

ABSTRACT

Stock analysis is an essential step for investors to do before investing to understand stock price conditions. Investors can forecast stock prices by observing price movements from historical data. Stock prices can fluctuate or change continuously at any time. *Fuzzy* logic is a technique that can be used to address uncertainty. The *Fuzzy Time Series* (FTS) method is a forecasting technique that utilizes *fuzzy* logic to analyze time series data. The advantage of FTS is its high level of accuracy and its development into an effective model for forecasting time series data without requiring assumptions like other forecasting methods. This research uses the *Chen* and *Lee* FTS models by comparing the accuracy levels of both models to select the better model for forecasting the closing stock prices of PT Indofood Sukses Makmur Tbk. The data used consists of the daily closing stock prices of PT Indofood Sukses Makmur Tbk from August 10, 2023, to October 9, 2024, totaling 280 data points. This data is divided into 224 *training* data points and 56 *testing* data points. The application of the *Chen* and *Lee* FTS models in forecasting the closing stock prices of PT Indofood Sukses Makmur Tbk produced highly accurate forecasting results. Forecasting using the *Chen* FTS model on *training* and *testing* data resulted in MAPE values of 1,035% and 1,289% respectively. Forecasting using the *Lee* FTS model on *training* and *testing* data resulted in MAPE values of 0.961% and 1.083% respectively. The better model for forecasting the closing stock prices of PT Indofood Sukses Makmur Tbk is the *Lee* FTS model, which the forecasting result for the next period on October 10, 2024, using the *Lee* FTS model for predicting the stock price of PT Indofood Sukses Makmur Tbk is Rp 6,957.83, categorized as high closing stock prices.

Keywords: Stocks, Forecasting, *Fuzzy Time Series*, *Chen*, *Lee*, Indofood, MAPE