

Subject: Analysis Approach for Investigating Customer Churn Due to Price Sensitivity

Dear Associate Director of BCG,

I hope this message finds you well. Following our team meeting and discussions regarding the potential reasons behind customer churn of PowerCo, particularly concerning price sensitivity, I have delved deeper into formulating an approach to test this hypothesis effectively.

Hypothesis Formulation:

The hypothesis we aim to investigate revolves around the impact of price changes on customer churn within the SME segment. The assumption is that fluctuation in pricing affects the likelihood of customers churning. To validate this, we will develop a predictive model that determines the probability of churn based on price sensitivity.

Approach and Major Steps:

1. Data Collection and Preparation:

- Collect historical data on SME customer transactions, pricing changes, and churn behaviors.
- Prepare a comprehensive dataset comprising customer attributes, historical transactional data, pricing changes, and churn status.

2. Exploratory Data Analysis (EDA):

- Conduct an in-depth EDA to understand correlations between churn and pricing changes, identifying price-sensitive customers.
- Analyze customer segments based on their responsiveness to price changes.

3. Feature Engineering:

- Extract and engineer relevant features related to pricing, customer behavior, demographics, and transactional patterns.

4. Model Development:

- Utilize machine learning algorithms such as Logistic Regression, Random Forest, or Gradient Boosting to build a predictive model.
- Train the model on historical data to predict churn probabilities based on price sensitivity.

5. Model Evaluation and Validation:

- Validate the model's performance using appropriate metrics such as accuracy, precision, recall, and ROC-AUC.
- Fine-tune the model parameters to optimize its predictive power.

Next Steps:

For further progression, we will require granular data on customer transactions, pricing history, and churn indicators. Specifically, access to monthly data on pricing changes and churn status for each SME customer would significantly bolster our analysis.

I am enthusiastic about advancing with this investigation and can present a detailed proposal outlining the data requirements and modeling techniques during our next meeting.

Please let me know if there are additional details or considerations you would like to include. I appreciate your guidance and look forward to contributing meaningfully to this project.

Best Regards,

Faris Arief Mawardi