ABSTRACT

Tourism is one of sectors that have contributed to a wide variety, not just economically, but also socially political, culturally, regionally and environmentally. In Indonesia, the tourism sector has an important role in contributing to economic growth, especially in foreign exchange earnings. Therefore, it is very important to maintain and encourage the growth of tourism in Indonesia with the need for a model of forecasting the arrival of foreign tourists to Indonesia to assist the government in developing a tourism plan strategy.

There are factors in demand forecasting which affect a demand in the tourism sector. In this study data in the form of fuel prices, exchange rates, GDP per capita, and the volume of bilateral trade from five countries over the span of January 2012 to December 2019 are used as variables that affect the arrival of foreign tourists. The method used to create a forecasting model is a one of recurrent neural network architectures namely long short-term memory (LSTM). Three models are put in test and each model uses four types of parameters that are lookback value, hidden layer, number of epochs, and batch size. The first prediction model gives 97.21% of the highest accuracy. The second predictive model provides 99.17% of the highest accuracy. Lastly, the third prediction model provides 99.21% as the highest accuracy.

Keywords: *Forecasting, Tourism, Demand, Tourist Arrivals, Recurrent Neural Network*