ABSTRACT

Telecommunications has undergone significant development in accordance with the times. Telecommunications narrows distances and facilitates information access. The infrastructure within telecommunications plays a crucial role in the establishment and continuity of communication. Investment involves the allocation of money or capital with the aim of gaining profit. Stocks are one of the instruments in investment; besides gaining profits, investors also face the risk of experiencing losses. Therefore, it is necessary to provide value protection to stocks owned by investors.

The objective of this research is to explore the implementation of option contracts in the Black-Scholes model using Historical Volatility and GARCH Volatility with a collar strategy. The data used in this study consists of the closing prices of TOWR and TBIG stocks from the period of 2011-2022.

The research findings conclude that, for TOWR stocks under non-crisis conditions with a maturity of 3 months, the Black-Scholes model with GARCH Volatility performs better than the model with Historical Volatility in every scenario.

Meanwhile, for TOWR stocks under crisis and non-crisis conditions with maturities of 1 and 3 months, the Black-Scholes model using Historical Volatility is superior to the model using GARCH Volatility in one of the scenarios. In the case of TBIG stocks under crisis conditions with a maturity of 3 months, the Black-Scholes model with GARCH Volatility outperforms the model with Historical Volatility in all scenarios.

However, under the conditions of a 1-month maturity and non-crisis conditions for 1 and 3 months in one scenario, the Black-Scholes model using Historical Volatility is superior to the model using GARCH Volatility.

Keyword: Stock,   Option   Contract,   Black-Scholes,   GARCH.