Subject: PowerCo Customer Churn Analysis - Data & Techniques

Dear AD,

Estelle and I have been working to understand PowerCo's customer churn issue in detail, following the 5-step Data Science methodology:

1. Business Understanding & Problem Framing:

PowerCo is experiencing customer churn, and we need to identify the key factors influencing customers to switch to other energy providers. This will help PowerCo develop strategies to retain their customer base.

2. Key Reasons for Customer Churn:

Our initial analysis suggests several potential reasons why customers might churn:

- **Price:** Are PowerCo's rates competitive with other providers in the market?
- **Energy Source:** Does PowerCo offer clean energy options that are becoming increasingly desired by customers?
- **Customer Service:** Is PowerCo providing a positive customer experience that fosters loyalty?
- **Location:** Are there regional variations in churn rates that might be related to local competitor offerings or demographics?

3. Data Required:

To investigate these reasons, we will need access to the following data from PowerCo:

- **Customer Account Data:** Customer ID, contract type, start date, service address, monthly bills (past 5 years)
- **Customer Service Data:** Interaction logs (calls, emails), customer satisfaction ratings
- **Market Data:** Competitor pricing, regional energy mix data

4. Techniques for Analysis and Visualization:

We will employ various techniques to analyze and visualize the data:

- **Customer Segmentation:** We will segment customers based on factors like demographics, usage patterns, and location to identify churn-prone groups.
- **Survival Analysis:** This will help us model the probability of churn over time and identify factors impacting customer lifetime value.
- **Regression Analysis:** We can use this to understand the relationship between churn and factors like price, customer service ratings, and clean energy options.
- **Data Visualization Tools:** We will create charts and graphs to explore trends and relationships between churn and the potential influencing factors.

5. Testing the Hypothesis:

By analyzing the data and visualizing the results, we can test our hypothesis about the key reasons for churn. This will allow us to identify which factors have the strongest impact and prioritize strategies for customer retention.

We are confident that this approach will provide valuable insights into PowerCo's customer churn problem. We are ready to begin data collection and analysis as soon as possible.

Please let us know if you have any questions or require further clarification.

Thank you,

Sushant & Estelle.