

Material Velocity & Conveyance, the test of Lean

With almost a daily change in business velocity today it is even more important to conduct robust planning of your operations to insure that you truly are leveraging your resources ... people and materials.

I know that many organizations rely on their ERP systems for planning purposes but in today's climate you need a system that will allow you to react quickly and incorporates the Deming PDCA model.

When running operations I have always relied on my Capacity and Staffing Plan (CSP). The CSP should operate within a 4 month horizon. As forecasts are provided they need to be inputted into the CSP modeller so you can begin to make course corrections;

- Addition of staff
- Adding / Reduction of capacity
- Re-Deployment of staff or retraining
- Overtime Requirements
- OEE or GPU (Good Piece Uptime) requirements to meet anticipated capacity

When working with the CSP modeller here is how the PDCA cycle will work;

CHECK, previous month actual to your plan

ACT, current month activity to meet the targets of through-put and utilization

PLAN, your third month forecast based on the latest forecast information

DO, begin your cross-training exercises and hire/reallocation of resources

A CSP modeller is a very powerful tool and should be reviewed with the Senior Team every month. Why is this important? Since it should resonate with the following mantra;

- Make your Plan
- Work your Plan
- Meet your Numbers

Although you may need to react to impulsive market changes the CSP will allow you to model the impacts and indicate the consequences to your numbers.

It is imperative that you link your CSP to your Plan For Every Part (PFEP) data base. As your business mix begins to change, in addition to changing the skills of your employees, you need to adjust your supermarkets, material conveyance routes and inventory levels. Failure to do this could mean material shortages or the continued investment into the incorrect inventory items.

Many folks overlook the power of the constant inter-active use of Their PFEP to re-scroll your inventory levels. A good check of Your PFEP is to monitor the amount of Kanban signals you are Replenishing versus the total amount of signals in the system.

Doing the math will tell you how much time in inventory you have Invested at Point of Use locations.

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

Inventory Velocity

Most organizations fall into the trap thinking that 5S is the foundational element of Lean and begin their journey from there. Although these organizations will make some gains using this approach the true successful practitioners of Lean know that Material Conveyance and the utilization of Timed Delivery Routes are the true foundational element of Lean.

Think about it ... we all know that taking a bus is more cost effective than a cab ... but using a cab can be more convenient. Normally, we do not take a bus since we may have to walk a few steps to a bus stop and we need to abide to the bus schedule. Bus companies try to accommodate us by running routes more frequently.

Same within our operations. You need to establish and schedule regular routes within your facility. They need to be predictable and repeat on a regular occurrence several times per shift. As you begin to run your routes you will quickly see the need for the other tools with your Lean tool box as you follow some of the guiding principals;

Work areas should only be replenished from the parameter of the operation, never invade a team member's work area. If you need to, you are loosing productivity within the work center, since every interruption can cost you up to 20 minutes of downtime.

Make the material transfer doable without lift trucks. At best lift trucks are only 50% efficient. Within plants you need to look at your fleet of lift trucks as your expensive cab fleet usually managed through the "Hey" system as they hover looking for their latest fare. Eliminating lift trucks will take innovation and engineering but the results will be lasting and highly cost effective.

If WIP requires constant conveyance to additional operations you probably have an excellent opportunity for cellular manufacturing principals. Cellular methodology works even more effectively within your office and admin operations. If we could make our electronic WIP physical and visible I am certain more attention would be placed in these areas with the same amount of passion that is being exerted within our plant operations.

Timed Delivery Routes will quickly reveal your short-comings in 5S, Kanban sizing, POU locations and will require a whole new suite of support tools and will make other tools like 5S make a lot more sense that will take you beyond traditional workplace organization by adding the "why" to locate stuff where.

As you get your timed delivery routes stabilized within your plant, you are now ready to synchronize your routes with inbound deliveries from your suppliers. Supermarkets are a short-term solution but are still a "waste" that needs to be eliminated.

Most organizations struggle to truly increase material velocity because they think they are utilizing a Kanban methodology which in reality is just a 2 bin system. A 2 bin system will work well but will not substantially increase velocity until you take the bold leap of adding more signals to the replenishment model. Remember you want smaller lots of material moving more frequently within the Value Stream. This will allow you to increase velocity, agility and flexibility.

Linking of the CSP to your PFEP and managing your timed Delivery Routes will enhance your Lean Program and position you for success through flexibility.