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Lean Thoughts

Velocity
the Genesis of *LEAN*

Better, Faster = Cheaper or more appropriate higher customer value and improved margin. Many folks and organizations are getting immersed on their Lean Journey by focusing on the implementing tools without the understanding of the true purpose of Lean.

Let us go back to the genesis of when Toyota began to develop the now famous Toyota Production System. Toyota recognized them need to change their production methodology mainly because they were broke. Their vision was simple … How to procure parts, assemble them into a vehicle, sell the vehicle and collect the cash before their supplier's invoice became due. It was all about velocity of parts through their system and the effective use of labour that would enhance part velocity.

With this vision in mind the folks from Toyota came to America to witness the effectiveness of the Ford Assembly line. It seems that during the visit they became hungry and in their quest for food became exposed to the supermarket and marvelled at the concept of replenishment of a wide array of products. Back in Japan, the folks took the basic concepts learned and began to tweak them to support the initial vision of collecting cash before invoices are due.

So if measure against the original TPS vision how are you doing? If we look at the comparison of your AP plus inventory compared to your AR and cash balance how effective is your Lean Program. Are the tools you are implementing working to enhance cash flow?

Let us explore some of he basic tools and how they apply to the vision of velocity.

Focus on the Team Member … all of our tools need to focus on making our Team Members highly productive while at their work stations. The purpose is to keep our Team Members at their respective work stations, clean, comfortable, well informed with a constant supply of parts and supplies uninterrupted.

Material Conveyance … still a primary function within all operations but still relatively ignored and miss-understood by most organizations except Toyota. Material Conveyance is the primary focus within the TPS and the other tools become sub-serveiant to support increasing the velocity of material conveyance. Toyota does not implement anything unless it will support the velocity of inventory through the entire Value Stream. Velocity is also extended into the information and communication flows since they have a direct impact on part velocity … hence the use of Kanban systems … but again look at the frequency that triggers are ordered.

If you create a focus on Material Conveyance it will automatically prioritize which Lean Tools to implement and to what extent. If your material conveyance system focuses on the reduction of WIP inventory not only will it make for a more clean and effective work area it will, increase your agility.

The best way to approach your material conveyance is through the establishment of bus routes within your facility. Bus routes as implied need to run on standard schedules and the frequecy of the schedules in essence will reflect the inventory level you are willing to tolerate. As you increase the frequency of your Bus Routes will provide the incentive to increase the effectiveness of other Lean Tools … towards the perfect process.

Where Lean Thoughts can become Reality

"Unless you try to do something beyond what you have already mastered, you will never grow."

Ronald. E. Osborn

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Part Velocity

5S+1 or workplace organization. Still many companies continue to confuse this powerful tool as just a housekeeping solution. 5S is often the initial tool of focus when companies decide to embrace a Lean Journey. Indeed it an excellent tool to enhance Safety through the elimination of trip hazards and adoption of ergonomic principals, it also enhances Team Member Productivity by forcing them to be more organized. But how can 5S be applied to Part Velocity? As you organize a work area, how can you transfer materials into the hands of your operator without interrupting the operator? Also what quantity of material needs to be stored at the operator? We have been told that every time an operator's attention is interrupted it can take up to 20 minutes for the operator to regain focus of the task at hand. Flow racks, (replenish from the back consume from the front) employed at employee work stations assists our operators to retain focus on their jobs without interruption. The quantity stored at the work station is a direct reflection of your bus route frequency for commodities.

I can guarantee you that as you review your 5S principals from the perspective of increasing part velocity it will present you with many challenges not yet considered. It may even require to conduct a complete re-think of your Lean initiatives.

A focus on part velocity within your facility will drive significant change especially if you revolve your activities around the frequency you plan to run your Bus Routes. As you increase the frequency of your Bus Routes will necessitate changes in your Production System.

Typically, most organizations as they remove inventory for work station areas create **Supermarkets**. Although this enhances team member productivity at the work stations it still needs to be viewed as a temporary or interim solution.

The next significant opportunity to increase part velocity is how to implement Bus Routes between your **Suppliers and your Point of Use** locations in the plant. This is a major initiative that will require significant paradigm shifts. The first paradigm shift is for you to take control of your freight … most organizations like to force their suppliers to absorb freight costs which is a thinly disguised veil of cost savings. If you take control of your freight it will enable to engineer and design the Bus Route (milk run) including the frequency the routes should run.

Do not get lulled into the benefit of **Vendor Managed Inventory**. Indeed it removes the cost impact related to the procurement of inventory until the commodity is consumed but still the carrying cost of inventory is now buried into your purchase price … so is it actually cheaper?

As you continue your journey with eyes on part velocity you will uncover many new opportunities and will make more sense of various tools that are within the Lean Enterprise toolbox. SMED or Set-Up reduction to reduce lot sizes which increases part velocity, Standard Work to insure that Cycle Times of task will support part velocity through the Value Stream … a good example is the frequency a buyer places orders for specific commodities or even parts. The ultimate, is a trigger from the Point of Use location directly to the supplier by-passing purchasing. For example, as tires and rims are installed on the assembly line the supplier is triggered with a replenishment request.

As an organization as you increase part velocity through your supply chain your will need to be Better and as you get better this will make you Faster … so if you are now **Better & Faster** you will be **Cheaper** enhancing Customer Value and improving your margins while enhancing the ultimate metric … positive Cash Flow … and is that not our ultimate goal?

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