**SYRIATEL CUSTOMER CHURN ANALYSIS:**

OVERVIEW AND DATA UNDERSTANDING

**Business Overview:**

Customer churn analysis has recently become increasingly important in the ever evolving and competitive telecommunication industry. Customer churn analysis involves the study of customer behaviour to identify patterns and factors that lead to customers leaving their providers. As the cost of getting a new customer is five to twenty-five times more than keeping an existing customer, telecommunication as well as mobile operators see the need to pay more attention to retaining existing customers to increase their revenues.

There are myriads of reasons why a customer might leave such as high prices, poor network coverage or customer service. However, one of the most common reasons cited is customers simply getting a better deal elsewhere, especially in markets where there is a lot of competition. Therefore, understanding these churn drivers, even though it’s not straight forward, is critical for not just knowing why customers leave but identifying the warning signs of customers about to terminate contracts or switch providers.

Thus, accurate prediction of customer’s behaviours, using machine learning solutions assists companies in identifying necessary actions to be incorporated into their customer retention management, such as whether to improve the service experience, design proactive campaigns to boost adoption, or re-engage at-risk customers.

**Problem Statement:**

SyriaTel, a telecommunications company in Syria, would like to predict whether a customer will (“soon”) stop doing business with them(“churn”). As such, it would like to get an understanding of the customer’ s behaviour and accurately pre-empt whether the customer will stop using their services

**Objectives:**

Objectives for this analysis are as set out below:

1. To come up with a predictive model that shows whether a customer will churn
2. Identify the key factors affecting customer churn amongst SyriaTel customers
3. Identify what aspects of SyriaTel services need more prioritization to prevent customer churn.

Metrics of success:

The following measures, based on previous studies done on customer churn analysis, are evaluated on the predictive models to ensure we have the best performing model:

* The accuracy metric: Measures the total number of correctly identified instances. An accuracy of between 75% and 85% is desired.
* The precision metric: Measures how the predictive model is observing the actual number of positives against the predicted positives. A precision of between 50% 6and 70% is desired.
* Recall metric: Measures the predictive model's ability to correctly identify churners. A recall of between 60% and 70% is desired.
* F1-score: Measures how accurate the predictive model’s performance is. A F! score of between 0.55 and 0.65 is highly desirable
* Area under the curve (AUC): A higher result indicates a more accurate model performance.

DATA UNDERSTANDING

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