Customer Churn Analysis project

1. Problem Definition:-

Customer churn is when a company's customers stop doing business with that company. Businesses are very keen on measuring churn because keeping an existing customer is far less expensive than acquiring a new customer. New business involves working leads through a sales funnel, using marketing and sales budgets to gain additional customers. Existing customers will often have a higher volume of service consumption and can generate additional customer referrals.

Customer retention can be achieved with good customer service and products. But the most effective way for a company to prevent attrition of customers is to truly know them. The vast volumes of data collected about customers can be used to build churn prediction models. Knowing who is most likely to defect means that a company can prioritise focused marketing efforts on that subset of their customer base.

Preventing customer churn is critically important to the telecommunications sector, as the barriers to entry for switching services are so low.

Data Analysis is the important or key factor to bulid best model.
 In this Data set we can see the data is seems to be good.
Import the all important libraries to analyse the data.
See the shape and size of the Data set to know about Data Set.
See the null values of the data set,shown that it dont had any null values.
See the data type of all the column.
The describe() method returns description of the data in the DataFrame.
This includes mean, count, std deviation, percentiles, and min-max values of all the features.
It seems to be good.
Visualizing the DataFrame to understand features
See the Correlation between dataframe to see relation between features and labels
Now using with Label Encoder coding his transformer should be used to encode target values.
Now all Data Set in integer we can process
See the How Data set is Distrubuted.it seems to be good
see for any outliers and it seems to be no outlier.
Now Data Set is good to process
Separate the Features and labels train and test data
with using random forest classifier train and test the data set.
check the model accuracy and it seems to be good.
lets see the precision,recall,f-1 score and it seems to be good.
model accuracy good for random forest classifier.
see for the important factor in employee retention and seems to be tenure factor

Thank You!