Dear Associate Director,

I hope you had a restful weekend.

I am drafting this email to follow up on our discussion around the churn of SME customers at PowerCo. I have devised an integrated approach to evaluate our hypothesis on price sensitivity as a determinant of churn.

I am aware that PowerCo is facing considerable churn in its SME customer segment, possibly because of Europe liberalizing its energy market. We hypothesize that this price increase is influencing customers’ decisions to choose alternative providers. A

To evaluate this hypothesis, we will execute a classification technique used commonly in machine learning. The goal with this classification will be to predict whether an SME customer churns or not, based on certain predictors. We will keep our focus on price elasticity in this project.

To conduct such model, we will need the following datasets from PowerCo.:

Churn History (customers who left and their reason for doing so)

Historical Billing Information (their monthly charges, and any price change as a result of promotions, etc.)

Service Usage Patterns (Total consumption of power, points of times where peak and low usage is present)

Customer Data & Demographics: (number of operations, industry of business, size of company, complaints placed, number of queries submitted, average satisfaction rate)

Analytical Model and Methodology:

1. Data Preprocessing: Clean and preprocess the data, manage missing values and ensure constancy:
2. Exploratory Data Analysis: Conduct ESA to understand distribution of churned vs. retained customers. Key factors like price changes, history of complaints, and pattern usage need close attention.
3. Feature Engineering: Create new variables or features that hold more predictive power of churn. This includes price change, average bill amount, and customer satisfaction scores.
4. Predictive Modeling: Develop a model using Machine Learning Algorithms such as (logistic regression, random forests, decision trees) to classify customers that are likely to churn or like to remain with Power Co.
5. Validate the Model: Use cross-validation and tune the hyperparameters to enhance performance (based on accuracy, recall and precision)
6. Price Sensitivity Analysis: Using the model coefficients or feature importance to quantify the price changes contribute to the probability of churning.
7. Implementation for Monthly Use: Once we validate the model, we can run this model on the first Monday of every month too, depending on the client’s plan, to identify customers who are at risk of churning.
8. Discount Strategy: As for the customers who we identified, we can implement a 20% discount plan. As we implement this strategy, we need to make sure to monitor its effectiveness on a biweekly plan or months to correctly assess the impact of churn reduction.

For the next steps, it would be fantastic to have the necessary data to begin the data preprocessing and EDA stage. We can further discuss the structure of updates and findings reports in our weekly meetings.

Please let me know if you have any concerns, questions, or additional feedback to this project proposal.

Thank you,

Joey Hernandez-Ramos