Jakarta, January 19, 2024

Dear AD,

I want to inform you that I can solve your problem by following these steps:

1. Step 1: Gather all data
2. Collect all data about customer’s contract
3. Understand the data
4. Extract data on the customers who terminate the contract or transferred to another providers
5. Step 2: Test the hypothesis
6. Clean data and Making Exploratory Data Analysis (EDA)
7. Identify whether customers churn and an increase in price or another factor happened in the same time
8. Prove the hypothesis
9. Step 3: Build a machine learning model
10. Train a model on clean dataset
11. Evaluate model’s performance
12. Step 4: Identify whether a discount on price can prevent customer churn
13. Apply 20% discount on the prices, then predict the customer’s labels again.
14. If the predicted labels change from 1 to 0, this indicates that the discount can prevent customer churn. If not, then this indicates that the discount can’t stop customer churn.

I hope that these steps can work well. Thank you.

Best Regards,

Ahya Ramdhanitasari

**Correcting:**

Hi AD,

I want to inform you that I can solve your problem. To test the hypothesis, we need to model churn probabilities of customers, and derive the effect of prices on churn rates. We would need the following data to be able to build the models.

Data needed:

1. Customer data
2. Churn data
3. Historical price data

After that, we should following this step:

1. Define what price sensitivity and the factor of customer churn are
2. Clean data and Making Exploratory Data Analysis (EDA) to identify whether customers churn and an increase in price or another factor happened in the same time
3. Do Feature engineering based on the data obtained
4. Build one to three models (binary classification: Logistic Regression, Random Forest, Gradient Boosting), evaluate them, and choose the best model
5. Identify whether how price changes impact churn and a discount on price can prevent customer churn and the model would allow us to size the business impact of the client’s proposed discounting strategy too

Best Regards, Ahya Ramdhanitasari