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PROBLEM STATEMENT

Telecom CHURN dataset Data Analysis

PROBLEM STATEMENT

Customer churn, or attrition, is a critical issue for businesses, especially those relying on subscription-based models or repeat customer purchases. Churn refers to the loss of customers or clients over a certain period, which can negatively impact revenue, growth, and profitability. In this context, churn analysis seeks to understand the underlying reasons why customers leave, identify at-risk customers, and develop strategies to retain them.

The problem arises when businesses face a high churn rate, which can indicate dissatisfaction with the product or service, poor customer engagement, or ineffective retention strategies. The challenge for organizations is to predict which customers are likely to churn before they do so.

This involves analyzing historical data, customer behavior, and interaction patterns to identify trends and risk factors. Factors such as usage frequency, transaction history, customer satisfaction scores, demographics, customer service interactions, and pricing sensitivity all play a role in predicting churn.

By understanding these variables, businesses can create predictive models to identify high-risk customers and proactively take actions to prevent churn, such as offering targeted promotions, improving product features, or providing personalized customer support.

In summary, churn analysis is about identifying the causes of customer attrition and predicting which customers are likely to leave in order to take proactive measures to reduce churn. By leveraging data and advanced analytical techniques, businesses can better understand customer behaviors and create effective retention strategies that contribute to sustainable growth and profitability.

BUSINESS PROBLEM OVERVIEW

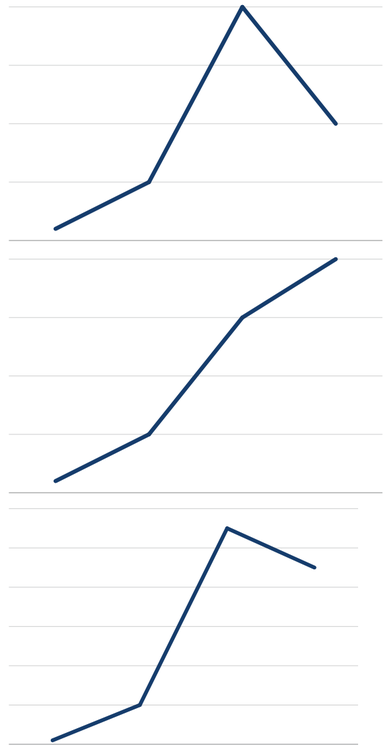
The challenge for telecom companies is to identify at-risk customers early, before they decide to leave, and implement targeted retention strategies. These strategies could include offering personalized discounts, enhancing customer service interactions, improving network quality, or bundling services.

The problem becomes even more pressing as churn leads to lost revenue and increased acquisition costs, as telecom providers must continuously invest in marketing campaigns to attract new customers and replace those who leave.

Churn also has a cascading effect on the company's long-term growth. High churn rates not only diminish immediate revenue but can also harm the brand's reputation and customer loyalty, further compounding the problem.

Therefore, telecom churn analysis plays a pivotal role in guiding the company's customer retention efforts and influencing decisions around pricing strategies, customer service improvements, and marketing efforts. By predicting churn and understanding its root causes, telecom companies can reduce churn, enhance customer satisfaction, and ultimately increase customer lifetime value, leading to more sustainable and profitable business operations.

Telecom churn, also known as customer attrition, refers to the phenomenon where customers discontinue or cancel their services with a telecom provider and switch to a competitor or cease using telecom services altogether. This is a key performance metric for telecom companies, as it directly impacts their revenue, profitability, and long-term growth prospects. Churn is typically expressed as a percentage of customers who leave over a specific period, often calculated on a monthly or annual basis.



Understanding churn in the telecom industry is crucial for businesses, as the costs associated with retaining existing customers are generally lower than acquiring new ones. Therefore, predicting which customers are at risk of churning allows companies to implement targeted retention strategies.

These might include offering personalized discounts, improving customer service, upgrading infrastructure, or introducing loyalty programs to enhance customer satisfaction and reduce the likelihood of churn. Additionally, telecom companies can use churn prediction models and customer segmentation techniques to better understand the causes of churn and take preemptive actions to retain valuable customers.

UNDERSTANDING & DEFINING DATASET

PROJECT PIPELINE

The project pipeline can be briefly summarized in the following steps:

- Data Understanding: Here, we need to load the data and understand the features present in it. This would help us choose the features that we will need for your final model.

- Exploratory data analytics (EDA): Normally, in this step, we need to perform univariate and bivariate analyses of the data, followed by feature transformations, if necessary. For the current data set, because Gaussian variables are used, we do not need to perform Z-scaling. However, you can check if there is any skewness in the data and try to mitigate it, as it might cause problems during the model-building phase.

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THANK YOU