



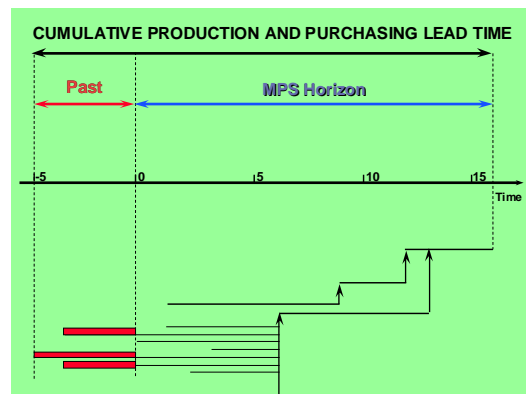
MAKE TO ORDER OR NOT TO MAKE TO ORDER? That is the question!



In an economic environment traumatized by the specter of inventory, the question seems absurd. Who on earth could not want to make to order? In many companies, Top Management insists on **having a firm customer order before authorizing production**. Finance wants to avoid tying up money in inventory. Production wants to do Lean, which implies producing to order. But very often Top Management's make-to-order policy ends up increasing inventory! How can that be possible?

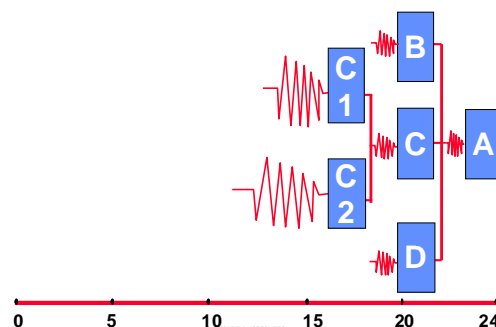
1. **In the simplest scenario**, waiting for a firm customer order before authorizing any production by suppliers or by the factory, forces the customer to wait the entire cumulative lead time of production and procurement through the longest branch of the supply chain. Recognizing that this policy is impossible and puts the future of the company at risk, operational people secretly produce anyway. If not, they know that they'll be stressed out by trying to deliver in too short a lead time, that Quality will suffer, and that costs will go up.

In more structures language, the minimum horizon for the Master Production Schedule is mandated by the cumulative lead time of production and procurement through the longest bill-of-material path. If the horizon is too short with respect to these lead times—if production is released too late—the delivery dates for purchased items and for the start of production, will be in the past:



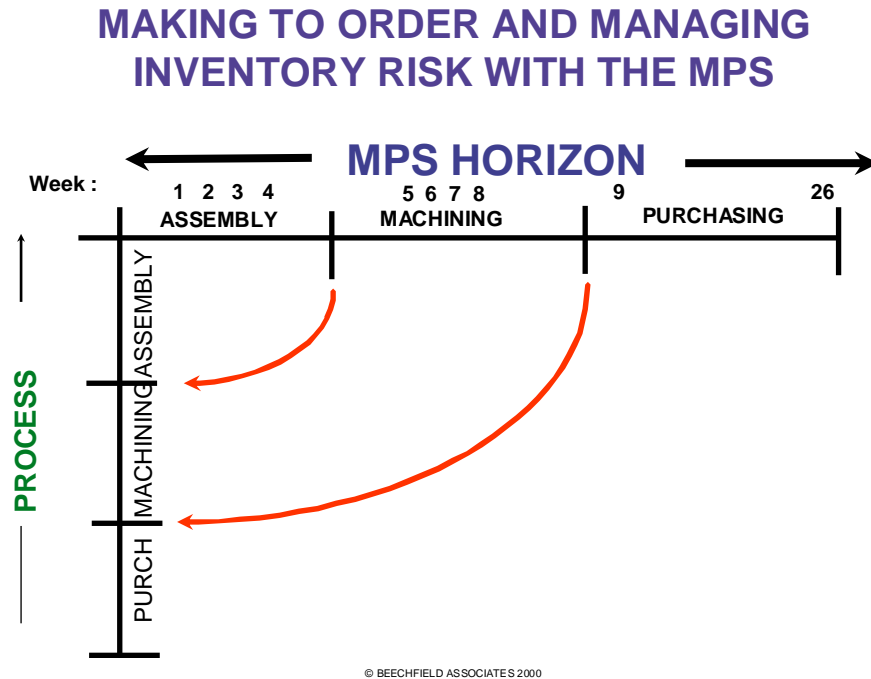
2. **Lean can help**, by reducing production and procurement lead times. When that happens, the procurement and production process will be shortened and could fit within a reasonable delivery lead time of the customer's firm order:

WITH LEAN, LEAD TIMES CAN BE REDUCED SO THAT THEY FIT WITHIN CUSTOMER LEAD TIME



3. But since the MPS covers the entire production process, as the customer order moves in, the product 'moves up' through the bill of material. But **the Master Scheduler can stop the product at the stocking level that he wants.**

In the example below, the inventory risk can be limited to purchase products if in Week 9 the Master Scheduler keeps the production order covering the tentative customer demand from moving into Week 8, across the 'machining' time fence.



In this way management can **choose the appropriate make-to-order policy**. To make completely to order, wait for the firm customer order before starting procurement. The customer will have to wait at least 26 weeks to be delivered. By making to order from purchased parts, the firm customer order must arrive 8 weeks before desired delivery. By making to order from machined parts, the customer delivery lead time can be 4 weeks.

With a structured approach, formalized in the MPS policy, management can **establish and measure the policy** that it wants, and which is the most realistic in view of procurement lead times and customer delivery lead times mandated