

# Predictive Modelling – Credit Cards Cross Sell Strategy

## Client: APAC Banking and Finance Corporation

### Business Background

A recent study revealed that a large number of customers using liability products in the bank possesses a high degree of spend appetite. However only a small percentage of this large base were found to be holding credit cards offered by the bank. This presented the bank with an opportunity to leverage and subsequently channelize the big spends towards a more profitable proposition in the form of an asset product like a credit card. A credit card cross sell campaign was to be launched with special incentives and rewards to attract new customers into the book.

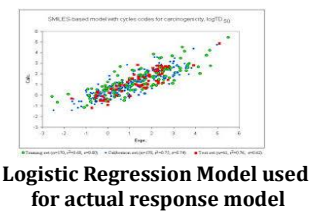
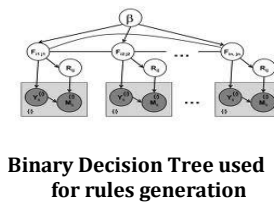
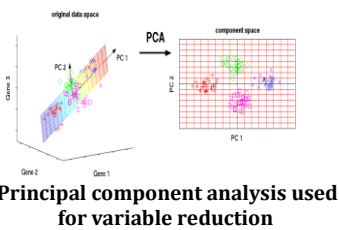
### Problem Statement

For any campaign, targeting the right customers with the right offers is absolutely imperative. Even an email campaign incurs cost, and the cost increases if more direct channels are deployed. A direct channel like a contact center outbound call or a statement insert has been observed to increase the response rate. Hence to build the right strategy it was important to develop an optimal targeting framework taking into consideration multiple customer attributes and the most effective channel mix

### Analytical Approach



- A channel allocation model was built to capture the customer channel preferences using historical response data. This was however for multiple campaigns run on the given customer base, not constrained by products.
- In order to build the predictive response model, historical data of 3 years were used to uncover responder attributes of the liability customers. To handle a large number of variables a PCA, followed by a Decision Tree, and finally a logistic regression was used to develop the cross sell campaign response model.



### Results and Recommendations

- The model was able to capture about 65% responders through targeting only 20% of the population with a K-S of about 59 and lift of 3.5 at the highest value of K-S. Some of the key attributes generated by the model were other asset product holdings, Average half yearly spend, month on book and so on.
- The implementation happened in more than 1 phase. The pilot phase demonstrated a steep rise in the response rate, to as high as 9% as compared to 4.7% observed before model implementation
- The first phase of full implementation saw the response coming down slightly to about 7.7%, which was still fairly high looking at the overall response year over year. The model ROC and Lift curve along with PSI and CSI demonstrated stability across all validation data soon before the final implementation which only showcased the robustness of the overall model.