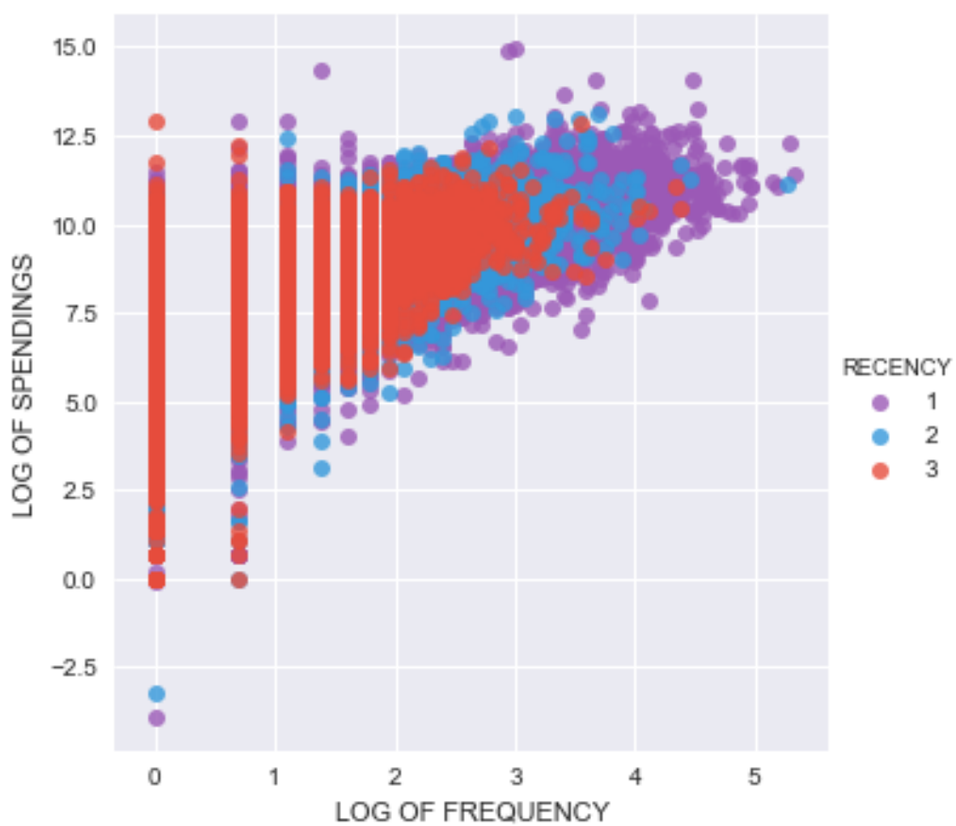
THE APPROACH

- Considering whole features and making many clusters would only confuse the nomenclature.
- It would get hard to give a meaningful label to a customer cluster.
- Instead what we can do is make sub clusters on basis of
  - Value of the Customer
  - Products the Customer buy
  - Behaviour of the Customer.

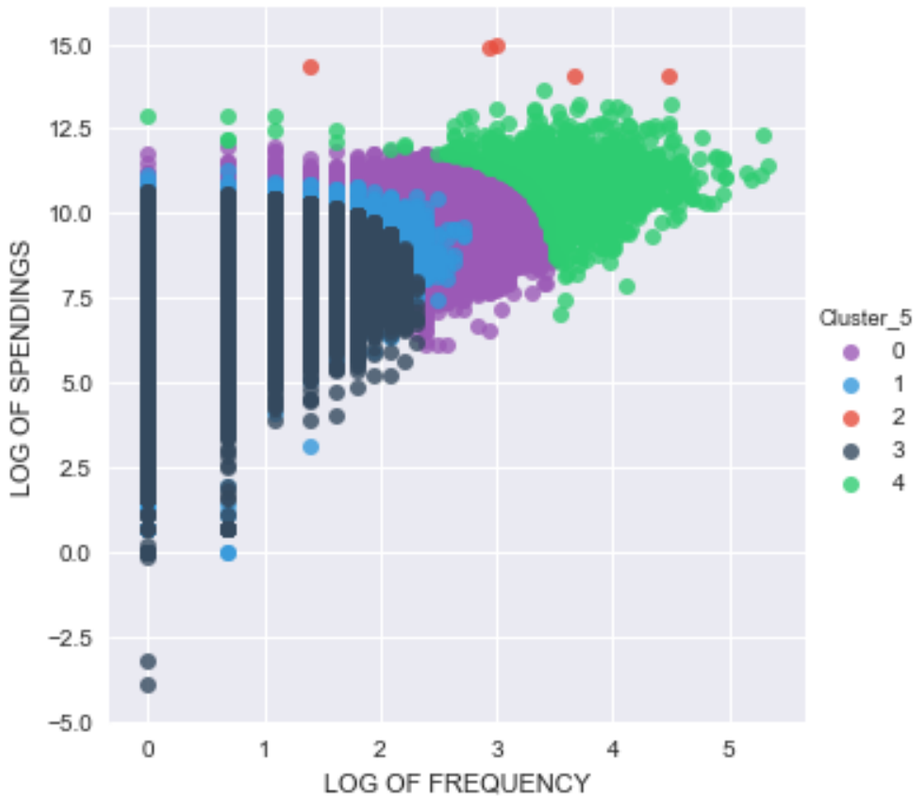
VALUE BASED CLUSTERING

- **Recency**: Recency is an predictor of who is more likely to respond to an offer.
- **Frequency**: The second factor is how frequently these customers purchase.
- **Monetary Value**: The third factor is the amount of money these customers have spent on purchases.



- The plot of Frequency of Customers against the Money they spent.
- The violet Customers being the most recent ones.
- The outliner Customers on the lower left side (the ones who returned the products they bought) and on the upper part too, may be important to model and understand – they're the customers we want to minimize and maximise.

KMEANS CLUSTERING FOR CUSTOMER VALUE



- 5 Clusters have been made based on Recency,Frequency and the Money spent.
- If we were to maximise the economy we need to promote the Potential Loyals (Violet) and the Aspirers (Blue).
- The Customers in Black are lost cause since their average visit per Customer is only one and in average it has been 550 days since their last visit.

CLUSTER COLOR	SEGMENT	CUSTOMERS	SPENDS CONTRIBUTION	SPENDS PER CUSTOMER	VISITS PER CUSTOMER	RECENCY
	Most Loyal	1.16%	11.5%	Rs. 55,515	35	18 days
	Potential Loyals	10.75%	37%	Rs.20,875	11	57 days
	The Champions	0.004%	0.9%	Rs. 16,66,044	20	16 days
	The Aspirers	57.18%	36%	Rs. 2,914	2	94 days
	Lost Causes	31%	14.76%	Rs. 1,923	1	547 days

PRODUCT BASED CLUSTERING

- Similar products from product description are clustered into 50 groups.
- These 50 products clusters are used as features to cluster the Customers into 30 Clusters.
- These 30 Clusters are based on the Customers who bought similar products.

Product Code	Product Description	Cluster No.
100074936050	BARE BOXER SHORT P01 XL DSG 12	34
1000139201090	BARE BOXER SHORT M DSG 23	34
1000500372160	BARE CHECK SHORTS M DSG 40	34
1000502743020	BARE CLASSIC SHORTS XL ANTHRA	34
1000139287190	AFL CHECK SHORTS XXL DSG 48	34

Similar Products that fall in Cluster 34

Cluster No.	Revenue
0	Rs.82,916
1	Rs.72,03,098
2	Rs.2,94,087
3	Rs.1,19,07,707
34	Rs.1,35,916

Revenue of each Product Cluster

BEHAVIOUR BASED CLUSTERING

- Apart from these, personal traits like availability of offers, holidays also offers the scope to cluster the Customers.
- The features considered for behaviour based clustering are:
  - Usage of promo cards.
  - Holiday season.

PROMO

SEGMENT	CUSTOMER CONTRIBUTION	SPENDS CONTRIBUTION
Ignoners	67.5%	57.2%
Opportunists	26.1%	31.3%
Extreme Couponers	6.2%	11.5%

- 3 Clusters have been made based on promo code usage.
- The Extreme Couponers though in small numbers have shown to be contributing to the revenue significantly.
- Thus this segmentation comes in handy to target Customers when we are rolling out promo codes.

HOLIDAYS

- The average footfall is around 750 people per day.
- This goes up to around 2000 during festivals.
- According to the footfall around different religious festivals the Customers have been tagged their religion.
- This segmentation enables us to target the right Customers during the festivals.

PROPOSALS

To enhance the sales of low selling product

- It is evident that customers with card payment does contribute significantly towards the revenue.
- So we find the Customers who have the specific bank card and find the products they buy from product based clustering.
- Now if there is any product with low sales which is in the same cluster that our specific customers are interested in, we could recommend that product to those customers to both increase the sales of that product and also increase the revenue.

To further increase the participation of potential loyal customers

- Find valuable Customers who would respond to the promos from previous sub clusters.
- Set the criteria of the membership slightly higher than their spendings.
- Make effective offers to make them take the membership.
- Now both the Customer gets benefited as well as the participation of a Customer increases.