

Forecasting of weekly demand for a daily newspaper in Sri Lanka

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Uncertainty in the demand for a newspaper is a major problem that newspaper companies come across because the printing process of a newspaper highly depends on the newspaper demand. Better forecast is very essential to print a newspaper because the quantity of printing will be decided based on the forecasted value. Having an appropriate forecast of weekly total demand is essential to take important business decisions like budget planning and inventory controlling in newspaper industry. In this study, an analysis was carried out by using weekly data of demand from January 2013 to July 2014 for a daily newspaper. The main objective of this research was to fit a suitable model for forecasting the weekly demand of daily newspaper. The data set was divided into two parts; one for model fitting and other for model validation. Different Auto Regressive Integrated Moving Average (ARIMA) models were fitted for the data and best model for forecasting was identified by using minimum Mean Absolute Percentage Error (MAPE) value. ARIMA (2, 1, 3) model was identified as the best model for weekly demand forecasting. MAPE value for weekly demand is 11.84%. The fitted ARIMA models were efficient in weekly demand forecasting for the newspaper since the maximum error percentage for fitted values were about 8%. The proposed model was found to perform well in predicting the weekly demand for the selected newspaper. Furthermore, the proposed model with minor adjustments can be used for weekly demand forecasting for any daily newspaper in Sri Lanka by applying the same procedure.

Keywords: ARIMA, MAPE

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