

## ABSTRACT

ADHITYA PARLUHUTAN MANIHURUK / 2000861201069 / MANAGEMENT / ANALYSIS OF BANKRUPTCY IN THE COAL INDUSTRY SUB-SECTOR USING THE ARTIFICIAL NEURAL NETWORK METHOD ON THE INDONESIA STOCK EXCHANGE FOR THE 2019–2023 PERIOD / 1<sup>st</sup> “Advisor Prof. Dr. Hj. Arna Suryani, S.E, M.Ak, Ak, CA. / 2<sup>nd</sup> “Advisor Fadil Iskandar, S.E., M.M.

*This study aims to determine the analysis prediction of bankruptcy in the energy sub-sector company based on financial performance. The data research collected from secondary data using library research in the period 2019-2023.*

*The research methodology used is quantitative data. The data research collected from secondary data using library research in the period 2019-2023. While the data source of this study was collected from the company's financial reporting in the company's website. Data analysis technique that writer use is artificial neural network using algorithm backpropagation.*

*The Training sample are two criteria that are 5 bankrupt company and 5 not bankrupt company from the company energy sector 2017-2021 periods, and the company used as the objects is the company in the coal mining sub-sector using annual report taken from 2019-2023. The companies sampled in this study are PT. Atlas Resources Tbk, PT. Bina Buana Raya Tbk, PT. Bumi Resources Tbk, PT. Dian Swastatika Sentosa Tbk, PT. Dwi Guna Laksana Tbk, PT. Alfa Energi Investama Tbk, PT. Garda Tujuh Buana Tbk, PT. Indika Energy Tbk, PT. Resources Alam Indonesia Tbk, PT. Mitrabahtera Segara Sejahtera Tbk, PT. Rig Tenders Indonesia Tbk and PT. Golden Eagle Energy Tbk.*

*Based on the results of the research that has been carried out, the best model was obtained using 10 neurons. This model gets the best results, namely with the best R value = 1 and the smallest MSE =  $2.44 \times 10^{-8}$ . From the test results, two companies are predicted to go bankrupt, namely PT. Atlas Resources Tbk and PT. Meanwhile, 10 other companies are predicted not to have the potential to experience bankruptcy.*

*Based on the results of research analysis and discussion using the Artificial Neural Network method, it can be concluded that 1. The results of the study using the Artificial Neural Network Method in the Coal Industry Sub-Sector listed on the Indonesia Stock Exchange for the 2019-2023 period show that there are 2 companies that are predicted to go bankrupt (ARII, and DWGL) due to difficulties in managing and paying their debts and most of the business capital comes from debt. Meanwhile, 10 other companies are predicted not to go bankrupt in 2024 because they are able to manage and pay their debts well to generate profits.*