# Problem Statement

# Credit Card Payment Default Prediction

Credit card is a flexible tool by which a customer can use a bank's money for a short period of time.

Predicting accurately which customers are most probable to default represents a significant business­ opportunity for all banks. Bank cards are the most common credit card type in Taiwan, which emphasizes the impact of risk prediction on both the consumers and banks.

This would inform the bank’s decisions on criteria to approve a credit card application and also decide upon what credit limit to provide.

## Dataset Information

This dataset contains information on default payments, demographic factors, credit data, history of payment, and bill statements of credit card clients in Taiwan from April 2005 to September 2005.

Using the information given, predict the probability of a customer defaulting in the next month.

## **Data Dictionary**

ID- Unique ID of each client  
LIMIT\_BAL -- Amount of given credit (NT dollars): It includes both the individual consumer credit and his/her family (supplementary) credit   
SEX -Gender (1=male, 2=female)  
EDUCATION - (1=graduate school, 2=university, 3=high school, 4=others, 5=unknown, 6=unknown)  
MARRIAGE - Marital status (1=married, 2=single, 3=divorced)  
AGE - Age of the client  
PAY\_0 - Repayment status in September, 2005 (-1=pay duly, 1=payment delay for one month, 2=payment delay for two months, ... 8=payment delay for eight months, 9=payment delay for nine months and above)  
PAY\_2 -Repayment status in August, 2005 (scale same as above)  
PAY\_3 - Repayment status in July, 2005 (scale same as above)  
PAY\_4 - Repayment status in June, 2005 (scale same as above)  
PAY\_5 - Repayment status in May, 2005 (scale same as above)  
PAY\_6 -Repayment status in April, 2005 (scale same as above)  
BILL\_AMT1 - Amount of bill statement in September, 2005 (NT dollar)  
BILL\_AMT2 - Amount of bill statement in August, 2005 (NT dollar)  
BILL\_AMT3 - Amount of bill statement in July, 2005 (NT dollar)  
BILL\_AMT4 - Amount of bill statement in June, 2005 (NT dollar)  
BILL\_AMT5 - Amount of bill statement in May, 2005 (NT dollar)  
BILL\_AMT6 - Amount of bill statement in April, 2005 (NT dollar)  
PAY\_AMT1 - Amount of previous payment in September, 2005 (NT dollar)  
PAY\_AMT2 - Amount of previous payment in August, 2005 (NT dollar)  
PAY\_AMT3 - Amount of previous payment in July, 2005 (NT dollar)  
PAY\_AMT4 - Amount of previous payment in June, 2005 (NT dollar)  
PAY\_AMT5 - Amount of previous payment in May, 2005 (NT dollar)  
PAY\_AMT6 - Amount of previous payment in April, 2005 (NT dollar)  
default\_payment\_next\_month - Target Variable: Default payment (1=yes, 0=no)