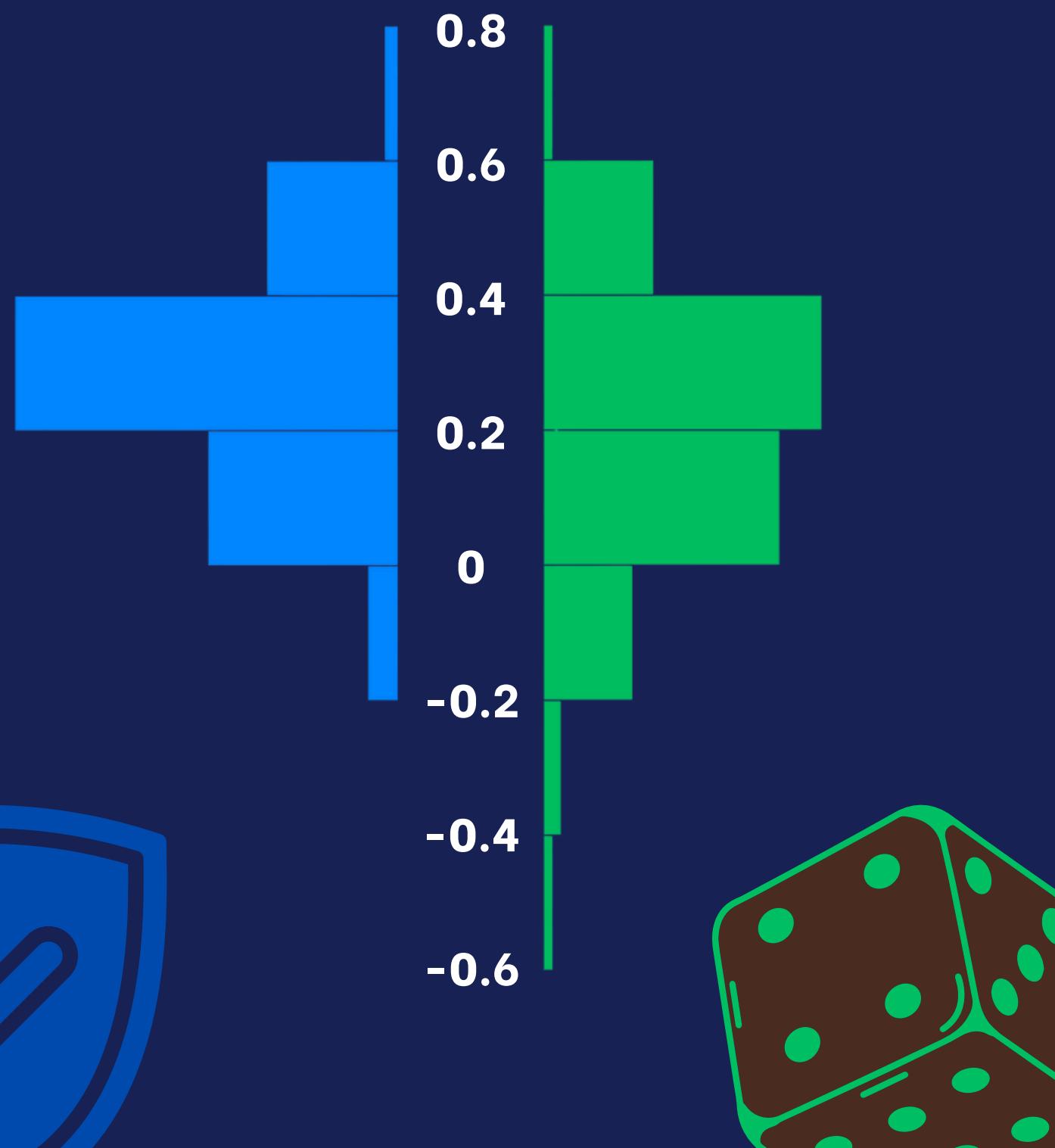
Mass transaction → Predictable

Bulk

Few but High value, Volatile

# Price Elasticity

## Price-Quantity Correlation



> 80% of products have (+) correlation  
**Price isn't the main driver of quantity**

## Why Price Elasticity is Low?

- The majority of the products are **non-essentials** and **non-prestige**
- **Impulse purchases** for aesthetic/uniqueness, not price.
- **Seasonal** driven → demand spikes around second semester

## Condition

Mid cust. **potential for growth** & Bulk rely heavily on Top cust,

Majority of products are "N", but revenue is from "SP"

Normal trans. retention is high but **volatile**. Bulk is low but **stable**.

Normal trans. AOV are stable (~2K). Bulk high (~13K) but fluctuating

**Price is not the main driver**, demand is influenced by seasonality

## Recommendation

Exclusive preview & volume discount for Top Bulk, progressive rewards points for Mid Customer.

Seasonal decoration bundle (N) with SP items leading up to Christmas (end year)

Reminder for Normal customers in Q2, subscription contracts with shipping discounts for Bulk

At checkout, offer additional products for Normal, and discounts (the more you buy, the cheaper) for Bulk.

Stable pricing for best-sellers. Use theme campaigns to promote Normal products.