**Subject: Proposal for Investigating PowerCo's Customer Churn Issue**

Dear AD,

Following our team meeting on the PowerCo client brief, Estelle Altazin and I have outlined a plan to investigate the hypothesis that the sensitivity of price is a significant factor contributing to customer churn. Here's our proposal based on the 5-step data science process:

**1. Problem Formulation:**  
  - Problem Statement: Understand the factors contributing to customer churn at PowerCo, with a focus on the sensitivity of price as a potential driver.  
  - Hypothesis: Customer churn is influenced by the competitive pricing of PowerCo's services compared to other energy providers.

**2. Key Reasons for Customer Decision:**  
     - Pricing competitiveness  
     - Clean energy offerings  
     - Customer service satisfaction  
     - Geographical location of the business

**3. Data Requirements:**  
  - Customer Data:  
     - Purchase history over the past 5 years.  
     - Billing information, including pricing details.  
  - Service Information:  
     - Type of energy service (gas, electricity, or both).  
     - Clean energy options and usage.  
  - Customer Interaction Data:  
     - Customer service interactions and feedback.  
  - Geographic Data:  
     - Location of the business or residence.  
     - Regional energy market trends.

**4. Analysis and Visualization Techniques:**  
  - Descriptive Analytics:  
     - Summarize and explore customer purchasing trends, focusing on patterns related to pricing changes.  
     - Examine customer satisfaction metrics over time.

  - Correlation Analysis:  
     - Assess the correlation between price changes and customer churn.  
     - Explore relationships between clean energy options and retention rates.

  - Geospatial Visualization:  
     - Map customer locations and visualize regional variations in churn rates.  
     - Identify potential clusters of high sensitivity to pricing changes.

  - Predictive Modeling:  
     - Build a predictive model to forecast churn based on historical data.  
     - Evaluate the impact of different factors, including price, on the likelihood of churn.

**5. Reporting:**  
  - Compile a comprehensive report summarizing findings, insights, and recommendations.  
  - Provide actionable suggestions for addressing the identified issues, if any.

Estelle and I will proceed with gathering the specified data and initiate the analysis process. We aim to provide you with a preliminary report by close of business today.

If you have any specific preferences or additional insights you would like us to consider, please let us know.

Thank you for entrusting us with this investigation.

Best regards,

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