




BANCA POPOLARE  
DI MILANO

## **Wake them up before it's too late! Predicting dormant status to prevent banking churn.**

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 The company

The “Banca Popolare di Milano” (BPM) is one of the major local Italian banks based on a partnership oriented business. It focuses its activities on retail clients, on small and medium sized businesses and on products of savings management.

Having a top quality service as its main objective, BPM develops its distribution activities through various channels: the branch network, the financial promoters, telebanking and on line banking services.



NUNATAC was formed at the beginning of 1994 in response to a specific need in the market: the computerisation of organisations produces an increasing quantity of data.

The fundamental challenge for competitiveness is to transform the detailed mass of numbers into strategic information.

NUNATAC is a Silver European Quality Partner of the SAS Institute.

## Objectives

For a banking institute, forecasting the state of clients' dissatisfaction is regarded as bottom-line issue to curb the alarming phenomenon of churn of its clients.

### Business Objective

**The primary objective of this project is to sum up through a score the symptoms of various degrees of dissatisfaction of the Retail clients in order to prevent their possible decision to leave the bank.** The standard churn models don't often provide a prompt alarm with regard to the healthy level of the relationship (between the bank and the client). The warning comes in when the client is just about to end the relationship which means that the relationship itself is inevitably compromised.

### Analytical Objective

**The challenge we had was the identification of a peculiar status of not using the savings account (which we call "dormant status") which is a status that generally comes before the churn within a period of time since the forecast.**

Methodology & Tools

Moved by the priority of anticipating the first signals of the clients' "discomfort", BPM has set out to develop a model which allows the identification of the curbing status of the client-bank relationship which usually comes before the churn.

What is our Idea?

The abandonment is often preceded by implicit signals (reduction of the liquidity of current account, investment reduction, etc.), as a sort of dormant status.

Analysing the permanent dormant status in several consecutive months, we pointed out that there is a strong connection between the dormant status and the phenomenon of churn.

***Target Variable***

**Lack of usage of the current account within the last 6 months**

It is assumed that a client will not resume the account spontaneously.

**Analysis of the connection between the target variable and the actual churn.**

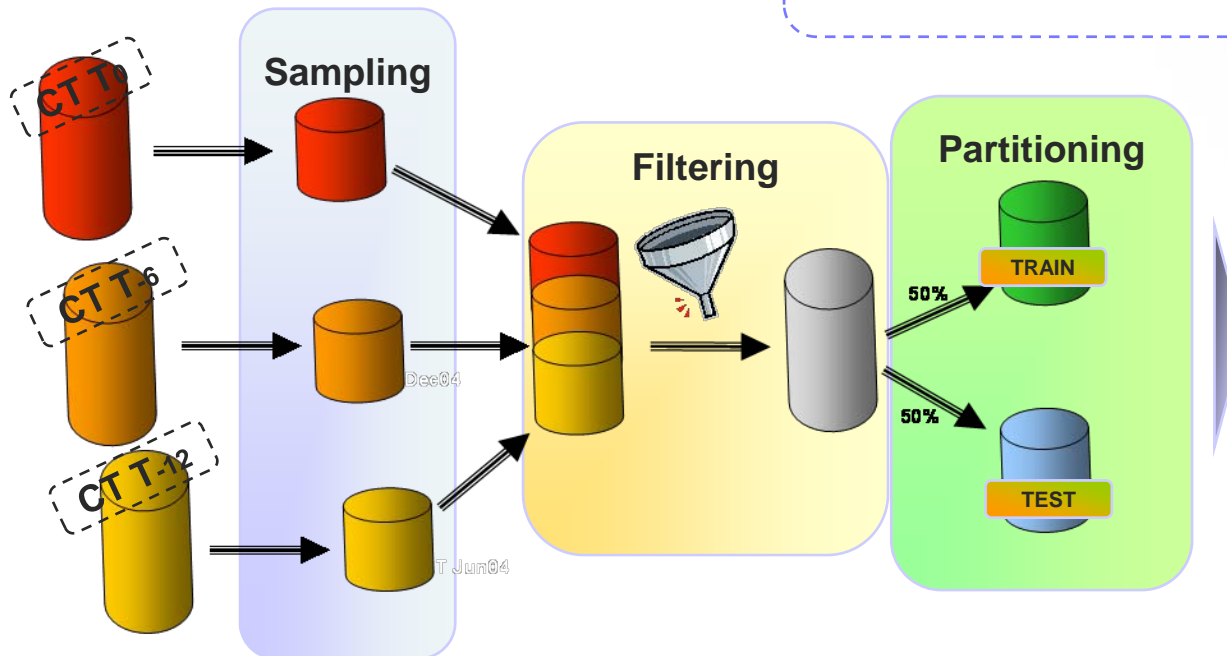


***Actual Churn***

**75% of the clients don't resume their accounts in the next 6 months and 30% of them eventually leave the bank.**

Methodology & Tools

We have developed a distinctive churn model for the individual clients of the bank. BPM has a Data Warehouse designed with the SAS system and the entire process of the model has been implemented with SAS.



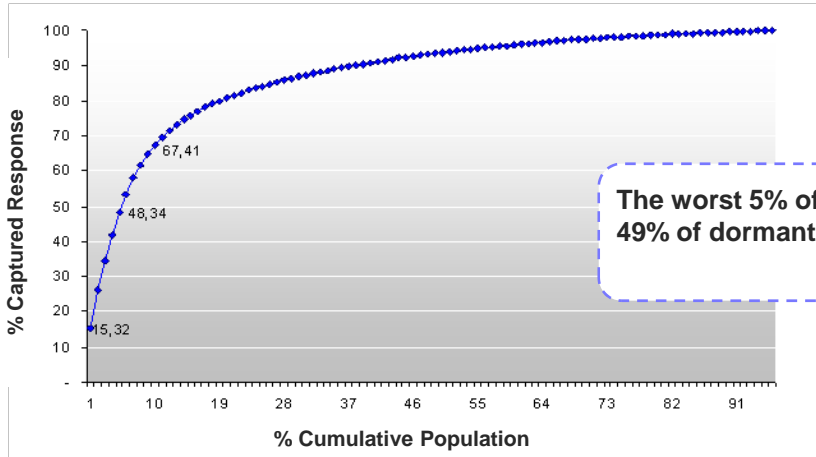
- It has been decided to use 3 different Customer Tables to bolster the rule and make it time-independent.
- A non-proportional sample has been extracted oversampling the positive event in order to make the phenomenon to forecast more visible and remarkable.

**Analysing**

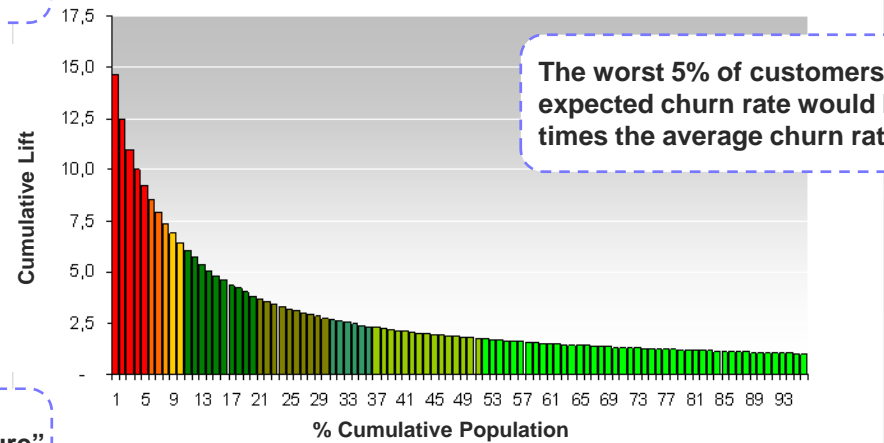
- Preliminary analyses for target definition
- Analyses of the distribution of the potential regressors
- Missing replacement
- The treatment of the outliers through the use of the Principal Component Analysis
- Logistic regression with stepwise selection
- Multicollinearity analysis
- Model validation on the test sample
- Profiling of the population through score bands

Results

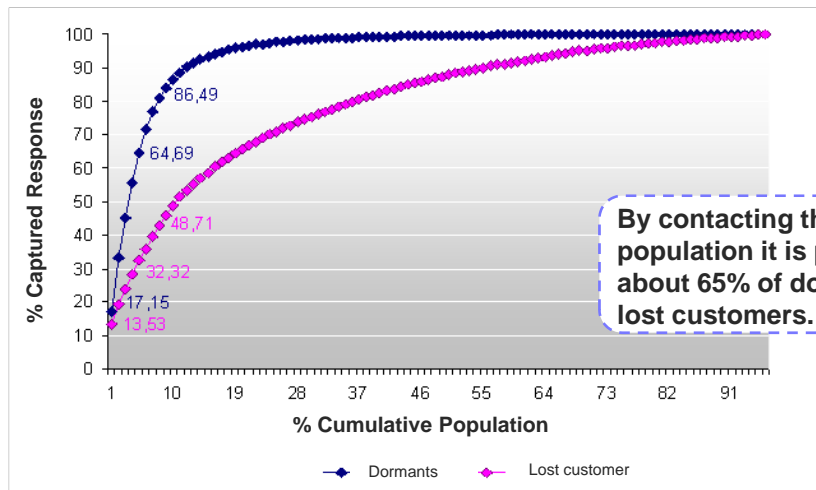
The model singles out and predicts the entry into the dormant status prior to the loss of the client.



The worst 5% of customers holds 49% of dormant or lost customers.



The worst 5% of customers: the expected churn rate would be 9.2 times the average churn rate.

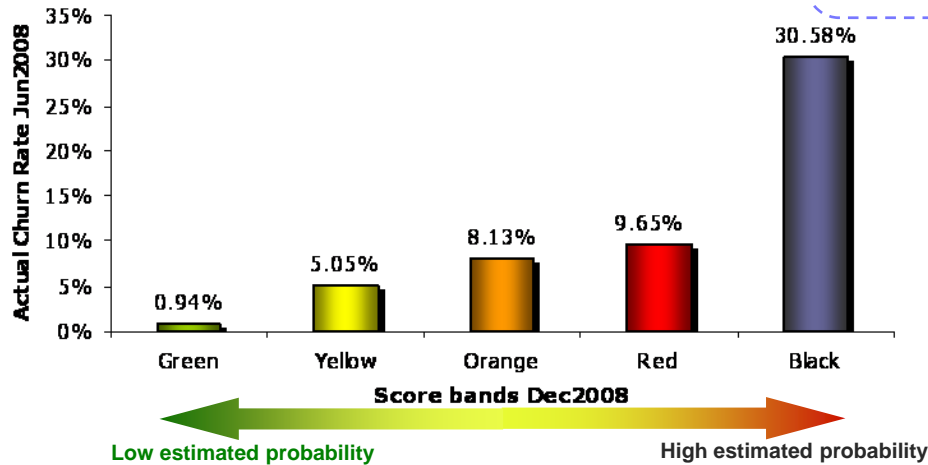


By contacting the worst 5% of population it is possible to "capture" about 65% of dormant and 33% of lost customers.

Benefits

This innovation represents a crucial element for a bank like BPM whose final aim is to establish a privileged and long-standing relationship with its clients.

Trough this model BPM identifies several target populations based on estimated probability and describes the profile of such populations. The bank will be able, in due time, to offer service proposals that will meet those needs which were not met until that moment and it will therefore be able to prevent the phenomenon of churn.



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