

Abstract

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Modelling and Simulation Of Economic Lot Size Scheduling Problem: A Case Study

Economic Lot Size Scheduling Problem (ELSP) is one of the most challenging problems in production and operation management. Although studied extensively in the literature, yet it is still one of the major topics in scheduling research. ELSP with its various configurations can be found in many industrial fields. In this paper, a producer of Fast Moving Consumer Goods is considering this decision. The company has a production line producing a range of products having dependent changeover cost. It is required to determine the production schedule and lot size that minimize the total cost. We provide a heuristic model that uses different priority rules, and simulate the model to compare the performance against the different priority rules at different lot sizes. The total cost is calculated finding that the Safety Time rule resulted in the least cost among tested rules. The effect of different cost parameters on the priority rule performance is also discussed leading to defining cost ratio determining the superiority of the used rule.