

Dear AD,

I have been thinking about the significant churn problem faced by PowerCo. I believe that the root cause of the churn may be price sensitivity among customers, and I would like to formulate this as a data science problem to test this hypothesis. My proposed approach is as follows:

Hypothesis: Offering customers at high propensity to churn a 20% discount and formulation of new product plans based on customer segmentation will be an effective way of reducing churn rates in the SME segment.

Steps:

Gather relevant data: We would need data on customer demographics, such as household size, employment status, job title, and location. Having data on the household size can give us an understanding of our customers and how they use electricity. It can be used for customer segmentation. The employment status and job title are to determine how much the customer makes and how much they should be able to afford, and the location is to determine which area of Europe provides the most profit and where we can channel more resources to and probably give discounts. We would also need pricing data over time, as well as information on customer engagement metrics and customer interactions with the company. Finally, survey data from customers who have switched or are planning to switch providers on their reasons for switching, their satisfaction with the company, and their attitudes toward energy pricing and discounting strategies would also be useful.

The gathering of information step is based on the possibility that price sensitivity has caused the customer churn. So, while price sensitivity may be a key factor, there may also be other factors at play, such as poor customer service or a lack of product innovation. Therefore, it may be important to consider a range of potential drivers of churn, rather than focusing solely on price which is why survey data is included.

Conduct exploratory data analysis: We would begin by examining the data to identify patterns and trends in customer behavior, such as seasonal or cyclical patterns in churn rates. To do this, we would perform time series analyses. We would also look for correlations between customer demographics and churn rates to see what location spends the most on electricity, as well as correlations between pricing and churn rates to see what price range led to the most churns. We look for correlations between family sizes or job titles and churn rate to see if we can meet the needs of customers who have a specific number of people in their household as well as the needs of people with low incomes.

Coming up with new plans or products for these segments of customers might be just what PowerCo needs to retain its customers instead of just 20% discount.

Develop predictive models: Using the data gathered in step 1, we would build predictive models to identify customers who are at high risk of churning. We would then test the effectiveness of the proposed discounting strategy by offering the 20% discount to these high-risk customers and tracking their subsequent behavior. We would also test based on the new plans and pricing and track their behavior.

Evaluate the results: We would evaluate the effectiveness of the discounting strategy by comparing churn rates among the high-risk customers who received the discount to churn rates among a control group of high-risk customers who did not receive the discount.

To accomplish these steps, we would use a range of analytical models, including regression analysis, clustering analysis, and predictive modeling techniques such as decision trees, random forests, and logistic regression.

To implement this approach, we would need access to the relevant data sources from the client, as well as any relevant external data sources. We would also need to work closely with the client to ensure that our findings and recommendations align with their strategic goals and business objectives.

Thank you for your attention to this matter, and please let me know if you have any questions or concerns.

Sincerely,  
Qudus- Data science Intern