The impact of production interruptions on kitting, an analytical study

1. Introduction

A kit is "a specific collection of components and/or subassemblies that together (i.e., in the same container) and combined with other kits (if any) support one or more assembly operations for a given product"[Bozer and McGinnis].

However, uncertainty in the industry concerning costs and revenues of this supply method is considerable and documented experience is to a large extent lacking.

Kitting systems have rarely been described in the literature, and many uncertainties regarding the performance and design options of these systems exist, leading to assembly systems providing kitting sometimes being rejected [Brynzer and Johansson].

According to Johansson, the reasons for implementing such systems usually involve parallelized assembly systems, product structures with many part numbers, quality assurance of the assembly and high value components [Johansson].

Nowadays, customers put a lot of pressure on the market to get timely delivery and low prices. In addition, more and more variation in the assortment is demanded and custom-made products are often requested. This trend leads to an increased amount of parts moving around on the shop floor.

To cope well with these tendencies in the market, manufacturers need to have good control over their operations and look for improvements where possible. In this viewpoint, kitting was introduced as a counterpart of line stocking. Whereas in line stocking parts are supplied to the line in bulk by means of individual component containers, in kitting components are grouped together by assembly and supplied to the line in kit containers.

*Kitting* is the practice of putting together a kit of components and/or subassemblies before delivery to the shop floor [Limère].

1. Methodology
2. Conclusion

* Bozer, Y.A. and McGinnis, L.F., 1984. Kitting: A generic descriptive model. MHRC-tr-84-04, Georgia Institute of Technology, Atlanta, Georgia.
* **Design and performance of kitting,** H. Brynzer & M.I. Johansson, Int. J. Production Economics 41 (1995) 115-125**nd, 1995**
* Johansson, M.I., 1991. Kitting systems for small parts in manual assembly systems, in: M. Pridham and C. O'Brien (Eds), Production Research Approaching the 21st Century. Taylor
* & Francis, London, pp. 225-230.**order picking systems**