ABSTRACT

There are various methods that can be used to predict the financial problems and potential bankruptcy of a company. In this study, several conventional methods are used, including the Altman method known as Z-Score, the Springate method known as S-Score, the Zmijewski method known as X-Score, the Grover method known as G-Score, and the Taffler method known as T-Score. These methods are designed to measure the likelihood of financial distress in a company.

This study aims to evaluate the accuracy of each financial failure prediction model when applied to manufacturing and retail companies. The research sample consists of 10 companies listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2023, which includes 6 manufacturing companies and 4 retail companies. The data used is secondary data obtained from the annual financial statements of these companies.

The results showed that in the manufacturing company group, the Springate method provided the highest level of bankruptcy prediction with an accuracy rate of 96%. In contrast, the Taffler method indicates that 92% of companies are in a safe condition. Meanwhile, in the retail company group, the Taffler method indicates that all companies (100%) are in the safe zone, while the Springate method predicts that 75% of the companies experience bankruptcy conditions.

In addition, these conventional methods have the potential to be further developed using a machine learning approach. Therefore, in this study the authors also built a machine learning-based prediction model, using the Zmijewski method as a ground truth reference to assess the classification results of the model built.

Keywords: Bankruptcy prediction, Financial distress, Machine learning, Zmijewski Method, Springate Method