

Capstone Project Submission

Instructions:

- i) Please fill in all the required information.
- ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:

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1. Data cleaning
2. Numerical variable analysis – Total minutes, Total calls, Total charges, Customer service calls
3. Categorical variable analysis – State, International plan, Voice mail plan
4. Presentation, Technical documentation.

Please paste the GitHub Repo link.

Github Link:- <https://github.com/avilashsrivastava/Telecom-Churn-Analysis>

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

The data belongs to the company Orange S.A., formerly known as France telecom S.A. It is a French multinational telecommunications corporation and 11th largest mobile network operator in the world. The data had features such as state, account length, international plan, voice mail plan, total minutes, total charges, customer service calls and churn.

The problem statement was to identify the key factors responsible for a customer churn, dig insights and recommend some solutions to ensure customer retention.

The first step in the analysis involved taking initial look at the data, looking for any missing values and outliers, and tackling them.

The second step involved analyzing numerical type features, with the help of different visualization techniques such as heatmap, histogram, bar graphs, boxplots, etc. Finding correlation between each variable, grouping churn with each variable and comparing with the mean values, forming new columns like total minutes and total charges and comparing with churn variable, finding the important features that had an impact on churn variable, were some of the approaches used.

The third step involved analyzing categorical variables such as state, international voice plan and voice mail plan and finding any underlying pattern that affected the churn variable.

The final step was to point down the insights developed during the analysis of the data. Some observations drawn were; the minutes and charges variable were perfectly correlated and customer who churned had significantly higher mean values for both variables, customer who made more than 4 customer service calls were more probable to churn, churn rate was high for people having international plan active, some states had mean price values relatively higher and also had more no of customers churning compared to other states.

Some recommendations to ensure customer retention would be, to provide efficient and quick responses to customer's problems, provide new offers, benefits and rechecking the international plan, making the time spent on a call and the charge less correlated.