Bank transactions are one of the data sources that banks can use for their marketing decisions and campaigns. In this thesis, we are concerned with the use of bank transactions for the prediction of clients who will take out a loan in the following month. The bank can use this information in its direct marketing. We test 2 approaches - logistic regression and recurrent neural network, where both of these approaches use information from transactions for the prediction. These two approaches are compared with each other and also with the currently used approach in the bank. The average AUC of the currently used model in the bank is 0.854, which we improved by our best model to 0.861, which is a significant improvement. Furthermore, our best model also outperforms the bank's current model in other computed metrics.