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INDUSTRIAL INNOVATION AND SUPPLY CHAIN

Technical Newsletter No. 52

March 15, 2007

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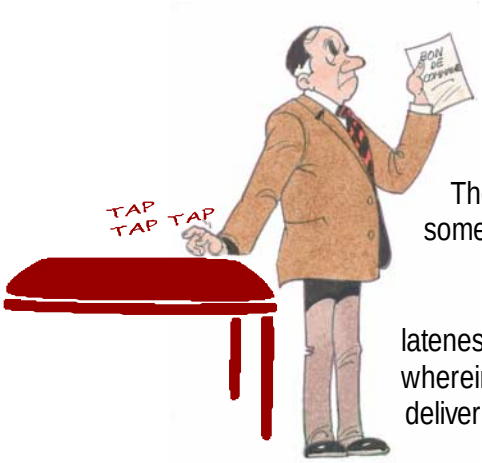
REPRESENTING AND MANAGING LATENESS

Most companies I meet have problems in managing lateness—due dates which have fallen into the past. In one recent experience, at the beginning of the year, the company's planning screens showed work orders deliverable in October! When I asked them about the apparent four months of lateness, they said, « No, it's not four months. Those work orders are from the previous October! »



Leaving dates in the past completely invalidates the planning system, which uses cumulative sums of inventory and of load. « Yes, but we need those parts!...We have to keep the pressure on! »

The problem is a human one too: who can be held responsible for delivering something in the past?

Nevertheless, in big international projects, the first company to announce lateness immediately incurs huge penalties. So the consortium lives in limbo, wherein the official planning system shows past-due dates and the correct, realistic delivery dates are known to only a handful of people.

So in terms of **volume**, representing lateness correctly begins with the S&OP, where Top Management should reconcile demand and capacity.

When demand is too high, because of contractual agreements which can't be met or excessive market demand, a good way to manage it is to create an extra line in the S&OP, labelled "Planned Deliveries" in the case of too-high contractual agreements or "Sales Plan" in the case of excessive demand.

In this way the S&OP shows the truth about deliveries: the 'unconstrained demand' on the one hand and the 'constrained demand' on the other. At least the truth is visible inside the company concerning the demand that will actually be covered.

Some people think it is unacceptable to 'constrain' demand. But if Top Management doesn't do it through the S&OP…it will happen anyway, driven by chance component availability and the factory's grouping of work orders to reduce setup time! By taking the bull by the horns, we can give customers more reliable information about what will be delivered to them and when.

One company in the mechanical industry, having launched a Lean project, overestimated in its S&OP the productivity increase and therefore the capacity. In this case, customer demand became excessive because of an error in calculating capacity, but the result—late delivery---was the same. The moral: use demonstrated capacity and demonstrated increases from month to month, to avoid lateness!

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In terms of **mix**, three causes of lateness appear regularly.

No. 1 : each new customer order received is input immediately into requirements planning for explosion, to see what components are needed. Almost every time the result is planned due dates in the past. We're late even before starting!

The customer order should be input to the *Master Production Schedule.* The production orders in the MPS representing future production have *already* been exploded to plan components. The new customer order either corresponds to the planned demand flow, or it doesn't. But in either case it doesn't generate component requirements directly..

No. 2 : The MPS already shows an order to be delivered in Week 4, but it is needed earlier, to cover that new customer order. The software will create a new production order for Week 3, which is exploded to generate on components gross requirements which are invariably in the past! More automatic lateness!

This logic violates the 'rescheduling hypothesis', which is standard in any respectable planning software. We have much more of a chance to move up the delivery already scheduled for Week 4, or a part of it, than to create a whole new order calling for new components.

No. 3 : is the most insidious. Here the MPS does **NOT** show any lateness although the lower-level components **ARE** late. But the loop has not been closed between the human planners. The MPS looks to be OK but in fact its dates cannot be met.

A solution as insidious as the problem itself, is for the software to drive the lateness of the components up to the MPS level automatically, and even push out the customer delivery date. It's automatic computerized lateness!

If the lateness can't be absorbed at lower levels, the Master Scheduler must be informed, and the decision of what to do be made by humans, not by the computer. Above all, the causes of the initial lateness should be identified and eliminated.

One last common idea for reducing lateness is to increase inventory. But if already we can't produce enough to cover customer demand, how are we going to produce even more to create safety stock? A better approach is to substitute better visibility for inventory.

In conclusion, representing lateness by dates or volumes positioned in the past does nothing to catch up or to avoid lateness in the future. It's always possible to store in the data base the due date planned initially, even if it has since fallen into the past, in order to measure lateness. But this past-due date can't in any case be the true delivery date.

Also, measuring lateness with respect to the initial delivery date may sound interesting, but usually the customer wants to know at what actual future date he will receive his order, and he wants this date to be reliable, meaning realistic with respect to our capacity and the components necessary to insure delivery.