

ABSTRACT

Retail companies in the world and Indonesia began to experience a decline in performance. One of the causes of the decline in companies engaged in the retail industry in the world and Indonesia is the birth of e-commerce which makes transactions easier for people. Since 2015, retail companies in Indonesia have experienced a decline in revenue and even have a negative value and have resulted in a decline in the company's financial performance. Financial distress is a condition that puts a company at risk of bankruptcy. Therefore, it is necessary to analyze financial distress predictions as a tool to assist in making company decisions so that bankruptcy does not occur and to see the signal of the company's financial performance as an early deterrent.

In predicting financial distress, this study uses data mining methods with the neural network model used. Artificial neural networks are better at predicting financial distress and bankruptcy. Input variables in the artificial neural network architecture used in this study are three financial ratios, namely current ratio, asset return, and debt to asset ratio.

The purpose of this study is to determine the results of the calculation of the three ratios used as testing data, see how the comparison of the three company financial ratios that are reported in financial distress and do not experience financial distress as training data, an artificial neural network architecture that creates good performance on the training data used. to test the data, as well as see the results of financial distress predictions using artificial neural networks in retail companies listed on the Indonesia Stock Exchange which were the research samples. The sample of this research is twenty retail companies listed on the Indonesia Stock Exchange in 2015-2019.

The results of the research by the group of companies that reported financial distress which had a lower mean value of the three ratios than the group of companies that did not experience financial distress could be used as an input variable. In artificial neural networks, the best architecture in this study uses an artificial neural network, namely the input layer placed on 15 neurons, 20 neurons hidden layer architecture, and with the output layer one neuron with the results of training performance mean square error (MSE) used 0, 00000376 and R means 99.99%. The results show that four companies are predicted to experience financial distress.

Keywords: *Financial Distress, Financial Performance, Financial Ratios, Data Mining, Artificial Neural Network, Prediction*