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DlBr: Bankruptcy Prediction using Deep Learning - A Case Study on Indian Firms

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Abstract

This paper proposes DlBr : A deep learning model to predict bankruptcy of Indian listed firms. This study compares the proposed LSTM based model with models based on - Recurrent Neural Networks (RNN) & Support Vector Machine (SVM). The data set consists of 83 firms out of which 52 went bankrupt between 2017 & 2018. The proposed deep learning model is trained on 63 public firms while cross validation of the model was done using 20 public firms. It is observed that the proposed deep learning based DlBr model has an accuracy of 97.89% which is higher than the accuracy of models trained using the RNN SVM techniques. This study is particularly useful for financial institutions including Banks and NBFCs to determine the probability that a particular firm may go bankrupt in the near future. The bankruptcy prediction can have significant impact on lending decisions and profitability of financial institutions. To the best of our understanding this is the first work proposing deep learning based bankruptcy prediction model.

Keywords: Bankruptcy, Prediction, Non-performing Assets.



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