

FINAL PROJECT

Data Science - Kalbe Nutritional

Presented by
Virgo Gilang Pratama



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About me

A passionate freshgraduate who keep learning new thing even something out of my comfort zone. Data field is basically not my cup of tea at the first place, but learn it day by day make me feel excited and obsessed in a way that I am sure this is the field of my dream job!

My Experience:

- British Airways Data Science Virtual Experience Pogramme
- Head of Entrepreneurship Department
- Head of Business Creative Division

Case Study

TABLEAU CHALLENGE!

Sebelum membuat dashboard terlebih dahulu membuat worksheet sebanyak 4.

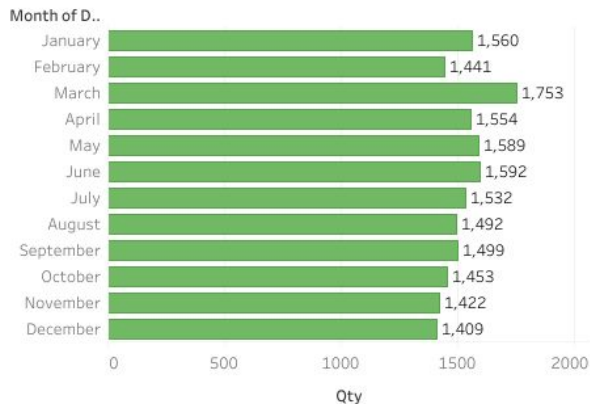
- Worksheet 4 Jumlah qty dari bulan ke bulan
- Worksheet 4 Jumlah total amount dari hari ke hari
- Worksheet 4 Jumlah penjualan (qty) by product
- Worksheet 4 Jumlah penjualan (total amount) by store name

Setelah itu bisa membuat dashboard dengan menggabungkan 4 worksheet.

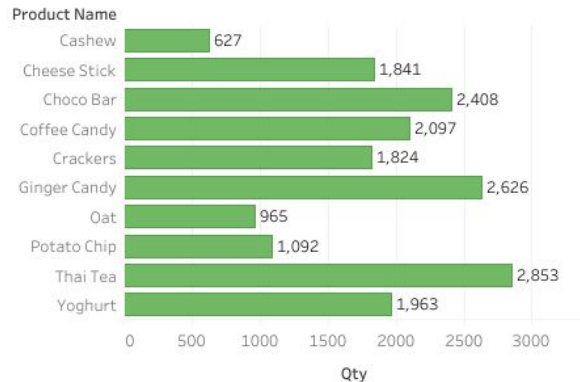
DASHBOARD

SALES REPORT DASHBOARD

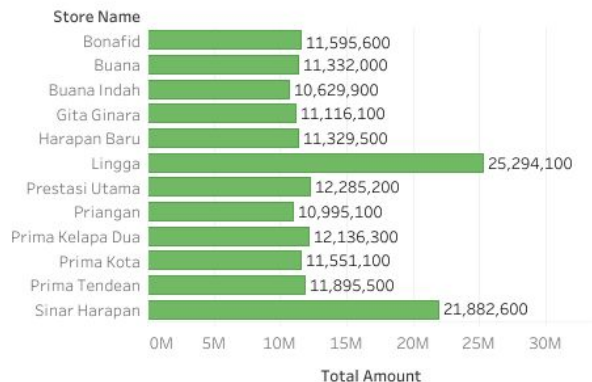
Monthly Quantity



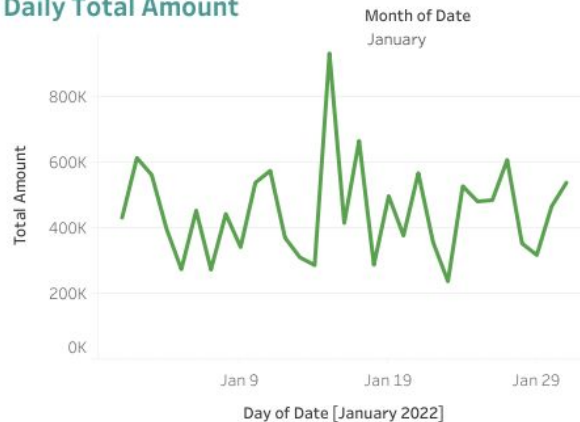
Sales (qty) per Product



Sales (Total Amount) per Store



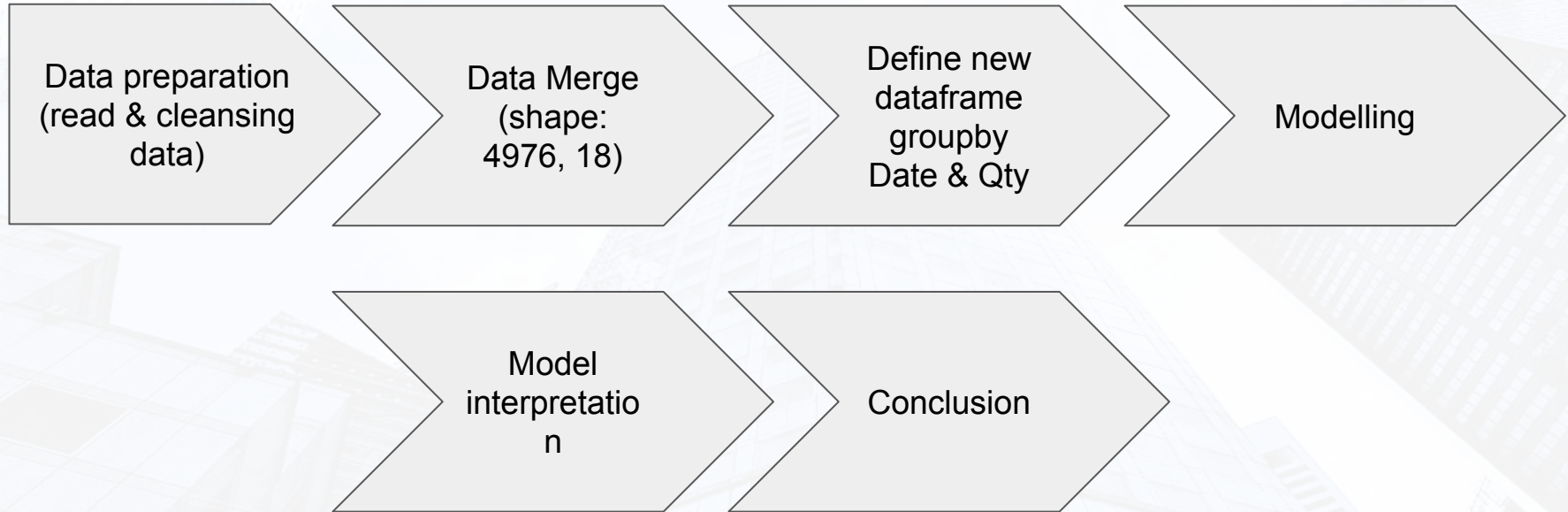
Daily Total Amount



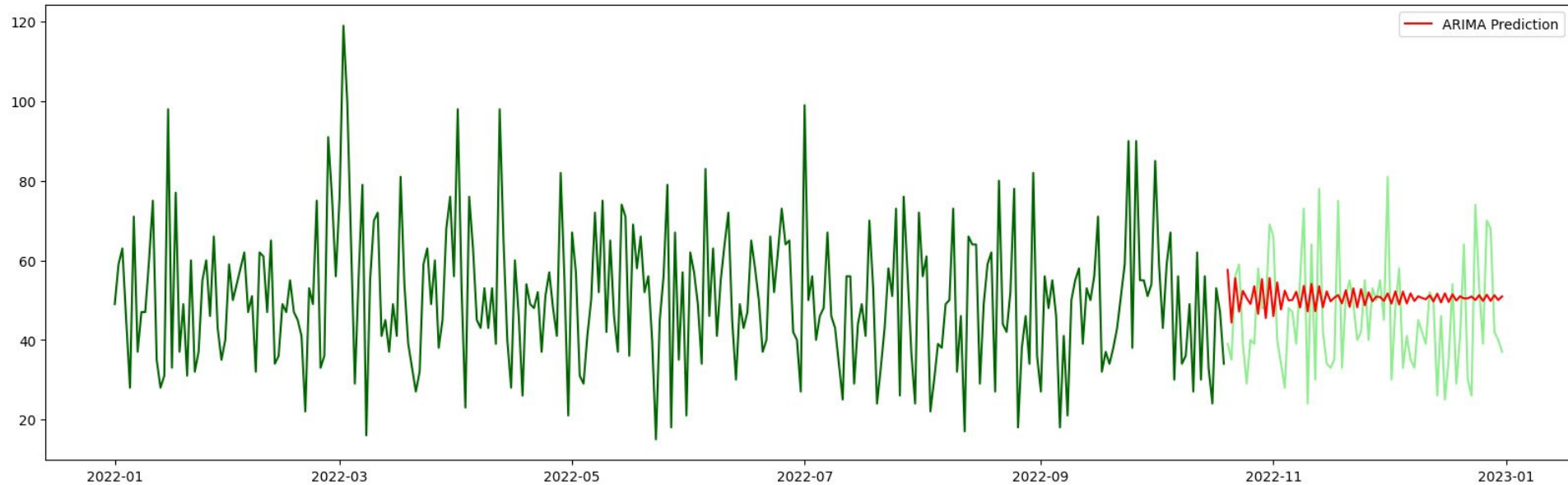
Case Study

Create a predictive model with Regression Time Series and Clustering with K-Means!

REGRESSION PROCESS

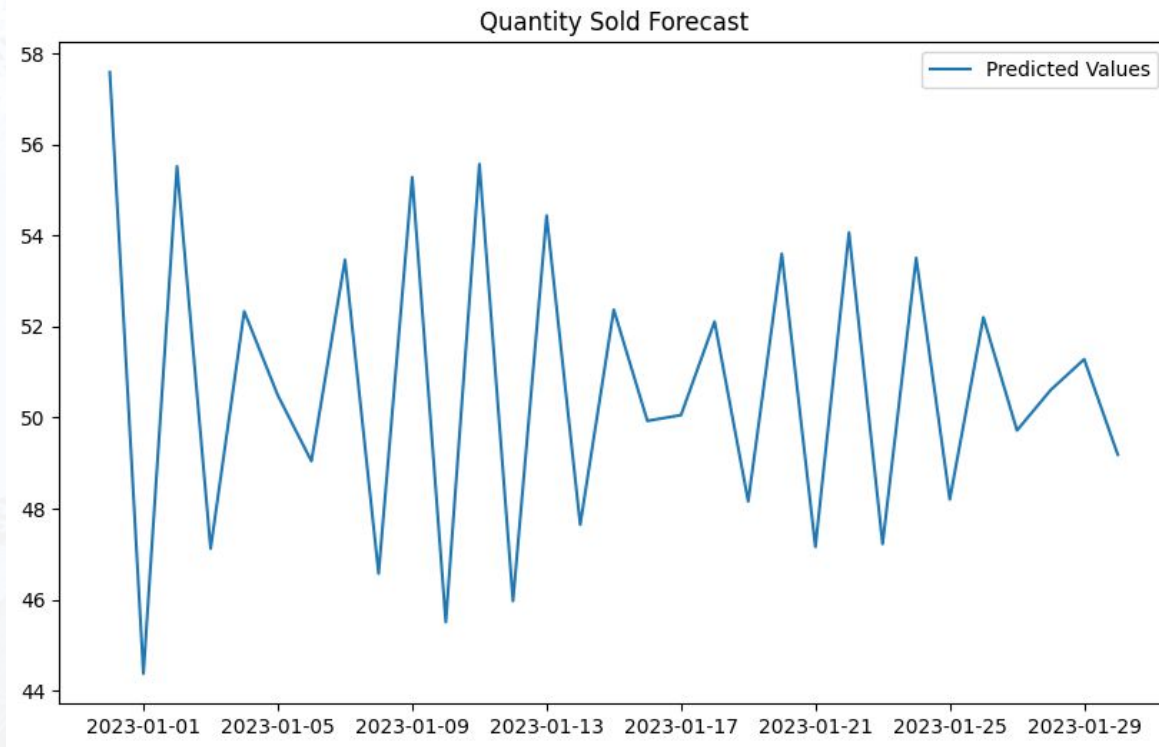


REGRESSION



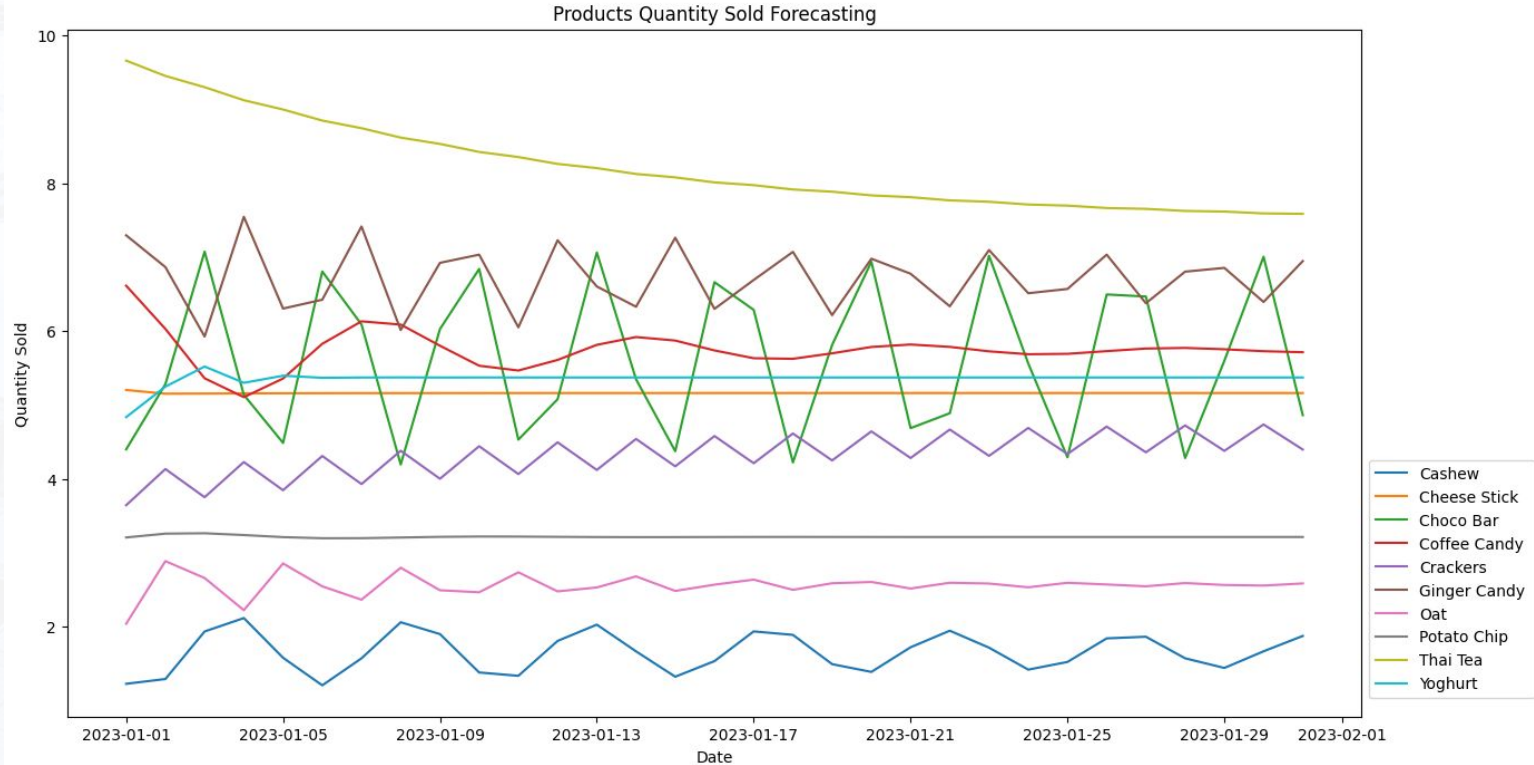
RED LINE = Shows forecasted quantity

Forecasted Quantity Sold



The forecasted daily qty sold is 51 pcs.

Forecasted Quantity Sold Per Product



The graph shows the pattern of forecasted product qty sold in 31 days (January 2023)

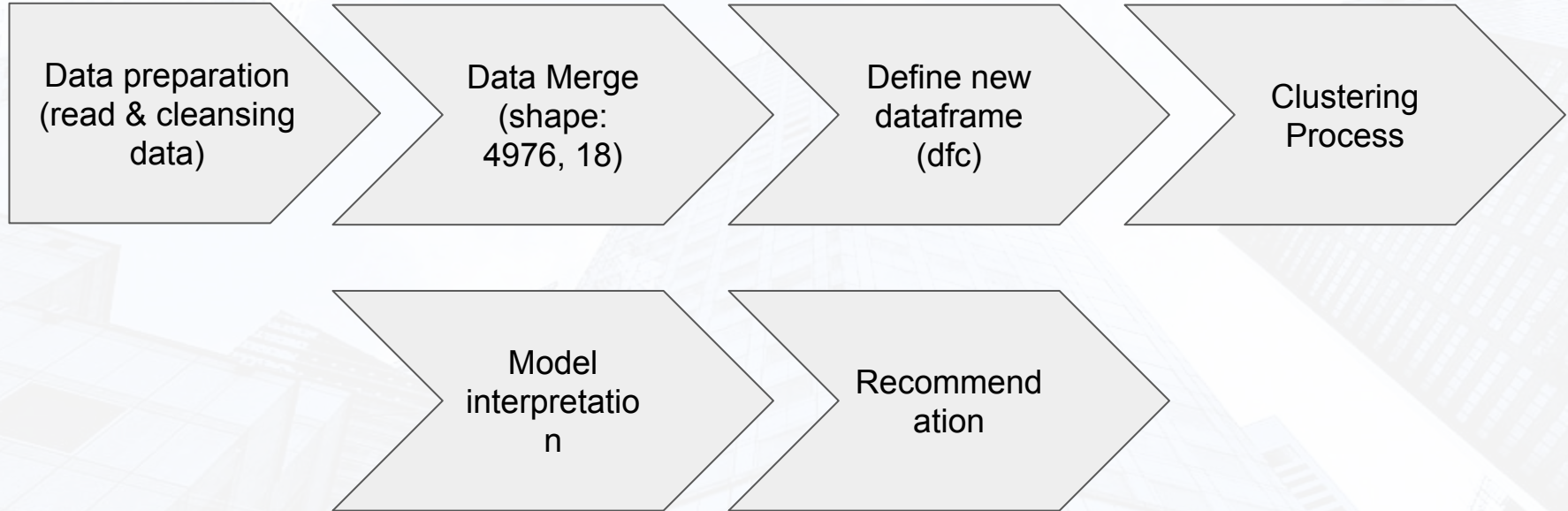
Forecasted Quantity Sold Per Product

Product Name	Forecasted Mean Quantity Sold Daily
Cashew	2
Cheese Stick	5
Choco Bar	6
Coffee Candy	6
Crackers	4
Ginger Candy	7
Oat	3
Potato Chip	3
Thai Tea	8
Yoghurt	5

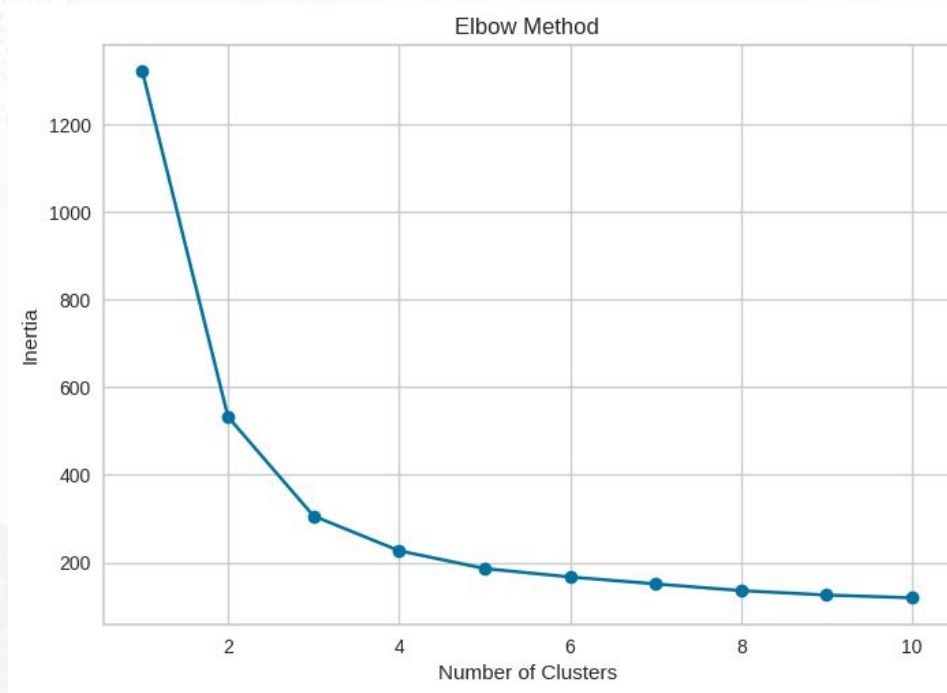
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Yoghurt	4

Picture above shows the forecasted daily Mean Qty sold and the actual daily Mean Qty sold

CLUSTERING PROCESS

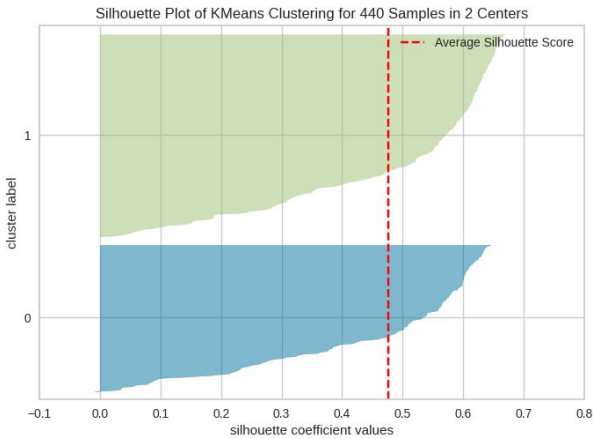


CLUSTERING (K-Elbow Method)

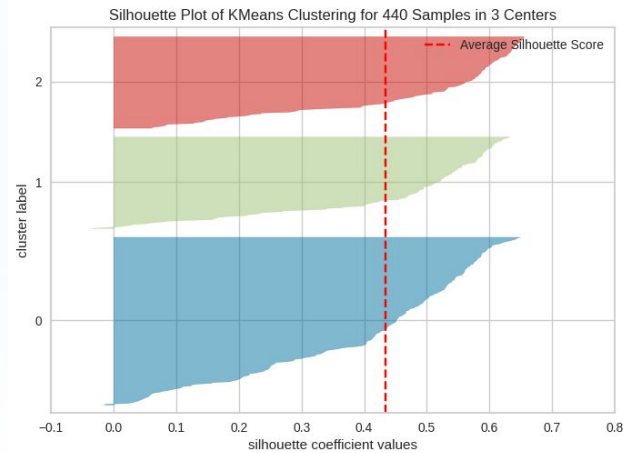


Looks like the best one is either 2 cluster or 3 cluster. Let's find out!

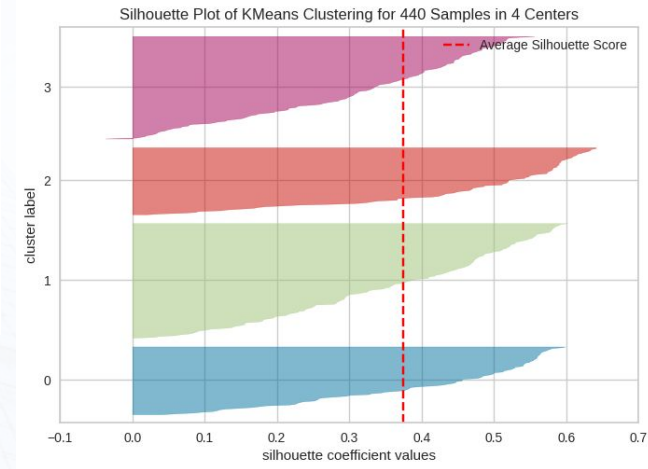
FIND THE BEST CLUSTER



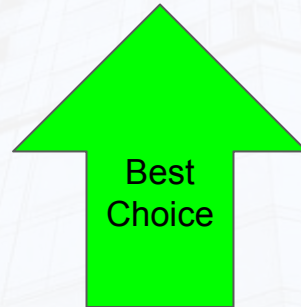
Silhouette Plot 2 Clusters



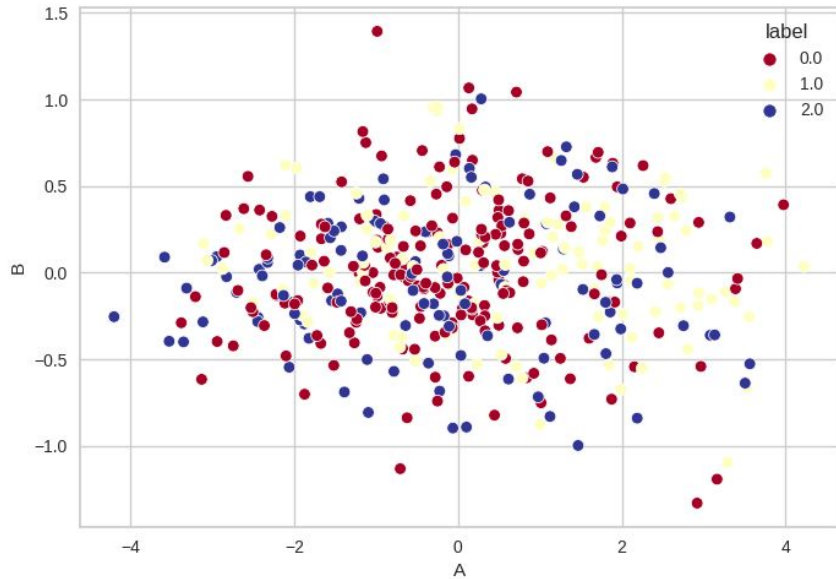
Silhouette Plot 3 Clusters



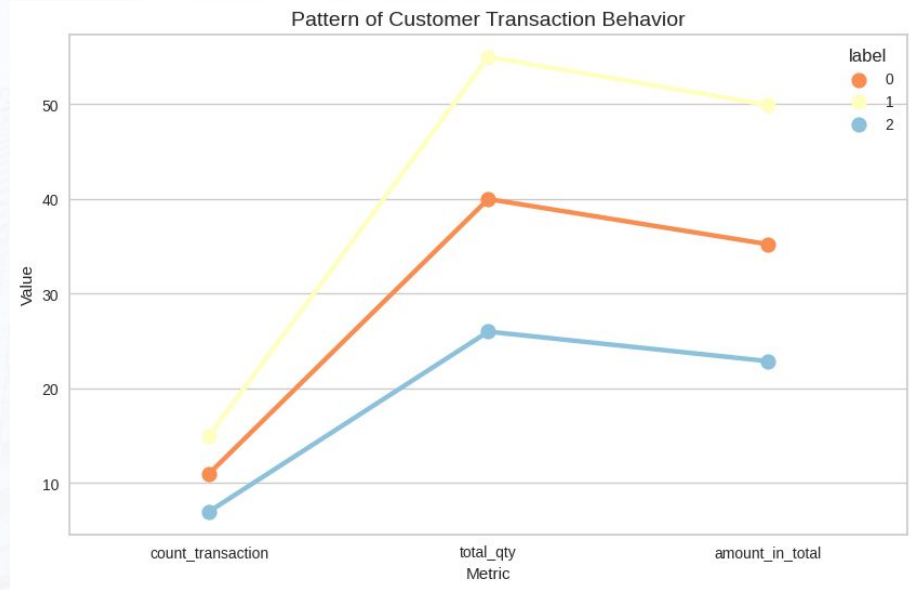
Silhouette Plot 4 Clusters



CLUSTER CHARACTERISTICS

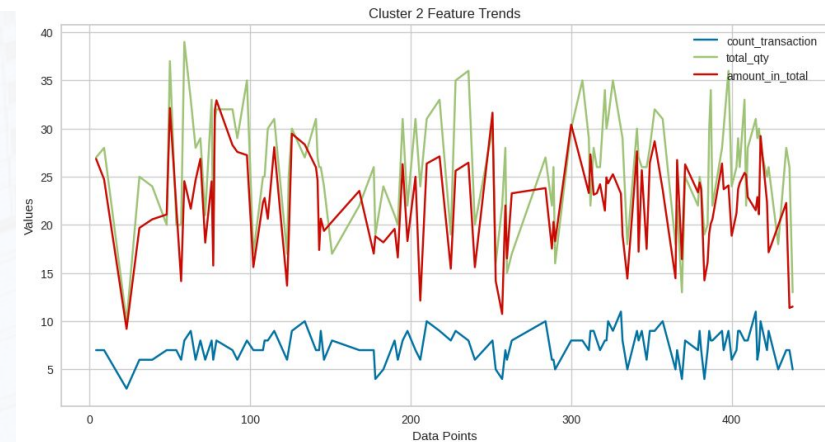
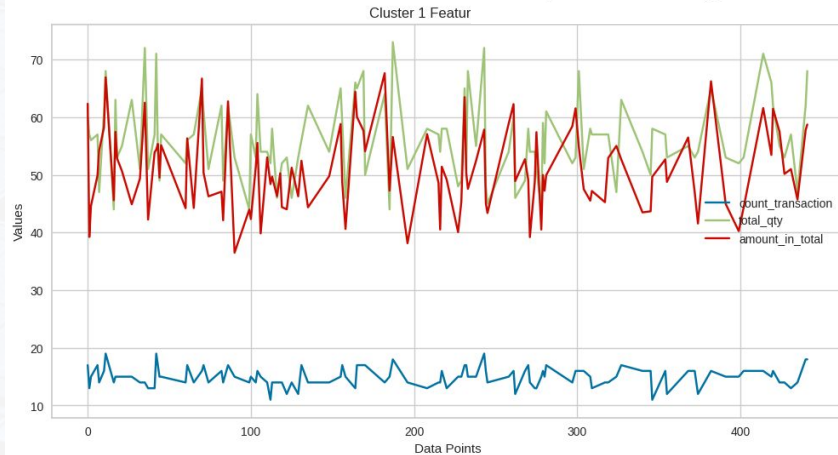
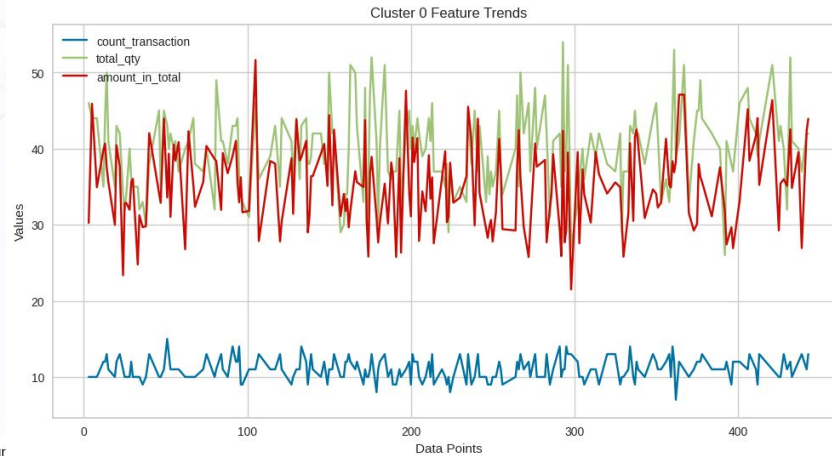


Scatterplot 3 clusters



Pattern of each cluster

CLUSTER CHARACTERISTICS



RECOMMENDATION

- **The majority** of the customer segment being in the **middle class** (cluster 0) with a total 210 customers. Then, company better **be focus on handling this cluster**. With a hope that more customer become High Class cluster.
- By the quantity of people in cluster 1 and 2 is **equally the same**. It indicates that the company should not let cluster 2 (Low Class) behind. With a total of **115 customers**, it still has a prospect yet to be upgraded in a Mid or even High cluster.
- Obviously, the company should **maintenance their relation with High Class cluster** (cluster 1) because they are the **company's top revenue contributors**. A **priority-like program** can be implemented to **make them stay** as the top revenue contributors.
- **Such example program** that can be implemented **for cluster 0 and 2** is that: conduct a program like **clearance sale** and **product bundle promotion** special for this customer segment. This action can **increase customer's transaction, qty purchase and the total amount spend**.

Link Repository GitHub is **Here**

Link Video Presentation is
Here

Thank You



Rakamin
Academy



KALBE
Nutritional