Dear AD,

For the customer churn issue with PowerCo, the following two hypothesis are formed based on our discussion:

- The source of customer churn is price adjustment.
- The 20% discount can dissuade customer, especially the price-sensitive ones, from churning.

To test if price is the driver of customer churn, the following steps can be taken:
1. Identify the driver of customer churn.
2. Automatically identify at-risk customers.
3. Define thresholds for taking action based on the likelihood of churn.
4. Create tickets and offer the identified churning customers 20% discount.

Data needed from the client:
- For each customer, the following information is needed: ID, tenure days, zip code, family income tier, age, account balance, gender, monthly usage, quarterly usage, pricing tiers, product features used.
- Churn data: which should indicate id the customer has churned.
- Historical price data: which should indicate the prices the client charges to each customer for both gas and electricity and granular time intervals.

- Additional data about competing companies can be helpful as well: the pricing, discount, switching promo package for each area.

For this task, we could use a classification model that predict the whether the customer will churn in this upcoming month. Once we have the data, we will take actions as follows:
1. Define what price sensitivity is and calculate it.
2. Engineer features based on the data obtained and build a binary classification model (e.g., logistic regression, random forest, gradient boosted machines, etc.)
3. The best model will be picked based on the trade-off between complexity, explainability, and accuracy of the model.
4. Subsequently dive deeper into why and how price changes impact churn.
5. The model would allow us to size the business impact of the client's proposed discounting strategy.

Please let me know you thought!
Best,
Zhuoya