

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

COMPARISON BETWEEN BOX-JENKINS AND
SINGLE EXPONENTIAL SMOOTHING MODEL IN
FORECASTING PETROL PRICE

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ABSTRACT

The price of petrol is important to be understand because it affects both, individuals and businesses as it rises and falls. The petrol price in Malaysia has been fluctuated due to economic global crisis and also authority interventions. Unstable petrol price may give a negative impact to the country, such as contraction in country's economic growth, instability of country's economy and also difficulties for some businesses in predicting their future financial and corporate planning. Hence, it is important to forecast the petrol price to have a good financial plan in future. However, there is no appropriate model proved to be the best model in estimating the petrol prices in future. Thus, this report shows a comparative study between two models which are Box-Jenkins and Single Exponential Smoothing (SES) model. The sample data for this study were obtained from Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) Official Portal that consist of three different types of petrol which is RON95, RON97 and Diesel from April 2017 to March 2018. EViews 8 Software and Microsoft Excel are used to forecast the petrol price based on Box-Jenkins and Single Exponential Smoothing (SES) model. By comparing the value of Mean Square Error (MSE) and Root Mean Square Error (RMSE), the outcome of this study shows that Single Exponential Smoothing (SES) model provide a better forecasting price of petrol than Box-Jenkins model.