

ABSTRACT

Tourism industry is always growing and uphold an important role in national economy as the second largest portion of foreign exchange contributor, as well as its role in national employment. Even though the number of tourist arrival keeps growing, it is still below Indonesian neighbouring countries in ASEAN. In improving tourism industry, forecasting is needed to anticipate the perishable nature of tourism. Therefore, an accurate forecasting is needed as the baseline of strategic resource planning in order to maximize the utilization and efficiency of the available resources. The objective of this research is to build an accurate and high-performance model that is able to forecast Indonesian tourism demand. Gross Domestic Product (GDP), Consumer Price Index (CPI) and exchange rate is used as independent variable to predict Indonesian tourist arrivals number this research use artificial neural network backpropagation as a forecasting method. The result of this research is a model that will be able to be used in forecasting tourism demand in Indonesia. When building a model, a set of parameters need to be adjusted through experiments. we reach the optimum result with 31 hidden neurons and t-1 delay. The accuracy of this model is 99,844% with the MSE value of error is 0.0047 and MAPE value 1.0658%. the result of this study will be beneficial for stakeholders to set an efficient resource planning.

Keywords : Tourism, Demand Forecasting, Artificial Neural Network, Indonesia