Dear Associate Director,

I hope this email finds you well. Estelle and I have thoroughly reviewed PowerCo's current challenge with customer churn, and we are prepared to outline the initial steps for addressing this issue. Utilizing the 5-step data science methodology, we have formulated the problem and identified key data requirements and techniques for investigation.

**Problem Formulation:** PowerCo is experiencing a significant increase in customer churn, and it's crucial to understand the underlying reasons behind customers' decisions to stay or switch energy providers. The primary factors influencing this decision could include, but are not limited to, pricing, environmental considerations (e.g., clean energy sources), the quality of customer service, and geographical location.

**Major Steps for Investigation:**

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**Major Steps for Investigation:**

**Identifying Key Factors:** The first step involves determining the key reasons influencing customers to stay or switch. We will conduct a comprehensive literature review on energy market trends, customer preferences, and factors impacting churn in the industry.

**Data Collection:**

**Customer Demographics:** Collecting data on customer demographics, such as location, industry type, and size, to understand regional and business-specific patterns.

**Pricing Data:** Gathering historical pricing data to analyze the correlation between pricing changes and customer churn.

**Customer Service Metrics:** Accessing customer service records, including response times and issue resolution, to evaluate its impact on customer retention.

**Energy Source Information:** Obtaining data on the energy sources utilized by PowerCo to assess the influence of clean energy on customer decisions.

**Data Analysis and Visualization Techniques:**

**Customer Segmentation:** Utilizing clustering algorithms to group customers based on various criteria, allowing us to identify patterns within specific segments.

**Time Series Analysis:** Examining customer purchasing trends over the past 5 years to identify any seasonal or temporal patterns associated with churn.

**Geospatial Analysis:** Mapping customer locations to uncover geographical trends and understand regional variations in churn rates.

**Correlation Analysis:** Assessing the correlation between pricing changes, customer service metrics, and energy source preferences to identify potential drivers of churn.

**Predictive Modeling:** Developing predictive models to forecast potential churn based on identified key factors, enabling PowerCo to proactively address customer concerns.

**Next Steps:** Upon your approval, we will initiate the data collection process and begin the preliminary analysis. Our goal is to provide actionable insights that PowerCo can leverage to mitigate churn and enhance customer satisfaction.

Please feel free to provide any additional insights or specific requirements you may have.

Best Regards,

BCG Data Science Team,  
Halina Kryvanos and  Estelle Altazin

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