FINANCIAL DISTRESS ANALYSIS WITH DATA MINING APPROACH FOR GO-PUBLIC’S MANUFACTURING INDUSTRY IN INDONESIA

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ABSTRACT

Financial distress is a stage of decline in a company's financial condition prior to the bankruptcy or liquidation. By knowing the condition of financial distress in an open manufacturing company in Indonesia, it can be done a variety of bankruptcy preventive action.

This study conducted in two stages namely: clustering financial data of 135 manufacturing firms over the period 2004 to 2008 and financial ratios analysis. Used variables in this study refers to the Altman Z-Score formula that has been used to assess bankruptcy manufacturing companies in the world. Cluster phase performed by the K-Means and Fuzzy C-Means method. Having obtained the results of the cluster, these two methods compared to find the best method that will be analyzed further.

The clustering results used K-Means clustering because it has a smallest value of SSE (Sum of Squared Error) and icdrate (internal cluster dispersion rate) than Fuzzy C-Means. The K-Means clustering results were analyzed with financial ratios approach and it found that the first cluster is non financial distress of manufacturing companies while the second cluster is financial distress manufacturing companies. The second cluster’s company need immediate action to prevent bankruptcy.

Keyword : financial distress, clustering, data mining, K-Means, Fuzzy C-Means, financial ratios analysis