APPLYING FUZZY INFERENCE SYSTEM OF TSUKAMOTO METHOD IN DETERMINING THE AMOUNT OF WOOD-CRAFTING PRODUCTION

(CASE STUDY: WOOD CRAFTING "SINAR REJOSARI TERANG" KABUPATEN MAGELANG)

Dicky Pranata

[1] *Department of Informatics, Faculty of Science & Technology*
University of Technology Yogyakarta
North Ringroad St., Jombor Sleman Yogyakarta
Email: pranata.nata00@gmail.com

ABSTRACT

Determining the amount of production is something that must be considered in a production process. Many things must be considered from various factors in determining the production amount to minimize the risk of loss. The problem faced by Sinar Rejosari Terang Wood Crafts is that the optimal amount is not known in determining the amount of production. Therefore, the right decision should be made to determine how many products are produced optimally to reduce losses and increase sales because large quantities of production must be exported every month to various cities both on the island of Java and outside the island of Java. Difficult to adjust to market expectations, sometimes the amount of production is too much or too little so that productivity becomes less than the maximum, and the losses are not negligible due to errors in determining production. Therefore, Sinar Rejosari Terang Wood Craft requires an alternative solution, namely the existence of a system to determine the amount of wood handicraft production, namely Tsukamoto fuzzy, which has a fuzzy rule-based system consisting of 4 main components, namely, fuzzification, rule, interference, and defuzzification. Based on the entry-level, wood handicraft production requires input in demand, supply, and production variables. Tsukamoto's method in determining the amount of production of Sinar Rejosari Terang wood handicrafts can provide the correct value and accuracy of predicting the ideal number of production according to the criteria. These rules are adjusted to the conditions of the woodcraft production process. From the tests carried out, the system built can adjust the balance between the amount of demand and the amount of inventory. The output generated from this system can provide optimal production results per month with good forecasting model capabilities with an error value of 11.60% of the test results using the average absolute error percentage with the accuracy of the prediction system for determining the amount of woodcraft production using the Tsukamoto fuzzy method. 88.40%.

Keywords: Fuzzy Tsukamoto, Prediction of Production Amount, Wood Crafts