

Abstract

PT. Pertamina UBEP Lirik is one of the business units Pertamina EP, which conducts business activities in the upstream oil and gas fields, including exploration and exploitation. One form of exploitation is to reactivate old wells (shutin). Election or selection for a selected wells can be reactivated again consist of several criteria and a set of alternatives.

Multi Attribute Decision Making (MADM) can be used for assessing or selecting the best alternative from a number of alternatives. One of the methods used in solving MADM problems is the Analytic Hierarchy Process (AHP). AHP method can be applied to data that no single or fuzzy. In MADM problems with incomplete information on alternative methods used are Dempster-Shafer method of Analytic Hierarchy Process (DS/AHP). Fuzzy AHP method and Dempster-Shafer Analytic Hierarchy Process (DS/AHP) is a method used to solve problems of Multi Attribute Decision Making (MADM) with incomplete information. The approach taken is to identify all possible alternatives on each attribute. Then calculated the basic probability of each element and the confidence interval of each decision alternative.

Based on the results, of testing the formation of Triangular Fuzzy Number (TFN) on Fuzzy AHP affect its final outcome. Fuzzification parameters that affect the final value is BFPD, KA, BOPD and economic studies. This can be seen on the results accuracy. While the results of the analysis shows that the decision/selection using fuzzy AHP method and the DS/AHP is accurate because it can analyze data and problems with information/knowledge is incomplete, so that the appropriate output aimlessly near the reality.

Keywords: Selection of wells, Incomplete information, Multi Attribute Decision Making (MADM), Fuzzy Analytic Hierarchy Process (FAHP), Dempster-Shafer Analytic Hierarchy Process (DS/AHP)