

Forecasting movie demand using total and split exponential smoothing

ABSTRACT

In the motion picture industry, the movie market players always rely on accurate demand forecasts. Distributors require the demand forecasts to decide the best release date of the new movies that arguably the most difficult decision. Thus, forecasting methods which are able to capture historical patterns can be relied on to produce an accurate prediction. Exponential smoothing methods are the common methods, but there is limited study using this technique in movie demand forecasting. In this paper, we study the performance of a newly proposed seasonal exponential smoothing method that previously has been considered for forecasting daily supermarket sales. It is known as total and split exponential smoothing, and apply it to daily box office from the United States market. The resulting forecasts are compared against other exponential smoothing methods, seasonal adjustment, non-seasonal, and seasonal exponential smoothing methods. Overall, total and split exponential smoothing with optimised parameters separately for each lead time is performing good, followed by seasonal (damped trend) exponential smoothing method (DA-A). The identification of the best performing method assists distributors to make a decision on the best release date for their new movies earlier than the competitors.

Keyword: Forecasting; Exponential smoothing; Movie demand; Time series