


Lean Journeys

Using lean to simplify processes
and improve communication

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ASQ Section 304 Quality Conference

What is 'Lean'?


- ▶ Waste (muda) elimination
 - ▶ Efficiency

 - ▶ Simplification
 - ▶ Effective Communication
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Wawa coffee bar



Wawa coffee bar analysis

- New employee training
 - What flavors are needed? – color coded
 - What is my priority? – empty vats
 - Customer
 - What are my choices? – labeled
 - What do I do with the empties?
 - Managers
 - Is there any overproduction?
 - How is the work-in-process risk managed?
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Simple – Effective Communication




Lean Tools

5-S

5-S

- ▶ The building block of lean implementation
- ▶ Sort, Straighten, Shine, Standardize, Sustain
- ▶ Safety?
- ▶ Organizes work area
- ▶ Improved Efficiency
- ▶ Everything has a place, everything in its place

5-S take away

- ▶ *Simplifies* the workspace
 - ▶ Less 'stuff' to manage
 - ▶ Others can easily take over – *Communication*
 - ▶ Simple identification of missing items
 - ▶ Improves workplace morale
 - ▶ NOT isolated to industrial applications
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Lean Tools

5-S


**Value Stream
Mapping**

Value Stream Mapping

- ▶ A process map on steroids
- ▶ Pictorially representation of the process
 - All process steps
 - Locations and magnitude of inventory
 - Identified bottlenecks and need for parallel processing

[Value Stream Map Example](#)

Value Stream Mapping take away

- ▶ Easy visual method to communicate the status of the process
 - ▶ Enables big picture view to drive improvement
 - ▶ Simplifies analysis of
 - Cycle time vs. TAKT
 - Cycle time actual vs. VA cycle time
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Lean Tools

**Standard
Work**

5-S

**Value Stream
Mapping**

Standard work

- ▶ Standard work enables lean
 - Having a 'system'
 - Everyone works within the system
 - System is well thought out
- ▶ This baseline allows analysis and improvement
- ▶ Predictable outcomes

Standard Work Example

Standard Work











What did we notice?

- ▶ Always 8 seats
 - ▶ Orders are taken to enhance communication
 - ▶ Materials are 'kitted' for the technician
 - ▶ Always enough, no excess

 - ▶ Waste minimal
 - ▶ Technician efficiency is high
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Standard Work Take Away

- ▶ Communication is facilitated by process
 - ▶ Efficiency is high, Waste is low
 - ▶ Leave the workspace ready for your coworker
 - ▶ Simple enough that training is minimal
 - ▶ If everyone does things differently, improvement is more challenging
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Lean Tools

**Standard
Work**

**Error
Proofing**

5-S

**Value Stream
Mapping**

Error Proof

- ▶ Error proofing enables lean
 - Deletion of inspection
 - Reduction in risk
- ▶ ‘Designed in’ quality

Error Proofing Example

Error Proof take away

- ▶ Error proofing enables waste elimination
- ▶ Quality Tools work in concert to drive improvement
 - Value Stream Mapping
 - Six Sigma
 - Error Proof

Lean Tools

**Standard
Work**

**Error
Proofing**

Kaizen

5-S


**Value Stream
Mapping**

Kaizen blitz

- ▶ Kaizen is a lean deployment tool
- ▶ A rapid attack on a Quality problem
- ▶ Resource intensive
- ▶ High impact
- ▶ Short time period

[Kaizen Example](#)

Kaizen blitz take away

- ▶ Attack the problem
 - ▶ Use a war-room technique
 - ▶ Ensure availability of subject matter experts
 - ▶ Speed is the key
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Lean Tools

Just in
Time

Standard
Work

Error
Proofing

Kaizen

5-S

Value Stream
Mapping

Just-in-Time

- ▶ Key Input is value stream map
- ▶ Eliminates inventory queues
 - Less square footage
 - Putting capital to productive use
 - No product at risk
- ▶ Can lead to hidden 'safety stocks'

Lean Tools

Just in
Time

SMED

Standard
Work


Error
Proofing

Kaizen


5-S

Value Stream
Mapping

SMED

- ▶ Key input is 5-S
 - ▶ Reduction in change over time directly improves operational efficiency
 - ▶ Measurement from last good piece A to first good piece B
 - ▶ Down time is inefficiency
 - ▶ Quick adjust fasteners
 - ▶ Design for maintainability
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SMED take away

- ▶ NASCAR
 - Fuel
 - Tires
 - Quick change fasteners
 - ▶ Changeover is a play
 - No Rehearsals in front of audience
 - ▶ Downtime is money
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Lean Tools

Kanban

**Just in
Time**

SMED

**Standard
Work**

**Error
Proofing**

Kaizen

5-S


**Value Stream
Mapping**

Kanban

- ▶ 5-S and value stream map are key inputs
- ▶ Very powerful tool when properly executed
- ▶ Must have 100% commitment
- ▶ Non-traditional production planning

[Kanban Example](#)

Kanban take away

- ▶ Visual *communication* of priorities
 - Material order
 - Processing
 - Subcontractor priorities
 - Packing
 - ▶ Material flow is constantly adjusted
 - ▶ Limits on max/min inventory levels
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Lean Tools

Cellular
Flow

Kanban

Just in
Time

SMED

Standard
Work

Error
Proofing

Kaizen

5-S


Value Stream
Mapping

Cellular Flow

- ▶ 5-S and Value stream mapping are key inputs
- ▶ Standard process and error-proof are enablers
 - Rework loops cause disruption
- ▶ Co-locating processes
 - Movement is waste
- ▶ Reduce non-value added movement
- ▶ Improve technician communication

Cellular Flow Example

Cellular Flow take away

- ▶ Layout is not about spatial design, it is about *communication*
 - Counter-clockwise design to facilitate movement
 - ▶ Inventory control is enhanced
 - ▶ Engaging the power of teamwork
 - ▶ Process control is *simpler*
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Recap of lean tools

- Building Blocks
 - 5-S
 - Value Stream Mapping
- Cultural Empowerment
 - Standard Process
 - Poka-Yoke
 - Kaizen
- No turning back
 - Just-in-time
 - SMED
- Financial and operational impact
 - Kanban
 - Cellular Flow
 - Facility Layout

Conclusions

- ▶ Lean is a way of thinking
- ▶ Look for lean in daily life
- ▶ Start improving today

Questions

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