

DRUM BUFFER ROPE SCHEDULING TECHNIQUE

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Abstract

Synchronous Manufacturing System helps achieve better performance and efficiency in a manufacturing organization. Synchronous Manufacturing System introduces the concept of drum buffer rope (DBR) approach, which is generalized system and states how it satisfies and solves most of the problem of inventory levels in a manufacturing environment. Reducing work in progress (WIP) to improve cycle time, delivery and product quality has become the key for maintaining the profitability. There are various techniques like Material Required Planning, Just in time, Line balancing etc. that to performance improvement on the dimension of WIP. MRP is push type system, Just in time eliminates waste but installation period is high, while in line balancing cost of adding capacity is high. A relatively new approach called theory of constraint (TOC), introduced by Dr. Eliyahu Goldratt, could overcome the above problems. Theory of constraint (TOC) also known as constraint management (CM) or synchronous manufacturing (SM) is global managerial methodology, which tries to concentrate on the most critical issues of the system. Theory of constraints makes on the principle that 'Every organization has constraints that prevent it from achieving the higher level of performance.' These constraints should be identified and logically solved to improve the performance of system.

Keywords: SMS-Synchronous Manufacturing System, DBR-Drum-Buffer-Rope, TOC-Theory of Constraints CCR-Capacity Constraints Resources, MPS-Master Production Schedule, CM-Constraint Management