

TIM WARD

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Accomplishments

Organization Turnarounds

- Increased operating profit by 500% and plant throughput (revenue produced by sales) by over 100% in 3 years without increasing plant size for cleaning equipment company.
- Increased plant throughput by 260% while finding more than 40% of production floor space. Within 2 years after the project, plant staff increased their throughput by another 140% using methods I taught them. This 400% production increase was done with an eventual increase of just 30% in direct labor and in the original floor space.
- Decreased both throughput time & WIP inventories by 50% for custom kitchen cabinet plant in 2 1/2 months.
- Absorbed 300% increase in orders, reduced space 45%, reduced personnel 28% as manager of architectural signage operation.

Production Processes

- Reduced replenishment times for high volume diamond drill bits from 10 days to 3 days. Urgent items would clear production in 4 hours... *without* active expediting.
- Decreased Fabrication Department average throughput time from 2-3 weeks to 24 hours.
- Decreased throughput time for a custom fabric pool cover fabrication from 1.5 days to 45 minutes while using ½ the man-hours per cover and 75% of the floor space.
- Dropped Confirmed-order-to-shipment throughput time from 5 days to 2 days for pool cover production with urgent items shipped in 1 day.
- 300% increase in 55 gallon drum washing & filling throughput with 2/3rds the staff & 1/3 the space for chemical production company.
- Process analysis, equipment specification & layout for a cultured marble countertop plant. Fit production into 60,000 square feet versus the proposed 120,000 square foot.
- Enabled an annual sales increase of \$1.6 million by designing and supervising the installation of a 60,000 square foot furniture finishing and assembly plant including work-in-process and finished inventory, assembly cells, paint booths, an explosion-proof paint storage vault and an overhead-paint-finish conveyor.
- Trained wood mill supervision to manage operation by its natural constraints resulting in 200% throughput and revenue increase within 18 months.

Information Processes

- Decreased the time between when a researcher for a natural food-supplements firm discloses an initial marketable idea to the firm's General Consul and when the General Consul applies for a Provisional Patent to develop it from 2+ years to less than 8 weeks.
- In 5 weeks, decreased receiving-dock-to-ready-for-payment throughput time for receiving documents from 60-90 days down to 5-7 days for a cleaning equipment firm.
- Designed and implemented inbound applicant processing procedures for charitable organization which reduced case load on volunteer assistance officers by 90%.

Teaching Processes

- Wrote www.leanmfg.com to teach organization-wide, process diagnostics and repair. Used it to teach 165 College of Business students to turn around real organizations applying process improvement tools. Student projects:
 - 25% profitability increase at Chinese Restaurant in 1 month.
 - Fastest ever commercial real estate loan rate-lock down from 45 to 34 days.
 - 37% increase in average monthly revenue for scrap book publisher.
 - Dropped average order fulfillment from 3 to 1 1/2 weeks for emergency food storage and camping equipment firm.
- Designed & taught team-based tools to implement continuous productivity improvements at diamond drill bit plant increasing productivity by 260% in 14 months.
- Taught students using the Project Management Institute's Project Management Body of Knowledge Guide, 3rd Edition, 2004. Coached student-selected military base projects.

Management Processes

- Managed profitable architectural signage workshop employing entry-level workers of very diverse abilities and national origins. Taught skills for present & future careers. Trained disabled employee in systems design who was successfully out-placed and subsequently promoted 3 times in 6 weeks.
- Prioritized and enumerated information, planning & control-system Profit Leaks for 10 businesses. Educated each client and developed recommendations resulting in more reliable business controls and increased profits.

Design and Fabrication Projects

- Coordinated design changes and installation of custom, automated, assembly and packaging equipment for plastic-injected parts to increase annual sales capacity by \$1.5M.
- Designed and fabricated production jigs for architectural signage production
- Designed and fabricated production jigs for furniture assembly & finishing operations.
- Fabricated & commissioned production test stand for electric motor armatures.
- Designed test fixture for the printed circuit board of an Accelerometer Restoration Amplifier used in an inertial navigation system.
- Designed test fixture to calibrate the crystalline structure resolution, in Angstroms, of a 2 inch high by 1/2 inch wide stream of neutrons.
- Fabricated prototype robots including an automated storage/retrieval robot, a Pick-and-Place robot for the center of a Computer Aided Manufacturing production cell and about a third of a polar-coordinates Computer-Numerically-Controlled milling machine.

Strengths

- Able to generate alternate tactics and creative routes to desired objectives.
- Consistently spot the relevant patterns and issues in any given scenario and create alternative ways to proceed.
- Able to spot the links and reasons between seemingly unrelated phenomena.
- Desire to learn and pursue continuous improvement.
- Adept at dealing with problems: good at figuring out what is wrong and resolving it.

Experience

- *Lean Manufacturing Consultant* - Manufacturing Consulting Services, Salt Lake City, UT
 - General Consul of unnamed food supplements firm (non-disclosure), Davis Co, UT.
Coach this attorney, about once a month, into removing an unnecessary 15 hours a week of clerical work from his workload by completely changing his intellectual property processing procedure three or four times over the course of seven months. Reduce the aggravation of this process for the General Consul, the Department Heads, the researchers and the owner. In addition to dropping the throughput time of this process by over 90%, the new process was much less troublesome for the firm's researchers. As process flow simplified and accelerated, the researchers began disclosing all of their ideas instead of just the cream of the cream of their research ideas which they had been doing because getting *anything* through the original process was such a pain. The new process reduced *the researcher's* clerical bother as well. Strategically, after seven months, instead of just moving ahead with the historical handful of new ideas that had managed to clear the intellectual property process, this firm had to decide which of many intellectual property opportunities to pursue in the next 2-5 years and which to store, for the present, in trade secrets... a very different strategic situation than this client had *ever* experienced before!
 - Woodcraft Mill and Cabinets, Salt Lake City, UT.
Coach this company on basic Theory of Constraint (TOC) and the full range of Lean Manufacturing tools to see and rapidly eliminate their production and information flow-constraints, one right after another in tornado-like fashion. For example, in 2 1/2 months, we installed 4 single-piece-flow production cells with standard work and less-than-10-second setups throughout each cell. We installed visual inventories for their paint, raw wood, and sheet stock raw materials, and we redesigned and implemented the necessary information flows to feed this *much faster* process. In short, this plant cut their order throughput time from 12 days to 6 days and their work-in-process inventory by more than 1/2 while increasing their quality .
 - Cleaning Equipment Company (unnamed due to non-disclosure), Salt Lake City, UT.
Coach this Company in TOC & in the full range of Lean Manufacturing methods from the brink of shutting down their Fabrication Department due to 2-3 week lead times. Not only did their Fabrication Department throughput times drop, their *entire* plant throughput time dropped to less than 3 days for their pressure washer product line... and for most of their other product lines as well. Due to changing procedures throughout their entire company, one department or product line at a time, they were able to increase their monthly revenue by 100% without increasing their floor space. As a direct result, their profitability increased to more than 500% of what it was at project start.
 - Pool Cover Specialist, South Jordan, UT
Coach this firm in TOC & Lean, starting with their final assembly and moving all the way upstream through their motor assembly, machine shop, purchasing, fabric cover production, order entry and engineering to be able to deliver their products in 40% of their previous time, while successfully supplying a second branch in Indiana using visual inventory and daily detailed replenishment methods.

- Chemical Plant (Unnamed due to non-disclosure), Salt Lake City, UT
This particular plant produces chemicals in the quantities of train car loads and tanker truck loads. They had been very slowly choking on the transition of their customers requiring a gradually higher proportion of product to be delivered in 55 gallon plastic drums. Drum washing had never been recognized as a constraint to plant throughput, however the very expensive downstream mixing equipment was chronically waiting for clean drums. Solution - coach the firm to apply the full range of Lean Manufacturing tools to this process: Value Stream Mapping, Quick Setup, Single-piece-flow production, visual inventories, and other Lean Thinking tools. Result: three times the washed and filled drums in 1/3 the space and 1/3 the staff. Bigger result: no longer choking the expensive mixing equipment and plant overall revenue-producing throughput.
- Boart Longyear, Inc, Salt Lake City, UT
Teach the Production Leads, Production Manager & Plant Manager how to do basic Lean Value Stream Mapping and Department layout as well as how to find and eliminate central process constraints. Supervise the creation of the entire plant relayout according to Lean Manufacturing principles, one department at a time. Supervise and coach on the creation of very small visual inventories between departments. Coach on the principles of visual reordering from vendors. Coach on the 6S's: Sorting, Setting in-order, Scrubbing, Standardizing, and Sustaining of production spaces for productivity. Continually develop and teach the vision of what productivity and job security *can be* with continuous process improvements. Result: productivity up 214% in 14 months.
- Designer Marble, Orem, UT
Coach management in Lean Manufacturing Process layout. Layout real estate lot and cultured-marble counter-top-production facility. Use just 60,000 ft² versus 120,000 ft² of the proposed building size for production needs by changing the shape and lot location of the proposed building..
- *Adjunct Professor of Operations Management* - University of Utah, Salt Lake City, UT
Instruct 165 undergraduate business students in basic operations management strategy and methods. Teach them organization-wide process diagnostics and repair. Coach them in a term project to apply the process diagnostics tools in 27 real organizations, several of which the students themselves turned around using class tools.
- *Adjunct Professor of Entrepreneurial Operations Management* - Westminster College, Salt Lake City, UT
Instruct undergraduate business students in basic Operations Management strategy and methods. Each student was heavily involved in their own business, so instead of listening to lectures and taking exams, they wrote papers applying class concepts to their own business. Coach each student in their own business.
- *Adjunct Professor of Project Management* - Weber State University, Layton, UT.
Instruct 38 military bases civilian supervisors and supervisor trainees in basic Project Management. Coach nine teams in developing on-base project plans.

- *Plant Engineer* - Utah Plastics Group, Salt Lake City, UT.
Supervise physical facilities for a plastic injection molding plant. Plant layout and equipment installation. Supervise installation of packaging equipment for injection molded products. Supervise maintenance & upgrades to plant equipment.
- *Executive Analyst* - George S. May Intl., Chicago, IL
Analyze businesses for profit leaks. Specify training and resources to permanently fix those leaks.
- *Instrumentation Engineer* - KHI Engineering, Salt Lake City, UT.
Design and specify instrumentation, Piping & Instrumentation Diagrams and radio-telemetry components for remote oil-well sites.
- *Sign Fabrication Shop Manager* - Deseret Industries Manufacturing, Salt Lake City, UT.
Supervise production of interior and exterior architectural building signage distributed across North America in English, French and Spanish. Design & install facility, train staff on order entry, computerized cutting equipment, assembly techniques, inventory methods, signage painting and finishing, and shipping processes. Prepare staff of very diverse abilities and international cultural backgrounds for employment in the United States.
- *Manufacturing Systems Designer* - Deseret Industries Manufacturing, Salt Lake City, UT.
Design and implement multiple production systems: including mattress ticking production, mattress product finished goods inventory racking, architectural signage products and a signage application vacuum jig. Design a 60,000 square-foot furniture finishing expansion complete with multiple spray booths, an explosion-proof-paint-storage room with spray-gun pumps and an overhead paint-finish conveyor system. Supervise installation of overhead conveyor system, including some welding. Design & machining/welding fabrication of several production jigs.
- *Chief Operations Officer* - Intercon Trading Company, Salt Lake City, UT.
Direct domestic operations, distribution, market research, and US customs operations.
- *General Machinist and Mechanical Designer* - Automatics Company, Beaumont, CA .
Fabrication and commissioning of an automatic test stand for electric-motor-armatures.
- *Mechanical Designer and General Machinist* for multiple organizations.

Education

- Master of Business Administration, Production and Operations Management, University of Utah, Salt Lake City, UT
- Bachelor of Science, Production and Operations Management, University of Utah, Salt Lake City, UT

Additional Training

- 2 1/2 of 4-year Mechanical Engineering Bachelor of Science, Brigham Young University, Provo, UT & University of Utah, Salt Lake City, UT
- Six Sigma Black Belt, Brigham Young University (Six Sigma is a statistically-based set of process improvement tools.)