A manager at the bank is disturbed with more and more customers leaving their credit card services. They would really appreciate if one could predict for them who is gonna get churned so they can proactively go to the customer to provide them better services and turn customers' decisions in the opposite direction

I got this dataset from a website with the URL as <https://leaps.analyttica.com/home>. I have been using this for a while to get datasets and accordingly work on them to produce fruitful results. The site explains how to solve a particular business problem.

Now, this dataset consists of 10,000 customers mentioning their age, salary, marital\_status, credit card limit, credit card category, etc. There are nearly 18 features.

We have only 16.07% of customers who have churned. Thus, it's a bit difficult to train our model to predict churning customers.

A business manager of a consumer credit card portfolio is facing the problem of customer attrition. They want to analyze the data to find out the reason behind this and leverage the same to predict customers who are likely to drop off.

* For the purpose of this exercise, Attrited Customer and Existing Customer classes are releveled to 1 and 0 respectively.

CLIENTNUM : Client number. Unique identifier for the customer holding the account

Attrition\_Flag : Internal event (customer activity) variable - if the account is closed then 1 else 0

<Demographic>

Customer\_Age : Demographic variable - Customer's Age in Years

Gender : Demographic variable - M=Male, F=Female

Dependent\_count : Demographic variable - Number of dependents

Education\_Level : Demographic variable - Educational Qualification of the account holder (example: high school, college graduate, etc.)

Marital\_Status : Demographic variable - Married, Single, Divorced, Unknown

Income\_Category : Demographic variable - Annual Income Category of the account holder (< $40K, $40K - 60K, $60K - $80K, $80K-$120K, >

Card\_Category : Product Variable - Type of Card (Blue, Silver, Gold, Platinum)

<Relationship>

Months\_on\_book : Period of relationship with bank

Total\_Relationship\_Count : Total no. of products held by the customer

Months\_Inactive\_12\_mon : No. of months inactive in the last 12 months

Contacts\_Count\_12\_mon : No. of Contacts in the last 12 months

Total\_Amt\_Chng\_Q4\_Q1 : Change in Transaction Amount (Q4 over Q1)

Total\_Trans\_Amt : Total Transaction Amount (Last 12 months)

Total\_Trans\_Ct : Total Transaction Count (Last 12 months)

Total\_Ct\_Chng\_Q4\_Q1 : Change in Transaction Count (Q4 over Q1)

Credit\_Limit : Credit Limit on the Credit Card

Total\_Revolving\_Bal : Total Revolving Balance on the Credit Card

Avg\_Open\_To\_Buy : Open to Buy Credit Line (Average of last 12 months)

Avg\_Utilization\_Ratio : Average Card Utilization Ratio

Check the Contacts Count 12 mon and attrion flag chart on page 4 .

Larger percentage of attrited customer on 3 contact count.