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Time Series Modelling
Assignment

Case Study – Demand Forecasting for a seasoned Product

Mr. John Adam is a Sales and Marketing Head of Automobile manufacturing firm ABC Limited. Recently ABC Limited has structured their historical data enterprise wide so that management of ABC Limited can take calibrated and correct decisions by using their business knowledge and data analytics potential. ABC has financial year period from May to April. Considering ABC Limited is about to finish Financial Year 2013, Management has decided to plan for Financial Year 2014 and asked Mr. John Adam to perform a sales/demand forecasting of their products for next 12 months based on historical sales data so that they can plan budgeting, resource, manufacturing and procurement activities accordingly. Hence Sales/Demand forecasting will play a very important and critical role for the firm because it will drive the rest of the activities for ABC Limited. More it will be accurate, more efficiently ABC firm can plan and use its resources in order to meet customer demands without any delays and dissatisfaction.

Mr. John Adam knows many forecasting techniques like:

- Simple Moving Average Method

- Weighted Moving Average Method

- Simple Exponential Smoothing Method

- Double Exponential Smoothing Method

- Triple Exponential Smoothing Method

- ARIMA

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But he does not know which one to employ for his requirements. But he knows the methods how to trace the accuracy and reliability of forecasted results along with comparisons and prioritizing the best among various forecasting technique suiting to the underlying historical data. Those methods are:

- Mean Absolute Percentage Error (MAPE)
- Root Mean Square Error (RMSE)

Finally, Mr. John Adam forecasts the sales/demand for Financial Year 2014 based on historical monthly sales data available by using each of the above mentioned forecasting methodologies.

Then, he applies above two tests (MAPE and MSE) to measure the accuracies of forecasted output by each of the six forecasting techniques. He compares the MAPE and MSE outputs and concludes the best sales/demand forecasting technique on the basis of sales historical data of ABC Limited.

On the basis of forecasted sales/demand, ABC management planned its Financial Year 2014 activities which helped them to save a lot of cost, smoothening operation, increase profitability and enhance customer satisfaction.

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Thank You!

For queries, write to us at: care@edupristine.com