To Whom It May Concern,

As requested, this is the report for PowerCo regarding the steps needed to test the hypothesis that churn is driven by the customer’s price sensitivities.

This is the data needed to test the hypothesis:

* Customer data (before and after price deduction): industry, historical electricity consumption, date joined as a customer
* Churn data: if a customer has churned
* Historical price data (before and after price reduction): prices the client charges to each customer for both electricity and gas at granular time intervals

These are the steps needed to test the hypothesis:

* Data cleansing: cleaning the data of duplicates, unnecessary data, and irregular data
* Data engineering: making new data out of the data already given
* Data analysis: exploring what this data represents
* Data modeling: figuring out the best model based on the data given (Binary classification: which binary classification model would best suite this problem?)
* Evaluation of accuracy of model
* Evaluation of results based on the model: Does the hypothesis hold?

Work plan:

* Define price sensitivity and calculate it
* Feature Engineering on data obtained to build binary classification model
* Choose the best binary classification model based on tradeoff between complexity, explainability and accuracy of the models
* Figure out the why and how price changes impact churn after evaluations of the results
* Size the business impact of the client’s purposed discounting strategy based on the model

Thank you,

Jessica Gallo