**ABSTRACT**

HADI KUSMANTO. Comparison Forecasting Analysis Seasonal Autoregressive Integrated Moving Average and Triple Exponential Smoothing Methods (Case Study for JCI Data). Under the supervisions of by MUHAMMAD NUR AIDI and NUR DE ABDUL RAHMAN.

There are three kinds of methods for analyzing time series data, i.e. smoothing, modeling and forecasting. Selection and application of appropriate methods become an important part, if the data time series are trend, seasonal and shifting. This study was aiming at evaluating and comparing the forecast error between Seasonal Autoregressive Integrated Moving Average (SARIMA) and Triple Exponential Smoothing (TES) methods. The approaches were used in simulation models to evaluate both data generation. Data generated in this simulation were based on the characteristics of the original data i.e. JCI (Jakarta Composite Index). JCI data were chosen because they did not possess the stationarity and seasonal nature; besides, forecast results will be beneficial to the investors of capital. Evaluation and selection criteria of a good method were based on MSE (mean square error). A good method is the method with the smallest MSE. Furthermore, this method was applied to forecast the movement of JCI data. The results showed that the best model for SARIMA was ARIMA model (1, 1, 1) (1, 0, 1) 3; however, for the TEST model, three coefficients were obtained i.e. smoothing coefficient levels, seasonal coefficient, trend coefficient resulting in the best TES (0.118, 0.035, 0.015). From the evaluation results using the MSE for both methods, they showed that the method of SARIMA is better because it has a smaller MSE. Further analysis produced an ARIMA model of (1, 1, 1) (1, 0, 1) 3 which is good and accurate in forecasting the JCI.

**Keywords:** Seasonal autoregressive Integrated Moving Average (SARIMA), Triple exponential smoothing (TES), JCI