Domain-Oriented Assignment

RetailKart

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About The Business

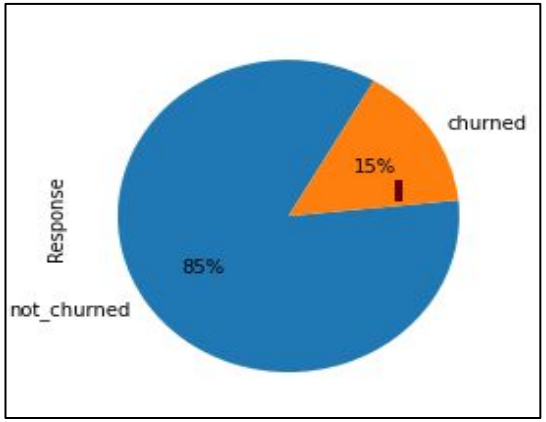
Retailkart.com is a small and medium-scale organization that majorly deals in wine, fruit and meat products, having held around 35% market share. The company has been leading the domain offline for a long time.

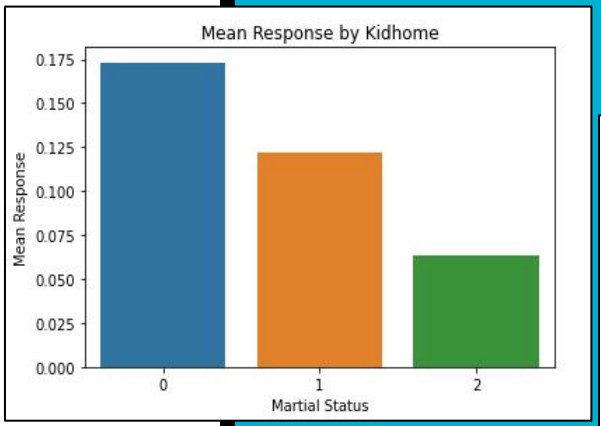
RetailKart

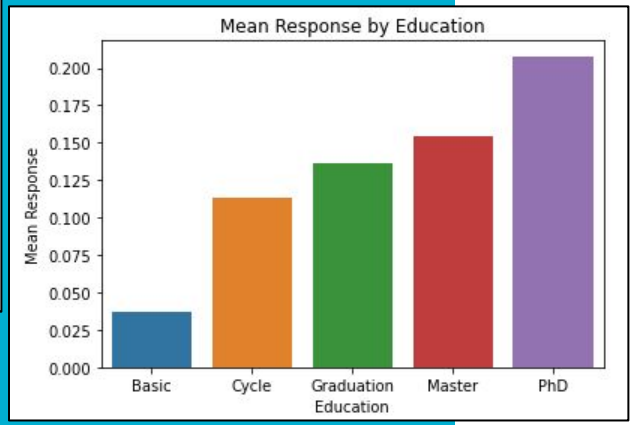
Problem Statement

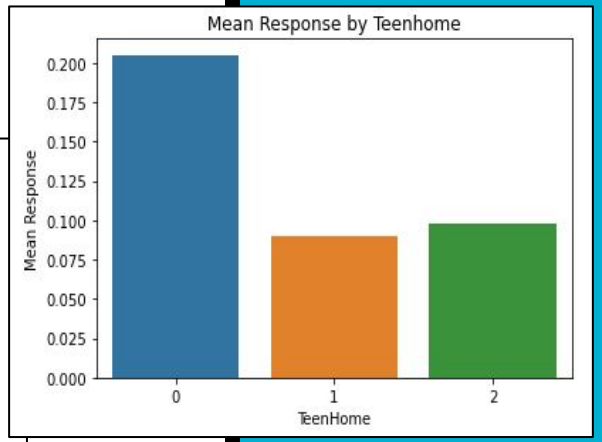
- High Cost Per Acquisition for New Customer
- Returning Cost Per Acquisition of Customer is also too high

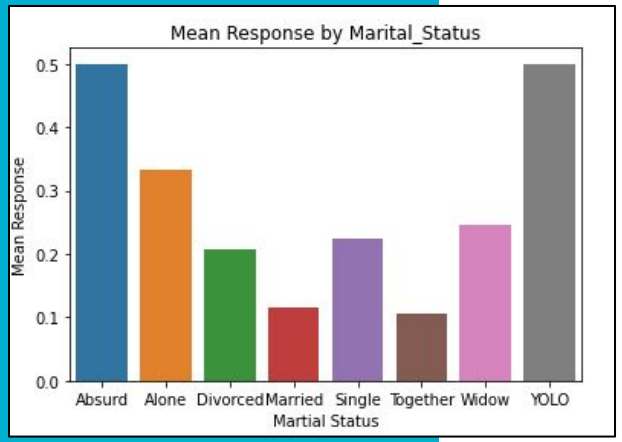
Data Preparation & Handling









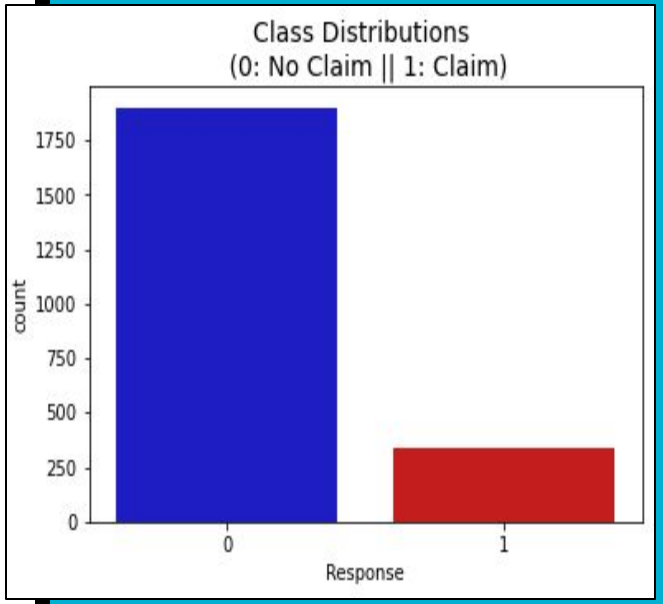


- **85% is Not Churned Data**
- **15% is churn Data**
- **The Campaigns got the response from the following :**
  - **PHD from Education**
  - **Customer having Yolo & Absurd relationship status**
  - **Customer with No Kid**

Dealing with Class Imbalance :

SMOTE (Synthetic Minority Oversampling Technique)

- Technique used to handle imbalance : SMOTE
- We can handle imbalanced classes by balancing the classes by increasing minority or decreasing majority
- Accuracy = TN+TP / TN+FP+FN+TP Precision = TP / TP+FP Recall = TP / TP+FN F1 Score = 2 x (precision x recall) / (precision + recall) In this problem we will use recall as evaluation metric because we would like to capture the performance where we will be rightly predicting positive classes

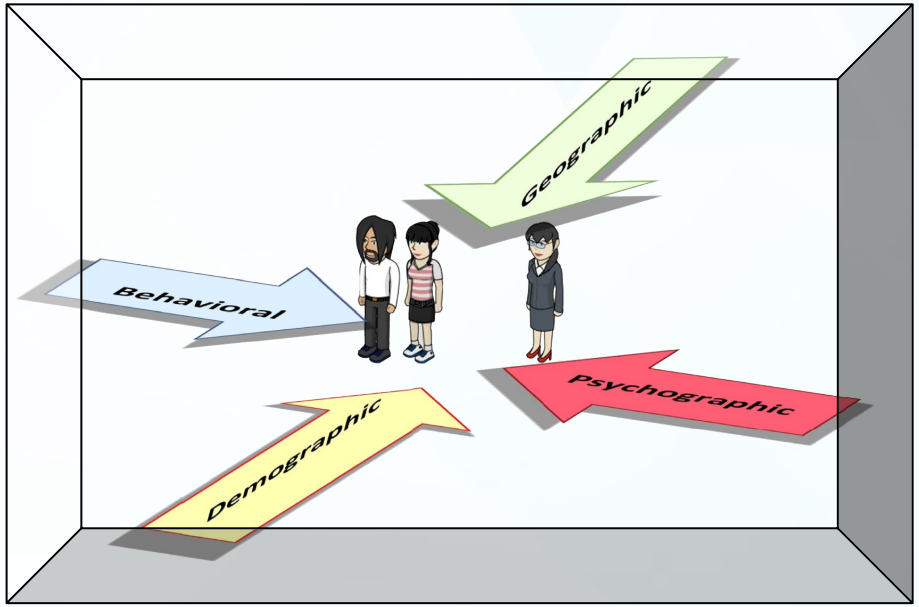


Highly Imbalanced.

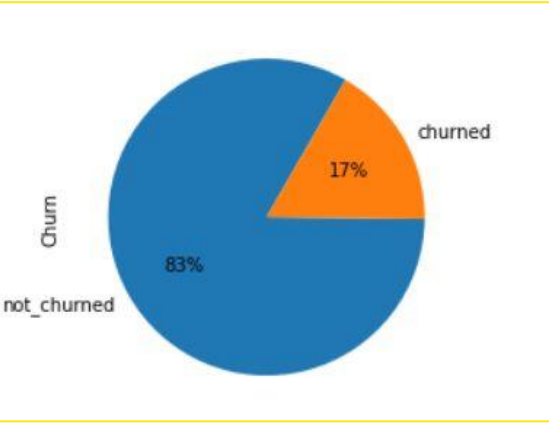
TOP 10 Important Features for PREDICTING CHURN

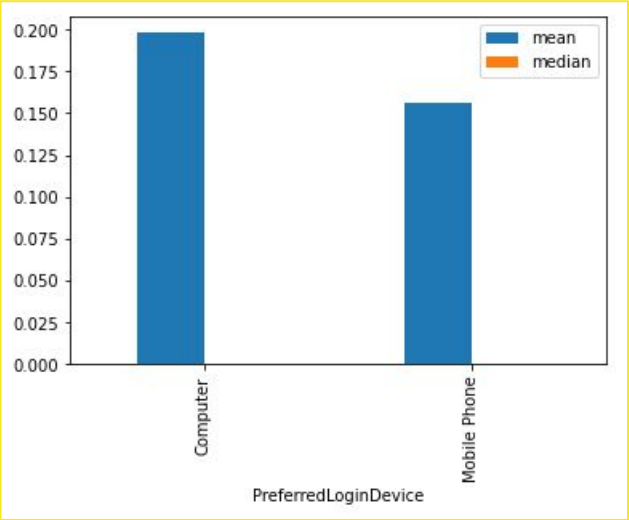
- MntFishProducts
- Day_cus_join
- MntWines
- Age
- Recency
- NumCatalogPurchases
- mnth_cus_join
- MntSnacksProds
- Year_Birth
- MntFruits

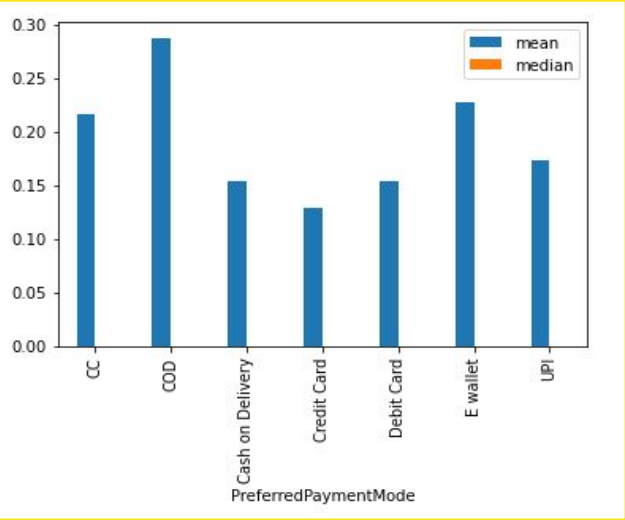
	model	Train Recall	Test Recall	Test accuracy
2	Random Forest with PCA	0.90	0.90	0.81
1	Decision Tree with PCA	0.87	0.89	0.75
0	Logistic Regression with PCA	0.89	0.87	0.82



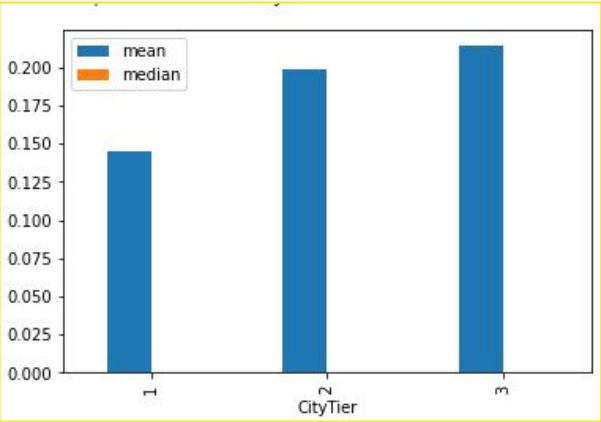
Final Model is the Random Forest with PCA, as it has the highest Recall value & also the accuracy.







RETAIL APP USER



- ➔ 83% is churn data
- ➔ Tier 2 & Tier 3 are performing than Tier 1
- ➔ Both Login device are performing well but computer is bit higher than mobile device.
- ➔ COD & E-wallet are performing better than other mode of payments.

Dealing with Class Imbalance :

RETAIL APP USER

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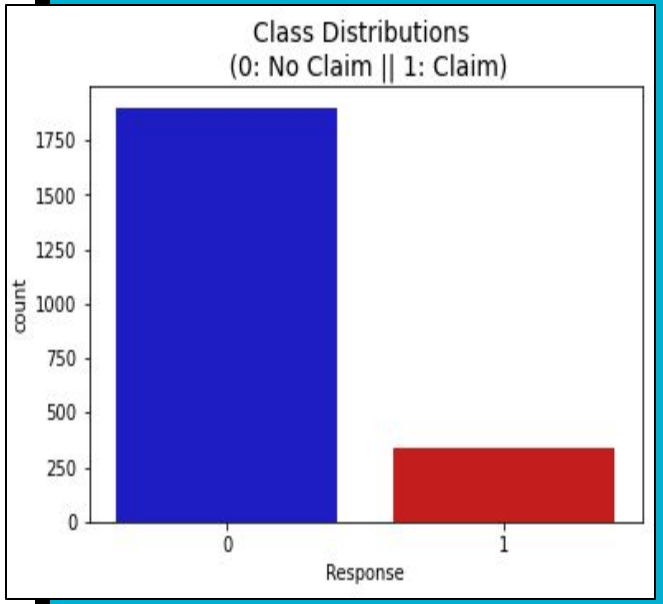

Highly Imbalanced.

TOP 10 Important Features for PREDICTING CHURN

	model	Train Recall	Test Recall	Test accuracy
2	Random Forest with PCA	0.91	0.91	0.84
0	Logistic Regression with PCA	0.80	0.80	0.77
1	Decision Tree with PCA	0.80	0.80	0.76

- ★ CouponUsed
- ★ NumberOfDeviceRegistered
- ★ OrderCount
- ★ HourSpendOnApp
- ★ DaySinceLastOrder
- ★ PreferredPaymentMode_E wallet
- ★ NumberOfAddress
- ★ PreferredLoginDevice_Mobile Phone
- ★ WarehouseToHome
- ★ Tenure

Final Model is the Random Forest with PCA, as it has the highest Recall value & also the accuracy.

SUGGESTION

Marketing team needs to promote the business to the following segmentation as per analytics done:

a. Team need to promote the coupons code to the existing high value customers/buyers
b. Team needs to focus on Sweet product by offering something extra to customer like an extra buy back, % off, or loyalty point.
c. Team needs to promote the product with the demographic 30-40 years & 50-60 years as this age group belong to the better Income Level Group & giving better ROI on our Marketing Efforts.
d. Team needs to focus more on Single (Marital_staus) as they are better performing audience compare to other.
e. Team need to execute the campaign on all devices as both are performing well
f. Team needs to give extra discount/Buy Back on Other payment mode to reduce the COD as return of good is loss to our revenue or team should charge extra money for COD user.
g. Team needs to test the various platforms of digital advertising for better ROI.
h. Team can optimize Meta, Google Adwords, Bing, etc.

Thank You

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