Developing Powerful and Comprehensible Models for Bankruptcy Prediction

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Abstract:
Numerous studies have been done over four decades on corporate bankruptcy and many researchers have examined bankruptcy prediction from different angles. Since seminal study of Altman (1968), researchers have used different financial data and applied different classification techniques such as discriminant analysis(DA), decision trees, logistic regression (LR), artificial neural networks (ANN), genetic algorithms and many more, to make models which have better discrimination power.
These researches show some advanced classifiers such as neural networks and support vector machines have more discriminative power than statistical techniques like DA and LR. However, in default prediction, we need classifiers, which are not only powerful, but also comprehensible. The comprehensibility aspect means the interpretability of the decisions made by the model and underestandability of the procedure which makes the decision. In our research, we use two understandable statistical techniques i.e. DA and LR in companies' bankruptcy prediction models and investigate whether transformation of variables will increase their discrimination power or not?