

A modified fuzzy multi-objective linear programming to solve aggregate production planning

ABSTRACT

This paper develops a fuzzy multi-objective model for solving aggregate production planning problems that contain multiple products and multiple periods in uncertain environments. We seek to minimize total production cost and total labor cost. We adopted a new method that utilizes a Zimmermans approach to determine the tolerance and aspiration levels. The actual performance of an industrial company was used to prove the feasibility of the proposed model. The proposed model shows that the method is useful, generalizable, and can be applied to APP problems with other parameters.

Keyword: Aggregate production planning (APP); Fuzzy multi-objective linear programming; Mathematical model; Aspiration level; Tolerance level