

TELECOM CHURN CASE STUDY

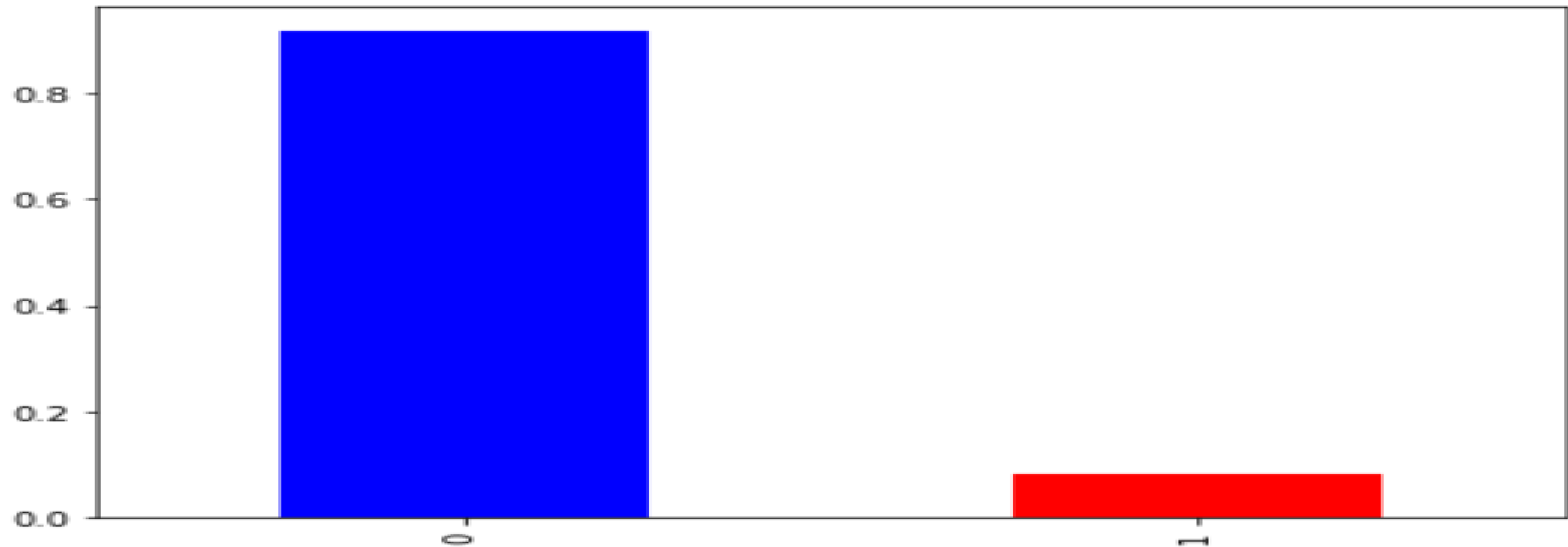
DSC 45 June 2022

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▶ Work Flow

- ▶ **Step 1 : Data reading . Data Understanding . Data Cleaning Imputing missing values**
- ▶ **Step 2 : Filter high value customers**
- ▶ **Step 3 : Derive Target variable- Churn (Usage based churn)**
- ▶ **Step 4 : Data Preparation, Derived variable, EDA, Outlier Treatment, Split into train and test sets, Perform Scaling**
- ▶ **Step 5 : Good Interpretability Model for features- Logistic Regression (without PCA), High Performance Multi- Model (with PCA used pipeline)**

► The Churn Rate

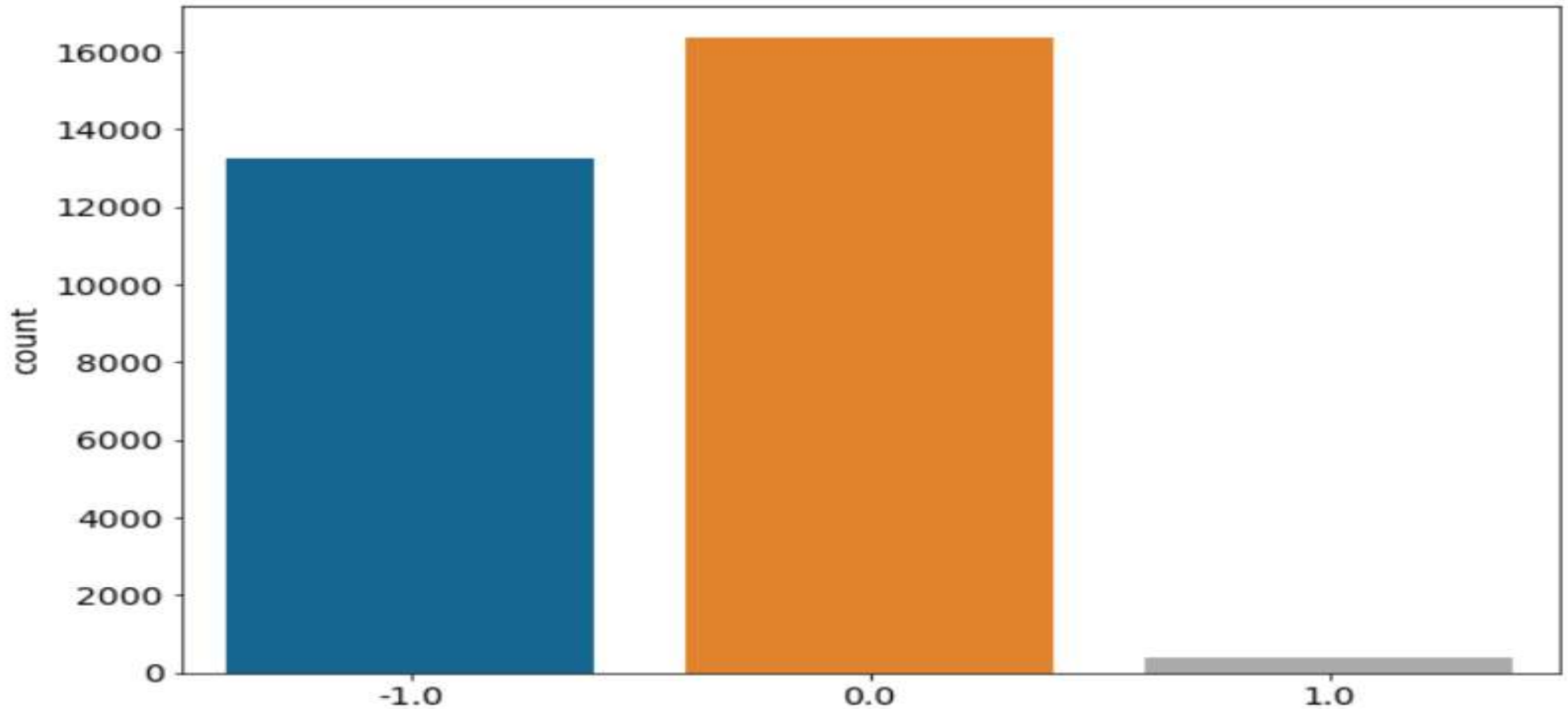


We see the Churn% is approximately 8%

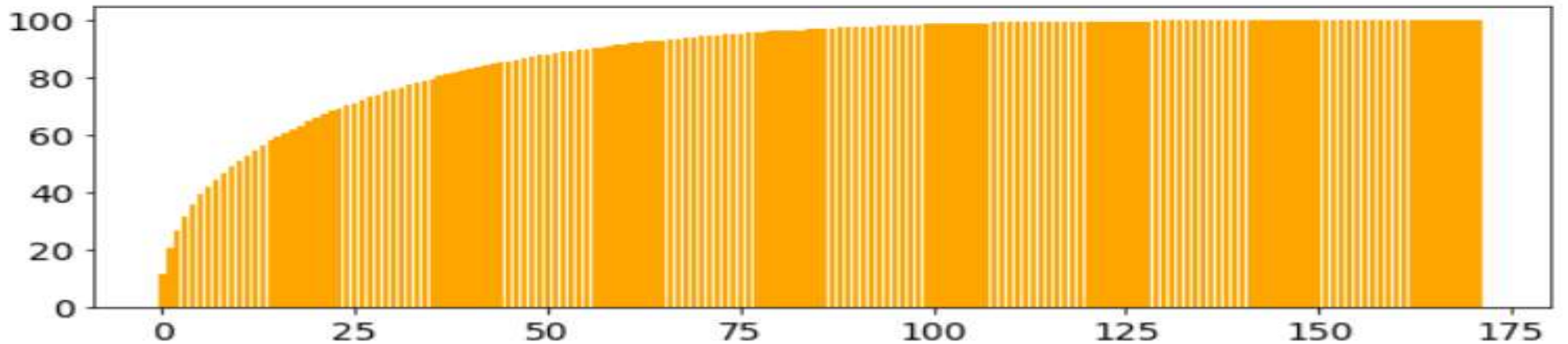
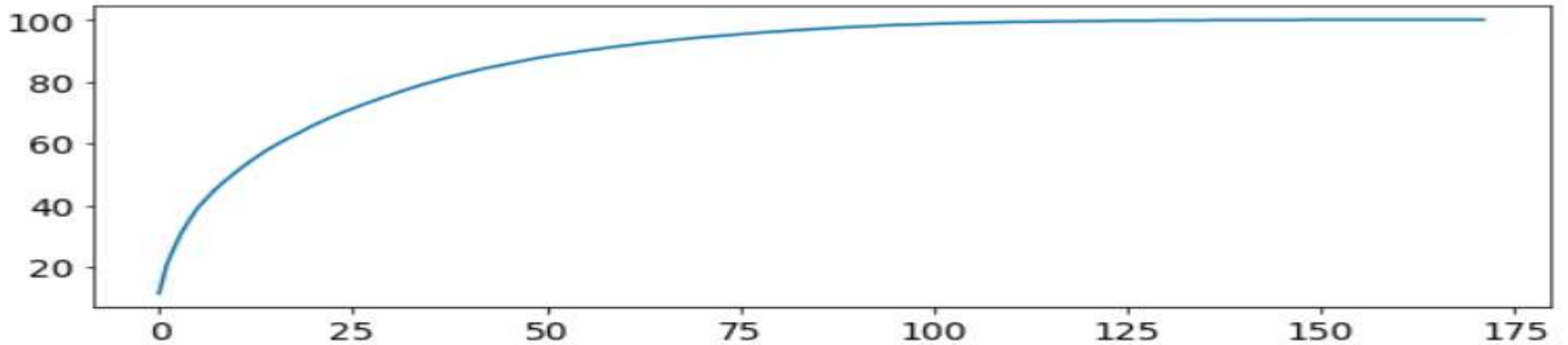
0 : 0.918636

1 : 0.081364

NIGHT PACK USERS VS CHURN



AGE ON NETWORK VS CHURN



PCA PIPELINE

	Sensitivity	Specificity	AUC
0	0.83	0.81	0.896

PCA LOGISTIC REGRESSION

	Sensitivity	Specificity	AUC
0	0.82	0.85	0.902

RANDOM FOREST

	Sensitivity	Specificity	AUC
0	0.51	0.99	0.934

EXTRACT THE INTERCEPT AND THE COEFFICIENTS

	total_ic_mou_8	total_rech_amt_diff	total_og_mou_8	roam_ic_mou_8	roam_og_mou_8	std_ic_mou_8	av_rech_amt_data_8	std_og_mou_8	arpu_8
0	-1.23694	-0.682025	-1.345566	0.002563	0.17233	0.116209	-0.811135	0.741814	0.288065

INSIGHTS & RECOMMENDATION

- Company should give roaming offers/packages to customer who are using service in roaming.
- Company Should give some offers for packages ISD and STD calls.
- Company should give some offer for them who does high value recharge
- Company should look into the customer's feed back carefully and note down the same.
- Average revenue per user seems to be important feature in determining churn prediction.
- Incoming and Outgoing Calls on roaming are strong indicators of churn behavior
- Local Outgoing calls made to landline , fixed line , mobile and call center provides a strong indicator of churn behavior.
- Better 2G/3G area coverage where 2G/3G services are not good, it's strong indicator of churn behavior.