

THE PIVOT PALETTE

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CONSULTING & TRAINING

Lean Enterprise

Setup Reduction & Mistake Proofing

Six Sigma - Black Belt, Green Belt

ISO 9000, TL 9000, ISO 16949, AS 9100 . . .

Change Management

Contract Management

Business Continuity Planning

Facilities Management

Process Improvement

Process Excellence / Baldrige Award

Project Management

Theory of Constraints

TRIZ

RADICAL THINKING?

OH NO! OH YES!

Oh No! Oh Yes! Taiichi Ohno, father of Toyota Production System (TPS), is also credited as the founder of Lean Thinking. Ohno challenged the basic concepts of manufacturing, making only what was required, when required. He challenged workers to carry no stock and provide components to their colleagues at the next stage of production, as required. This became known as Just-in-Time and is recognized as a basic concept in eliminating waste (non-value) from the system.

His concept was to eliminate activities that added no value to an operation. For example, a part that takes 45 total minutes of 'touch labor' to build, but actually takes 30 hours of elapsed time to travel through the full manufacturing cycle, has a lot of 'wasteful activities!' His objective was to work without waste. Essentially, evaluate how a job is done, imagine how it could be done if flowing without a hitch, then establish that as an objective.

Ohno's method was simple: improve productivity by getting it to the steady state, then improving it! For example, when workers reach a cer-

tain level of production, pull 10% of the resources away, and expect them to achieve the same level of production with only 90% of the resources. Of course they will run into initial problems, which they will resolve. Once they achieve this new goal, take an additional 10% of the resources away. They will again all scream 'Oh No!' and it is in this manner that his became known as the 'Oh No!' method.

The objective is to put pressure on EVERYONE in the organization to help resolve the workers' problems. Similar to the adage of trying to get different results by doing the same thing, trying to increase production with the existing system makes no sense. Ultimately, the easiest way to increase productivity is to maintain the same level of production with fewer resources thereby forcing everyone to collaborate in resolving the problems that surface.

This requires a change in mindsets. Recently a company made a few observations both in the offices and on the production floor. Examples included:

1. workers collecting 'rejected fabric' and mov-

ing it to a collection point for recycling back into the production cycle

2. 'logs' of fabric waiting to be processed further
3. piles of raw material, requiring stacking and restacking to ensure first in first out
4. stacks of papers buried under files which were buried under papers. (Time spent searching is not value added!)

To management, all seemed normal. There was no recognition that many of the activities were non-value added to their operations. In all of these examples, there is no change in form, fit or function; which is a key characteristic in adding value. In addition, examples 2 & 3 deal with inventory, which if not optimized is an expensive line item. Carrying lower inventory surfaces potential problems and once addressed ensures that products keep flowing. Get the product flowing, not stored!

Again, it requires a mindset change . . . Oh No! Oh Yes!



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A quarterly publication of PIVOT Management Consultants

CASE STUDY

Lean Training Leads to Series of Kaizen Events



Quarter 3 2006

MISSION

Be a premier provider of management consulting services to industry in the high technology, manufacturing / design, services, healthcare, education and government fields.

Be the best partner a business leader can have to help accelerate the move along the path of continuous quality improvement and quality system enhancement, rethinking and changing the way our client's business is done internally and for the marketplace and industry our client serves.

Implement operational improvements across all functions and levels of our client's organization to achieve improved strategic and marketplace position, delivering value added measurable results.

Provide a positive, rewarding, collaborative work environment within PIVOT that fosters personal growth, fulfillment and success for our associates, suppliers and clients.

VISION

Together we will. . .

Work to fully understand the requirements of our jobs, the requirements of our clients and the systems that support us.

Provide error free services, analysis information, education and skills training on time to our clients.

Practice ethical, honest and fair behavior in our interactions with clients, associates and suppliers. We will not promise anything we cannot honestly deliver.

Inspire trust and respect by our clients, associates and suppliers, through PIVOT's proven commitment to our mutual success.

Have fun!

A cabinet manufacturer, based in N. Carolina, which employs about 100 people and produces custom commercial display cabinets recently implemented lean manufacturing in their machining department. They experienced a 75 percent reduction in overtime, doubled output and reduced labor requirements by 25 percent.

As part of their Lean training, the organization 'Value stream mapped' their processes. This 'visual' of their workplace provided a new perspective and generated insights into potential opportunities for improvement.

This training program was then followed by a kaizen event in the machining department where cabinet components are cut and milled. This department was chosen because of the steady flow of overtime throughout the year just to keep up with the workload.

The event started with the employees mapping the machining process, identify inefficiencies and bottlenecks, and planning process improvements. They streamlined the process, got rid of unnecessary equipment, reduced the size of other machines, and freed up more than 2,100 feet of production space. They moved production stations closer together, allowing some operators to perform multiple processes, and reduced cue and cushion times that kept products in the machining area longer than necessary.

The streamlined process enabled the manufacturer to run products through smoother and faster, in smaller batches. Time studies provided data: one product that originally took two days to move through machining before the kaizen event was cut to four and a half hours.

Another kaizen event that challenged the company's production capacity was conducted in a special product line rollout. The event was planned just before a scheduled ramp up in production. Employees analyzed the existing process, conducted time studies and made improvements to optimize the process.

The result was a 30 percent reduction in manufacturing space requirements, a 25 percent reduction in labor requirements, and a production increase from 10 to 25 units per week. And because of the reduction in space requirements, they were able to move from a leased building to a company-owned plant.

Although it was a major investment opportunity and ultimate cost savings, no one lost their job. Because of efficiency improvements and the resulting increased capacity, the organization saw an increase in business and has had to hire additional employees.

In its goal to systematically implement lean practices throughout its facility, the company has conducted training for the engineering, purchasing, project management and supply chain departments, as well as planned for more kaizen events.

The intent is to close the loop between the manufacturing and administrative sides of the company. The original value stream map stretched from the first contact with the customer until the truck delivered the product – the cash to cash cycle.

This cabinet manufacturer has had a 10 percent growth in sales over the last year and expects more growth in the future. Management intends to streamline their entire facility, optimize every dollar, and make it a stronger player in the market. Implementing lean practices has enabled them to pursue larger customers.

SIX SIGMA, LEAN & ISO

SIX SIGMA CURES HOSPITAL'S ERROR PROBLEMS

The implementation of Six Sigma at Decatur Memorial Hospital, an Illinois hospital has saved it millions of dollars--and simultaneously dramatically improved patient satisfaction.

The hospital reports that ten months after it installed patient-safety technology from Omnicell Inc., it was under budget by more than \$2 million in its drug department and \$750,000 in pharmacy labor.

In addition, Decatur Memorial Hospital reduced the time it takes to dispense and administer drugs to patients from 186 minutes to 104 minutes. Medication errors have dropped 70 percent.

Decatur Memorial Hospital is located in central Illinois and has 350 beds. For more information, visit www.dmhcares.com.

LEAN CONSTRUCTION JOURNAL

Published by the Lean Construction Institute, the Lean Construction Journal (LCJ) is an international refereed journal devoted to Lean Construction practice and research. The primary objective is to stimulate a systematic rethinking of the construction process both on and off-site by providing a forum for disseminating knowledge and exchanging ideas between industry and academia. LCJ publishes high-quality practical papers that report developments, provoke new thinking and chronicle the history of Lean Construction in a manner that is readily accessible to practitioners/clients of the Architecture, Engineering and Construction (AEC) Industry as well as AEC students and faculty.

Check it out at www.leanconstructionjournal.org

DRAMATIC INCREASE IN ISO REGISTRATIONS

The International Organization for Standardization reports an 18-percent increase in the number of international registrations issued for ISO 9001 in the annual "ISO Survey of Certifications."

ISO surmises that increased registrations in China and India are largely responsible for the trends. Additionally, the survey indicates that there is an increasing popularity of ISO 9001/14001 in the service sector. Nearly 33 and 31 percent respectively of ISO 9001 and ISO 14001 registrations were earned by service organizations.

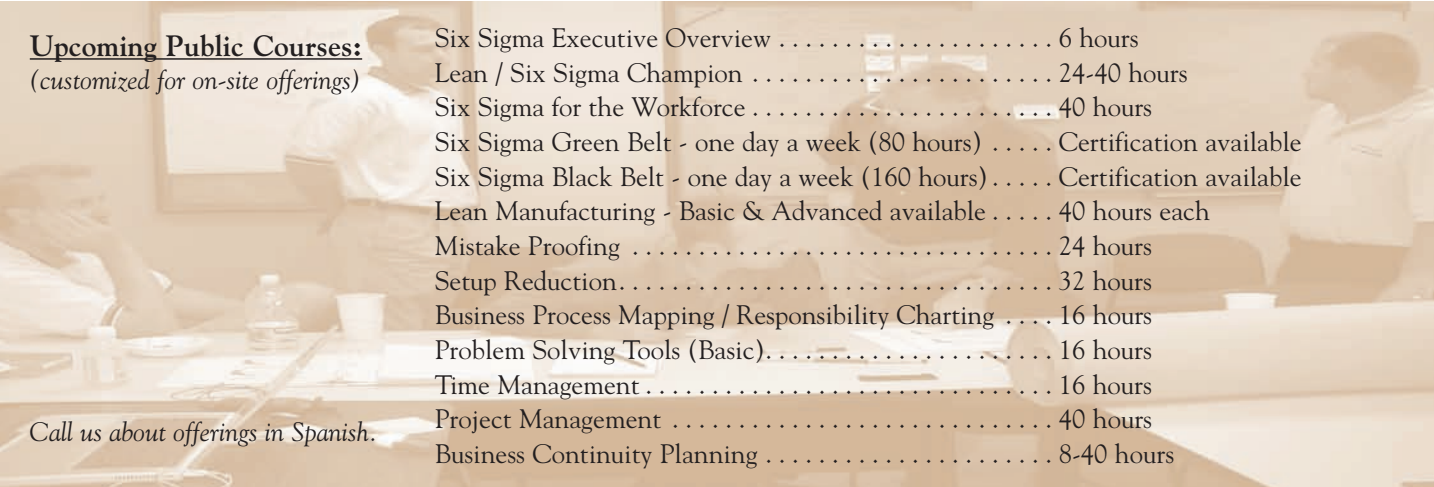
Interestingly, in the industry specific standards, the largest gains were for organizations registered to ISO/TS 16949 (auto) and ISO 13485 (medical device). ISO reports that as of the end of 2005, there were 17,047 organizations registered to ISO/TS 16949, an increase of 70 percent over 2004. Even more striking is the growth of ISO 13485; the survey found 5,065 ISO 13485-registered organizations in 67 countries. This is a 111-percent increase over 2004, when there were 2,403 registered organizations in 55 countries.

For more information, visit www.iso.org.

KAIZEN OFFERING

Want to experience benefits from Kaizen? Host an event.

[We may be able to arrange funding for this training](#) for California and Colorado based organizations.



Upcoming Public Courses:
(customized for on-site offerings)

Six Sigma Executive Overview	6 hours
Lean / Six Sigma Champion	24-40 hours
Six Sigma for the Workforce	40 hours
Six Sigma Green Belt - one day a week (80 hours)	Certification available
Six Sigma Black Belt - one day a week (160 hours)	Certification available
Lean Manufacturing - Basic & Advanced available	40 hours each
Mistake Proofing	24 hours
Setup Reduction	32 hours
Business Process Mapping / Responsibility Charting	16 hours
Problem Solving Tools (Basic)	16 hours
Time Management	16 hours
Project Management	40 hours
Business Continuity Planning	8-40 hours

Call us about offerings in Spanish.

If you have any comments/suggestions, please contact:
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PRELIMINARY QUESTIONS

The root cause analysis tool, 5W & H W's and H is well established in the quality and operations field. The technique uses basic question generating prompts (e.g. Who, Why, What, Where, When, & How) that can be influential, inspirational or imaginative. The method is useful at any level from a formal checklist to complete informality. For example. using a basic checklist can provide the following benefits:

- Suitable as a quick-aide when in an on going discussion,
- Summary of quick points scribbled down in a meeting,
- Generate data-gathering questions, during the early stages of problem solving when you are gathering data,
- Generate thought-provoking questions (e.g., brainstorming, brainwriting) to help build on existing ideas,
- Generate criteria for evaluating options.
- Check plans and facilitate integrated implementation strategies.

Generally, the responses to this checklist are usually factual, rather than action-oriented or problem-solving. For example, the answer to “Who does X?” could be “Janet”. To answer this answer in a problem-solving context, we may have to state it differently, “If Janet does X, in what way might we make it easier for her?”

Preliminary Questions is a technique that essentially further develops the 5 W's and H. This type of checklist is recommended for selective use. An example of how a list of questions could help take the 5W's to the next level follows:

- | | | |
|--|---|---|
| <p>Who</p> <ul style="list-style-type: none"> • Is affected by the problem? • Else has it? • Says it is a problem? • Would like a solution? • Would not like a solution? • Could prevent a solution? • Need it solved more than you? | <p>Where</p> <ul style="list-style-type: none"> • Where is it most noticeable? • Is it least noticeable? • Else does it exist? • Is the best place to begin looking for solutions? • Does it fit in the larger scheme of things? | <p>What</p> <ul style="list-style-type: none"> • Might change about? • Are its main weaknesses? • Do you like about it? • Do you dislike about it? • Can be changed about it? • Can't be changed? • Do you know about it? • Don't you know about it? • Will it be like if it is solved? • Will it be like if it isn't solved? • Have you done in the past with similar problems? • Principles underlie it? • Values underlie it? • Problem elements are related to one another? • Assumptions are you making about it? • Seems to be most important about it? • Seems to be least important about it? • Are the sub-problems? • Are your major objectives in solving it? • Else do you need to know? |
| <p>When</p> <ul style="list-style-type: none"> • Does it occur? • Doesn't it occur? • Did it appear? • Will it disappear? • Do other people see your problem as a problem? • Don't other people see your problem as a problem? • Is the solution needed? • Might it occur again? • Will it get worse? • Will it get better? | <p>Why</p> <ul style="list-style-type: none"> • Is this situation a problem? • Do you want to solve it? • Don't you want to solve it? • Doesn't it go away? • Would someone else want to solve it? • Wouldn't someone else want to solve it? • Is it easy to solve? • Is it hard to solve? | |

As Rudyard Kipling wrote in his *"The Elephant's Child"*

I keep six honest serving-men:
 (They taught me all I knew)
 Their names are What and Where and When
 And How and Why and Who.