Subject: Proposal for Analyzing SME Customer Churn and Price Sensitivity

Hello AD,

I hope this message finds you well. Following our recent discussions on the hypothesis that SME customer churn is influenced by price sensitivity, I have refined our proposed approach to ensure a more thorough analysis. Here's the updated plan:

**Hypothesis Formulation:**  
-**H0 (Null Hypothesis):** No significant relationship between price changes and SME customer churn.  
- **H1 (Alternative Hypothesis)**: A significant relationship exists, with price changes affecting customer churn.

**Step 1: Testing the Hypothesis**

1. Data Collection:  
  - Acquire detailed historical data on customers' contracts, encompassing contract details, pricing information, promotional offers, and other relevant features.

2. Churn Identification:  
  - Extract data on customers who have transferred to other providers, incorporating reasons for churn such as customer feedback or complaints.

3. Correlation Analysis:  
  - Examine temporal patterns between customer churn and price changes. Consider immediate and lag effects, exploring correlations over time.

4. Statistical Testing:  
  - Conduct statistical tests like hypothesis testing or regression analysis to quantify the strength and significance of the relationship between price changes and customer churn.

Step 2: Building a Predictive Model

1. Data Collection:  
  - Expand the dataset to include additional features like customer satisfaction scores, communication channel preferences, and relevant external factors influencing churn.

2. Feature Engineering:  
  - Engage in thoughtful feature engineering for new variables or transformations that enhance the predictive power of the model.

3. Addressing Imbalances:  
  - Implement strategies to handle class imbalances during model training, considering techniques like oversampling, undersampling, or SMOTE.

4.Model Interpretability:  
  - Opt for interpretable models (e.g., decision trees, logistic regression) for a clearer understanding of factors driving predictions.

5. \*\*Continuous Monitoring:\*\*  
  - Establish a system for continuous monitoring and updating of the model to ensure effectiveness in the evolving landscape of customer behavior.

**Step 3: Discount Impact Assessment**

1. Behavioral Analysis:  
  - Conduct a pre-discount behavioral analysis to understand different customer segments' likely reactions based on past interactions.

2. Dynamic Pricing Strategies:  
  - Explore dynamic pricing strategies tailoring discounts to individual customer profiles, considering factors beyond the fixed 20% discount.

3. A/B Testing:  
  - Implement A/B testing to evaluate the discount's effectiveness, comparing outcomes for those offered the discount against a control group for a robust assessment.

I am confident these enhancements will lead to a more comprehensive analysis. I look forward to discussing them further in our upcoming meeting.

Best regards,  
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