

## Enhancing Effectiveness of Credit Approval

*Fractal helps a large Asian credit cards issuer reduce default rates without dropping approval rates through a scorecard based approval process*

### SUMMARY

- **Client**  
Large Asian credit card issuer \*
- **Challenge**  
To improve the existing approval scorecard so as to control default and enhance approval rates
- **Solution**  
Fractal's customised approval scorecard
- **Result**  
The scorecard reduces defaults by 30% without dropping approval rates

\* This case study is based on a Fractal client that has requested anonymity

### ■ The Business challenge

Our client is the second largest card issuer in a leading Asian market. The credit cards market in Asia has grown rapidly over the last 10 years. However, it has also gone through a large default crisis, precipitated by an overall economic crisis in the region. Our client believed that growth opportunities were immense but accurate risk assessment was crucial. The lack of credit bureaus made the job of risk assessment that much tougher. The bank had been using rule based credit policies and was keen to move to a more scientific method of risk assessment. The bank also wanted to reduce approval time, and automate the entire credit decision process.

The challenge lay in building an application scorecard that would help the bank control default risk without significantly affecting growth.

### ■ The Solution

#### ➔ Data Integration

As a first step to building the scorecard Fractal assessed what data was available with the Bank that could map to future performance of applicants. The only information available on customers at the screening stage was their application information. Fractal integrated data from application forms of all past applicants. The data included customer demographics, product detail and delinquency information. The process of data integration also threw up cases where certain pieces of information were missing. Such cases were handled through the application of missing value imputation techniques.

#### ➔ Building the model

Initial analysis involved discovering underlying patterns of customer behavior and identifying key factors contributing to high delinquency rates. After identifying the initial patterns that were indicative of defaults the data was wired to generate predictive models that would map application information to a future default probability.

A key challenge in building the scorecard was that historically the bank had very low approval rates. Therefore, there was no performance information on a significantly large portion of the population. The new scorecard would replace the old rule based method and therefore be used for scoring all customers that applied to the Bank. It was therefore necessary to build the scorecard after imputing information about the credit behavior of the rejected customers. Sophisticated reject inference techniques were used to get around this problem.

## ■ The Results

Initial results from the model were validated against testing samples and hold out samples. The results showed that the model could reduce default rates by 30% without dropping the approval rates. The bank has successfully rolled out the model nationally. This has given the bank significant competitive advantage as it can now identify the applicants that suit its risk profile and approve only those applicants that it believes match its risk profile.

## ➤ About Fractal

*Fractal is a leading provider of customer analytics to consumer banks, credit card issuers, CPG companies and telecom companies. Fractal's analytical solutions have helped companies across the globe enhance profitability by powering their customer management efforts with scientific decision making.*



### INDIA

#### Fractal Analytics Ltd

Level 4, Corporate Enclave  
B D Sawant Marg  
Andheri, Mumbai 400099  
Tel: +91 22 6704 2444 / 5  
Fax: +91 22 6704 2446

### SINGAPORE

#### Fractal Private Ltd

138 Cecil Street #03-02  
Cecil Court  
Singapore 069538  
Tel: +65 6222 5101  
Fax: +65 6222 5102

### UNITED STATES

#### Fractal Analytics Inc

2500 Plaza Five  
Jersey City, NJ 07311  
Tel: 201 633 8728  
Fax: 201 484 7201