



Presentation

# UNSUPERVISED LEARNING

E-Commerce RFM Analysis

Audric Lysander



# OUR AGENDA



The Objective



Data Preparation



Analysis & Finding



Summary & Conclusion



# THE ★ OBJECTIVE ★

# BACKGROUND

---

E-commerce has become a new channel to support businesses development. Through e-commerce, businesses can get access and establish a wider market presence by providing cheaper and more efficient distribution channels for their products or services. E-commerce has also changed the way people shop and consume products and services. Many people are turning to their computers or smart devices to order goods, which can easily be delivered to their homes.





# GOALS



GATHER USEFUL INTRINSIC INFORMATION BY COMBINING  
RFM MODEL AND SOME UNSUPERVISED LEARNING MODEL.



# CHALLENGE



Huge amount of data



There are many missing values

# METHODOLOGY



Preprocessing



RFM Model Building



Exploratory Data Analysis



Predictive Model Building



# DATA PREPARATION

★ PREPARATION ★

# INITIAL DATA QUALITY REPORT

Total of 541.909 data

7 Columns

135.080 Missing Values

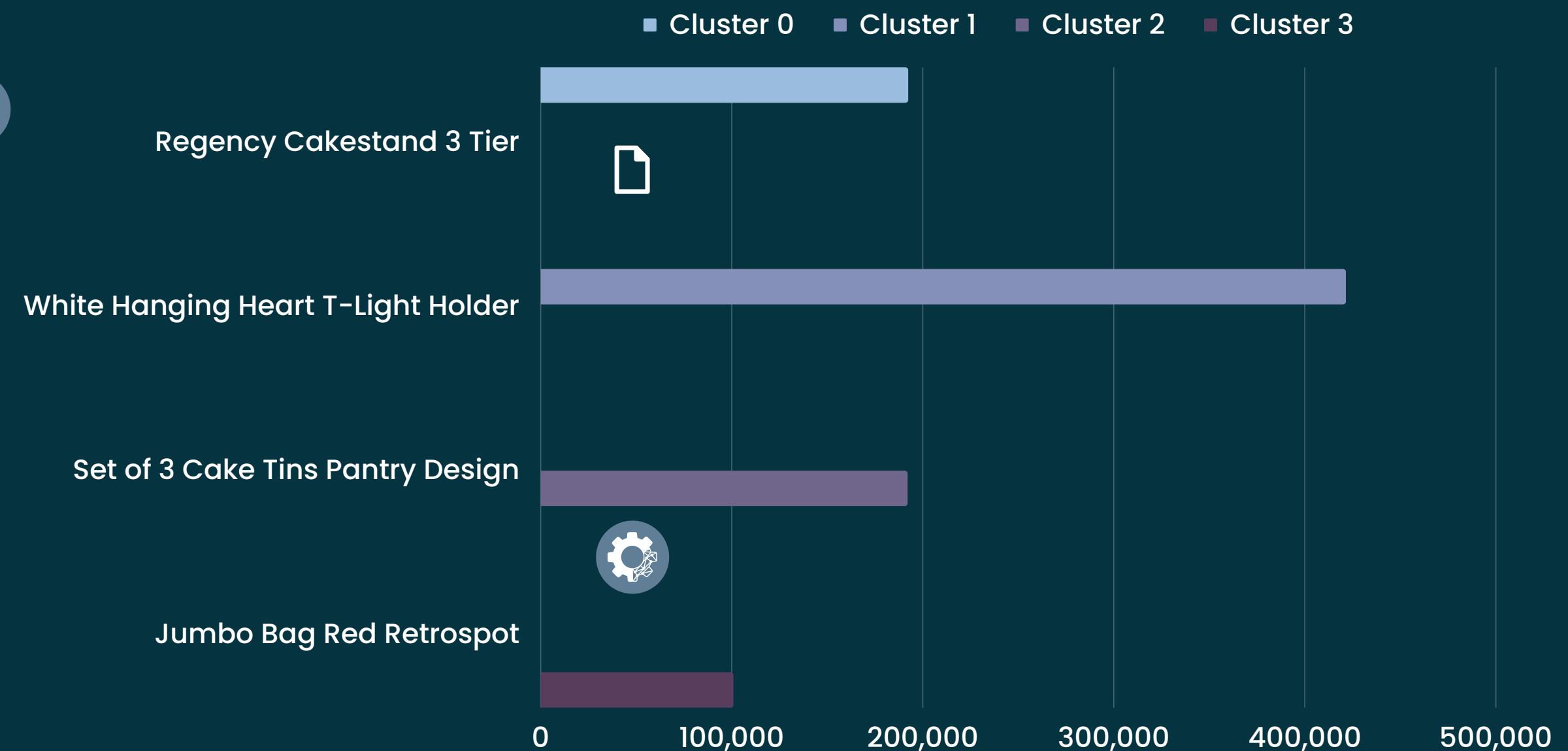
# PREPARATION STEPS & PROCESS





# ANALYSIS ★ FINDING ★

# WHAT ARE THE MOST FREQUENT PURCHASED PRODUCTS?



The bar chart on the side is the most frequently purchased item from each cluster. It can be seen that cluster 1 has the highest purchases of 1 type of product.

# WHAT ARE THE INTERVAL DATE BETWEEN TRANSACTIONS?

Cluster	Min	Max
0	15 days	372 days
1	0 day	302 days
2	260 days	301 days
3	65 days	28 days

From the table, it can be seen that only cluster 1 has the smallest minimum distance between transactions, which is 0 days. Whereas for the maximum distance between transactions the smallest is cluster 3 with a time of 28 days, while for other clusters it takes more than 300 days.

# RECOMMENDATION

---

- Overall, many transactions were canceled because the store lacked stock to send, so before that you could first check the available stock and enter the available stock into the system, so that customers cannot place an order if the stock runs out.
- Cluster 1 is a cluster that rarely makes transactions, so discount vouchers and free shipping can be made to create buying habits.

# RECOMMENDATION

---

- Cluster 0 is a cluster that conducts transactions more often than cluster 1. What can be done is to provide free shipping. At this stage the customer has increased his buying habits, so there is no need to provide a discount voucher anymore because the customer will focus more on the price of shipping costs.
- Cluster 3 is a cluster that frequently conducts transactions. In this cluster, to protect customers can be given loyalty.

# RECOMMENDATION

---

- Cluster 2 is the cluster that buys the most. To maintain and increase sales, loyalty vouchers and cashback can be given with a low percentage, a relatively high minimum purchase, and cashback limits that can be obtained.

# THANK YOU

## Contact:



[audriclysander@gmail.com](mailto:audriclysander@gmail.com)



[linkedin.com/in/audriclysander](https://linkedin.com/in/audriclysander)



[github.com/AudricLysander](https://github.com/AudricLysander)

