Hello AD,

As I have gone through the client's problem & understood it and come up with a given solution

Our client wants two things:

- To know whether churn is driven by customer price sensitivity
- To predict customer likely churn using a predictive model

So, for the above two, we will apply the following techniques to derive solutions to problems:

- To know whether customer churn is driven by customer price sensitivity we should use correlation to know if they are linearly related to each other
- We can use an artificial neural network to predict customers who are going to churn by using some features & we can also evaluate the accuracy of the model.

The data which is needed to apply the above technique should contain:

- **Churn data**: Whether a given set of customers has churned or not.
- **Customer data**: which should include characteristics of each client, for example, industry, historical electricity consumption, date joined as customer etc.
- **Historical data**: which should indicate the prices the client charges to each customer for both electricity and gas at granular time intervals

Once we have the data, the work plan will be:

- We would need to define what price sensitivity is and calculate it.
- We would need to engineer features based on the data we obtain and build a binary classification model (e.g., Logistic Regression, Random Forest, Gradient Boosting)
- The best model would be picked based on the trade-off between the complexity, the explainability, and the accuracy of the model.
- We would subsequently dive deeper into why and how price changes impact churn
- Finally, the model would allow us to size the business impact of the client's proposed discounting strategy.

Regards,

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