

**APPLICATION OF MAMDANI FUZZY LOGIC
IN OPTIMIZING THE QUALITY OF PRODUCTION
(Case Study: Arema Kue in Mataram)**

ABSTRACT

Arema cake is one of the cake industries that every day produces cakes with an erratic number, which can cause losses due to lack or excess production. The purpose of this research is to apply Mamdani fuzzy logic to determine the certainty of the number of cakes that should be produced by Arema Kue at a time by making predictions according to the data. The method applied in the system is the fuzzy logic Mamdani method, where from the demand, supply and production data a fuzzy set is formed and determines the membership function and value. Then it determines the application of the implication function according to the membership function and fuzzy rules. After that, the company determines the amount of production through the defuzzification stage. The results of the application of mamdani fuzzy logic obtained the results of testing with MAPE found the number of errors of 9.08% which is included in the category of very good forecasting models. Hence, it can be concluded that the application of mamdani fuzzy logic for optimizing the amount of cake production in Arema Kue has high accuracy.

Keywords: Optimization, Fuzzy Logic, Mamdani, Production, defuzzification.