

Looking for the next evolution of lean?

Look back.

The following is a recent blog entry from our good friend Mike Shipulski ... enjoy

Many have achieved great success with lean – it's all over the web. Companies have done 5S, standard work, value stream mapping, and flow-pull-perfection. Waste in value streams has reduced from 95% to 80%, which is magical; productivity gains have been excellent; and costs have dropped dramatically. But the question on everyone's mind – what's next? The blogs, articles, and papers are speculating on the question and proposing theories, all of which have merit. But I think we're asking the wrong question.

Instead of looking forward for the next evolution of lean, we should look back. We must take a fundamental, base-level look at our factories, and ask what did we miss? We must de-evolve our thinking about our factories, and break down their DNA – like mapping the factory genome. Though lean has achieved radical success, it has not achieved fundamental reduction in factory complexity. Heresy? Let me explain. Lean helped us migrate from batch building to single piece flow. With batch building, a group of parts are processed at machine A, then, when all are finished, the whole family moves to machine B. With single piece flow, a part is processed at machine A then she moves, without her sisters, directly to machine B, resulting in big savings. But in both cases, the fundamental part flow, a surrogate for factory complexity, remains unchanged – parts move from machine A to machine B. Lean did not change it. Lean has taken the bends out of our factory flow and squeezed machines together, but that's continuous improvement. We've got good signals, we've got cell-based metrics, and 15 minute pitches. Again, continuous improvement. But what about discontinuous improvement? How can we fundamentally reduce factory complexity?

Factories are what they are because of the parts flowing through them.

Factory flow and complexity are governed by the genetics of the parts. In that way, parts are the building blocks of the factory genome. From the machines and tools to the people, handling equipment, and the incoming power – they're all shaped by the parts' genetics. Heavy parts, heavy duty cranes; complex parts, complex flows; big parts, big factories. When we want to make a fundamental change in bacteria to make a vaccine, we change the genetics. When we want to make a fruit immune to a natural enemy or resistant to cold of an unnatural habitat, we change the genetics. So, it follows, if fundamental change in factory complexity is the objective, the factory genome should change.

Don't try to simplify the factory directly, change the parts to let the factory simplify itself.

Discontinuous reduction of factory complexity is the result of something – changing the products that flow through the factory. Only design engineers can do that. Only design engineers can eliminate features on the design so machine B is not required. Only design engineers can redesign the product to eliminate the part altogether – no more need for machine A or B. In both cases, the design engineer did what lean could not.

Lean is a powerful tool, and I'm an advocate. But we missed an important part of the lean family. We drove right by. We had the chance to engage the design community in lean, but we did not. Let's get in the car, drive back to the design community, and pick them up. We'll tell them anything they want to hear, just as long as they get in the car. Then, as fast as we can, we'll drive them to the lean pool party. As Darwin and Mendelevy knew, diversity is important.

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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KUNST SOLUTIONS CORP.						5S+1 AUDIT SHEET			
Date:		Auditor:							
GPS Area:		Shift:							
0	1	2	3	4	5				
Unacceptable (Zero Effort)	Activity Started (Some Effort)	Min. Acceptable Level (Many Opportunities for Improvement)	Widespread Activity (Sustained for at Least One Month)	Best in Class Results (Sustained for More than One Month)	World Class Example (Sustained for at Least Six Months)				
CHECK ITEM:					LAST SCORE	NEW SCORE	COMMENTS:		
Sort	1	All communication boards have assigned owners with extension number and all information posted is current with a "last updated" or expiry date.							
	2	All trucks and skids are stored neatly in shadow boxes and Kanban cards attached.							
	3	All equipment and work in process (WIP) has a designated and properly marked location and nothing is placed on the lines. All aisles are free of any obstructions.							
	4	Nothing is placed on top of or leaning against machines, cabinets or equipment.							
	5	Private belongings are out of view, neatly stored and not encumbering work.							
	6	Overall work area appearance is neat, orderly and pleasing to the eye.							
Set in Order	1	Red-tag procedure exists and is being followed and all unnecessary items have been removed from the work area.							
	2	TPM sheets are current and is being followed.							
	3	No oil sorb products/rags on floor or around machines.							
	4	All stored items are organized and clearly labelled such that it is obvious where they are stored/returned after use.							
Shine	1	Any sources of contamination (oil/water spills, powder, smoke, fumes etc.) in work area are quickly addressed and the floors are cleaned on a routine basis.							
	2	All control panels are clean/dry inside and are clearly marked with button function and equipped with appropriate lock-out capability.							
	3	All mirrors, clocks, stop signs and emergency exit signs are clean and in good							
Standardize	1	Items used daily are stored on shadow boards or shadow boxes and are located close to point of use and all recycling containers are in their correct locations.							
	2	All cleaning supplies are properly located, labelled and maintained at localized housekeeping stations.							
	3	Report-out area is clearly identified and contains all required current measurements, targets and communications.							
	4	Signage is current, consistent and conforms to division standard.							
SUSTAIN	1	Shift exchange meetings occur at the operator level following the standard format.							
	2	Daily report-outs conducted on each shift by the Supervisor following standard							
	3	5S activities done daily and housekeeping audits are done weekly on each shift.							
	4	All measuring equipment is marked with calibration date and has not expired.							
	5	Work cell is encouraging and supporting of the 5S+1 program.							
	6	No maintenance requisitions open for greater than 30 days beyond target date.							
SAFETY	1	Area is free of health & safety hazards and forklifts are operating safely in area.							
	2	All safety equipment and fire extinguishers are in place and easily accessible.							
	3	All eyewash stations, first aid and spill kits are clean, accessible, and inspected.							
	4	All required personal protective equipment (PPE) being used and used properly.							
	5	Evacuation procedure posted in work area and route clear of any obstructions.							
	6	Safety talks given to employees on a regular basis.							
Total points: 0					Total Current Score: ➡		0.0%		
General Comments:									
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