Application of Mamdani Fuzzy Method in Herbal Soap Production Planning

I. H. Santoso [1], P. Katias [2], T. Herlambang [3], M. Tafrikan [4],
K. Oktafianto [5], A. A. Firdaus [6*] and H. Arof [7]

[1] *Department of Accounting Magister, University of Wijaya Kusuma, Surabaya, Indonesia.*
[2] *Department of Management, Universitas Nahdlatul Ulama Surabaya, Indonesia.*
[3] *Department of Information System, Universitas Nahdlatul Ulama Surabaya, Indonesia.*
[4] *Department of Mathematics, Universitas Islam Negeri Walisongo, Indonesia.*
[5] *Department of Mathematics, University of PGRI Ronggolawe, Indonesia.*
[6*] *Department of Engineering, Faculty of Vocational, Airlangga University, Indonesia.*
[7] *Department of Electrical Engineering, University of Malaya, Malaysia.*

Abstract: Fuzzy logic is a logic that has a value of fuzzyness between true or false. This study discusses the application of the Mamdani fuzzy logic in solving production planning problems based on demand, remains and stock shortages. The variables used for the production of herbal soap are 4 variables, namely 3 input variables which consist of the demand variable, residual variable and shortage variable, and 1 output variable, the production variable. The demand variable consists of 3 fuzzy sets, namely decreasing, fixed and increasing, residual and shortage variables consist of 3 fuzzy sets, namely little, moderate and many, while the production variable consists of 3 fuzzy sets, namely reduced, fixed and added. Therefore, a system is needed to determine the amount of herbal soap production so that there will be no problems. The results of this study aim to apply the Mamdani fuzzy logic method in predicting the amount of herbal soap production based on demand, remains and stock shortage data. Based on the calculations carried out, there were only 8,333% of the data that had actual results. At the same time, the remaining 91.667% are the data that have planned results that are not in accordance with the actual data.

Keywords: *fuzzy inference system; determination of production quantities; Mamdani fuzzy logic.*

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* Corresponding author: mailto:aa.firdaus@vokasi.unair.ac.id