ABSTRACT

FORECASTING SALES ANALYSIS OF MEDICINES AT MUTIARA HATI BANDUNG PHARMACIES BY USING NEURO FUZZY

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Needs of Mutiara Hati to know the amount of medicine that required to be provided for a long time in the future is very important. By knowing the amount that required for pharmacies medicine supplies will be reduce the risk of losses of insufficient medicine supplies or excessive medicine. Therefore, the forecasting is really needs because the forecasting is the initial part of a decision making process.

GBell is the curve that shows the mapping of input data points into membership value which has an interval between 0 until 1 that contain in the Neuro Fuzzy method or Adaptive Neuro Fuzzy Inference System (ANFIS). ANFIS is the combination of two systems, fuzzy logic system and neural networks. ANFIS system based on fuzzy inference system trained by learning algorithm derived from neural networks system. ANFIS learning algorithm consist of two stages, the advanced stage using Least-Squares Estimator method (LSE) and the backward stage using Error Back-Propagation method (EBP).

By seeing the picture of medicine sales pattern every year that available at Mutiara Hati pharmacies, there have same pattern with GBell membership function. Doing the forecasting of GBell membership function will result parameters that will be update by ANFIS learning algorithm so it will produce of accurate predictions. Therefore in this final exam will be analyze to predict the level of medicine sales at Mutiara Hati pharmacies using Neuro Fuzzy method.
Based on learning result and testing that have been done, Neuro Fuzzy analysis with ANFIS structure can use to predicting level of medicines sales at Mutiara Hati Bandung pharmacies with the smallest average error for the years 2007-2008 (learning process) is RMSE 8.05106.

Keys: Forecasting, Medicine Sales, Neuro Fuzzy, ANFIS, RMSE, Mutiara Hati pharmacies