

# **3 Facilitated Kaizens**

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# *Brief of Lean Consulting Events*

Implementation steps to lead a Lean Initiative include:

- obtain senior management support of the project,
- identify metrics to be tracked and measured,
- establish benchmark of metrics at Lean Project startup,
- obtain benchmark buy in from senior management and financial group to verify Lean Process savings, benchmark neighboring processes to identify effect the Lean Process has on them.



# identifiable savings

Implementation of Lean Tools has resulted in the following identifiable savings in time and operating expense

Setup Time Reduction - 30 minutes of operator idle time used to set up next batch on 12 winding machines per shift resulting in 90 hours per week gained in machine production time and reduction of orders behind schedule (Bibb Co.)

Pull System – implementation based upon ship dates resulted in \$240,000 annual savings in OT elimination, and reduction of absentee rate from 18% to 8% with multi-shift 100 man workforce; transform 24/12/7 day operation to 24/8/5 day operation resulting in elimination of late order list, reduction of workforce by 15%, improved product quality, housekeeping, and reduction of product waste by 25% (Bibb Co.)

Kanban – shipping dates used as “pull signals” to load each shift and determine shift capacity resulting in the elimination of the late order list (Telcor Communications, BellSouth.net, Bibb Co, Alpha Products)

Kaizan, One Piece Flow, Cellular Layout – excessive returns backlog eliminated and brought under control by utilizing Kaizan principles organizing returns group into a Cellular Layout utilizing the principles of One Piece Flow (Menlo Logistics, Stanley Proto)

Total Productive Maintenance – reduce product waste by over 30% implementing machine cleaning and preventive maintenance program (Bibb Co); increase “up time” on 35 unit forklift fleet 25% by implementing operator maintenance, shop mechanic, and battery shop preventive maintenance program and battery changing program )

Lead Time Reduction – establish receiving dock, inventory locator system, and production “backflush” procedure resulting in production meeting start and ship dates and elimination of late orders (Alpha Products, Apache Mills, BellSouth.net)

5-S – Separate, Sanitize, Segregate, Standardize, and Sustain principles utilized in establishing component/equipment store rooms and 3PL warehouse space resulting in reduction of “can’t finds”, and ordering replacement components, and reducing production lead time ( Teligent, Inc, Logility, Inc, Bibb Co., Alpha Products, Garr Consulting Group/Deloitte, Apache Mills, Telcor)

Performance Tracking and Control – tracking previously agreed upon metrics on daily, weekly, monthly basis, conduct Corrective Action Seminars for “hot item” assignment and corrective action (Menlo Logistics, Burnham Services, Garr Consulting Group/Deloitte)



# Projects Utilizing Lean Principle and Innovation: Cingular Wireless

Negotiated and implemented one number demand forecasting (Pull System) and supplier managed inventory program with suppliers (Nokia, Ericsson, Emerson, and Lucent) furnishing MRO high value assets and parts. Implemented Dynamic Deployment of inventory moving overstocked M&R assets and parts to the one of the 44 field warehouses (CSSLs) with the immediate requirement (Kanban). Inventory turns were at 1.9/year. After 2 months of program, inventory turns increased to 4.1 and 6.1 in A& B items. (Lead Time Reduction)

Creativity and innovativeness was required as this was a start up program. I obtained the approval and buy-in of my Cingular management to launch the Supplier Managed Inventory (SMI) program based upon a DRP model and negotiated with the vendors for their acceptance and participation.



## Projects Utilizing Lean Principle and Innovation: Parsons Engineering

Negotiated with roofing material suppliers and Parsons Purchasing Management to implement strategic sourcing and procurement (Lead Time Reduction) process by:

- Facilitating concurrence with purchasing on order request and release process
- batching material requirements from multiple Central Offices in a geographic area by like items,
- negotiating with material suppliers and roofing/electrical/mechanical contractors for volume pricing to leverage cost savings opportunities
- releasing blanket purchase order request with staggered shipping dates to suppliers to defer payment and eliminate material warehousing expense
- identifying capital funding opportunities to Verizon Real Estate Management in existing Verizon facility M&R guidelines



## Kaizen #1 - Bibb Co

FOCUS: to implement “Pull Scheduling with Lean Tools support” at Bibb Co. Bibb was owned by Dan River Mills and the Porterdale plant was one of three in GA. Bibb process manufactured cords for tires, belts, and hoses for Goodrich and other companies in the auto aftermarket business.

Bibb had two of five process departments operating 24/12/7 which were always behind in meeting schedule. The results were orders were delivered late and customers were unhappy. The department managers replied with “we are working 24/12/7, what more can we do? “

As Night Plant Superintendent, the Plant Manager tasked me to “resolve this issue of late orders”. The operating environment was: machine operators worked 3 days 12 hour shifts, two days off and rotated with another team working their shift. Supervisors worked 24/8/5.



# stonewallings

Immediate issues “stonewalling” operations were:

- Supervisor shifts were scheduled at the beginning of the 9th hour of a 12 hour shift. This resulted in the supervisors could not control work assignments for the shift they walked in on, and were not around to see the completion of the work they assigned.
- orders were batched to work big orders at the start of the week and finish the week with smaller orders (which seemed to be always late, resulting in complaints from many small order customers)
- machine processing of the cord resulted in producing batches of “lint” which contaminated the machines and could contaminate the product causing spool reject
- Lean Tools of Total Productive Maintenance, 5-S, Setup Time Reduction, Pull Scheduling, and Kanban were not in place or known by existing management
- “Floating” Preventive Maintenance crew was not being directed by department supervision
- Department capacity by shift or by day was not known by management or supervision to assist in weekly planning and daily scheduling
- Order Entry had no idea of plant capacity, how to book the daily schedule by capacity, or negotiating the difference between “want dates” and “need dates” with customers
- Absenteeism in the two department 90 man workforce exceeded 18%; moral was of the “treadmill” mentality thinking “we will never be caught up, no matter what we do”



# Implementation of Lean Tools

Implementation of Lean Tools in this Kaizen event resulted in:

- Shift and work day capacity was identified
- A “Pull System” scheduling by delivery date was implemented resulting in elimination of the late orders and increased customer satisfaction
- Departments were not working at capacity; after capacity was identified, the two departments involved were converted to 24/8/5 operations as a result of “Pull System” implementation
- Large orders (over a shift or day) were negotiated by Order Entry with the customers for deferred JIT delivery dates and delivery as partial orders, enabling the scheduling of smaller orders to be on shipping date time
- A 5 day schedule was workable once weekly capacity was identified; there was not sufficient order volume to fill the a 5 day/24 hour schedule to capacity
- Total Productive Maintenance assisted in reducing the number of contaminated (defective) product produced by scheduled machine cleaning and maintenance
- Setup Time Reduction reduced 30 minutes of operator idle time per order batch waiting for delivery of her next batch to be processed and prepping the machine for next order batch
- Applying 5-S principles assisted in the control of wagon loads of work in process, which were staged on a space available basis with no visibility of batches or delivery dates
- Implementing Kanban resulted in “shipping dates” being used as “pull signals” to load each shift by shipping dates resulting in loading each shift to capacity, and elimination of the late order list
- Staffing was reduced by approximately 10% as less staff was required to work a 24/8/5 shift, and some folks quit not wanting to work 5 day work week.





## Kaizen #2 - Alpha Products

FOCUS: Eliminating the raw materials receiving and production issuing “bottle neck” at Alpha Products.

Alpha Products was a privately owned company buying plastic drink cups, handles, and caps for production line “decoration” with client logos or advertising. Customers were Burger King, various athletic teams, specialty advertisers.

NOTE: Plant was a 120K sq ft building with 40K sections for receiving/raw material storage, production line, and finished goods staging/shipping.

Receiving was in “gridlock” and issuing raw material for production processing was “out of control” resulting in production planning, scheduling, order completion difficulties, and meeting customer shipment dates. The owners asked me to join the team as Raw Material/Receiving Manager to resolve these issues.



# stonewallings

Immediate issues “stonewalling” receiving and raw material issuing operations were:

- 36K sq ft of raw material inventory was without a reliable locator system due to production “backflushing” unused raw material into rack shelve space available causing mixed items in many locations
- Local IT Department designed and was attempting to implement a local WMS system but had not provided sufficient training to warehouse personnel for success
- 2-5 trucks/day were delivering raw material. There were sufficient doors to park the trucks but there was no receiving dock for unloading, receiving, quality control receiving inspection; unloaded pallet loads and cartons were staged in several picking aisles
- dumpster was located in the back of the yard 50+ yards away from the building. As a result dunnage and trash was accumulated in the aisles and racks during the day and carried to the dumpster at the end of the shift during “cleanup time”.
- Truckloads of raw materials staged in multiple aisles blocked the aisle from issuing raw materials to production; results were crawling over cartons staged in the aisles to locate and pick cartons from the racks.
- Locator system was not reliable as received and backflushed cartons were placed in bin “space available” often mixing SKU’s and product families



# Implementation of Lean Tools

Implementation of Lean Tools in this Kaizen event resulted in:

Applying 5-S principles by:

- locating dumpster on a dock door so dunnage/trash was disposed of as it was generated; arranging for a “pallet gypsy” to haul off broken pallets and replace with repaired pallets to ease pallet shortage
- installing a box binder to bind crushed boxes into palletized loads for disposal
- separating mixed items in each rack cell and relocating to implement a reliable random locator system; removing trash and dunnage from rack cell floor locations
- providing Quick Changeover rack space in the production area for backflush staging of unused raw material
- eliminating 50 ft deep of rack space across the front of the dock the width of the building (Theory of Constraints-Logistics) to create a staging area to unload raw material from trailers; then receive, inspect, and move the raw material into an inventory location
- valid inbound receiving (Theory of Constraints-Logistics) disclosed supplier errors in labeling, count, packaging, and item description enabling Quick Changeover from product receiving status into inventory

Establishment of a receiving dock and dunnage/trash removal provided the opportunity for Lead Time Reduction opportunities resulting in:

- establishing a reliable locator system,
- receiving raw materials into stock on a daily truckload basis,
- issuing raw materials to production without the loss time of search and locate, thereby enabling three shifts of warehouse staff to gain control of their daily operations.

Raw Material Stockers and Order Pullers were trained by me in the local WMS process to receive to a location and direction to pick from a location. Performance Tracking and Control in the establishment of a locator system supported by a WMS, resulted in a vast increase of receiving and picking productivity and accuracy.



## Kaizen #3: Cingular Wireless

**FOCUS:** Implementing a successful demand forecasting process at Cingular Wireless Supply Chain to increase the inventory turnover of high value communications components (over \$200 million stock on hand) from 2 turns/year to 4 and then 6 turns/year at 40 market sites and one central distribution center (Inventory Turnover Rate) required implementation of these steps:

1. dynamic deployment of excess inventory at field sites to other field sites with inventory shortfalls based upon demand (Pull System)
2. Supplier Managed Inventory (SMI) program by sharing inventory requirements on a twice weekly basis with key suppliers (Theory of Constraints- Logistics)
3. Implementation of a DRP model to display item stock on hand, usage, and order placement quantities required to achieve a short range goal of 6-8 turns/year (Inventory Turnover Rate)
4. Management of the late order list with \$150 million dollars of outstanding orders (Lean Metrics)
5. Participation of the Field Engineers who provided forecasts for component repair replacements and equipment upgrades to provide realistic forecasts (JIT)(Total Productive Maintenance)
6. Participation of the Team Member estimating the component quantities required and placing Purchase Order Requests into the purchasing system (Error Proofing)

**NOTE:** This Kaizen Event provides a project success example without 100% participation of all the team players. Element 6 did not receive total support of the Team Member issuing Purchase Order Requests. The Kaizen Event success was measured in the documentation reporting inventory turns increased from 2/year to 4 and 6/year within three months after implementation (Performance Tracking & Control).



# “challenge” and “benefits”

Define the “challenge” and “benefits” of previous Lean consulting experiences

- The opportunity to resolve “show stopper” issues
- Orchestrating involvement of other “players” into a team to achieve project success
- Project success reinforces the validity of the Lean Process with myself and team players
- Increasing my “tool kit” knowledge of Lean Tool applications as a Practitioner
- Continued application of my Organizational Development/Team Development toolkit
- Each project provides new challenges in Continuous Operations Improvement and Organizational/Team Development enabling the learning process to never end



# obstacles which have appeared in Lean consulting projects

## Identify obstacles which have appeared in Lean consulting projects

- Lack of continued support or interest from manager who provided the assignment
- “bickering” by team members involved in the implementation
- lack of interest in project by some team members expected to participate in the project
- stake holders more interested in their own “needs and wants” than supporting the project
- withdrawal of resources by management after committing to support a project time line



## Lean Tools and Organizational Development Applications Summary

- Continuous Improvement project management and team experience in manufacturing, distribution, and retail operations
- Organizational/Team Development Tools implementing and managing projects practiced as a volunteer with Professional and Civic Associations
- an advocate and practitioner of Lean Tools as a “way of life” mindset for company survival in a competitive marketplace
- an advocate and practitioner of ERP and WMS software application for company survival in a competitive marketplace
- a belief that Lean Tool project success is directly proportional to the buy-in and degree of ownership by client management and end users.





# The Lean Thinker's Club

