

The Top 8 Erroneous Paradigms of Operations Management

1. *A resource standing idle is a major waste*
2. *Efficiencies are the best guide of performance and profitability*
3. *Leads times are a given*
4. *Reducing set ups reduces costs*
5. *Process batch = transfer batch*
6. *Everybody needs to be an expeditor*
7. *Flow depends mainly on physical layout*
8. *Taking orders within the normal lead time increases profitability*

A resource standing idle is a major waste

Is this a valid statement? The way to test it is to ask the question – “always, in all circumstances?” If you can find a situation where this is not valid then you should study the logic behind the situation and learn from it. So if we do ask the question then the answer must be “no not always, for example what about a fire engine or a standby generator at a hospital!”

These two examples (there are many more) relate to an investment that was consciously made – not in order to increase “productivity” – it was made to protect “productivity”. So in effect the “system” accepts that in order to protect its performance it must maintain some level of protective capacity.

This is no different in operations management – there must be an acceptance that at times there will be some level of protective capacity, otherwise when the inherent uncertainties do strike, then we have no way to respond and still achieve due dates or availability. As within any system there only very few capacity constrained resources (including bottlenecks), the logic dictates that in order to ensure that the capacity

What videos can I watch about Operations Management?

Filter your search on TOC.tv with the following criteria: **Operations / Buffer Management, Drum-Buffer-Rope, Make to availability**



The Goal Movie - How to version
by American Media Inc.
<http://www.toc.tv/?id=17>



Operations - DBR and Buffer Management
by Dr. Eliyahu M. Goldratt
<http://www.toc.tv/?id=23>



US Marine Corps Logistics Base
by US Marine Corps
<http://www.toc.tv/?id=1>



Managing Production Priorities
by Dr. Eliyahu M. Goldratt
<http://www.toc.tv/?id=333>



The GST on Make to Availability (MTA)
by Dr. Eliyahu M. Goldratt
<http://www.toc.tv/?id=198>



ABB - Towards Operational Excellence
by Alex D'Anci
<http://www.toc.tv/?id=172>

More videos about Operations Management in:
<http://www.toc.tv/operations-management>

Selected Criteria:

TOC Application:
* Make to availability
* Drum-Buffer-Rope
* Buffer Management

Topic:
* Operations/Production

of these few is not wasted, then the other non-constrained resources must have sprint capacity to catch up delays when needed.

A capacity constrained resource standing idle is (usually) a waste – a non-constrained resource standing idle is (usually) a necessity.

Efficiencies are the best guide of performance and profitability

Really? Focusing on efficiencies causes so many problems. If in Operations you get everyone to focus on efficiencies then there is pressure to release material earlier than really needed or even to process material that is not needed. If the mantra is keep everyone busy – produce the target tons, pieces, kilos, cubic metres etc – then everyone behaves as an individual doing whatever is needed to achieve their own efficiency numbers. People will even “steal” material that was due for one order to complete one of their own and supervisors will keep processes running in order to look good. If one product weighs a lot more than another, do not be surprised if your people process the heavier one first or they resist doing set ups - if they have an efficiency measure based on weight. So the net effect is longer lead times, higher inventories, less cash, missed due dates, poor availability and in fact a completely inefficient and ineffective system.

The only place that efficiency really matters is on the capacity constrained resources – everywhere else it harms performance and profitability.

Leads times are a given

Initially when we challenge people on their lead time the response we get is – of course it is possible to rush one order through the system by leapfrogging all the others but you cannot do it for all orders – the lead times are what they are. We then have to engage in a proper discussion about touch time versus lead time. It soon becomes apparent that the touch time is often only a fraction of the lead time, which means that most of the time the products are “waiting”. They are waiting in queues.

So if we can reduce the queues, we can reduce the lead time. If we are not releasing work just to keep processes and people busy – we have a more orderly release process – then we will only have work on the shop floor that is needed in the short horizon and queues are reduced. In fact, usually this means that the lead time can easily be halved. The impact is dramatic and quick.

Lead times are not a given they are an effect - of flow management!

Reducing set ups reduces costs

The usual argument is that there is a cost associated with set up, so the fewer set ups we do the less it costs. Therefore there is an economic batch size which is set so that costs are not too high. The erroneous part is that set up does not usually involve ANY additional cost. Of course, in processes that have a significant amount of scrap material associated with set up there is some direct cost – but otherwise

there is none. The people doing the set up are not paid for each one done – they are there anyway – so reducing set up does not reduce cost.

Process batch = transfer batch

The real reason for working in batches is to increase utilisation – to not waste time that could be spent processing. If the resource is a capacity constrained resource this is valid but if it is not, then additional set ups actually increases the rate of flow without wasting needed capacity. You should also consider that there is a huge difference between process batch (number of parts done between set ups) and transfer batch (number of parts done before they are moved to the next process). So you could have a process batch of 100 but a transfer batch of 25. This would increase the rate of flow.

Cutting the batch size by 50% (in conjunction will choking the release of work) doubles the rate of flow with usually very little impact on cost. Transferring parts in smaller batches increases the rate of flow even more!

Everybody needs to be an expeditor

When the priorities on the shop floor are screwed up everybody, from the Managing Director down to the foreman needs to be an expeditor. So every day when customers start screaming for their orders, everyone needs to be chasing around changing the priorities – hot, red hot, do it now! Everyone gets accustomed to operating like this and they get conditioned to believing that this is how it is here!

This is just a symptom of a system in chaos – so does it have to be so? No, there is another way. If we can implement a SINGLE visible robust priority system, then it is possible to align everyone towards doing the right jobs in the right order for high due date performance or high availability. In a TOC implementation, once release has been choked, the SINGLE visible robust priority system is easy and guarantees much improved performance. Some expediting is needed for usually about 5% of the orders but is highly focused, understood and systematic.

Flow depends mainly on physical layout

When Dr Ohno wanted to improve the rate of flow at Toyota, one of his first actions was to change the physical layout so that parts “flowed” in lines. This worked extremely well for his environment although of course the changes were not quick – but he was never focused on the short term, only the long term. Other businesses have explored this paradigm that flow depends mainly on physical layout. Some have succeeded with it and some have not. The main reason that it has not worked well for some is that their environment is different from that of Toyota, where there were relatively high volumes of a small number of different parts.

In some other environments, changing the physical layout can create even more constraints with dedication of resource to product lines – reducing the flexibility.

Flow depends mainly on the level of disruptions that parts experience during their journey!

Ohno found one way to find the disruptions, for one type of environment. TOC provides a way to understand flow and disruptions for almost any operational environment. The disruptions become completely visible and are able to be analysed easily once the SINGLE visible robust priority system is in place.

Taking orders within the normal lead time increases profitability

Any operations environments that are producing to order / due date will have a normal or standard lead time. Many times, in the belief that it will increase sales and profitability, operations are pressured into accepting orders within this lead time. This is a short term view (actually driven by the requirement of sales people to meet their targets) as the orders disrupt the flow and cause normal orders to be late. This negative effect can easily build a reputation in the market that the company is unreliable. When you are perceived as unreliable by the market, it becomes harder to win sales and not surprisingly your profitability suffers.

As mentioned above under the “lead time” paradigm, under TOC we are able to reduce the normal lead time by 50%. This means that previous “rush orders” are easy to accommodate – however, be careful. If you do take orders on shorter than industry standard lead time you could be spoiling the opportunity to leverage a premium for rapid lead time.

Conclusion

If when you first read the list of the Top 8 you thought – that makes sense to me – then you better think again. If you can understand how these assumptions and paradigms are possibly erroneous then you should explore more how they impact your organisation. Test them out by asking other people – don't ask about them all together – do it one at a time.

TOC's Make-To-Order and Make-To-Availability tackles all these paradigms and guarantees results – in that way it is simple; even common sense. Unfortunately common sense is rarely common practice!

Martin Powell
Director
Goldratt UK

© Goldratt Solutions Limited – June 2012