

ABSTRACT

The rapid growth of the Indonesian capital market has led to an increase in the number of Initial Public Offering (IPO) stocks, which are generally characterized by high volatility and limited historical data. These characteristics pose challenges in estimating returns and risks, as well as in constructing an optimal portfolio. This study aims to develop an optimal portfolio of IPO stocks by integrating the Fuzzy C-Means Clustering method with the Black–Litterman model under a no short-selling constraint. The data used consist of IPO stocks during the period from January to December 2025. The research methodology begins with the application of clustering techniques to group stocks based on their characteristics, followed by the use of the Black–Litterman model to estimate expected returns. Portfolio optimization is then performed using a proportional weighting approach with a non-negativity constraint. The clustering results produce three groups of stocks, consisting of 6, 10, and 3 stocks, respectively. From each cluster, one stock with the highest Sharpe Ratio is selected, namely MKAP, ASLI, and CGAS. The optimization results indicate that the optimal portfolio weights are 67.52% for MKAP, 13.41% for ASLI, and 19.06% for CGAS, with an expected return of 0.01665. The portfolio performance, evaluated using the Sharpe Ratio, yields a value of 0.7342, indicating that the portfolio is capable of generating higher returns relative to the associated risk, and therefore can be classified as an efficient portfolio.

Keywords: IPO Stocks, Black-Litterman Model, Fuzzy C-Means Clustering, Optimal Portfolio, Sharpe Ratio