빅데이터와 비즈니스 모델 15차 과제

**A case on artificial neural networks**

20191245 노유정

(

Neural networks have proven to solve many challenges well. The purpose of this study is to compare the predictive ability of neural networks to predict bankruptcy risk with a multivariate discriminant analysis model. The comparison between neural network models and discriminant analysis models in bankruptcy prediction is valuable in that the established method of making a priori assumptions about discriminant variables can be compared with a new and more robust approach. The importance of defect analysis provides another motivation for this study. First, management can use it to identify potential problems that require attention. Second, investors use ratios to evaluate companies. Finally, auditors use it as a screening tool. This study will determine whether neural networks are better predictors of management performance when presenting these equal ratios.

The purpose of this study is to perform ratio analysis using both discriminant analysis and neural networks. The sample of companies that obtained this ratio consisted of companies that went bankrupt between 1975 and 1982. The data used for bankruptcy companies came from the last financial statement issued before the company declared bankruptcy. Multivariate statistical techniques known as discriminant analysis are the most widely used methods for bankruptcy risk analysis. The neural network used for training was three perceptron networks consisting of an input layer, a hidden layer, and an output layer. Companies with production of 0.5 or more were classified as non-bankruptcy companies. The results obtained from this project show the possibility of using neural networks for predictive purposes. Further research in this area should be conducted using different ratios to see if prediction accuracy can be improved.