ABSTRACT

Investment involves allocating a certain amount of capital in the present with the expectation of generating returns in the future, while considering potential losses. Constructing a portfolio by combining multiple stocks is an effective strategy to minimize risk. Stock selection for portfolio formation can be carried out through clustering analysis based on profitability ratios indicators that reflect a company's ability to generate profits, such as Return on Equity (ROE), Net Profit Margin (NPM), and Price to Earnings Ratio (PER). The Fuzzy C-Means (FCM) clustering method is employed to group stocks based on membership degrees. To validate the clustering results and ensure the formation of optimal clusters, the Silhouette Coefficient is applied. The stocks classified from the LQ45 index are subsequently assembled into a portfolio using the Multi-Index Model (MIM), which considers multiple factors affecting stock movements. In this study, the factors used are the Jakarta Composite Index (IHSG) and the exchange rate (Kurs).The study resulted in a portfolio comprising four stocks: ADRO with a proportion of 22.359%, AMRT with 13.089%, BRIS with 7.413%, and BRPT with 57.139%. Risk measurement was performed using the Historical Simulation method, which is deemed more suitable for estimating potential losses. The analysis yielded a Value at Risk (VaR) of 11.784% for the next one-month period.

Keywords: Portfolio, Profitability Ratio, Fuzzy C-Means Clustering, Silhoutte Coefficient, Indeks LQ45, Multi Index Model, Value at Risk, Historical Simulation