We Hate Transactions!

Ideally we would eliminate most of operational transactions because they are wasteful and they cause more waste.

BUT WE MUST
Maintain financial control of the business.

Remove transactions only when the reason for having them has been removed.

What must be in place to enable me to remove these transactions and still have the business under control?

How do we get there?

The ***maturity path***

Gradually step-by-step

Eliminate the transactions as the operations come under control.

Starter Set

Transaction Elimination: What Must Be in Place (1)

Category	Making a start with lean	Lean Pilots in place	Lean production	Lean value stream management	Lean enterprise
Cycle Time	• 12 weeks • Just beginning to understand lean concepts • Batches are smaller	• 4 weeks • Value streams have been mapped • Start creating flow in pilot cells • Bottlenecks are reduced	• 1 week • All production is linked for a balanced flow • Pull system in place • Producing to customer takt time.	• 3 days • Cells continue to shorten cycle time • All production is linked to customer takt time.	• 1 day • Supplier is linked to customer takt time • 100% customer service level.
Inventory Levels	• 3 turns • High raw, WIP and finished goods inventories • While inventories are high it's not the right stuff.	• 5 turns • Using kanbans • Using supermarkets and FIFO lanes	• 20 turns • Kanban is used to pull from all internal areas • Visual systems • No supermarkets • Consistent level of inventory at point of use.	• 30 turns • Kanban pull from customer • All inventory at point of use	• 50 turns • Supplier making mild runs and monitoring inventory levels
Kanban & Pull	• MRP • Push System • No or very little kanban pull	• Introducing kanban in cells • Kanban with some suppliers • Pull system used in pilot cells • Pull bottlenecks minimized	• Pull system in all areas of organization • Pull system with all suppliers • No more batch jobs	• 1 piece flow or equivalent • Kanban pulled from customer • Kanban throughout • Level production • Supplier kanban	• 1 piece flow or equivalent. • Customer pull from us • Delivery directly to customer's cell • Kanban from customers to suppliers
Standard Work	• Using Work instructions and routings that are used for standard costing	• Standard work is used • Started 5S • Lines are balanced • Started eliminating sub-assemblies	• Visual work instructions • Standard work for all cells • Workers are cross trained	• Paperless • Standard work acros value stream including non production areas • Lean team monitors performance	• Visual systems • Continuous improvement • Line balancing based on customer takt time.
Supplier Quality	• Many suppliers but few are certified • No measurement system • Frequent supplier delivery problems • Receiving inspects most incoming material • Inspection shows erratic supplier quality	• Identified core suppliers • Decreased the number of suppliers • Developed a supplier certification program • Have some certified suppliers • No longer inspect receipts from certified suppliers	• Core suppliers are all certified • Certified suppliers delivering 99.5% direct to point of use • Most, if not all, other suppliers are certified • Frequent deliveries using kanbans • Measuring suppliers as responsible for quality	• Moving to six sigma • All certified suppliers address quality issues • Value stream manages the inventory • Material is delivered directly to point of use • Certified suppliers are lean too	• Six sigma • Customer is involved with supplier quality • All suppliers are lean • All suppliers are certified

Starter Set

Transaction Elimination: What Must Be in Place (2)

Category	Making a start with lean	Lean Pilots in place	Lean production	Lean value stream management	Lean enterprise
Cell Quality	• Large batches • Scrap rework issues • Only 75% on time delivery to next operation	• Formed cells • Using pull system • Smaller batches • Cross trained and certified the operators • There is better quality and less rework.	• Single piece flow • Proactive on quality issues • Operators inspect • Time to stop and fix	• Moving to six sigma • Quality is part of the process • Mistake proofing processes (“Poke yoke”)	• Six sigma quality
Performance measures	• Using detailed labor reports for efficiency • Using machine utilization measures • Measures are primarily accounting	• Start using lean performance measures, e.g., scrap, day by hour, 1st time through and other lean performance measures.	• Running to takt day-by-hour report • Add more lean performance measures that are tracked by cell • Have a uniform measurement system for all cells.	• Value stream measurements • Cell measurements that are linked to the value stream measures.	• Cell measures and value stream measures are integrated with strategic goals • Continuous process of using measures to refine and improve.
Visual systems	• No visual systems. It is basically, paper, paper and more paper. • MRP work orders, and Ad hoc reports are used.	• Measures are vital and visible. • Measure boards in cells. • Measures posted real time • Display is simple to understand	• Line of sight • Measure boards are by value stream. • Kanban pull signals	• Visual systems used throughout value stream. • Pull system triggered by customer orders (kanban)	• Customer tied in to supplier. • Manage the customer order.
Engineering data	• Have multiple level bills of material • Routings and bill of materials are inaccurate	• Bills of material and routings are simple and accurate • Engineering responsible to keep BOM and routings accurate	• Cell personnel participate in concurrent engineering and process reviews • Cell takes appropriate actions to update the requirements	• Bill of material and routings are maintained by value stream, continuous improvement team. • Paperless.	• Information flows from customer to us to supplier. • Improvements by continuous improvement teams.
Organization and control	• Organized by department • Use department continuous improvement teams and only limited results.	• Identified the value streams. • Started educating on value streams. • Formed some value streams. • Moving towards value stream. Buyer planner in cell.	• Value streams clearly identified with some allocations and some direct costing. • Cross functional training • Addressing compensation structure for alignment. • Matrix management	• All functions are in the value stream. • Organized and managed by value stream. • Support functions within value stream. • Measures by value stream.	• Suppliers and customers are included in the value streams.

Starter Set

Transactions to Eliminate

Category	Making a start with lean	Lean Pilots in place	Lean production	Lean value stream management	Lean enterprise
Eliminate Labor reporting	• Since labor is small % of total product costs, there is some backflushing and/or elimination of labor reporting. • Many units will still use detailed labor reporting	• Some backflushing of labor • Detailed labor records are starting to go away.	• For pay purposes, either salaried workforce or exception based reporting for hours. • For cost purpose, all labor (direct and indirect) is charged to the cell.	• Exception based reporting minimized to labor law requirements	• Non exempt salary workforce
Eliminate production tracking & Inventory	• Backflushing some material • Still running MRP • Still cycle counting for inventory problems	• Eliminate receiving stock withdrawal tickets and associated moves by scanning parts in at receiving (supplier will barcode) • Developing plans for Kanban process	• Full pull system • Scrap-exceptions. • Supplier managed inventories • Low value multiple use stock to be expensed when purchased.	• Inventories are minimized • Eliminate cycle counting • No stockroom transactions • Stock is delivered to point of use	• Complete pull system from customer through supplier. • Everything is period cost.
Eliminate Requisitions, Purchase Orders, Receiving, & AP	• Have blanket PO's with release schedule. • Implementing ERS to eliminate invoices and 3 way match • Implementing P Cards for low dollar non-inventory purchases • Implementing EDI purchasing • Set up long term agreements	• Eliminate some PO's with pull system. • Autopay; no more invoicing and/or 3 way match. • Eliminate some PO releases by having kanban system. • No longer receive invoices • Web based purchasing • More ERS as suppliers are certified • More P cards • Beginning a pull system with supplier and have fewer monthly releases. • Expanding Web based purchasing	• Backflush inventory and pay by backflush • Eliminate receiving function. • No PO's since full pull system • Increase P card usage to inventory items (low value) • Supplier managed inventories • Initial blanket PO with no updates. Suppliers will be triggered electronically due to Kanban. • Backflushing based on shipments.	• Initial blanket PO for each Part no. with annual review of pricing. • Purchasing group engineering group and accounting group are all part of the value stream. • Pay by backflush	• Eliminate accounts payable function because of limited amount of checks to cut. • Eliminate receiving with suppliers delivering to point of use.