

Tinnakorn Noomuan, Lt. 2011: Forecasting Techniques for Inventory Management of Electric Utilities: A Case Study of PEA Utility at Thanyaburi. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Assistant Professor Dulpichet Rerkpreedapong, Ph.D. 128 pages.

This thesis presents the forecasting techniques for inventory demand of Provincial Electricity Authority (PEA) by using an Artificial Neural Networks (ANNs) forecasting technique compared with 3 forecasting methods – Moving Average (MA), Single Exponential Smoothing (SES) and Holt’s Linear Exponential (HES). This thesis considers the PEA Utility at Thanyaburi as a case study. The historical data used in this thesis are inventory demand from January 2008 to September 2010. Root Mean Square Error (RMSE) is used to assess accuracy of the forecasting models. When tested with the inventory demand of 25 spare parts, it is found that the Artificial Neural Networks techniques present more accurate forecasting results than the other methods mentioned above. The results from the forecasting can be later used in inventory management efficiently.

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