Hi AD,

In order to test the hypothesis that the churn is price sensitive,a model needs to be built on prediction of the probability of customer churn, and get the effect of prices on churn rates. I will need following data to build the model:

1. Customer Data : Which will include the characteristics of the customers, example, their purchase history, consumption, industry, what is the date the customer joined, if is gas or electricity or both client, address of the customer
2. Historical Data: Which will include the charges that the customer paid for the services of PowerCo for both electricity and gas, were there any discounts offered to them earlier.
3. Churn data: Whether the client has churned or not, and if churned what is the date the customer stopped the services

Once we have the above details, we would start with the following steps:

1. Test the hypothesis: This can be done by fetching the insights from historical data and could be identified if customers have churned when the prices have risen
2. Building a model to predict the customer churn: As this is the binary classifier problem when 1 means the customer will switch to another provider and 0 if the customer is going to stay.
    a. Clean the data that is collected
    b. Analyze the data and discover different patterns with the customers and visualize it
    c. Building a Machine learning model (using a classifier and the ensemble techniques)
    d. Using the cross validation to evaluate the performance of the model
    e. Applying a 20% discount on the prices and prediction again and checking if discount could increase the chances of customers to stay

Thanks,
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