Abstract

In the selection of a new gas station locations, there are several criteria used in determining the best location of a set of alternatives. The selection of the right location can provide advantages in terms of meeting the energy needs of the country and economic terms. To obtain an objective decision, we need a system which can facilitate or assist decision-makers in decisions determining the location of gas stations.

Applications to be built in this study using the approach of Multiple Attribute Decision Making (MADM). The method used in solving the problem is the method of Fuzzy Multiple Attribute Decision Making (FMADM) model with Weighted Product (WP), because it is able to handle problems with many attributes with values similar priorities and methods of the Dempster-Shafer Analytic Hierarchy Process (DS / AHP) to solve the problem of Multiple Attribute Decision Making (MADM) with incomplete information. The approach taken is to identify all possible alternatives on each criterion.

Applications developed are used to determine the best location to set up a gas station from the many locations offered by the method of weighted Dempster-Shafer Product and Analytic Hierarchy Process (DS / AHP). Site selection is done by analyzing the input of information / knowledge about the requirements for setting up retail outlets. It is expected that this application can be used by Pertamina or private parties as a reference in choosing the best location of building stations.

Keywords: Selection of the location of gas stations, information is incomplete, Fuzzy Multiple Attribute Decision Making (FMADM), Weighted Product (WP), Dempster-Shafer Analytic Hierarchy Process (DS / AHP).