

SMART LENDER-APPLICANT CREDIBILITY PREDICTION FOR LOAN APPROVAL

Problem statement:

Nowadays, Banks struggle a lot to get an upper hand over each other to enhance overall business due to tight competition. Banks have realized that retaining the customers and preventing fraud must be the strategy tool for healthy competition. Availability of the huge quantity of data, creation of knowledge base and efficient utilization of the same have helped banks to open up efficient delivery channels. Business decisions can be optimized through data mining. Customer segmentation, banking profitability, credit scoring and approval, predicting payment from customers, marketing, detecting fraud transactions, cash management and forecasting operations, optimizing stock portfolios and ranking investments are some of the areas where data mining techniques can be used in the banking industry.

Credit risks which account for the risk of loss and loan defaults are the major source of risk encountered by banking industry. Data mining techniques like classification and prediction can be applied to overcome this to a great extent. There are mainly two objectives that is to be achieved through these techniques. They are:

Identification of the relevant attributes that signal the capacity of borrowers to pay back the loan, and

Determining the best model(s) to evaluate credit risk.

Decision Tree Induction Algorithm is one of the best techniques to achieve this objective. The model thus developed will provide a better credit risk assessment, which will potentially lead to a better allocation of the bank's capital.

In this regard, a study is conducted and an efficient prediction model which helps to reduce the proportion of unsafe borrowers is introduced herewith. Due to the significance of credit risk analysis, this study helps banking industry by providing additional information to the loan decision-making process, potentially decreases the cost and time of loan applications appraisal, and decreases the level of uncertainty for loan officers by providing knowledge extracted from previous loans. Decision Tree Induction Algorithm used in this model is the data mining technique for predicting credible customers.