

An Application of a Feedback Control System to Minimize Unforeseen Disruption in a Paper Manufacturing Industry in South Africa

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Abstract : Operation management is the key element within the manufacturing process. However, during this process, there are a number of unforeseen disruptions that causes the process to a standstill which are, machine breakdown, employees absenteeism, improper scheduling. When this happens, it forces the shop flow to a rescheduling process and these strategy reschedules only a limited part of the initial schedule to match up with the pre-schedule at some point with the objective to create a new schedule that is reliable which in the long run gets disrupted. In this work, we have developed feedback control system that minimizes any form of disruption before the impact becomes severe, the model was tested in a paper manufacturing industries and the results revealed that, if the disruption is minimized at the initial state, the impact becomes unnoticeable.

Keywords : disruption, machine, absenteeism, scheduling

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