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A Profit And Loss Analysis For Make-To-Order Versus Make-To-Stock Policy—a Supply Chain Case Study

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Abstract

The make-to-order (MTO) or make-to-stock (MTS) decision is important for contract manufacturers supporting product supply chains. This case study provides an integrated profit and loss investment analysis for MTO versus MTS policy while also quantifying factory cost. The use of discrete-event simulation integrated with Excel provides a proactive decision support application to predict lead time and profitability of an extruded part within a manufacturing supply chain at 3M Company headquartered in Maplewood, Minnesota. The analysis presented predicts the conditions where a make-to-stock policy is better than a make-to-order policy in terms of operating income for a single SKU (product) in a large multinational manufacturing company acting as a contract manufacturer. We define an inventory to order quantity

(IOQ) ratio and use this metric with scenario analysis to maximize operating income. The IOQ ratio showcased in this study is applicable for supply chains with predictable customer demand.

Notes

∗Mean ∗SD.

Related Research Data

Optimal Admission Control and Sequencing in a Make-to-Stock/Make-to-Order Production System
Source: Operations Research
Table A.2
Source: Unknown Repository
Financial Models and Tools for Managing Lean Manufacturing
Source: Unknown Repository
Special products and uncertainty in production/inventory systems
Source: European Journal of Operational Research
Make-to-order versus make-to-stock in a production—inventory system with general production times
Source: IIE Transactions
Make to Order or Make to Stock: Model and Application
Source: Management Science
The Impact of Adding a Make-to-Order Item to a Make-to-Stock Production System