

Abstract

The development of information technology has opened new opportunities in the investment sector. The ease of opening securities accounts helps boost investment interest in the Indonesian stock exchange. Online banking offers attractive investment prospects, one of which is the stock of PT Bank Neo Commerce Tbk (BBYB.JK). Forecasting is conducted to predict the stock price. Forecasting can be analyzed using time series analysis to make predictions of future stock prices. In this study, the Vector Autoregressive (VAR) and Vector Autoregressive Moving Average (VARMA) models were employed, integrating two variables. The selection of both models was based on the inclusion of two variables, namely stock price and stock volume as the second variable. Stock trading volume serves as an indicator of stock activity and provides insights into buying and selling demand. Differencing methods were used to handle non-stationary data. The models were evaluated using Mean Absolute Percentage Error (MAPE) and Mean Absolute Error (MAE). The VAR (1) model trained with 90% training data and 10% testing data, yielding the most accurate results with a MAPE value of 2.08% and MAE value of 11.04. The greater the accuracy of the forecasting results is suggested by lower values of MAPE and MAE.

Keywords: Prediction, Stocks, Time series, Differencing, VAR, VARMA
