**An application of support vector machine in bankruptcy prediction model**

**Maggie Tang**

**The College of Saint Rose**

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This article compared model performance using support vector machine vs back-propagation neural network (BPN).

Most previous research on bankruptcy prediction used statistical methods like MDA, logit and probit, but its limitation on having some restrictive assumptions always cause violation with financial data. Recent study with BPN can solve this problem since it is less vulnerable to those assumptions. Serval comparations have been done on bankruptcy prediction: Comparation between two inductive learning algorithms (ID3 and AQ); Comparation between NNs and logit model, ID3 algorithm, and KNN model; Comparation between SVM and MDA, NNs.

This study focuses on comparation between SVM and BPN. A medium-size of data with 2320 observations from Korea Credit Guarantee Fund was applied. This study also made a comprehensive comparation between these two methods.

Results got from this study showed overall prediction performance of SVM on the validation set consistently good as the number of training set decrease; Accuracy using small data set is better than those using large data set; SVM has higher accuracy than BPN as the training set size gets smaller; Results of BPN are comparable with SVM in large size of data set.

We can get a conclusion from this study that SVM is better than BPN working with small data size at predicting bankruptcy.