New Approach to Bankruptcy Prediction using Genetic Algorithm

Abstract

In this research the bankruptcy of companies has been surveyed through the genetic algorithm. To do this and in order to design its related genetic model, the financial ratios have been used and a genetic model has been presented in order to predict bankruptcy of the accepted companies in Tehran Stock Exchange Market. Formulating the related model has been done through the relevant data of two groups of the companies accepted as those in Tehran Stock Exchange Market. The first group consists of 40 non-bankrupt companies, and the second one like the first group includes 40 companies but they were bankrupt ones. The model is represented by using 24 financial ratios consisting of 4 groups of liquidation, profitability, activity, and leverage ratios (Capital Structure). The main point of this essay is that unlike the other previous methods which just present the genetic algorithms to solve the problem of predicting bankruptcy, here in this article in addition to focusing on the solution for the problem, the presented model has used the related algorithm in order to learn and converge on the appropriate answer. The test results of the prediction capability of the model indicates the fact that the presented model can predict the companies’ bankruptcy and non-bankruptcy accurately and with the least error some years before they really occurs, and by passing the
time of bankruptcy, its prediction ability decreases since its prediction indexes become weak gradually. The results of this study present the efficient functions of this method used by different researches.

References


Index Terms

Computer Science

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Genetic Algorithm (ga)  Prediction  Bankruptcy  Financial Ratios  Tehran Stock Exchange (tse)