

Fuzzy linear programming: a modern tool for decision making

Abstract

In this paper, the S-curve membership function methodology is used in a real life industrial problem of mix product selection. This problem occurs in the chocolate manufacturing industry whereby a decision maker, analyst and implementer play important roles in making decisions in an uncertain environment. As analysts, we try to find a solution with a higher level of satisfaction for the decision maker to make a final decision. This problem of mix product selection is considered because all the coefficients such as objective, technical and resource variables are fuzzy. This is considered as one of sufficiently large problem involving 29 constraints and 8 variables. A decision maker can identify which vagueness (α) is suitable for achieving satisfactory optimal revenue. The decision maker can also suggest to the analyst some possible and practicable changes in fuzzy intervals for improving the satisfactory revenue. This interactive process has to go on among the analyst, the decision maker and the implementer until an optimum satisfactory solution is achieved and implemented.