Subject: Strategy for Testing the Hypothesis on Price Sensitivity and Customer Churn in PowerCo's SME Segment

Dear [AD's Name],

I trust this message finds you well. Following our recent discussion on the churn issue within PowerCo's SME segment, I've formulated a strategy to test the hypothesis that customer churn is driven by price sensitivity. This approach aligns with the client's objective of leveraging a discounting strategy to retain customers.

1. Formulating the Hypothesis:

Hypothesis: Customer churn in the SME segment is influenced by price sensitivity, and a 20% discount may effectively deter high-propensity churn customers from leaving.

2. Data Requirements:

To validate this hypothesis, we'll need access to the following data:

a. Customer Data: Detailed profiles of SME customers, including historical usage patterns, demographics, and account details.

b. Billing Data: Comprehensive billing information, particularly highlighting any price changes over time.

c. Churn Data: A dataset indicating SME customers who have churned, along with the relevant timeframes.

d. Interaction Data: Customer interaction records, encompassing inquiries, complaints, and feedback.

e. Competitor Pricing Data: If available, insights into competitors' pricing strategies for comparison.

3. Data Frame Structure:

Constructing a structured data frame is essential for meaningful analysis. Consider columns such as:

- Customer ID
- Demographic Information
- Historical Usage Patterns
- Billing Information (including pricing changes)
- Interaction History

- Churn Indicator (1 for churned, 0 for retained)

4.   Exploratory Data Analysis (EDA):

EDA will play a crucial role in understanding the dynamics of churn and pricing sensitivity. Some analyses to consider:

-    Correlation Analysis: Investigate the relationship between pricing changes and customer churn.

-    Segmentation Analysis: Segment customers based on different criteria to identify patterns within each segment.

-    Time Series Analysis: Examine churn and pricing trends over time for any discernible patterns.

5.   Predictive Modeling:

Developing a predictive model involves the following steps:

-    Feature Engineering: Create relevant features based on insights from EDA and domain knowledge.

-    Model Selection: Choose an appropriate model (e.g., logistic regression, decision trees) based on data characteristics.

-    Training and Validation: Train the model on historical data and validate its performance using unseen data.

-    Model Evaluation: Assess the model's effectiveness in predicting churn, considering metrics like accuracy, precision, and recall.

6.   Deployment:

Implement the predictive model to identify customers at high risk of churn. Use this information to guide decisions on offering a 20% discount to specific SME customers at the beginning of each month.

I am eager to discuss this strategy further and welcome any feedback or additional considerations you may have.

Best Regards,

[Your Name]

[Your Position]
[Contact Information]