



# Product Performance

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# Executive Summary

01

## Project Description

Product Analyst wants to improve Sephora average rating from **4,2 to 4,5**

02

## Objectives

- To find reasons **why** Sephora's product got **4,2** rating
- To give **actionable insights**

03

## Tools

- **Python & Tableau**
- **Methods** : Log Transformation, Z-Score, T-Test, Chi-Square Test, K-Means Model
- **Metrics** : Reviews Rate, Average Price, Average Rating, Loves Count rate

04

## Insights

- Popular products are not necessarily **better rated**
- Higher prices tends to have **better rating**
- Men category is the **highest** average rating
- New products **satisfied** customers

05

## Recommendations

- Focus on **product quality**
- Examine **pricing** on expensive products
- Analyze categories' **strength & weakness**
- **Maintain** and **leverage** New products



# Project Backgrounds

Sephora is a **leading beauty omni-retail** from France



**8.000+**  
products



**233M+**  
Total Loves



**300+**  
Brands



**8**  
Categories



# Project Backgrounds

According to **Power Reviews** :

<https://www.powerreviews.com/health-beauty/>

4,6★

Average rating of  
Health & Beauty  
Products

*meanwhile*

4,2★

Average rating of  
Sephora's Products

# Problem Statement



How to **increase** Sephora's Products Rating from **4,2** to **4,6** by next year?

# Analysis Goals



Provide **insights** & **recommendations** for Sephora's Product to **increase** product rating

# Methodology



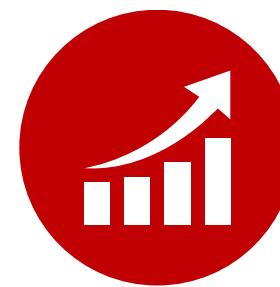
Problem  
**Understanding**



Data  
**Cleaning**



Data  
**Analysis**



Data  
**Visualization**

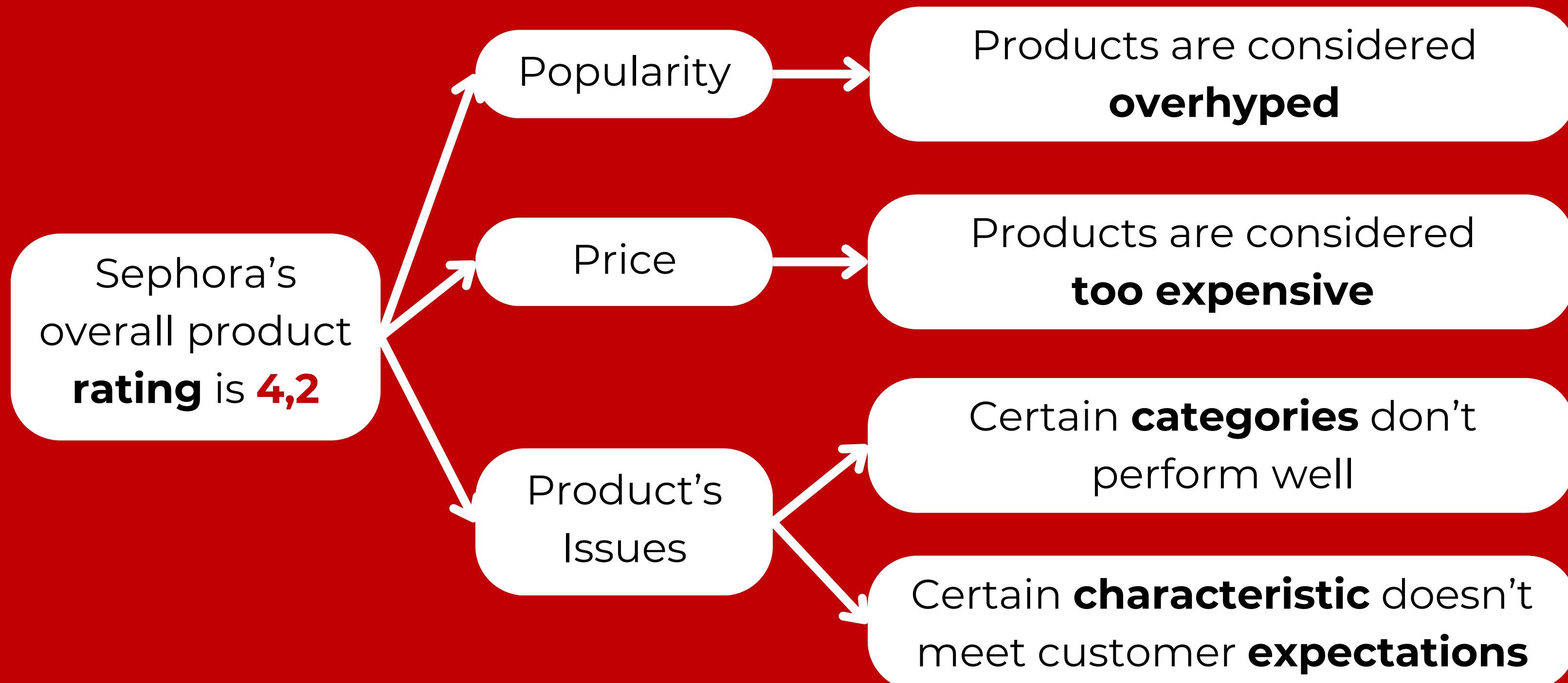


Insights &  
**Recommendations**

## Tools :

Google Colab (Python) & Tableau

# Root Cause Analysis



# Hypothesis

**H1**

**Popular** products do not always have **higher ratings**

**H2**

Products with **higher prices** are not necessarily **better rated**

**H3**

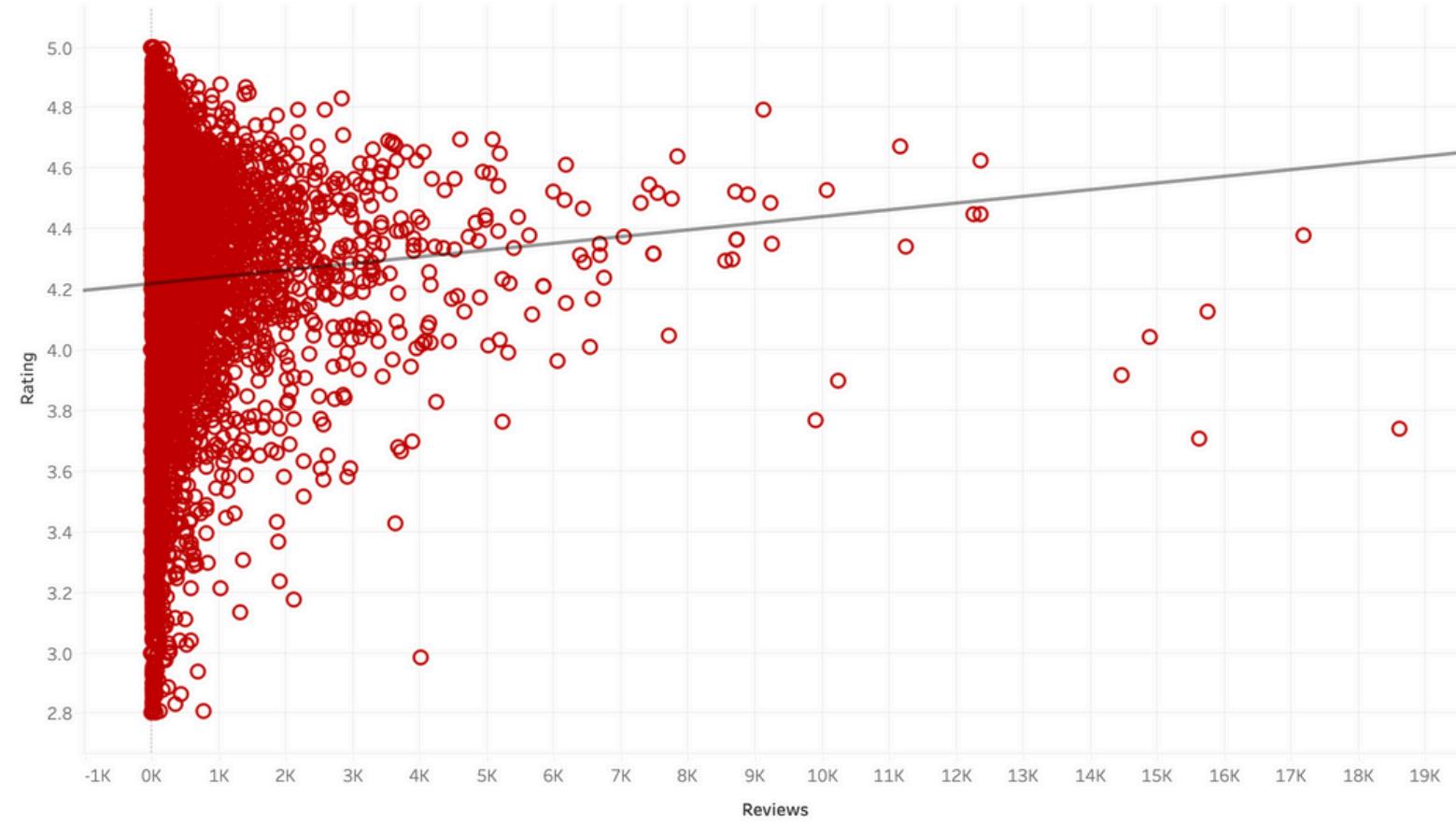
**Certain categories** are not closely associated with **certain ratings**

**H4**

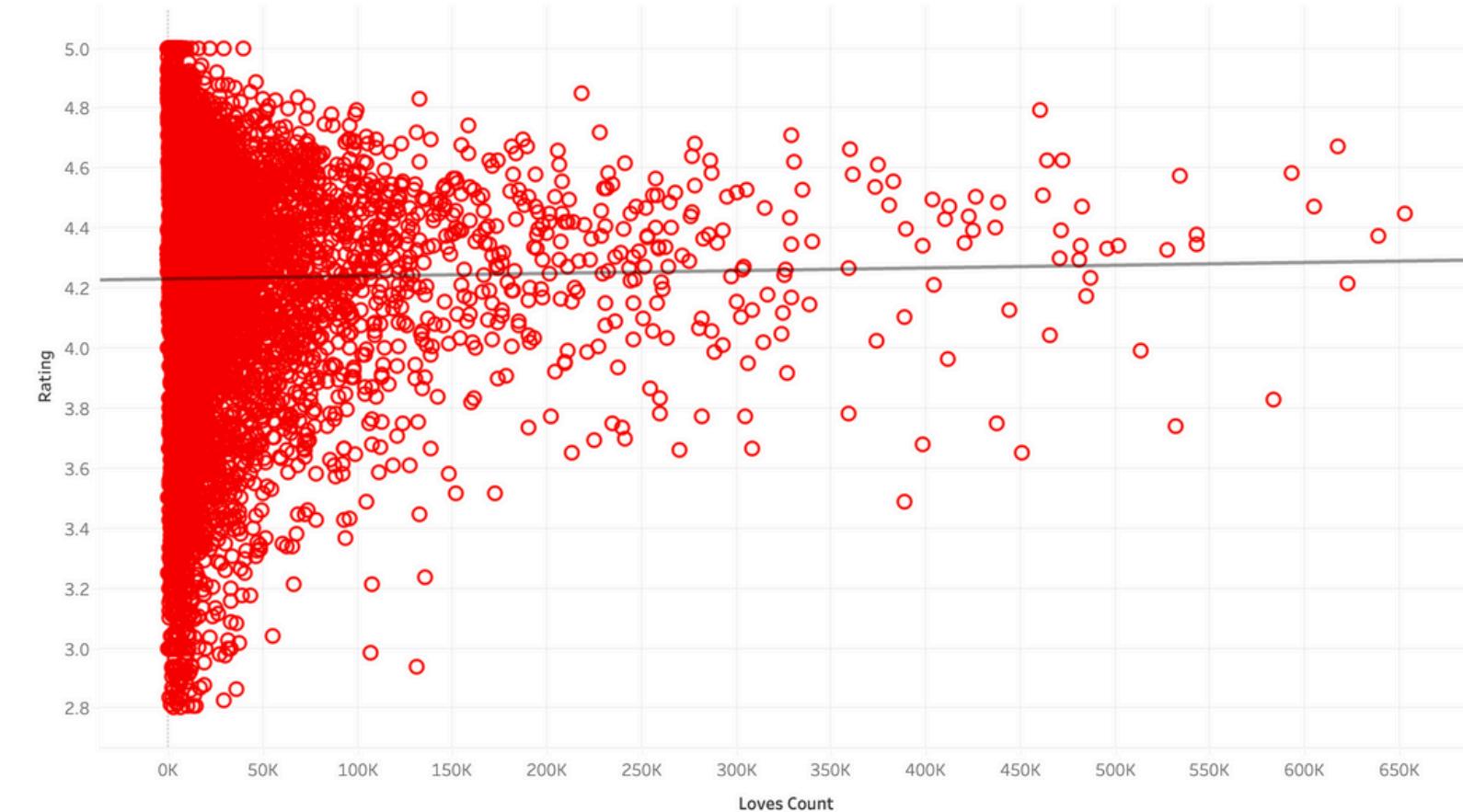
**New, Limited, & Exclusive** products do not consistently receive **better ratings**

# Popular Product doesn't guarantee higher rating

Rating to Reviews



Rating to Loves Count



Product's popularity does **not correlate** with product's rating. The more popular product (**> Q3 loves count and reviews**) isn't necessarily better rated with **< 0.01** Pearson Correlation value both **reviews and loves count**

# 2 categories are probably overhyped

## Average rating of

Less Popular Products

Primary C.. =

Men	4,50
Tools & Brushes	4,38
Fragrance	4,26
Skincare	4,25
Hair	4,23
Bath & Body	4,21
Makeup	4,14
Mini Size	3,99

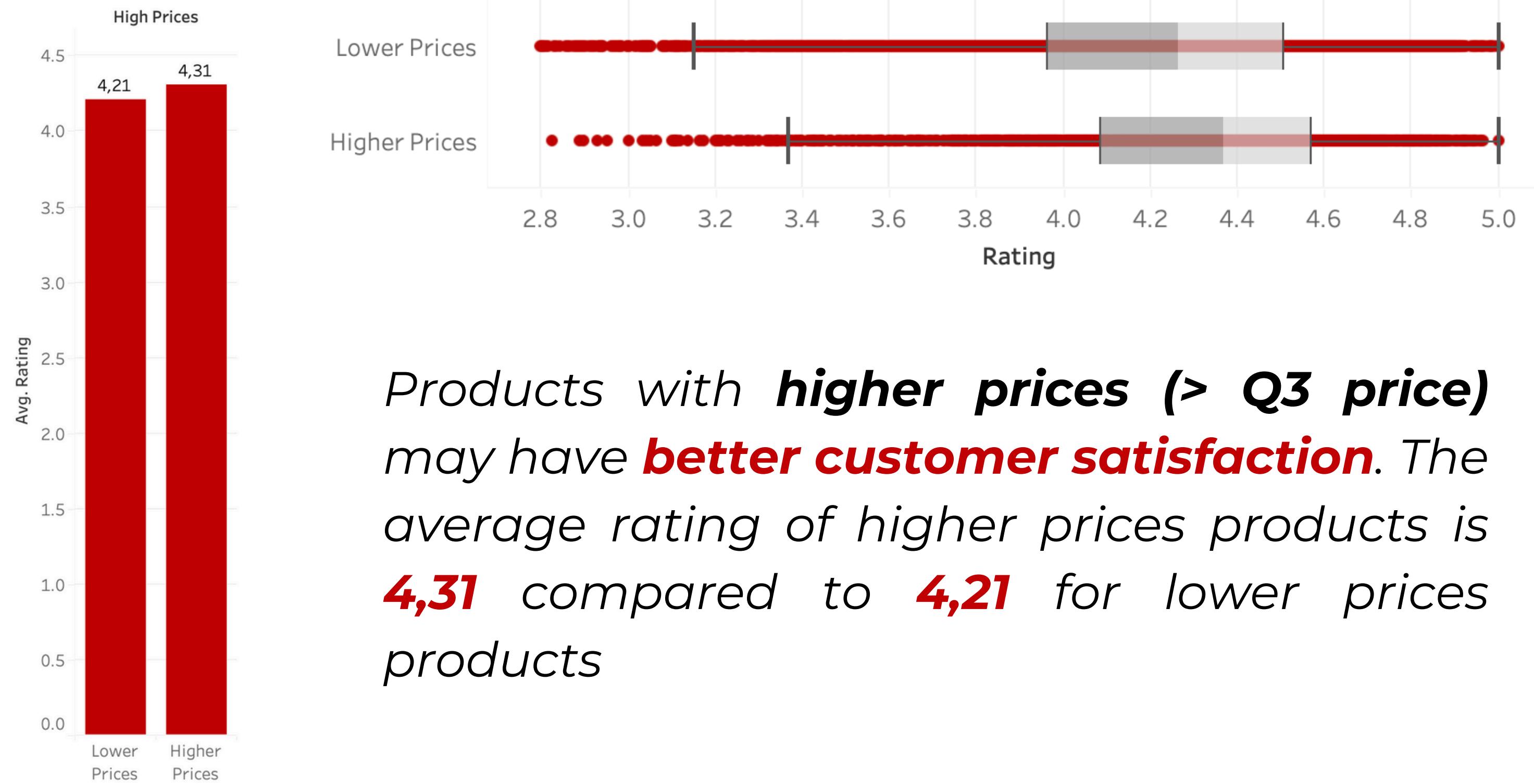
Popular Products

Primary C.. =

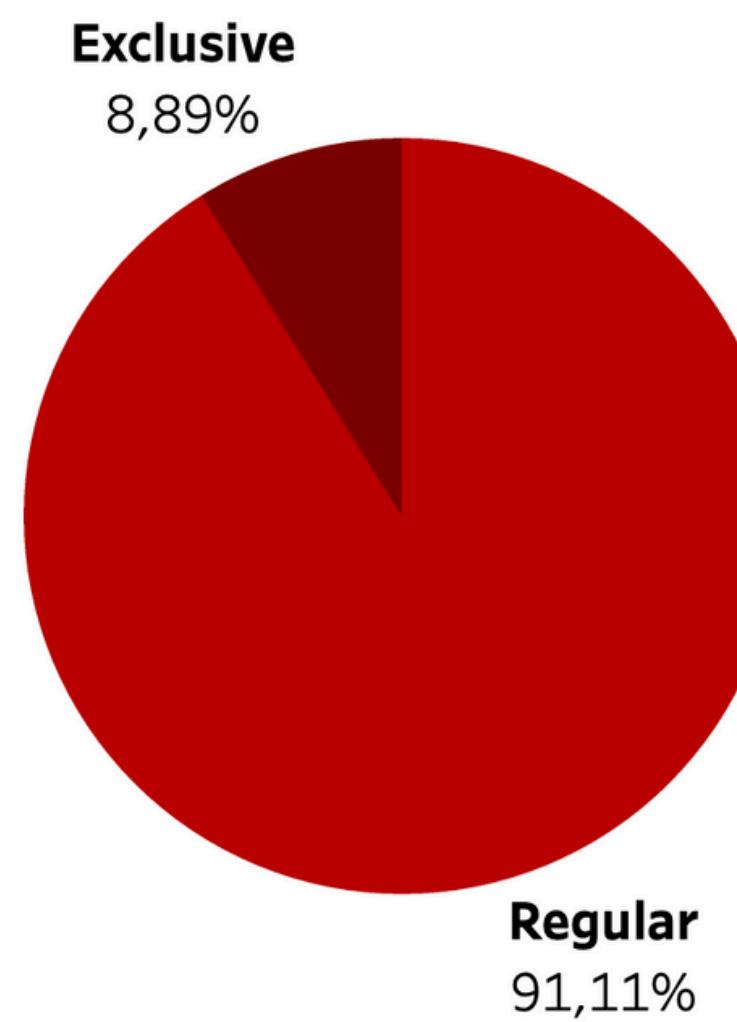
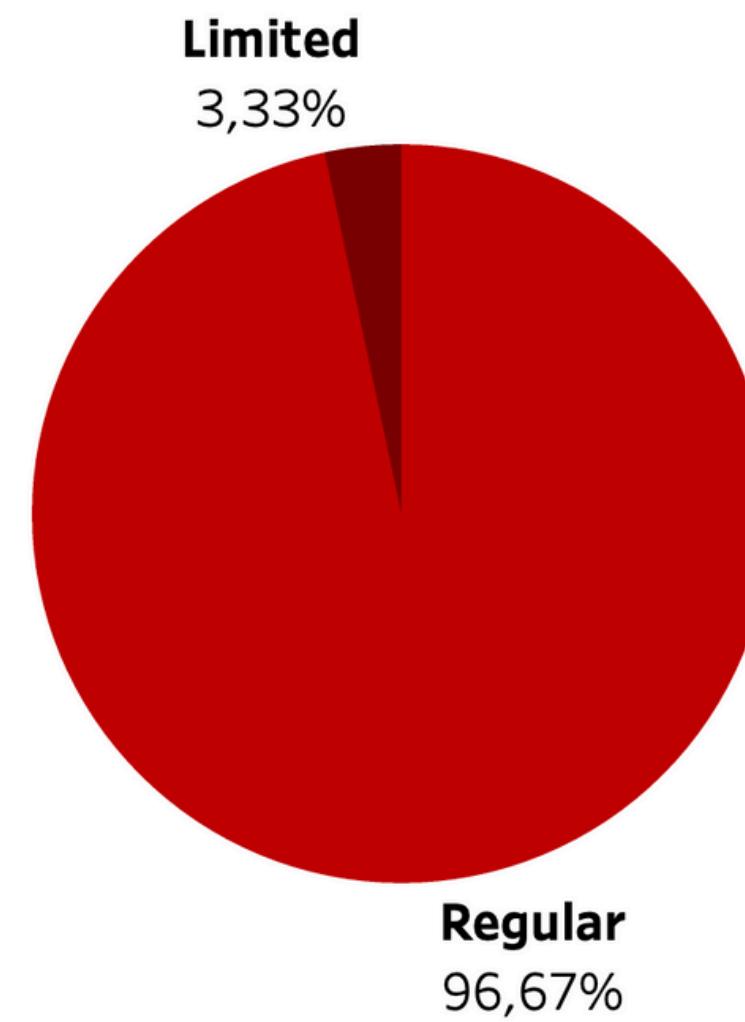
Fragrance	4,34
Bath & Body	4,29
Skincare	4,25
Makeup	4,25
Tools & Brushes	4,25
Hair	4,23
Mini Size	4,17

**Tools & Brushes** and **Makeup** categories have **lower rating** on their **popular** products. Categories like **Fragrance**, **Skincare**, and **Hair** are **consistent** products.

# Higher prices products are quite better rated

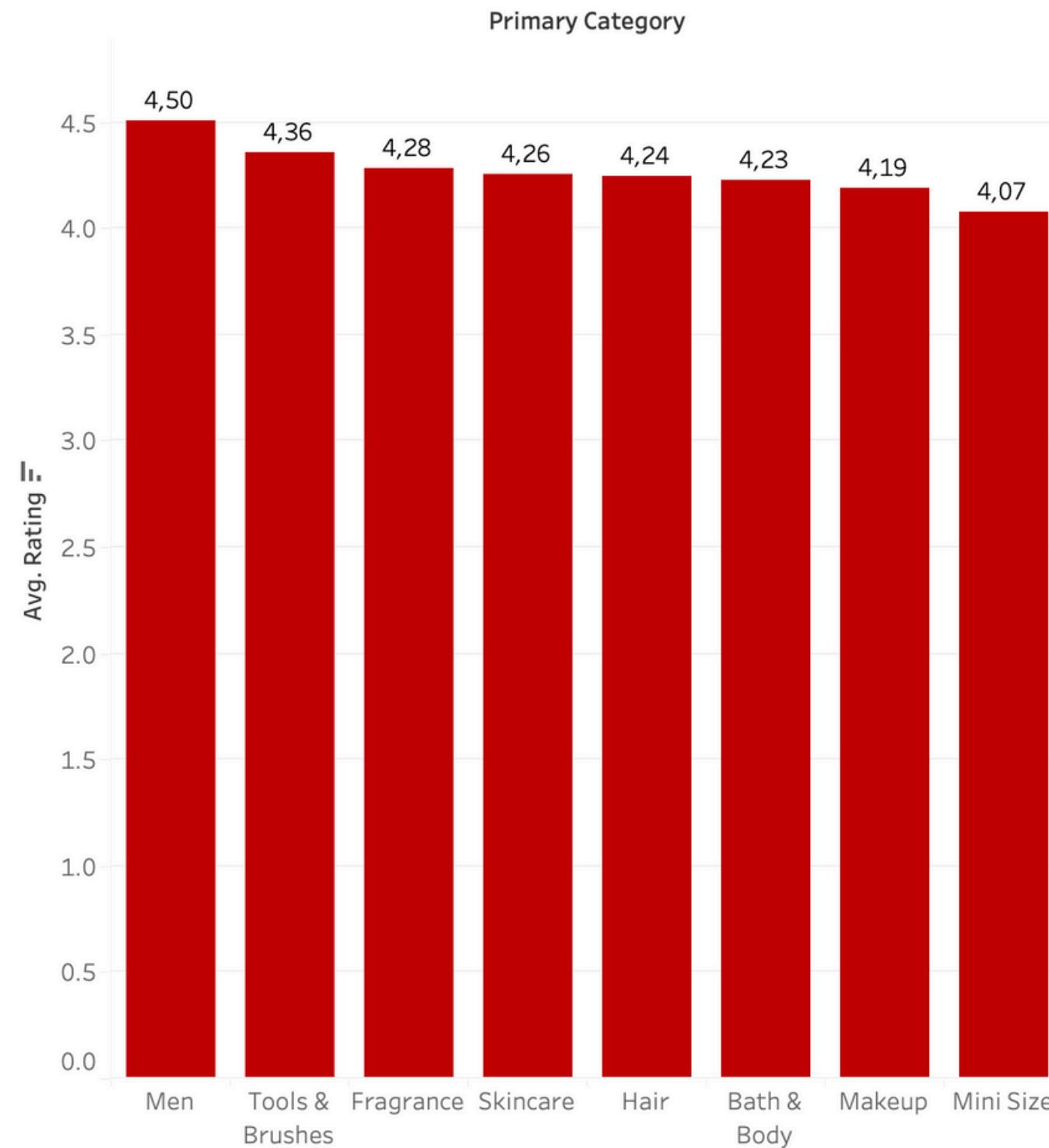


# Extremely high pricing considered too expensive



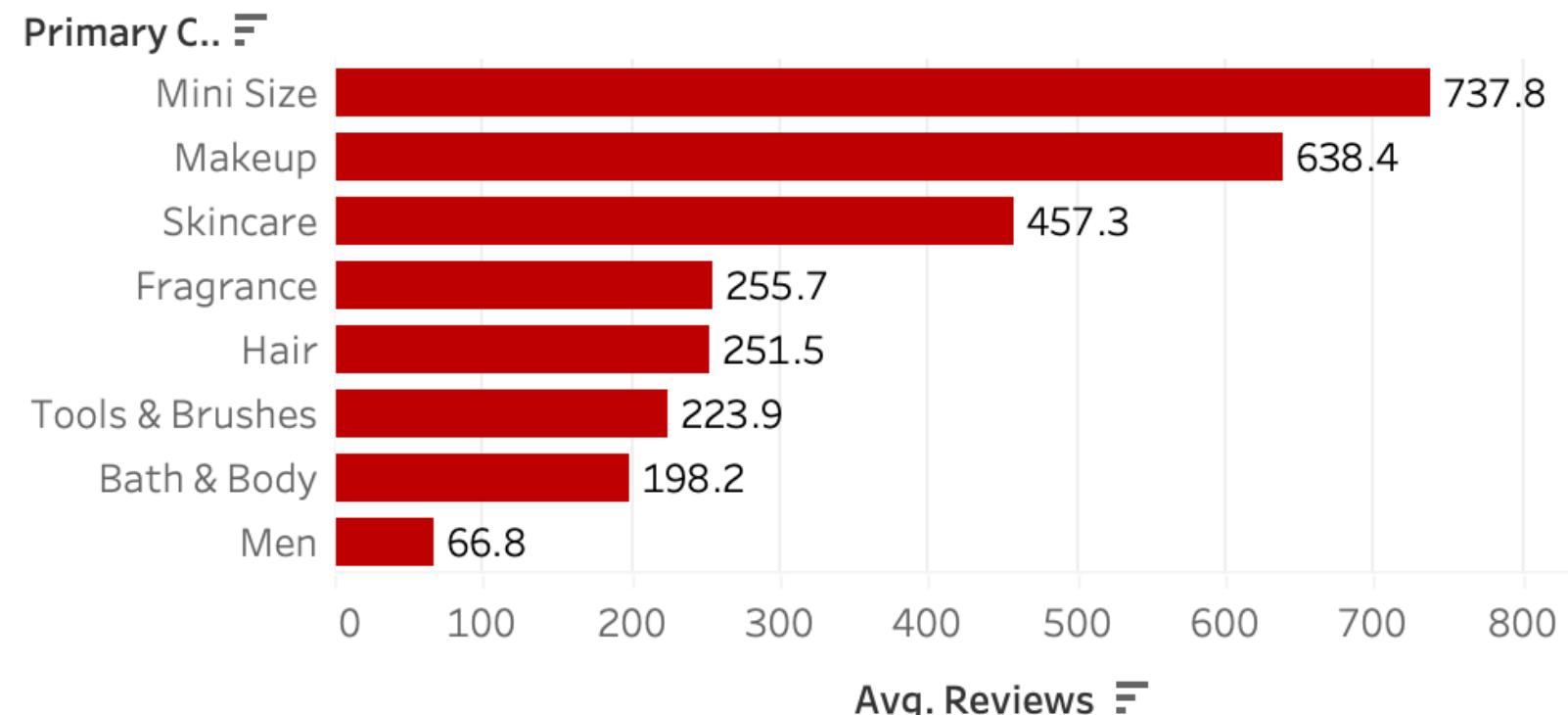
**Limited Edition** and **Sephora Exclusive** products are **expected** to have **higher prices**. But, most of extremely high price products (**> Upper Bound Price**) are **regular products**

# Men category surpass other categories



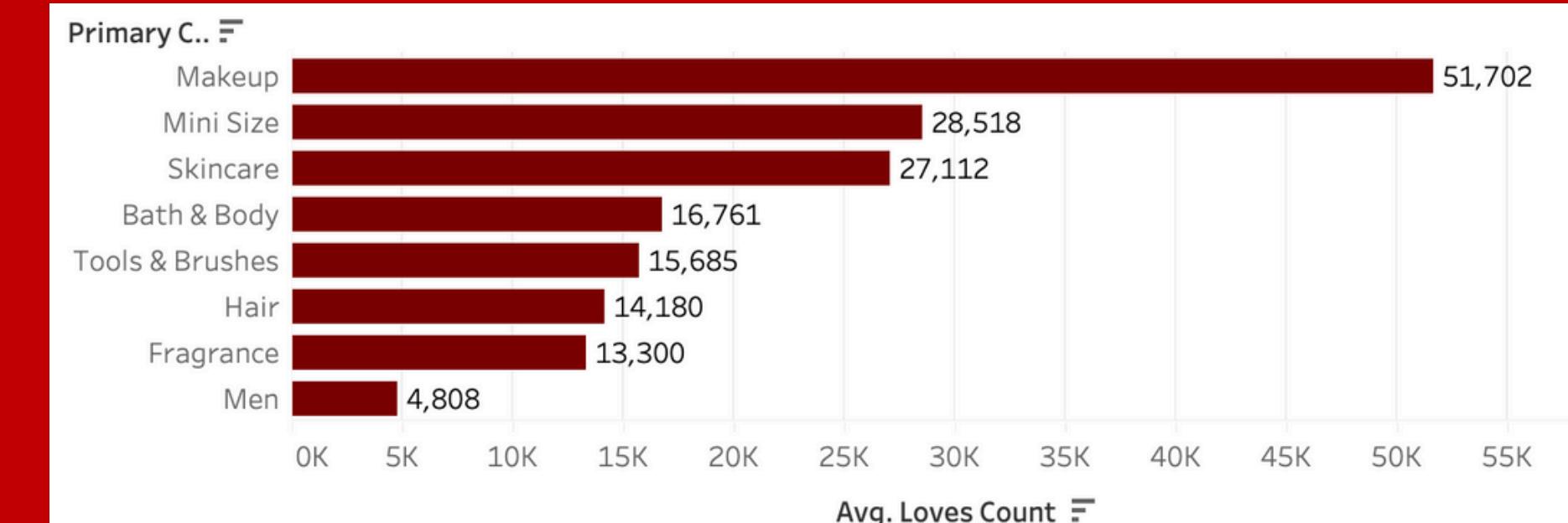
Men category perform **much better** than other 7 categories. Furthermore, Men category **doesn't have certain characteristics** showing why it reaches the highest average rating

# Mini Size category needs major improvements



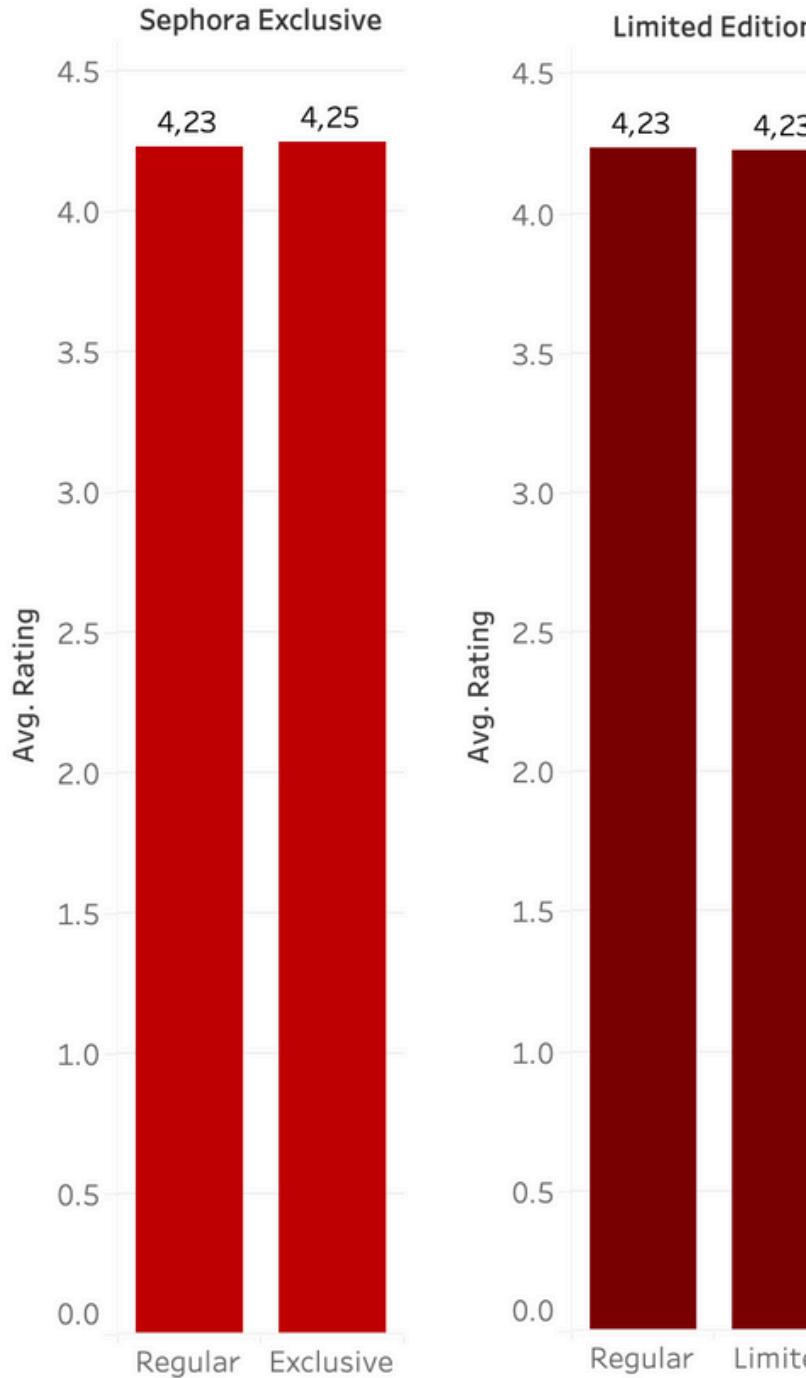
Mini Size category has the **highest reviews rate** (average total reviews per product). This means Mini Size category receive **more feedback** for each product

In the other hand, the Mini Size products loves count rate is the **second highest**. This leads customers' **engagement** and high **expectations**

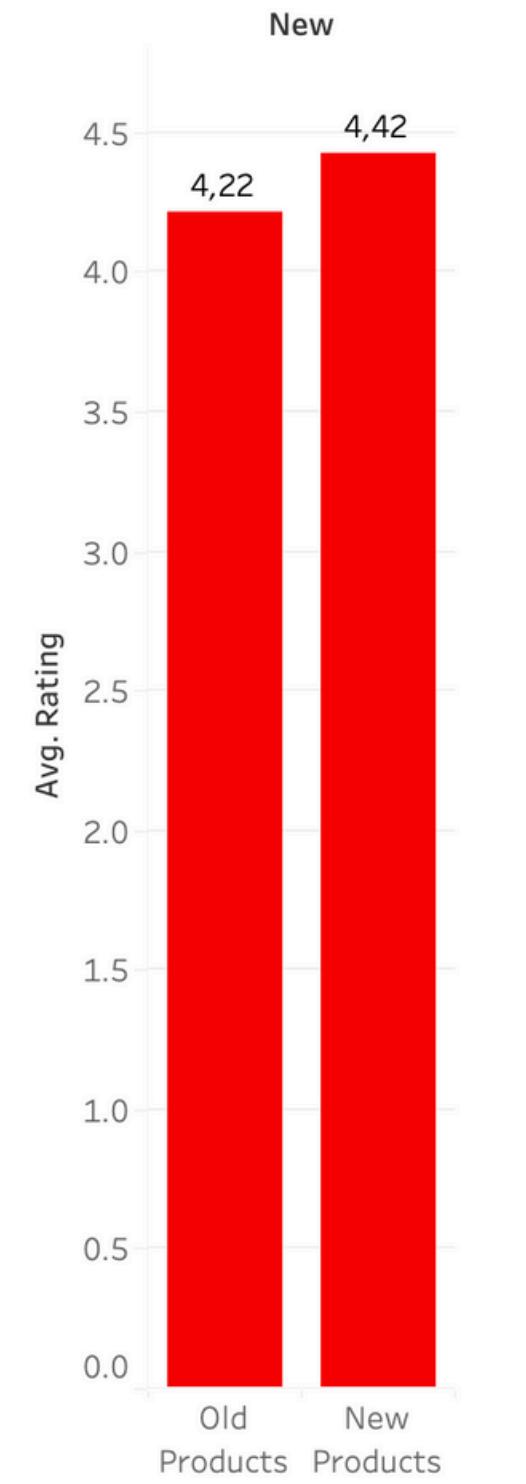




# New labeled products are more satisfying

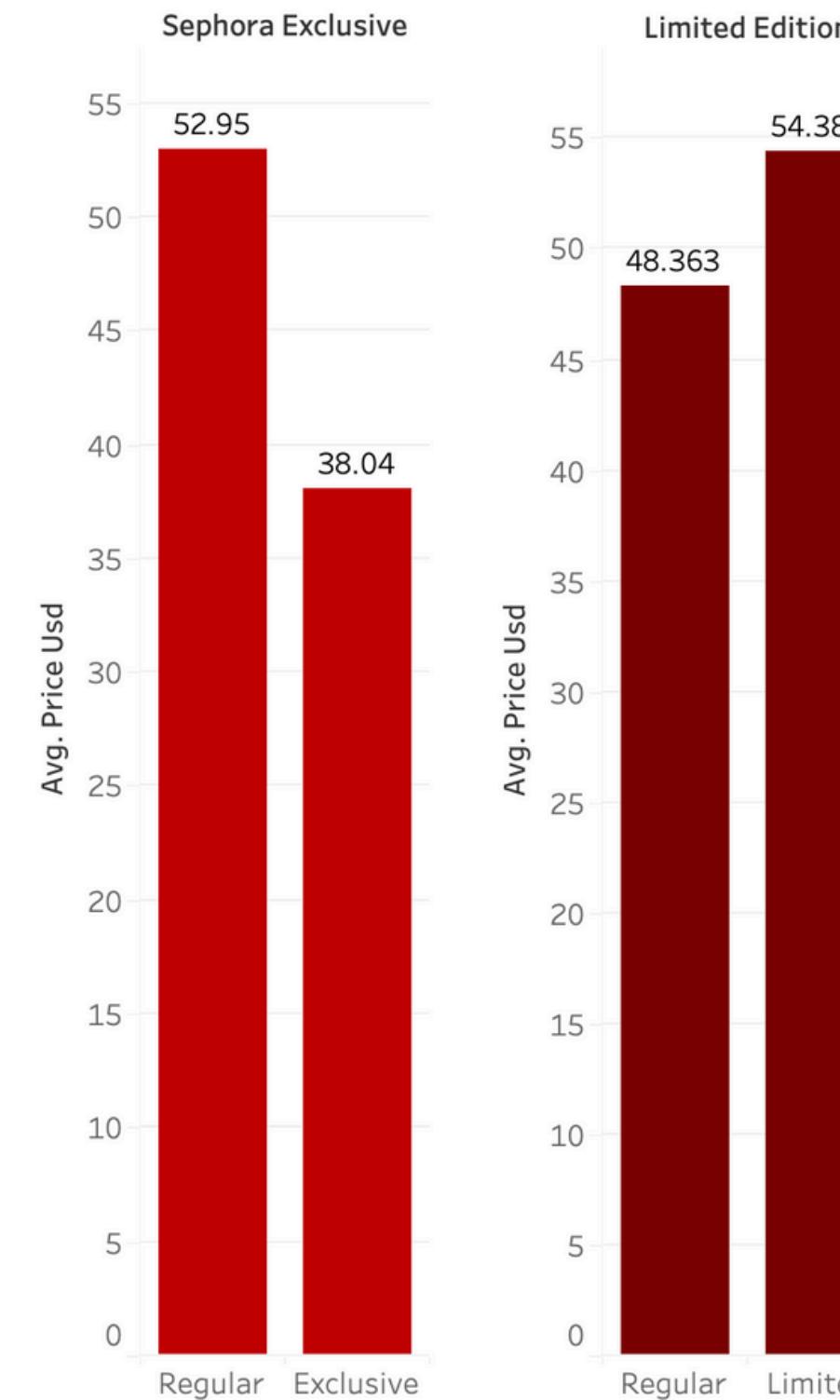


Sephora Exclusive and Limited Edition products **can't lead higher customers' satisfaction**, since they have **no significant difference** compared to their regular products



Meanwhile, the New labeled products **outperformed** old products

# Price doesn't guarantee product's rating



Even though Sephora Exclusive products have **cheaper pricing**, it **doesn't directly** translated into customer's satisfaction. Moreover, Limited Edition products seemed **overprice** and **doesn't meet** customer's expectation.



# Insights & Recommendations

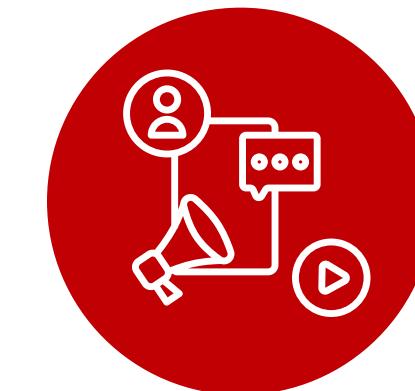


# Insight

Product popularity **does not necessarily** guarantee **better ratings**



# Recommendation



**Evaluate Marketings and Positionings of Makeup and Tools & Brushes category**

# Insight



The higher prices tends to have **better rating**, but, at certain point, if it comes to **extremely expensive**, they have **lower rating**

# Recommendation



**Improve** the product of **extreme pricing** since in those range of price are expected to get **Sephora Exclusive** or **Limited Edition** products



# Insight

Certain **categories** are associated with  
**different rating**

# Recommendation

Weakness of **Makeup** and **Mini Size** products need to be **fixed**, meanwhile strengths of **Men** and **Tools & Brushes** products need to be **maintained**

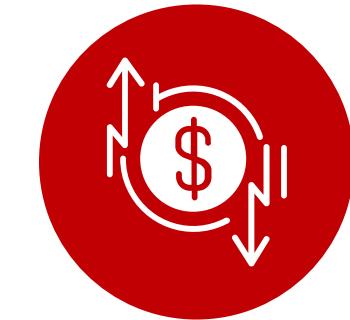


SEPHORA

# Insight

Limited edition products and Sephora exclusive products didn't perform well compared to New products

# Recommendation



Evaluate Limited Edition  
price and Improve  
Sephora Exclusive quality



Maintain & Leverage  
New Products

# Products Clustering

#1

**High quality** products  
for any **pricing**, but  
not quite **popular**

#2

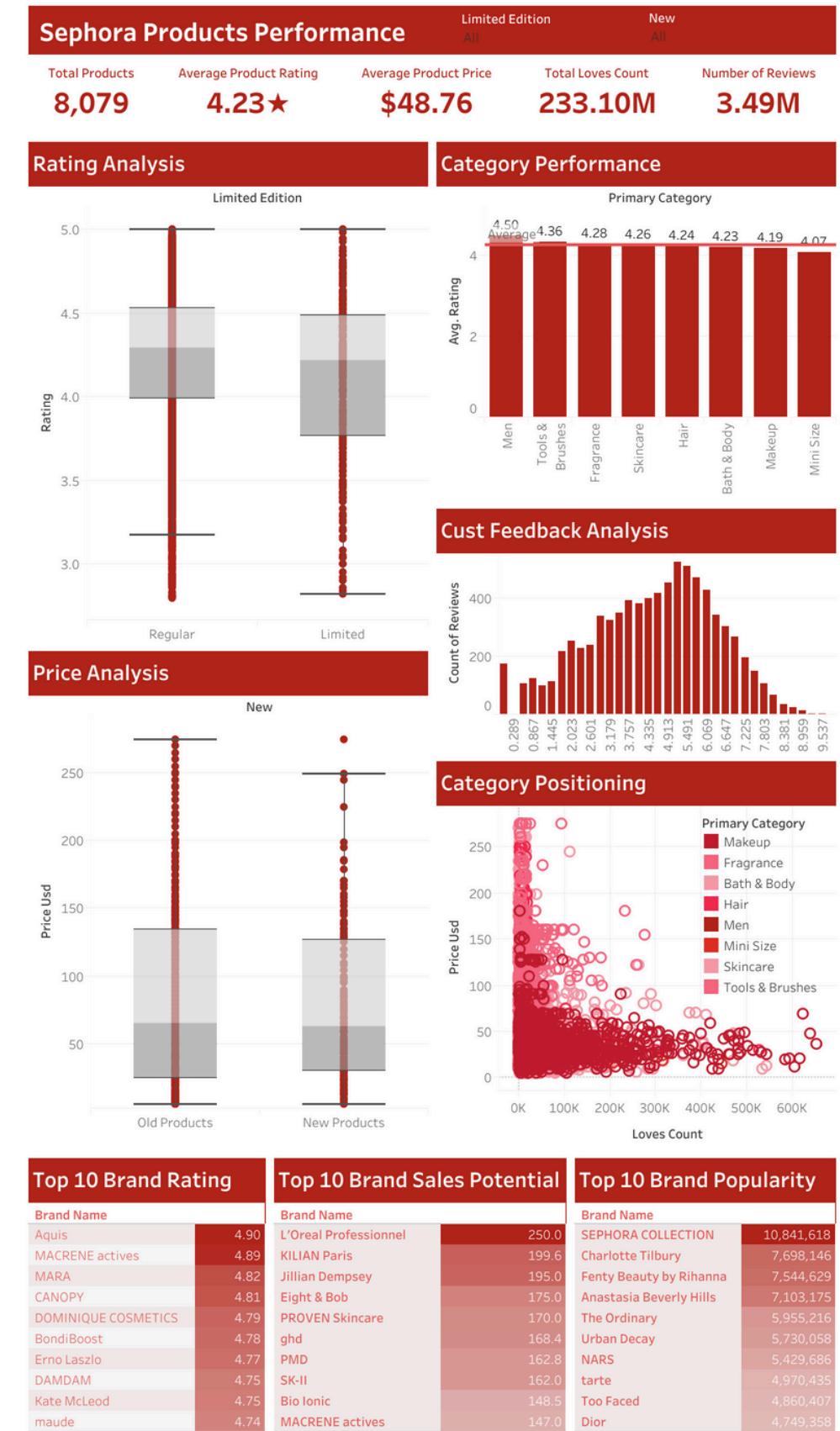
**Low quality** and  
**unpopular** products,  
but **cheaper** pricing

#3

**High quality** and  
**popular** products with  
**moderate** pricing



# Dashboards





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# Appendix

# Dashboard