Dear AD,

I have some thoughts on how to approach the hypothesis that churn is driven by customer price sensitivity.

Hypothesis: Churn in the SME segment of PowerCo is driven by customer price sensitivity. We aim to develop a predictive model to identify customers who are likely to churn due to price and offer them a 20% discount to retain them.

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

- Customer data: We need access to customer demographic data such as age, gender, location, and employment status, also including the customer's usage history, contract length, and current plan details.
- Transactional data: We need access to customer billing and payment data, including the amounts paid and the dates of the transactions.
- Churn data: We need access to customer churn data to train and evaluate our predictive model. This data should include the date and reason for churn.

Technique: To test the hypothesis, we would mostly do the following actions:

1. Data Cleaning and Preprocessing: Clean and preprocess the data to remove any missing or inconsistent data, perform feature engineering, and prepare the data for modeling.
2. Exploratory Data Analysis (EDA): Perform EDA to understand the distribution of our data, identify correlations between different features, and investigate patterns in customer behavior.
3. Price sensitivity prediction model: To predict which customers are sensitive to price changes, we'll analyze customer data to identify patterns and build a machine learning model. We'll use a range of modeling approaches, such as logistic regression, decision trees, and random forests, and evaluate the models using performance measures like accuracy, precision, recall, and F1-score. We'll then interpret the models to identify the 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: We will use the predictive model to identify customers who are at high risk of churning due to price sensitivity and offer them a 20% discount to retain them. We will evaluate the effectiveness of the discount strategy using metrics such as customer retention rate, revenue impact, and cost-benefit analysis.

Overall, we think that PowerCo can handle the churn issue in the SME category by using a data-driven strategy. We can enhance customer retention rates and boost revenue by using a predictive model to identify customers who are likely to churn due to price sensitivity and giving them a 20% discount. We're eager to get started on this project and keep you updated.

Best regards,

Manh Phu Nguyen (NEO)