

ASSESSING THE OPERATING IMPACT OF PARTS COMMONALITY: A SIMULATION STUDY

Abstract

This paper investigates the impact of between and within product parts commonality on the workload of a manufacturing firm using an MRP system. We develop and validate a large simulation of an MRP system and integrate the generation of planned order releases with workload estimation on the shop floor. The results indicate that increasing parts commonality has positive effects in terms of average shop load but does lead to greater variability in terms of loadings as well as increasing system disruption.

Full citation:

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