

Subject: Analyzing Price Sensitivity and Customer Churn - Hypothesis Testing Plan

Dear [Associate Director's Name],

I hope this email finds you well. I wanted to share my thoughts on how we can delve deeper into the hypothesis that customer churn within the SME segment of PowerCo. is driven by price sensitivity. By understanding the dynamics of customer churn and price sensitivity, we can create a predictive model to identify customers at risk of churning and determine the effectiveness of offering a 20% discount to incentivize retention.

To test this hypothesis, we would need access to the following data from PowerCo:

1. Customer Data: A comprehensive dataset containing information about individual SME customers, including demographics, past usage behavior, contract duration, and historical churn status.
2. Billing Data: Detailed billing data for each customer, including the pricing structure, changes in pricing over time, payment history, and any special discounts or promotions previously offered.
3. Interaction Data: Data on customer interactions with PowerCo's call centers or online platforms, including inquiries, complaints, and responses.
4. Competitor Pricing Data: Information on the pricing strategies of PowerCo's competitors in the same market to understand the competitive landscape.
5. Historical Churn Data: A historical record of customer churn events to train and validate our predictive model.

Based on the available data, we can proceed with the following analytical steps:

1. Exploratory Data Analysis (EDA): Conduct a thorough exploratory data analysis to gain insights into the data distribution, missing values, and potential patterns that might indicate price sensitivity and churn behavior.
2. Feature Engineering: Create relevant features from the available data that may help in identifying price-sensitive customers and predicting churn. For instance, we can calculate price changes over time, compute usage patterns, and quantify customer interactions.
3. Predictive Modeling: Build a predictive model using machine learning algorithms to identify customers at risk of churning due to price sensitivity. We can use classification techniques such as logistic regression, random forests, or gradient boosting to predict churn probabilities.
4. Model Evaluation: Assess the model's performance using appropriate metrics such as accuracy, precision, recall, and F1-score. Cross-validation techniques can be employed to ensure the model's generalizability.
5. Identifying Price-Sensitive Customers: Once the predictive model is validated, we can use it to rank customers based on their probability of churning due to price sensitivity. This ranking will help us prioritize the 20% discount offer to those who are most likely to churn.

6. Impact Analysis: After implementing the discount offer, we need to monitor and measure its effectiveness in reducing churn. Conducting an A/B test or using a control group can help us understand the actual impact of the discount on customer retention.
7. Continuous Monitoring: As customer behavior and market dynamics change over time, we need to maintain the predictive model's accuracy and update it with fresh data regularly. This will enable us to adapt the discount strategy as needed.

By following this data-driven approach, we can gain valuable insights into the relationship between price sensitivity and customer churn. Our findings will inform PowerCo's decision-making process and enable us to tailor strategies to reduce churn effectively.

Please let me know if there are specific aspects you would like us to focus on or if you have any further questions regarding the proposed plan.

Thank you for entrusting our team with this important task. We are eager to contribute our expertise and help PowerCo tackle the challenges in the SME segment.

Best regards,

[Your Name]