

Hello AD,

As known, A fair hypothesis is the price changes that is affecting the customer churn, that is seen more in SME segment.

So, I propose to solve this problem for my client- PowerCo with my understanding on the context provided.

The Data Needed:

1. **Customer information** - from power-liberalization of energy market period at SME segment.
2. **Churn data** – which has all information about the customers churned
3. **Historical price data** – which has all the information of prices the client charges to each customer for both gas and electricity at periods of time.

The following are the steps that I take after collecting data:

1. **Testing the Hypothesis on the historical price data**
 - a. Collecting the data
 - b. Cleaning the data based on customers
 - c. Identifying the customer churn and price increase relation
 - d. Proving the Hypothesis – To show if the churn and price change are going in hand or not.
2. **Build a MODEL to predict the customer churn**
 - a. Perform Exploratory data analysis – Univariate, Bivariate and multivariate analysis.
 - b. Feature Engineering and Selection
 - c. Build a Machine learning model using any classification algorithm
 - d. Evaluate its performance – Train and Test the model, Cross-validate, check for the accuracy rate, ROC-AUC curve, Hyperparameter Tuning
3. **Identifying the discount on price can prevent the customer churn:**
 - a. Apply 20% discount on prices, then predict the customers prices.
 - b. Based on the prices after discount, classify that the predicted prices can stop the churn or not.

Thus, I would like to conclude that, my solution will be able to deduce the causes of churning in relation to price changes from the findings. The model will also help us understand how the client's suggested discounting approach will affect business.

Regards,

P Supraja