Subject: PowerCo Churn Analysis - Data and Approach Proposal

Respected AD,

Following our discussion regarding PowerCo's churn issue, Estelle and I have outlined our approach to understand and address the problem using the 5-step data science methodology. Below is our plan:

1. Business Understanding and Problem Framing

Problem Statement:
PowerCo is experiencing significant churn among its SME customers, potentially due to price sensitivity and other factors. Our objective is to identify key drivers of churn, quantify their impact, and provide actionable recommendations to reduce customer attrition.

Hypothesis:
Customers may switch providers due to factors such as price sensitivity, availability of renewable energy options, quality of customer service, business location, and contract flexibility.

2. Data Required

To test these hypotheses, we'll request the following data:

Customer Demographics and Contracts:

- Business location (urban/rural).
- Industry classification (e.g., manufacturing, retail).
- Contract duration and type (fixed vs. variable pricing).

Behavioral Data:

- Historical energy usage patterns (last 12–24 months).
- Seasonal variations in consumption.

Financial Data:

- Pricing plans and historical changes in tariffs.
- Customer bills and payments, including late payments or disputes.

Customer Feedback and Interactions:

- Customer service logs (e.g., number of complaints, resolution time).
- Satisfaction survey scores, if available.

Competitive Insights:

- Market rates offered by competitors during the churn periods.
- Marketing campaigns targeting PowerCo customers.

3. Analytical Techniques

Once the data is available, we propose the following steps:

Exploratory Data Analysis (EDA):

- **Visualizations:** Use scatter plots, histograms, and box plots to explore trends in energy usage, pricing sensitivity, and customer segments.
- **Churn Rates:** Analyze churn rates by demographic, pricing plans, and geography to identify high-risk groups.

Correlation Analysis:

- Perform statistical tests to assess relationships between churn and factors such as price increases, customer complaints, and usage patterns.

Predictive Modeling:

- Build a classification model (e.g., logistic regression, decision tree) to identify key predictors of churn and quantify their relative importance.
- Use clustering to segment customers into groups based on their likelihood of churning and shared characteristics.

Competitor Benchmarking:

- Compare PowerCo's pricing and service offerings with competitors to assess relative attractiveness.

4. Expected Outcomes

- **Insights:** Identification of top churn drivers (e.g., price sensitivity, poor service experiences).
- **Segmentation:** Clear customer segments most at risk of churning.
- **Recommendations:** Tailored strategies, such as targeted retention offers or enhanced customer support initiatives.

We look forward to your feedback on this approach and any additional suggestions you might have.

Best regards,
Ivan J Madathil