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DYNAMIC STRUCTURE OF ORDER PENETRATION POINT IN HYBRID PRODUCTION SYSTEMS

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ABSTRACT

The dynamism of hybrid make-to-stock (MTS) /make-to-order (MTO) production systems has attracted the practitioners and academicians' attention all over the world because of the potential to benefit from both pure MTS and pure MTO advantages. On the other hand, order penetration point (OPP) has an essential role in hybrid manufacturing environments. Our aim is to explore such systems through covering some influential factors that have not been considered so far. Hence, a system dynamics (SD) model is created considering three different series of workstations (MTS, MTO, and MTS/MTO) in a manufacturing firm with a continuous production line. Furthermore, this paper considers the impacts of some significant, exogenous variables such as different outlays including operating expenses, holding costs, and the company's net profit.

Keywords: Production planning; Make to stock/Make to order; System dynamics; Capacity coordination; Order penetration point.

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