

A MODEL TO FORECAST TOURIST ARRIVALS: TIME SERIES APPROACH

Amarasinghe A.A.M.D.

Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka

malithamarasinghe123@gmail.com

Abstract

Tourism contributes significantly to the economic growth of many countries and regions. Considering the rapid increase in international tourism demand over the last few decades, accurate predictions of future trends of tourism demand are of particular importance to both tourism policymakers and tourism business practitioners. In most destinations, tourism demand displays significant seasonal variations. Seasonality affects tourism in various ways and is responsible for difficulties in gaining access to capital, high risks of investment and business failures, the ineffective utilization of resources and facilities, and difficulties in maintaining a consistent service quality. The main purpose of this study was to formulate a suitable model to forecast future tourist arrivals considering the seasonal variations using time series approach. This study has found a time series model to forecast future tourist arrivals by considering the data from January 2010 to December 2018. Data were obtained from the series of Annual Statistical Reports published by the Sri Lanka Tourism Development Authority. According to the behavior of Auto Correlation Function, Partial Auto Correlation Function of differencing data and with the results of Augmented Dickey Fuller test, several hypothesized parsimonious seasonal ARIMA (p, d, q) models were checked. The Schwarz Information Criterion (SIC), and the Akaike Information Criteria (AIC) are used to determine to select the best fitted model for the data. ARIMA (0, 1, 1) (1, 1, 0) has been selected as fitted seasonal model for the forecasting purposes. A comprehensive knowledge of seasonal patterns of tourism demand and the accurate prediction of their future values will contribute to effective planning and operations management, such as staffing, resource allocation and capacity management, etc.

Keywords: *ARIMA, Forecast, Seasonal Model, Time Series, Tourist Arrivals*