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Modeling tourist arrivals to Sri Lanka

K.M.U.B. Konarasinghe

Institute of Mathematics and Management, Sri Lanka

Research and management of large number of fields, including Hospitality and Tourism rely on mathematical modeling. Statistics plays a vital role in modeling process, capture the uncertainty and make the model more realistic. Accurate forecasts of tourist arrivals facilitates for decisions at all levels, from government to a single tourist. Hence, finding appropriate forecasting techniques is essential. Current study was focused on modeling tourist arrivals to Sri Lanka and identifying the best fitting statistical model for forecasting tourist arrivals. Monthly arrival data from 1968 to 2013 were tested on Moving Average (MA) Smoothing models, Single Exponential Smoothing (SES) models, Double Exponential Smoothing (DES) models and Holt's Winters Three Parameter Models. Model selection criteria were Mean Absolute Percentage Errors (MAPE's). MAPE of the models MA (2), SES of Alpha 0.8 and 0.9, DES of Alpha 0.9, Beta 0.1and Holt's Winters three parameter method of Alpha 0.9, Beta 0.1, Gamma 0.1 were 24%, 20%, 21%, 19% respectively. Mean Absolute Deviation (MAD) and Mean Squared Deviation (MSD) also agreed with MAPE's. It was concluded that Holt's Winter's three parameter model is the best fitting model for forecasting international tourist arrivals to Sri Lanka.

Keywords: Smoothing Techniques, MAPE

*udaya35@yahoo.co.uk