SCHEDULING AND ORDER SELECTION STRATEGY FOR THE FLOWSHOP:AN INSTANCE OF H BEAM CORPORATION

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ABSTRACT

The objectives are competitive in solving the scheduling and order selection problem for the Flowshop. There are n jobs and m different machines. All jobs need to be scheduled m different machines, and every machine can process all n job.It is well know that all of the Flowshop scheduling, problems are NP-complete. currently, the Flowshop scheduling research has been focusing on minimizing makespan or total flow time. Recently, minimum weight tardiness performance criteria have become increasingly popular.Thus this study will be conducted in two stages. In the first stage we shall setup the weighted system for the order selection qualitative factory, base on Fuzzy and Analytic Hierarchy Process. In the second stage we shall examine the scheduling objective of Total Weighted tardiness which is also NP-complete.The objective is to develop an heuristic solution method based on Hybrid Genetic Algorithm. This method is then tested on randomly generated problems to evaluate its computational performance. Then , the method is updated for the minimum Total Weight Flow Time Finally, several different scale numerical examples demonstrate the Genetic Algorithm proposed is efficient and fit for larger scale Flowshop scheduling problem.

Keywords : Flowshop ; Total Weight Flow Time ; Analytic Hierarchy Process ; Hybrid Genetic Algorithm ; Fuzzy.

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