

# Choice of moving average or exponential smoothing for a particular product profile

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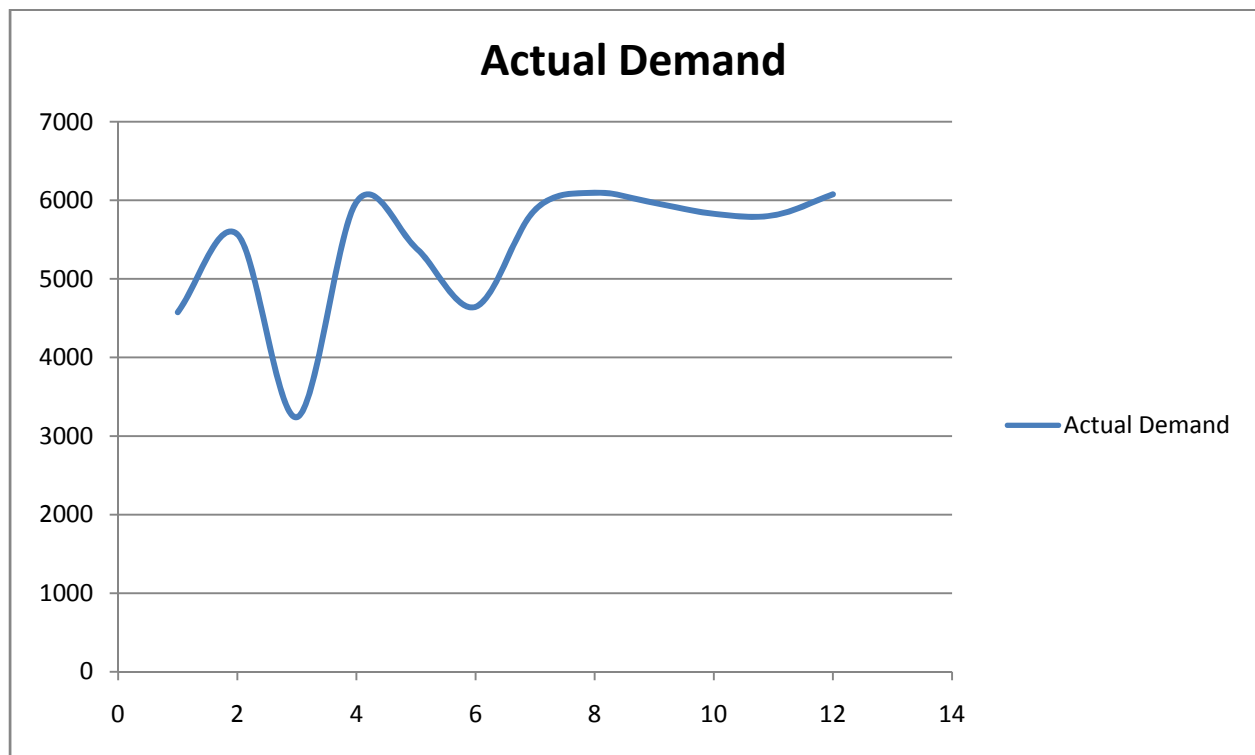
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## Introduction

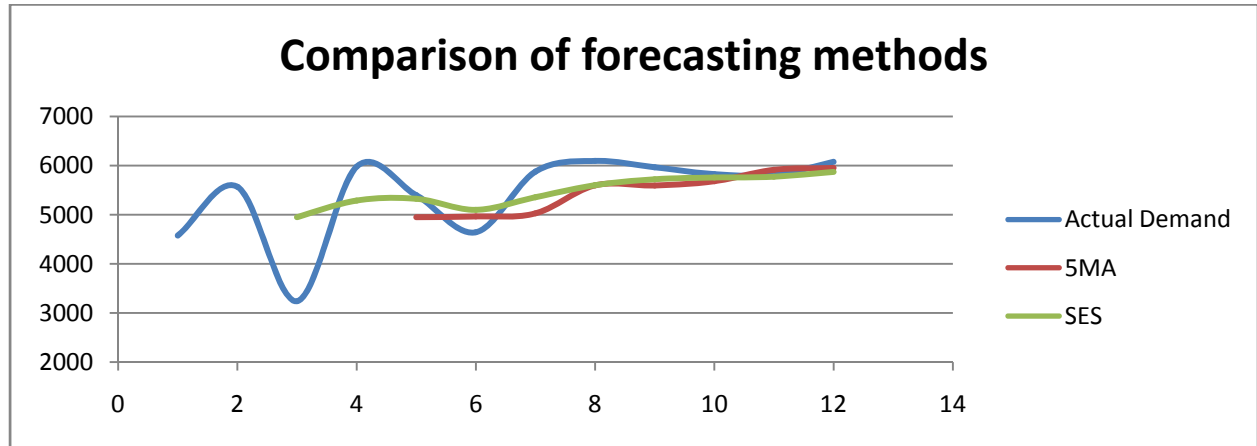
The demand data for a product has been shown in the table below. Compare the forecasts using a Moving Average with a period of 5 months, MA(5), and an Exponential smoothing Method with an  $\alpha$  of 0.33. For Exponential Smoothing use the midpoint of first 5 month range of the average as the initial Forecast. (Hint: the Exponential Smoothing Forecast will be initialized with a forecast of 4951 for April made in March.)

## Visualization of raw data



## Forecasting with 5-point moving average & simple exponential smoothing

Here we use  $\alpha=1/3$  for our exponential smoothing model

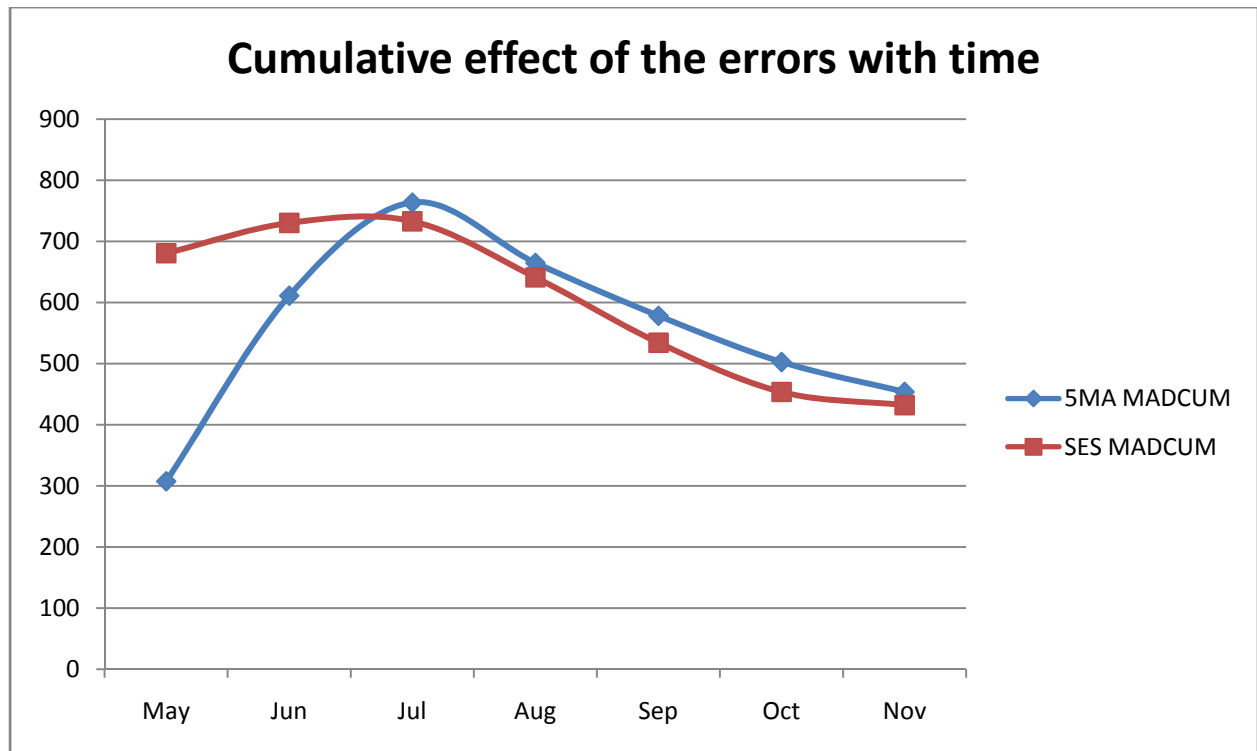


### Accuracy of the models

To estimate the accuracy of the models, we first compare the Mean Absolute Deviation (MAD) for each of the models.

	5MA	SES
MAD	453.7429	432.0553

Also comparing the error cumulatively gives a better picture of the accuracy of each of the models.



## Conclusion

For this particular product, the forecasts from June to December show that SES is performing better than 5MA. SES outperforms 5MA for 5 months while 5MA outperforms SES for only 2 months.