Comparison Performance of Qualitative Bankruptcy Classification based on Data Mining Algorithms

Nilam Nur Amir Sjarif [1], Yee Fang Lim[1], , NurulHuda Firdaus Mohd Azmi[1], Kamalia Kamardin[1], Doris Wong Hooi Ten [1], Hafiza Abas[1], Al Fahim Mubarak Ali[2]

[1]Advanced Informatics School, Level 5, Menara Razak, Universiti Teknologi Malaysia, 54100, Kuala Lumpur, Malaysia
[2]Enginering Research Group, Faculty of Computer Systems & Software Engineering,
Lebuhraya Tun Razak, 26300 Gambang, Pahang, Malaysia.
Corresponding author Email: nilamnur@utm.my

Bankruptcy classification and prediction are imperative for informed decision making and problem-solving in actual risk assessment. Knowledge discovery using data mining techniques are commonly applied in bankruptcy classification and prediction. This paper presents a comparison of three different classification algorithms namely NaiveBayes (NaiveBayes classifier), Logistic Regression (Logistic classifier) and C4.5 decision tree (J48 classifier) for bankruptcy classification analysis. Qualitative bankruptcy data retrieved from UCI Machine Learning Repository is used for the experimental study. The paper adopted percentage split and cross validation methods for more precise results of the classification performance. The results of the experiment show that NaiveBayes classifier has higher accuracy compares to Logistic and J48 classifiers. The paper contributes as a reference in high accuracy classifier selection for more effective decision supports in solving bankruptcy classification problems.