Making a Lean Transformation – a Trade Partner’s Perspective

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Lean Thoughts

TQM vs. PQM vs. TQLS

Lean Literature & Books

BUT WE ARE DIFFERENT!

Why do Lean?
  Copy the leaders
  Customer requirement
  Your Share of the PIE?
Session Objective

At the end of this session you will be able to start or contribute to starting a Lean initiative in your company – ONE GOOD IDEA

Think Lean -> Do Lean -> Lead Lean
How big is your slice?
Why Lean?

How do we bid a job today?

Estimate the Costs $$ + \text{Profit margin} = \text{Bid Price}

The *Lean* way to bid a job:

Market Price $-\text{Profit margin} = \text{Cost to do the Job}

Is this Possible?

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Why Lean?

What would be the possibilities if you could reduce your Cost of Goods sold (Direct Operating Costs) by 15%?

Where Would You Cut?

**Direct costs**

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>60%</td>
</tr>
<tr>
<td>Materials</td>
<td>25%</td>
</tr>
<tr>
<td>Equipment</td>
<td>6%</td>
</tr>
<tr>
<td>Sub Contractors</td>
<td>7%</td>
</tr>
<tr>
<td>Indirect Costs</td>
<td>2%</td>
</tr>
</tbody>
</table>
Why do Lean?

To be more competitive & CAPTURE the market.
Lean Implementation Principles

- No one way to implement Lean. Must have a Lean champion.
- Your Lean initiative must fit (and change) your company’s culture.
- Must always know the True North. Ask 2 Questions.
- Developing your Lean initiative is critical to your success. You must own it.
- It is a journey and no one has reached the end yet! Requires Continuous Learning (17).
Lean Thinking Foundation Principles

PEOPLE Build Buildings
PEOPLE Lead People

◆ We don’t do Lean to people but with them
◆ We respect each other (everyone)
◆ Lean Improvement = (Level of Employee Participation) Squared!

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Lean Thinking Foundation Principles

Lean is about adding Value and reducing Waste.

**Must Understand Value**

- What the customer is actually willing to PAY for (USEFULNESS/COST)
- Relates to the whole product or service received
- Work done *Right the First Time*
- Is the opposite of WASTE
Lean Basics

Understand **WASTE** (Muda) - 7 Basic Wastes

- **Defects in products:** Rework, Errors & Punch Lists
- **Overproduction:** Fabricating material or ordering it too soon, JIC thinking. Ordering extra material because of poor quality or fit
- **Inventory:** Material stored at site or yard, work in process, unused tools & parts, forms and stashes *(Strategic vs Excess?)*
- **Unnecessary processing:** Double & triple estimates from suppliers, redundant or unnecessary reporting, multi signatures on forms, material requisitions or time sheets, any non-value added steps
- **Unnecessary movement of people:** *Treasure hunts*
  Movement Not = WORK!
- **Transport of goods:** moving material, tools or parts, handing off work between crews, recycling
- **Waiting:** Crews waiting for equipment, plans, RFI’s, field orders, or material, payroll waiting for time sheets, equipment waiting to fabricate material

*Are there more?*
Three Priorities of Lean Management

1. Keep the crews installing value-added work
2. Reduce inventory
3. Reduce other costs
Lean focuses on maximizing the whole project NOT on maximizing individual performance.
Go and See

Go to “Gemba” - where value is added
“There are three kinds of leaders. Those that tell you what to do. Those that allow you to do what you want. And Lean leaders that come down to the work and help you figure it out.”

John Shook

Lean Leaders do Muda Walks

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Do a Muda Walk

Go to **Gemba** & do “Chalk Watch”

- **Flow** (Don’t watch the work - watch for what gets in the way of value!)
- **Treasure Hunts**
- **Waste**
- **Standards/systems/methods**
  (can’t improve if no standard way exists)
- **Equipment maintenance & utilization**
- **Ask Why?** (5 times)
- **Ask:** How can we make it easier for you to do your job?
- **Fix Problems Now**

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**Everyone has 2 jobs:**

<table>
<thead>
<tr>
<th>DO WORK</th>
<th>IMPROVE WORK (Kaizen)</th>
</tr>
</thead>
</table>

*Kaizen* = Improvement for the good

**The 8th Waste = Not using people as a resource**

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Leading Lean

One construction company
405 employees
2005 - Zero Ideas
2006 - 11,000 Ideas

- CEO challenged >> 2 implemented ideas per employee per month!

Everybody - Everyday 100 x 1% better than 1x100%

Your Challenge - 2 improvements (save 5 minutes) in next month
WANTED!

Engaged Employees

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People Equation
Involvement + Communications = Engaged Employees
People Engagement Systems

✧ Traditional suggestion systems
✧ Decentralized systems (QNEK, 2 Second Lean)
✧ Focused Improvements – True North
If you are not doing the 5S’s you are not doing Lean!

Masaaki Imai
Lean Implementation

An Organization

Engaged Employees

Processes

Standardize, then improve Processes & Operations

Purpose

Top Management Leadership

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Levels of Lean Implementation

Various Tools

Systematic use of tools & training

Lean in culture, people & enterprise

Companies ultimately progress or stall at these levels.

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Where to start - Level 1?

Define a Key Process - Value Stream Map it

- Identify the Steps - value added/non value added
  - Who Touches
  - Requirements

- Define/verify VALUE as seen by the customer
  > Improve Quality - Eliminate Defects
  - Where do we not meet the customer’s requirements?
  > Do Root Cause Analysis, do Poka Yoke

Make Value Flow - so one step leads immediately to the next with no batches?
  > Look at handoffs - Define Rules of Release
Where to start - Level 1?

Eliminate Treasure Hunts - Organize the Workplace
  > Use 5S’s, Spaghetti Chart & Kanban

No Muda - Attack waste with a passion like Ohno
  > Use the ‘chalk watch’ & 5S’s

Standardize process step, tools & equipment

Implement Quick & Easy Kaizen/ 2 Second Lean
  >> 2 implemented ideas per employee per month!

Try something
Where to start - Level 1?

Improve Project Management

Apply Last Planner System®
- Schedule
- Look Ahead Plan
- Weekly Work Plan
- Measure PPC
- Do Constraints Analysis
Implementing Lean

Level 1 & 2 - WHAT TO DO – Focus on individual projects and tools (LPS - 5S’s - Q&EK)

Level 3 - Focus on Company:

- Who will Lead the initiative?
- What systems & processes need to change?
- How will you educate everyone?
- How will you measure success?
- How will you communicate it?
- How will you sustain your Lean efforts?
Key Leadership Principles

Structure follows strategy

Learn - Teach Correct Principles

Main Role of Lean Leaders

• Gain agreement on what is important (True North & Priorities)
• Seek to add Value & eliminate Wastes as a competitive advantage
• Go & See to help create Lean processes
• Enable workers to create stability (standard work) and then continuously improve every process
• Mentor subordinates as Lean managers - ask questions not give answers. Allow failures.
Leading the Lean Organization

Principles:

• Someone needs to ‘own’ it, drive it, champion it
• Must have Accountability & Capability
• Middle management will hold Lean efforts hostage

Do you need a consultant?
Leading the Lean Organization

Lean champion vs Lean Steering Team vs Leadership Team

- Do Learning sessions
- Report monthly to Executive team
- Muda Walks
Communications - Why Lean? Why Change?

Principles:

• Need a **compelling story** with sense of urgency

• Need > Vision > Plan *(otherwise just dreaming)*

• Communicate 10X
Communications - Why Lean? Why Change?

Best Practices:

Announce effort - President
Stump speeches by executives, Newsletters, Recognize Success stories/ Pilots
Quarterly updates (from executives)
1st item on the agendas
Graphics/pictures (Visual) - Install Visual Lean Indicators/ Scoreboard
Lean Education – *Train-Train-Train*

**Principles:**

- Everyone is part of the company - ALL need Lean training

- Not everyone needs the same training at same time (JIT)
Lean Education

- All receive basic Lean training including admin/back office
- Field receives LPS & 5S’s
- Support receives 5S’s & other tools
- Managers & supervisors also receive problem solving/root cause analysis
- Training for new employees
- Best if taught by senior managers & PMs
- Educate suppliers/trade partners
### Lean Training Matrix

**How will we train our people?**

<table>
<thead>
<tr>
<th>WHAT</th>
<th>Basic</th>
<th>5S's</th>
<th>LPS</th>
<th>Poka Yoke</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Field Crew</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td>✗</td>
</tr>
</tbody>
</table>

**What?**

**Who?**

**How & When?**

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Lean Systems & Processes

Principles:

*Water what you want to grow* - Systems must align:

- Performance Standards & Reviews & Compensation
- Hiring & Employee Development
- Improvement Ideas (Q&E Kaizen/ 2 Second Lean)
- Scheduling software & process
- Support Functions - need to “Support”
- Contracts
- Estimating factors
Lean Systems & Processes

GOOD - Keep usual policies and react as hot spots happen

BETTER - Lean Team identifies disconnects & helps Design & Deploy better policies & systems

BEST - Systematic Review by Executive Management Team to address problems quickly

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Lean Measurement

Principles:

• What gets measured gets results - employees must see it!

• Do not measure if not doing analysis to Take Action

• Results vs Process Measures (2 Boards)

• Group vs Individual incentives

• Measure Value to Customer

• Conference room management vs. Gemba Management

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Lean Measures

Measure:

- PPC & post it for crews & projects
- % Right First time (RFT)
- % On-Time delivery (material orders, jobs, shop orders)
- Customer Satisfaction
- Status of Jobs – Budget, Schedule & Quality

Need an Owner for each measure

Use Scoreboard & Dash Board - review regularly & identify countermeasures. MAKE IT VISUAL
How to Sustain Your Lean Efforts?

Principles:

• Safety is a value, so is Lean Thinking
• No Instant Pudding but set High Targets and take ACTION
• Good is the Enemy of Great
How to Sustain Your Lean Efforts?

Actions:

- Steering Team meets monthly – hold themselves accountable
- Quarterly reports to executive team/owners
- Updates to all employees
- Annual Lean Sustainability Evaluations
Next Levels of Lean Thinking:

Lean Leadership
- Leader Standard Work
- Visual Controls
- Daily & Weekly Accountability
- Discipline

KATA Process Improvement
- Set Challenge vs. random improvements
- Grasp Current Condition
- Set Target Condition
- PDCA execution
- KATA Coaching
Avoid the technology trap.

Lean is NOT about spending lots of money on capital equipment including technology!

*Keep it simple. Technology is a tool not an end.*
Change Management

20 - 60 - 20 Rule

Are you in the boat?

Critical Against Virtually Everything

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Barriers to Implementing Lean

- No sense of urgency
- Lack of leadership
- Not communicating with employees
- Not creating short-term wins and celebrating
- Seeing this as a Quick Fix
- Not anchoring the Lean changes with the rest of the culture & systems

The Real Barrier is thinking Lean can’t work in your company!
How to Learn more?

- Read books
- Network – LCI, Valley of the Sun Lean Benchmarking
- Associations: AGC, PIPE/MCAA, SMACNA, NECA...
- Lean Enterprise Institute
- Partner with other contractors, Peer Groups
- Other industries
Seven Points for Applying Lean

- Challenge conventional beliefs - without challenge there can be no progress.
- Experiment - Try it or you’ll never know!
- Tolerance for failure - improvement requires patience.
- Trust - improvements can not result in loss of jobs.
- Teamwork - total optimization rather than local (individual) optimization.
- Flexibility - rigid structures/policies will limit progress.
- Discipline - stick to the standards.

Every successful Lean transformation began with a passionate leader - Are you that Champion?

REMEMBER: You must change the processes - the way we do work or it is insanity!
What needs to change at our company?

EXERCISE

Less Lean

More Lean

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