

# Application Scorecards for a Large Retail Bank

## An Statistical Approach



### Client Profile

Client is one of the largest banks in UAE, offering whole spectrum of retail banking products and services.

### Business Objective

To maintain its leadership position and further enhance market share, bank was looking to improve its approval rate, accuracy in credit decisions and application turnaround time, while delegating the credit approval authority to branches. Dun & Bradstreet (D&B) after an initial study of their existing process which involved using a set of business rules, recommended using application scorecards for their key retail offerings i.e. Credit Cards and Personal Loans. Given the size of bank and mature IT systems, it was envisaged that statistical development of scorecards will be possible.

### Key Challenges

- **Data Quality** : Though sufficient data was available, D&B found few anomalies in some variables. Additionally. Some of the key variables like profession, occupation, employment sector, type of employer etc. were captured as a free text, limiting their usefulness in analytics exercise.
- **Change Management** : While interacting with key business users, D&B noticed some apprehensions in the sales team on the likely impact on sales volume.

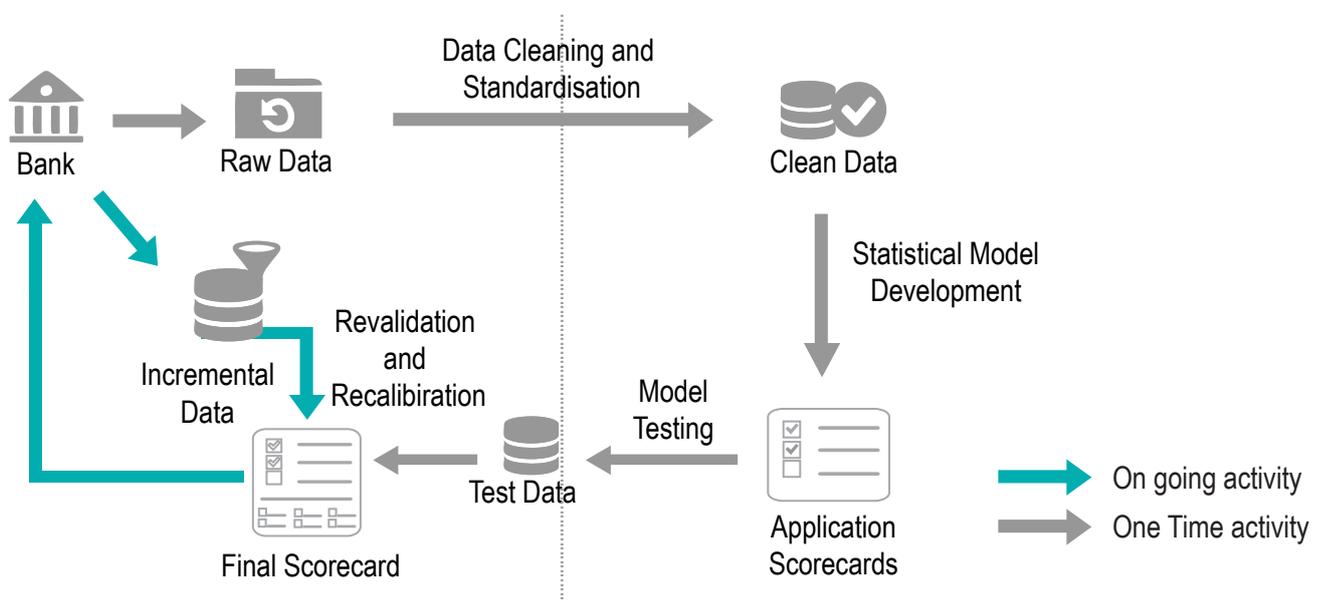
### Summary

*Retail Banking industry is becoming more competitive and Banks need to improve the speed and accuracy in their customer selection and credit decisions to grow their portfolios while containing the risk. Application scorecards can help a bank in automating such decisions based on scientific evidence to improve the quality and profitability of their portfolios. This case study provides more details on how D&B assisted one of the largest banks in UAE in developing and implementing highly accurate application scorecards for their retail portfolio.*

## Solution Approach

A preliminary data analysis revealed that data provided by bank was adequate for building a pure statistical model with desired accuracy and robustness. Therefore a ‘Statistical’ approach was recommended. Following were the key steps taken to develop the models:

- ➔ **Step 1 – Data Quality Management:** High quality data is a pre-requisite for developing statistical models. D&B used a variety of techniques like data scrubbing, proxies and text analytics to fill in missing information and standardize the irregular data entered as free text in application capture process to ensure the desired quality of data was achieved. As part of the best practices which D&B follows during data cleaning, recommendations were made on standard parameters that should be captured as ‘drop down’ values instead of free text entry in future applications to prevent data related issues.
- ➔ **Step 2 – Model Development:** D&B used advanced statistical techniques for variable selection, binning and weight allocation to develop the application scorecards. These models comprised of total eleven variables out of fifteen variables made available by bank, based on their weight of evidence. D&B also provided its recommendations on cut off scores and risk based pricing to enable more attractive offers to customers with lower risk profiles.
- ➔ **Step 3 – Model Testing and Presentation:** The statistical models were tested on bank’s data for its accuracy & predictive power before submitting it to the bank’s credit committee for final approval. As part of the testing process, the models were also applied on rejected customers’ data and it was found that about one third of the rejected customers had acceptable risk profile. The findings were presented to key business stakeholders along with D&B recommendations to seek their feedback and approvals. Test results on ‘reject’ data was particularly useful to get acceptance of the sales team.
- ➔ **Step 4 – Model Implementation:** Bank was already using D&B’s credit scoring and decision management solution and the same was used to configure new scorecards. The system could be used by users across branches to take final credit decision based on scorecard output, enabling the bank in decentralizing the underwriting process.



## Client Benefits

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The key benefits accrued from the implementation of the expert rating model are:

- Reduction in credit losses – Credit losses are expected to come down by 85 bps for cards and 70 bps for loans.
- Improvement in turnaround time from 5 days to 2 days.
- Higher approval rates – The bank was able to increase its approval rate from 76% to 84% as 33% of the 'reject' customers were found to have acceptable risk profile.
- Reduction in transaction costs – Automated decision making and decentralized underwriting has reduced the operational time and costs.

**D&B estimates an increase of more than \$6 Million in net customer revenue due to higher throughput and lower credit losses.**

## Way forward

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An annual contract was signed by the client with D&B for periodic revalidation and recalibration of the models to further enhance the model accuracy and guard against sudden changes in macroeconomic environment and shift in customer demography.

## About D&B

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Dun & Bradstreet (D&B) is the world's leading source of global business information, knowledge and insight with access to the most valuable commercial database containing more than 220 million business records. D&B South Asia, Africa and Middle East (DBSAME) has been working with regional banks, credit bureaus, government agencies and business owners with a vision of creating more transparent and robust economies and helping its clients to Decide with Confidence™.