Chapter 7
Production Release Control: Paced, WIP-Based or Demand-Driven? Revisiting the Push/Pull and Make-to-Order/Make-to-Stock Distinctions

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7.1 Introduction

The last 2 decades have seen a surge in the literature related to pull control, kanban-type control, WIP control, and more generally token-based production control systems. Not only have many generalizations, extensions, and variants of the original kanban system been introduced, analyzed, and compared (e.g., generalized kanban control system (GKCS), CONstant WIP (CONWIP), production authorization card (PAC), paired-cell overlapping loops of cards with authorization (POLCA), extended kanban control system (EKCS), customized token-based system (CTBS), heijunka kanban, among others), but several reviews (e.g., [13, 16, 17, 30, 31]) and new approaches for representing and analyzing these systems (e.g., [1, 2, 7, 9, 12]) have appeared in the literature in the last 5 years only. New developments have also taken place within the last 5 years in extending the analysis and performance of pull systems to include features such as advance demand information (e.g., [8, 22, 33, 38, 47]), lot sizing (e.g., [45]), multiple products (e.g., [19, 29, 44]), parameter and system optimization (e.g., [18, 41]), control point optimization (e.g., [3, 48]), and new simulation-based studies have been published (e.g., [15, 26, 28, 40, 43]).

Despite this intensive activity in the literature, or perhaps because of it, the definition of certain important concepts still remains unclear after all these years. Different authors still use the same name to describe different production release control concepts or different names to describe the same concept. This would not be a problem if the description of the concept were absolutely clear. Often, however, this is not the case, because many descriptions involve imprecise statements, such as “production release is based on system status” (what is system status? WIP, pending orders?) or

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