DATA DISCOVERING PILOT PROJECT

STEP BY STEP DESCRIPTION

+7 985 9096086
rnd-42.com

1 - OBJECTIVE

The main idea of personalized pricing is ideal customers segmentation: each client receives an offer with the price, he is ready to pay now, in current circumstances.

In theory, this should lead to an increase in both service usage and revenue due to additionally attracted customers.

To discover the exact level of such increase for a specific service, a short pilot project with the service provider can be conducted for its real customers in real circumstances.

RnD42
KNOW THE QUESTION

2 - SCOPE

Choosing the service and period for the test

It is recommended to choose only one quite popular service for the pilot and to test it for at least 2 months.

Checking legal aspects

It is necessary to understand which type of price discrimination is legal for the chosen service and customer segment. In most cases the right form of personalized pricing can be found but it should be legal and should not have a negative impact on other customers.

Extracting historical data for training models

At least 3 months of historical data is needed to train models (at least one year if consumption has year-seasoning nature). No personal data is required, data should be anonymized. 80% of success brings just service orders history, any additional anonymized data about customer or service consumption could increase the accuracy of prediction models but only orders history is mandatory.

Selecting a group of customers for the test

The size of the test group depends on an overall number of customers, 10% of the customer base is usually enough. It is better to choose the test group randomly, but it is also possible to call customers for participation.

Choosing a channel to deliver offers

It is very important to choose a good channel to communicate with customers during the pilot. Mobile application is ideal variant, SMS/PUSH/Phone call, and even E-mail are also possible.

Choosing a method for discount

Integration with billing to provide discount at the time of tariff applying is preferred, but in case of difficulties in integration with billing system cashback model can be used.

RnD42
KNOW THE QUESTION

3 - IMPLEMENTATION

Defining discount model and range

An economically reasonable discount range should be chosen, and a concrete discount model defined. For example, “10-50% discount on the next trip” or “20-40% discount on all trips this week starting from 5th”.

Training ML models for the chosen discount model

Based on historical data machine learning models are trained to predict the probability (or probable amount) of service usage without discounts. Special marketing models are created to predict the reason of “non-usage” for each concrete case and, if the reason is price, which discount will be enough to convince the customer with low probability to use the service after all.

Making resource load forecast model

Discounts should be provided only for an idle resource not to decrease the quality of service for customers who pay the full price. So that creating a model for predicting resource load is very important.

Making integration with the billing system to deliver and apply personalized offers

Different interaction models can be implemented: online request for a discount, for example, from a navigation system when it calculates a route or request for a discount for the next trip when the customer leaves the road or weekly offer. The service provider is responsible for the implementation of discount (cashback) applying in the billing system and personalized offers delivery via the selected channel.

RnD42
KNOW THE QUESTION

4 - A/B TESTING

Defining test metrics

During the experiment, some customers receive personalized offers and some – not, and metrics should be defined to assess difference in their behavior. In most cases ARPU (Average Revenue per User) is a good metric to assess the impact on revenue. Average usage per user can be also used to access impact on usage amount. Weekly or monthly average looks reasonable.

Dividing selected customers into 2 equal sub-groups A (test) and B (control)

During the experiment, some customers receive personalized offers (A – test) and some – not (B – control).

During the test period calculating prediction for both A and B groups, but providing discounts for group A only

It allows to assess impact of personalized offers on test metrics as well as models' accuracy.

Gathering daily statistics of service usage and, if necessary, tuning models

All statistics about predictions, offers and acceptance of offers should be gathered to improve models' quality and analyzing the results on the next step.

RnD42
KNOW THE QUESTION

5 - RESULT

Conducting A/B difference analysis

To confirm the impact of personalized offers on customers' behavior, difference in test metrics should be statistically significant. So that, special statistical math should be used to check and prove the difference.

Preparing report with statistics and recommendations

Regardless of the experiment result, all gathered data among with recommendations are presented to service provider in the form of a detailed report.

If at the end of the test period test metrics changes in group A are statistically significantly different from the ones in group B, the experiment is successful, and further steps for implementing the personalized pricing can be discussed

RnD42
KNOW THE QUESTION