Šarlija, Nataša; Benšić, Mirta; Zekić-Sušac, Marijana

**Logistic regression, survival analysis and neural networks in modeling customer credit scoring**


**Abstract.** The paper discusses credit scoring modeling of a customer open-end accounts depending on application data and transaction behavior data. Logistic regression, survival analysis, and neural network credit scoring models were developed in order to assess relative importance of different variables in predicting the default of a customer. Three neural network algorithms were tested: multilayer perceptron, radial basis and probabilistic. The radial basis function network model produced the highest average hit rate. The overall results show that the best NN model outperforms the LR model and the survival model. Statistical association measures reveal that the best NN model is more associated with the data than the other two models. All three models extracted similar sets of variables as important. Working status and client's delinquency history were extracted as the most important features for customer credit scoring modeling of open-end accounts on the observed dataset.