Lean Supply Chain Professional Series
with Robert Martichenko & Kevin von Grabe

2012 Lean Supply Chain Courses

GEORGIA TECH
Supply Chain & Logistics Institute
EDUCATION • INNOVATION • LEADERSHIP
The Lean Enterprise: Purpose

- Build the Learning Organization
- Articulate Your Purpose and Customer Value Proposition
- Show Respect for People
- Show Respect for Processes- Stability, Standardization, Quality at the Source
- Make Problems Visible - Solve Problems in Real Time
- Eliminate All Waste - Do Only Those Things That Add Value to the Customer
- Think Long Term as Well as Short Term
- Continuously Improve: Get Better Every Day
- Teach the Power of PDCA
The Lean Supply Chain Professional

Problem Solver

Lean SCM Expert

Lean Leader
The Lean Supply Chain Professional

- Problem Solver
- Lean SCM Expert
- Lean Leader
Processes Want to Fall Apart

In a system, a process that occurs will tend to increase the total entropy of the universe.

Second law of thermodynamics

Entropy

- A measure of the disorder or randomness in a closed system
- A measure of the loss of information in a transmitted message
- Inevitable and steady deterioration of a system or society

System: A group of interacting, interrelated, or interdependent elements forming a complex whole.
# The Current Gap in Problem Solving

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Strengths</th>
<th>Combined Strengths</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Thorough</td>
<td>Simple</td>
<td>Simple, but Thorough</td>
<td>Thorough</td>
<td>Complicated</td>
</tr>
<tr>
<td>No specific tools</td>
<td>No “specific” tools</td>
<td>20% of the tools solve 80% of the problems</td>
<td>Multiple Tools</td>
<td>Multiple Tools</td>
</tr>
<tr>
<td>Hard to sustain</td>
<td>Provides quick fixes</td>
<td>Targets rapid improvements that are easily sustainable</td>
<td>Sustainable</td>
<td>Some sustainment plans can be overkill</td>
</tr>
<tr>
<td>Can be difficult to apply and use in problem solving settings</td>
<td>Concept can be explained and understood quickly</td>
<td>Clear, Comprehensive, easy to understand and apply</td>
<td>Clear &amp; Comprehensive</td>
<td>Requires a lot of learning and practice</td>
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</tbody>
</table>

- **Define**
- **Measure**
- **Analyze**
- **Improve**
- **Control**
## Orloe Problem Solving Model

<table>
<thead>
<tr>
<th>Operate</th>
<th>Do the Work &amp; Identify the Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan &amp; perform the work.</td>
</tr>
<tr>
<td></td>
<td>Identify gap between plan vs. actual condition.</td>
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</table>

<table>
<thead>
<tr>
<th>Review</th>
<th>Define the Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Document &amp; validate current state.</td>
</tr>
<tr>
<td></td>
<td>Develop a clearly defined problem statement.</td>
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<table>
<thead>
<tr>
<th>Learn</th>
<th>Determine Root Cause</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Identify all possible causes to the problem.</td>
</tr>
<tr>
<td></td>
<td>Isolate critical few root causes to the problem.</td>
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</table>

<table>
<thead>
<tr>
<th>Optimize</th>
<th>Identify Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Develop solutions that address the root causes to the problem.</td>
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<tr>
<td></td>
<td>Ensure the solutions support the entire value-stream.</td>
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</table>

<table>
<thead>
<tr>
<th>Execute</th>
<th>Implement &amp; Sustain the Solution</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Communicate, train, and implement the solution.</td>
</tr>
<tr>
<td></td>
<td>Measure and monitor the impact of the solution.</td>
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</table>
# Tools and Processes for Problem Solving

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Operate</th>
<th>Review</th>
<th>Learn</th>
<th>Optimize</th>
<th>Execute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do the Work &amp; Identify the Problem</td>
<td>Voice of Customer</td>
<td>A30 (A3 OR LDE Problem Solving Model)</td>
<td>Pareto - Critical Few</td>
<td>Future State Improvement Tools</td>
<td>Implementation Plan</td>
</tr>
<tr>
<td>CTQ Checklist</td>
<td>Go See Management</td>
<td>Brainstorming</td>
<td>SS</td>
<td>Standard Work / Checklist</td>
<td>Timeline</td>
</tr>
<tr>
<td>Team Member Standard Work</td>
<td>Data Collection</td>
<td>Cause &amp; Effect</td>
<td>Visual Management</td>
<td>FMEA</td>
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<tr>
<td>Visual Management</td>
<td>Process Map</td>
<td>5 Why Analysis</td>
<td>Quality at the Source - Error proofing</td>
<td>Communication Plan</td>
<td></td>
</tr>
<tr>
<td>Run Charts</td>
<td>Swim Lane Map</td>
<td></td>
<td>Velocity - One Piece Flow</td>
<td>Review Process</td>
<td></td>
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<tr>
<td>Scoreboards</td>
<td>Current State Value Stream Map</td>
<td></td>
<td>Leveled Flow</td>
<td></td>
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<tr>
<td>Leader Standard Work</td>
<td></td>
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<td>Pull Systems</td>
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<td>Time and Motion Chart</td>
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<td>Takt Time Calculation</td>
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<td></td>
<td>Future State Maps &amp; Gap Analysis</td>
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<td>XY Matrix for Prioritization</td>
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The Ultimate Business Model


Supplier Management  International Transportation  Domestic Transportation  Inbound Cross Docking  Trailer Yard Management  Lean Manufacturing  Inter Company Transportation  Distribution Centre Management  Outbound Transportation  Customer Management

Collaboration  Problem Solving  Quality at Source  Flow - JIT  Standardization  Visibility  Stability  Pull

Build to order = No overproduction so what's the problem?

Supply LT + MLT + OL < Customer LT = BTO

Supply LT + MLT + OL > Customer LT = Forecast

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Process: Systems Thinking

Ownership and Control

Taking Responsibility for System Wide Results
Lean Supply Chain - Guiding Principles

1. Make consumption visible throughout the fulfillment stream
2. Reduce lead time to enable pull and reduce inventory
3. Create level flow to reduce variation and enable stability
4. Use pull systems to reduce complexity and over production
5. Collaborate, solve problems and focus on process discipline
6. Increase velocity to drive flexibility to meet customer demand
7. Lead and make decisions based on Total Cost of Fulfillment

Why? To eliminate all waste so that only value remains
The Lean Supply Chain Professional

Problem Solver

Lean SCM Expert

Lean Leader
Lean Leadership – People

➔ Respect for people produces:

- A safe and visual work environment
- Communication and alignment of corporate purpose
- Fair days pay for a fair days effort
- Development for opportunity and growth
- Candid and respectful feedback on performance
- Problem identification and improvement (at root cause)
- Experiments, failure and self reflection
- Mutual trust creating strong relationships for change
Lean Leadership – Process

A Respect for humanity through process thinking

- Internal and external customer expectations known to all
- Understood standards to be used for improvement baseline
- Stability of processes to reduce over-burden
- Focus on flow and delivering customer value
- Quality in our work, pride to not pass on defects
- Waste Elimination – Respect for each moment of our lives

The Process

- Customer Focus
- Waste Elimination
- Quality at the Source
- Flow - JIT
- Stability
- Standardization

Do your best every time ... because by doing a thing well you build something valuable into yourself.

Becoming a Lean Leader

1. Building the Lean Enterprise -- Deep Understanding of Lean Thinking
2. Lean Leadership -- Lean vs. Traditional Leadership
3. Leading by Principles & Purpose
4. Leading the Vision -- Focus, Alignment, and Constancy of Purpose
5. Leader as Student and Teacher
6. Advocacy vs. Inquiry
7. Respect for People -- Deep Understanding of Lean Thinking
8. Lean Leadership -- Process and Value Stream Thinking
9. Management Systems and the Role of the Leader
10. Lean Leadership and Effective Measurement Systems
11. Reflection
12. Time Management -- Leader Standard Work
13. Visual Management and “Go See” Leadership
14. Building Teams
15. Convincing People on Lean Thinking and Dealing with Resistance
Building the Supply Chain Professional

Building the Lean Supply Chain Problem Solver
March 13-15, 2012
September 18-20, 2012

Building the Lean Supply Chain Professional
April 10-12, 2012
October 16-18, 2012

Building the Lean Supply Chain Leader
May 15-17, 2012
November 13-15, 2012

Highly Interactive
Results-Based Project Work

Passes the “So what?” test

www.scl.gatech.edu/LEAN
Get Lean

Thank You

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