

A Fuzzy Mathematical Model for Order Acceptance and Scheduling Problem

Authors : E. Koyuncu

Abstract : The problem of Order Acceptance and Scheduling (OAS) is defined as a joint decision of which orders to accept for processing and how to schedule them. Any linear programming model representing real-world situation involves the parameters defined by the decision maker in an uncertain way or by means of language statement. Fuzzy data can be used to incorporate vagueness in the real-life situation. In this study, a fuzzy mathematical model is proposed for a single machine OAS problem, where the orders are defined by their fuzzy due dates, fuzzy processing times, and fuzzy sequence dependent setup times. The signed distance method, one of the fuzzy ranking methods, is used to handle the fuzzy constraints in the model.

Keywords : fuzzy mathematical programming, fuzzy ranking, order acceptance, single machine scheduling

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