

**Email to :** BCG Associate Director

**Subject :** Data analysis plan for PowerCo

Good afternoon, Associate Director

I am reaching out to you to let you know about my thoughts on how our team should tackle the churn problem for our client PowerCo. The main two hypothesis that we need to test are :

1. Which customers are more (or less) likely to churn at the current price.
2. Is a 20% discount gonna be effective against customers with a high propensity to churn ?

In order to test these two hypotheses we would need to model the churn probabilities for each customer, and derive the effect of prices on churn rates. In order to create these models, we would need the following data :

- **SME Customer data** : should include information about each customer, such as industry, electrical and gas consumption history, joining date etc...
- **SME Customer churn data** : should include if a certain customer has churned or not
- **Price history** : should include the price that was charged to the customer in the past
- **Competitors price** : should contain the price charged by other gas and electricity suppliers in the market

After collecting and preparing the data, we would need to do an exploratory analysis to confirm if the churn is due to customer price sensitivity or not. After that, we can build a binary classification model (Decision trees, logistic regression, SVM, KNN etc...) that is capable of predicting the likelihood of a customer to churn. Based on the model picked, we would be able to understand the impact of price changes on the churn rates, as well as the importance of prices compared to other factors. Moreover, the model would allow us to size the business impact of the client's proposed discounting strategy.

Best regards,

EL BELGHITI Hamza, Data Science Intern