Customer Segmentation

By Hrithik

Source -

https://www.kaggle.com/datasets/yasserh/customer-segmentation-dataset

Objective

Interpretation: To cluster customers and provide an Analysis report on MRF (Monetary Value, Frequency, Recency)

Description about Dataset

A company that sells some of the product, and you want to know how well does the selling performance of the product. You have the data that can we analyze, but what kind of analysis that we can do? Well, we can segment customers based on their buying behavior on the market.

Summary of data exploration and actions taken for data cleaning or feature engineering

The given data set had a lot missing values these values were totally removed as there was already enough data for analysis, since the end goal was customer segmentation MRF (Monetary Value, Frequency, Recency) features were extracted, later these features were subjected to log and Bocox transformation and then finishing up with StandardScaller.

Summary of unsupervised Models

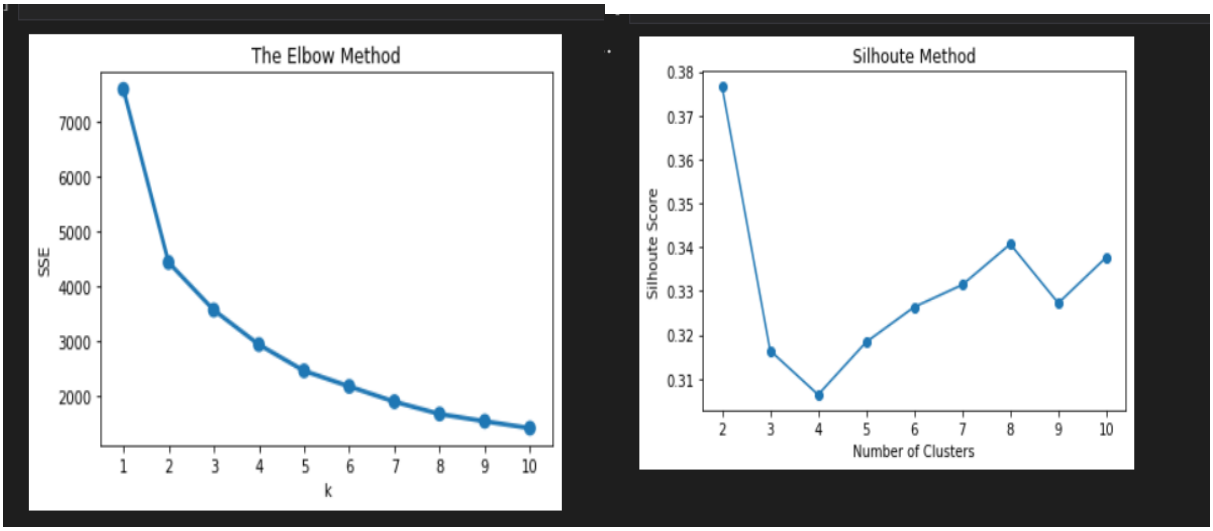
A total of three unsupervised models were trained -

-> Kmeans

->AglomerrativeClustering

->DBSCAN

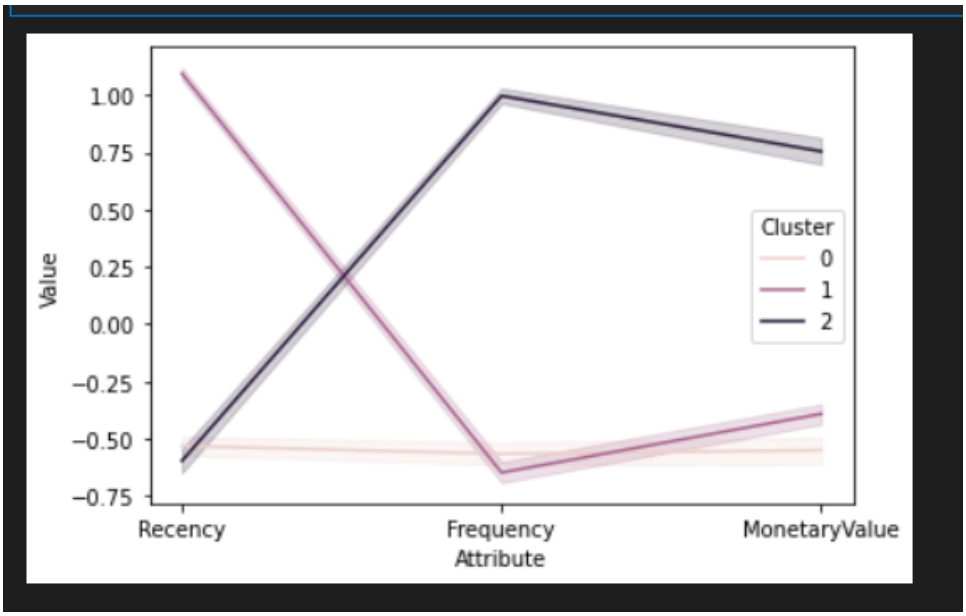
It was found from both Kmeans and Silhouette method that 3 or 4 clusters are the most suitable clusters for our goal



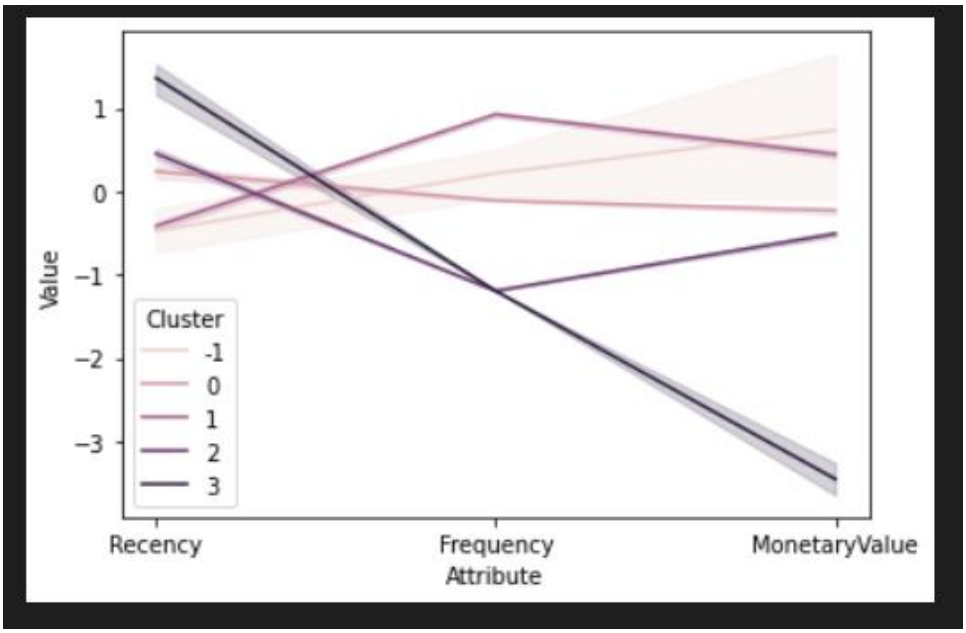
DBSCAN also gave 4 cluster and 1 outlier for customer segmentation

Summary Key Findings and Insights

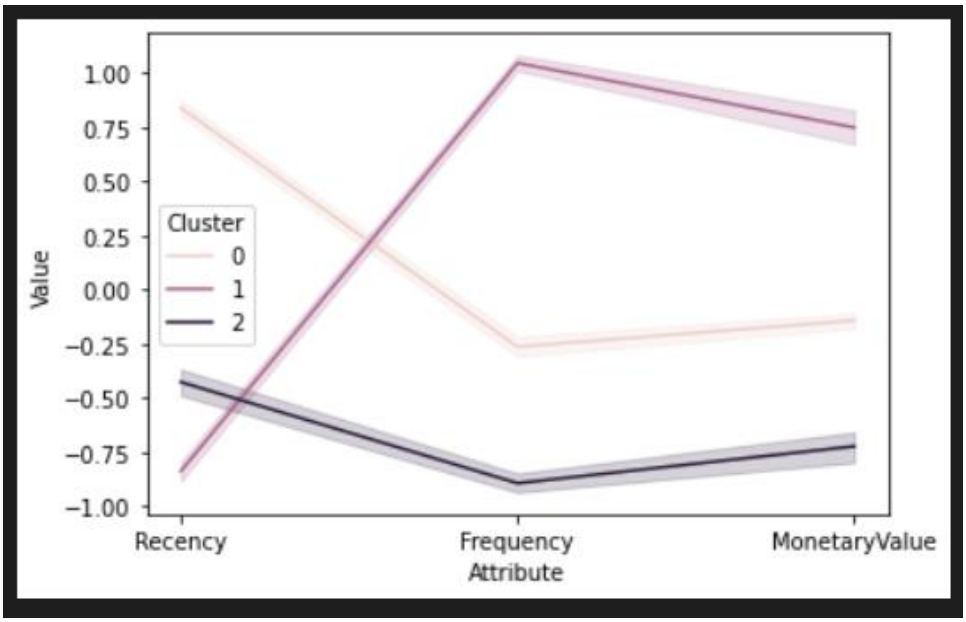
Kmeans

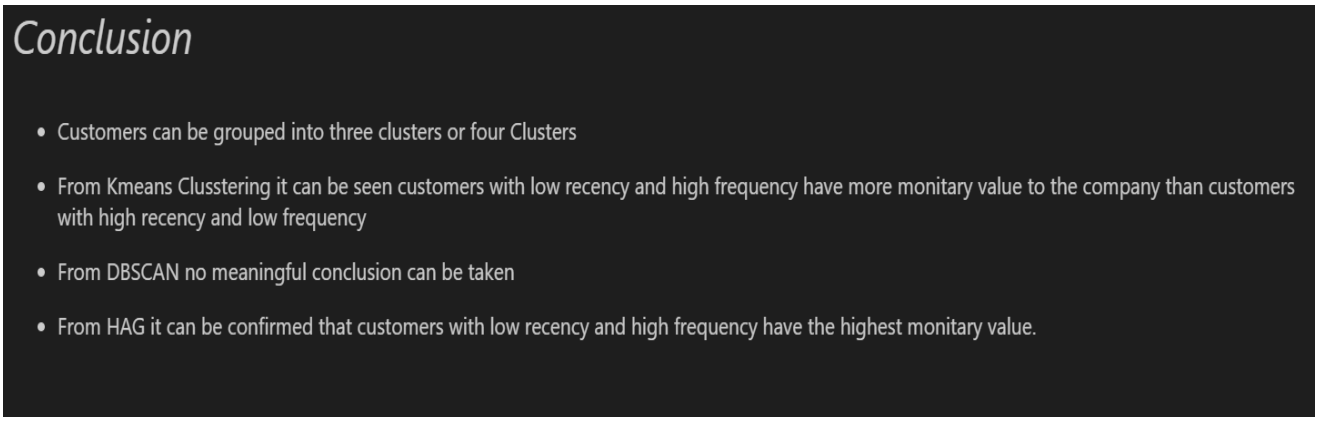


DBSCAN



Agglomerrative Clustering





Recommended Model

I believe that the clusters produced by kmeans has clear difference between one and other. Thus, I recommend the KMeans model.

Suggestions for next steps in analyzing this data

The given data had some textual form of data as well, this text can be analyzed and customers can be clustered according to the texts available in the dataset which will give us more idea. In this analysis only UK customers were analyzed since 90 % of company's sales comes from UK, Other countries sales can be compared and analyzed for gaining information regarding where next to increase the company's presence.