Bank Loan Prediction

Content:

This case is about a bank which has a growing customer base. Majority of these customers are liability customers (depositors) with varying size of deposits. The number of customers who are also borrowers (asset customers) is quite small, and the bank is interested in expanding this base rapidly to bring in more loan business and in the process, earn more through the interest on loans. In particular, the management wants to explore ways of converting its liability customers to personal loan customers.

Format:

- ID- Customer ID
- Age- Customer's age in completed years
- Experience- #years of professional experience
- Income- Annual income of the customer ($000)
- ZIPCode- Home Address ZIP code.
- Family- Family size of the customer
- CCAvg- Avg. spending on credit cards per month ($000)
- Education- Education Level. 1: Undergrad; 2: Graduate; 3: Advanced/Professional
- Mortgage- Value of house mortgage if any. ($000)
- Personal Loan- Did this customer accept the personal loan offered in the last campaign?
- Securities Account- Does the customer have a securities account with the bank?
- CD Account- Does the customer have a certificate of deposit (CD) account with the bank?
- Online- Does the customer use internet banking facilities?
- CreditCard- Does the customer uses a credit card issued by Bank?

Task:

Tools Recommended- R, Python.

1. Build a model that will help to identify the potential customers who have a higher probability of purchasing the loan.
2. Use a classification model to predict the likelihood of a liability customer buying personal loans.
3. Build a decision tree model to identify probability of purchasing loan.