

## ABSTRACT

Investment involves allocating funds or other resources with the expectation of future *returns*. Investing in the capital market is a prominent strategy for appreciating asset value, facilitated through various instruments such as stocks. The Investor33 Index, comprised of 33 liquid stocks with substantial market capitalization, serves as a benchmark for portfolio construction. A stock portfolio consists of a combination of assets with varying risk and return levels, which can be optimized through diversification. Normality tests were conducted on the returns of each stock in the portfolio to ensure that the return data is normally distributed, allowing for effective risk management. Portfolio optimization utilizing the Mean-Variance Optimization (MVO) framework prioritizes maximizing *returns* while maintaining a specified risk level. However, this model overlooks liquidity, a critical factor in investment decisions. The Liquidity Adjusted Capital Asset Pricing Model (LCAPM) provides an alternative framework by incorporating liquidity risk into the analysis. Adjusting asset allocation based on LCAPM can mitigate the risk of low liquidity frequently associated with less liquid stocks. The Particle Swarm Optimization (PSO) algorithm was employed to determine the optimal portfolio subject to a non-negativity constraint. PSO effectively explores the solution space iteratively, even within complex scenarios. The analysis resulted in an optimal portfolio, excluding short selling, comprising three stocks: ITMG (24,72%), AKRA (59,17%), and UNTR (16,11%). Maximum potential losses were assessed by calculating Value at Risk (VaR) using the Variance-Covariance method. This analysis revealed a potential loss of 15,02% at a 95% confidence level for a one-month holding period. Furthermore, portfolio performance was evaluated using the Jensen's Alpha index, which yielded a value of 0,010971. This positive result indicates that the portfolio exhibits strong performance and has the potential to generate *returns*

**Keywords:** Investasi, Portofolio, Indeks Investor33, *Mean Variance Optimization* (MVO), *Liquidity Adjusted Capital Aset pricing Model* (LCAPM), *Particle Swarm Optimization* (PSO), *Value at Risk* (VaR), Jensen's Alpha.