Dear,

After reviewing the information, you provided on PowerCo, we believe that testing the hypothesis that customer churn is driven by price sensitivity is an important step in retaining customers, especially in the SME segment. Here's our proposed approach to the problem:

1. Hypothesis: Our hypothesis is that customer churn in the SME segment is strongly influenced by price sensitivity. Therefore, we would like to test if the customers who are most likely to churn are those who have shown sensitivity to price changes in the past.
2. Data Collection: To test this hypothesis, we would need data on customer demographics, usage patterns, and billing history, including historical prices and any price changes. We would also need data on whether a customer has churned or not, and if so, when.
3. Data Preparation: Once we have the data, we would prepare it for analysis by cleaning and formatting it and selecting the relevant variables for analysis. We would also need to calculate customer tenure, which is an important variable in predicting churn.
4. Exploratory Analysis: After preparing the data, we would perform exploratory analysis to identify any patterns or relationships between variables and customer churn. For example, we might examine the distribution of customer tenure, the frequency of price changes, and the correlation between price changes and customer churn.
5. Predictive Modelling: Based on the exploratory analysis, we would build a predictive model to identify customers who are most likely to churn due to price sensitivity. We would start with a simple logistic regression model, which would allow us to estimate the probability of a customer churning based on their features. We could also explore more complex models like decision trees, random forests or gradient boosting depending on the size of the dataset and the level of accuracy required.
6. Model Evaluation and Deployment: After building the predictive model, we would evaluate its performance using appropriate metrics such as accuracy, precision, recall, and F1-score. We would then deploy the model to identify customers who are at risk of churning and offer them a 20% discount to incentivize them to stay.

Please let us know if you have any questions or concerns.

Best regards,

*Ilias Sabani*