

# A ROBUST DESIGN METHODOLOGY FOR KANBAN SYSTEM DESIGN

## Abstract

Many companies are interested in implementing just-in-time (JIT) manufacturing philosophies in response to increased competitive pressures on manufacturing. At the shop floor level, one application of JIT is through the introduction of Kanbans (or cards) so as to control in-process inventory. Traditionally, it has been argued that Kanban systems work well when the shop floor environment is fairly stable. In this paper, we propose and illustrate a methodology, based on the robust design concept of Taguchi, to implement Kanban systems in uncertain environments. We show how this procedure can be used to determine appropriate settings for the decision factors based on the inherent variations on the shop floor. From a managerial perspective, this procedure can be used not only for Kanban system design but also to identify shop floor factors which can be the targets of improvement efforts.

## Full citation:

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