

ABSTRACT

ACCURACY COMPARISON OF FUZZY TSUKAMOTO METHOD AND SUGENO FOR INVENTORY PREDICTION (STUDY DATA : OMAH PETSHOP PURBALINGGA)

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The process of selling goods at the Omah Petshop Store currently affects the inventory. The addition of inventory that is not appropriate will result in expenditure and income profits are not optimal. Fuzzy Tsukamoto and Sugeno methods can be used in making predictions. However, the comparison of the accuracy of these two methods is not yet known to the prediction of Petshop Omah inventory data. Prediction of inventory at Omah petshop needs to be done to be able to optimize expenses and profits obtained by Omah petshop and find out the accuracy obtained from the Tsukamoto and Sugeno methods with sachet cat food data taken from the January to December 2020 time range will be used as input. Starting with fuzzification, the formation of rules that produce 4 rules, but there are differences in the formation of the sugeno rule, namely the formation of new rules using the order-1 model in the form of linear equations. Then the implication, namely the calculation of the value of α -predicate and the value of z_i , and defuzzification to get the predicted value. Mean Absolute Percentage Error (MAPE) is used to determine the accuracy value obtained. The results of calculations using 12 data showed that Tsukamoto and Sugeno methods have good accuracy, but the Tsukamoto method has a better accuracy value compared to the Sugeno method, with an accuracy value of 85.22% for the Tsukamoto method and an accuracy value of 80.33% Sugeno method.

Keywords: MAPE, Comparison, Inventory, Sugeno, Tsukamoto.