

ABSTRACT

In today's competitive environment, selective raw materials acquisition, its complexity and dynamics have encouraged to pay more attention in all their functions, including supplier selection decision. Supplier selection is a multi-criteria decision making problem in supply chain management. The aims of this research is to take a decision in the selection and evaluation of the best supplier by rank several alternative suppliers based on supplier selection criteria are set out in the decision making, that the decision making is so complex and will represent the real life case more accurately. This research uses P.T. New Hope Jawa Timur as a firm works in feed mill industry field and that located in Sidoarjo.

The problem that happened in P.T. New Hope Jawa Timur with the supplier, where the material capacity was not suitable with the order. It is cause by the corn production which really depends on the climate. One of the solutions of this problem is to improve the supplier selection system using Fuzzy Analytic Hierarchy Process method. In this research, a fuzzy Analytic Hierarchy Process model will be designed for the problem of supplier selection in SCM. The extent analysis method used in this study are the steps of Chang's extent analysis with triangular fuzzy numbers and the final weights are calculated from weighted index values of integral values Liou and Wang for computing the priority weights of criteria and alternatives.

The result of the research shows that supplier B as the best supplier. The assessment did building on some criteria that believed important for the firm, that is quality, delivery, price, repair service, technical capability, geographical location and a total combined all the sub criteria as much as 16 sub criteria.

Keyword: Supplier Selection, Analytic Hierarchy Proces, Triangular Fuzzy Numbers