

Decision making in industrial production planning using fuzzy linear programming

Abstract

Any modern industrial manufacturing unit inevitably faces problems of vagueness in various aspects such as raw material availability, human resource availability, processing capability and constraints and limitations imposed by the marketing department. Such a complex problem of vagueness and uncertainty can be handled by the theory of fuzzy logic. In this paper, a new fuzzy logic based methodology using a S-curve membership function is used to solve a fuzzy mix product selection problem in industrial engineering. Profits and satisfaction levels have been computed using a fuzzy linear programming approach. Since there are several decisions to be taken, a performance measure has been defined to identify the decision that achieves a high level of profit with a high degree of satisfaction.