Dear AD,

I have some suggestions on how to approach the hypothesis regarding churn driven by customer price sensitivity.

Hypothesis: Churn in the SME segment of PowerCo is influenced by customer price sensitivity. Our objective is to develop a predictive model that can identify customers likely to churn due to price and offer them a 20% discount to retain their loyalty.

Data: To test this hypothesis effectively, we would require access to the following data from PowerCo:

- Customer data: We need access to customer demographic information such as age, gender, location, and employment status. Additionally, customer usage history, contract length, and current plan details would be valuable for analysis.

- Transactional data: It is crucial to have access to customer billing and payment data, including transaction amounts and dates. This data will help us understand payment patterns and their relationship to churn.

- Churn data: Access to customer churn data is essential for training and evaluating our predictive model. This data should include the date and reason for churn, enabling us to identify patterns and factors contributing to churn.

Analytical Approach: To test the hypothesis effectively, we propose the following steps:

1. Data Cleaning and Preprocessing: This initial step involves cleaning the data, handling missing values or inconsistencies, and performing necessary preprocessing tasks. Feature engineering techniques will be employed to create relevant variables for modeling.

2. Exploratory Data Analysis (EDA): EDA is crucial for gaining insights into the data. We will analyze the distribution of the data, identify correlations between different features, and investigate patterns in customer behavior related to churn and pricing.

3. Price Sensitivity Prediction Model: To predict which customers are sensitive to price changes, we will analyze customer data and build a machine learning model. We will explore various modeling approaches, such as logistic regression, decision trees, and random forests. Evaluation of these models will be based on performance measures like accuracy, precision, recall, and F1-score. Model interpretation will help us identify key features that drive customer churn due to price sensitivity, allowing us to develop a targeted approach to retain at-risk customers.

4. Discount Strategy: Leveraging the predictive model, we will identify customers at high risk of churning due to price sensitivity. For these customers, we will propose a 20% discount to incentivize their retention. The effectiveness of this discount strategy will be evaluated using metrics such as customer retention rate, revenue impact, and cost-benefit analysis.

In summary, we believe that PowerCo can effectively address the churn issue in the SME category by adopting a data-driven strategy. By utilizing a predictive model to identify customers likely to churn due to price sensitivity and offering them a 20% discount, we can enhance customer retention rates and boost revenue. We are eager to commence this project and will keep you updated on our progress.

Best regards,

Duong Nhat Thanh