ABSTRACT

In the recycling industry, product integrity often depends on the quality of raw materials obtained from suppliers. Dacron Fabric Waste Recycling Company CV. Trimitra faces the challenge of ensuring the quality of the final product through selecting optimal suppliers. The aim of this research is to design a supplier selection proposal using the Fuzzy Analytical Hierarchy Process (FAHP) method to evaluate suppliers for the number of rejected products and procurement losses. FAHP, with its nature of accommodating subjective ambiguity and uncertainty, was identified as an appropriate approach to address complexity and variability in supplier selection criteria. In this research, relevant criteria and sub-criteria for supplier selection are identified, evaluated and weighted. The analysis results show that the FAHP method provides a more cohesive and objective decision structure, enabling CV. Trimitra to effectively reduce product rejects and procurement losses. The practical implications of this research are very significant, showing that the application of the FAHP method in supplier selection can be the key to improving efficiency and quality in the recycling industry.

Keywords: Supplier Selection, Fuzzy Analytical Hierarchy Process, Reject Product, Procurement Losses, Supplier Evaluation, Criteria.