Subject: PowerCo customer churn hypothesis

Dear Associate Director,

Hope this mail finds you well. I wanted to let you know my thoughts on a possible action plan to go over PowerCo’s customer churn problem. As discussed in our team meeting, understanding the factors behind churn, especially in the context of power-liberalization, is crucial for developing effective retention strategies. We need to determine whether prices are the only factor behind customer churn. If not, then what are the other factors, and if price is the only major factor, then whether a 20% discount is the appropriate cut that the client should be providing.

We can proceed with our null hypothesis being that price is the main reason why customers churn, with our alternative hypothesis being that there are other factors at play. To successfully build a predictive model for this, we would require comprehensive data for each of PowerCo’s clients with the following attributes:

* Monthly revenue
* Industry
* Total Workforce
* Size of its office (If the same company has multiple offices or other assets like warehouses, or factories, they may be recorded as separate data points)
* Per unit electricity rate
* How long has the customer used PowerCo’s service
* How many times has the price of electricity changed since the customer started using PowerCo’s services
* The customer’s average monthly bill
* Frequency of power outages in a month
* Customer satisfaction rate with PowerCo
* Per unit electricity rate of PowerCo’s major competitors
* Whether the customer has churned or not
* If the customer has churned, which competitor have they switched to

These attributes should help us determine the validity of our hypothesis and whether the proposed solution will result in a higher retention rate. We will run various classifier models on this data to predict whether a customer churned or not. I recommend we test out the following models on the data:

* Logistic Regression
* Decision Trees
* Random Forests
* Support Vector Machines
* Booster Models like AdaBoost and XGBoost

Besides the predictive models, we would also be performing extensive EDA on the data to determine the patterns underlying, and how each attribute may have influenced the churning decision of the company.

Thank You

Regards,

Vedant Kedia