ENRICHING LIVES

Short-term disconnect models

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1. Business problem overview

In the context of MAH countries, there is a need for CVM teams to predict customer behaviours in order to prioritize actions and communication.

More specifically CVM teams are interested in targeting customers that are the most likely to miss their payment date and therefore be disconnected.

The following list of countries was selected as the first main focus of the CVM MAH teams:

Country
Angola
Ghana
Kenya
Mozambique
Namibia
Nigeria
Tanzania
Uganda
Zambia
Zimbabwe

2. Solution Description

2.1 Overview

To answer the business problem stated above, two sets of models (one for each of the above countries) have been created and automated :

- **Disconnect-1-d model** predicts for each customer his propensity to be disconnected on due-date
- **Disconnect-3-d model** predicts for each customer his propensity to be disconnected on due-date and stay disconnected at least until due-date + 2

The development of those models took place in 3 steps :

1. Data preparation
2. Modelling
3. Validation of results

2.2. Data preparation

The following set of metrics were selected as predictors for the model. Those predictors have been defined by prior ad-hoc analyses and their predictive power was justified during validation.

Predictor	Definition
ICCCustomerNumber	ICC customer number
isDTH	1 if Access, Family, Compact, Compact + or Premium package, 0 otherwise
Days_customer_tenure	Customer tenure in days
Days_product_tenure	Product tenure for a specific product in days
Week_day	Day of week of due-date (nextInvoiceDate)
Day_month	Day of month of due date
Month_year	Month of year of due-date
Active_days_last_3months	Number of active days during last 3 months before due-date
Active_days_last_6months	Number of active days during last 6 months before due-date
Cont_active_days_bfduedate	Number of continuous active days before due date

The targets for each category of models are the following:

Target	Definition
Inactive_on_duedate_1d	**1** if disconnected on due-date, **0** otherwise
Inactive_on_duedate_3d	**1** if disconnected on due-date and stay disconnected at least until due-date + 2, **0** otherwise

To compute those fields, the following ETL was followed, **using exclusively productions sources :**