Subject: Proposed Steps for Addressing Customer Churn Problem

Dear AD,

I hope this email finds you well.

I am writing to share my proposed approach to solving the customer churn problem. Below are the detailed steps I intend to follow:

Step 1: Hypothesis Testing

To analyse the relationship between price changes and customer churn, I propose the following:

1. **Data Collection:** Gather historical data about all customer contracts.
2. **Analysis:** Identify customers who switched to other providers and examine whether their churn coincided with an increase in prices.
3. **Hypothesis Validation:**
    - If customer churn aligns with price increases, we can infer that pricing influences churn.
    - Conversely, if churn occurs despite no price change or even with price decreases, we can conclude that pricing may not be a significant factor.

Step 2: Build a Model to Predict Customer Churn

This is a binary classification problem where the target variable is customer churn (1 for customers who left, 0 for those who stayed).

Tasks to Achieve This:

Data Collection: Gather comprehensive data on:

- Contract information: start and end dates, prices, discounts, promotions, etc.
- Customer details: name, location, revenue, company size, industry, etc.
- Energy usage: historical consumption amounts.
- Target variable: customer churn status.

Data Understanding and Cleaning: Ensure the dataset is accurate, consistent, and free of errors.

Exploratory Data Analysis (EDA): Use visualizations to uncover patterns and insights.

Model Development and Evaluation:

- Train a machine learning model on cleaned data.

- Use cross-validation to evaluate the model’s performance.

Discount Analysis: Assess whether a discount can prevent churn:

- Apply a 20% discount to prices and use the model to predict churn again.
- If a customer's predicted label changes from 1 (churn) to 0 (stay), the discount may effectively reduce churn.

By following these steps, I aim to comprehensively address the customer churn problem and provide actionable insights.

I would appreciate your feedback on this approach. Please let me know if there are additional considerations or refinements to include.

Best regards,
Adnan