Greatness is Possible!!!
Innovation, Leadership and Operational Excellence

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Senior Fellow, Institute for Healthcare Improvement

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“Spear has dazzled readers with his insights.”
—Harvard Business Review

The High-Velocity Edge
How Market Leaders Leverage Operational Excellence to Beat the Competition
Steven J. Spear
Five-Time Shingo Prize Award Winner
Foreword by Clayton M. Christensen

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Questions...

• ...your process?
• ...“ideal” capability/capacity?
• ...current capability/capacity?
• ...obstacles?
Section 1
Complexity:
The Common Challenge
The Modern Day Challenge... (*)

Problems

- **Structural**: Manage functions in isolation.
- **Dynamic**: Constant workarounds.

Solutions

- **Structural**: Create processes and systems.
- **Dynamic**: Relentless improvement: Learn to learn.

(*) See chapter 2 and 3 for examples

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Section 2: Mastering Complexity
US Navy: Nuclear Propulsion

• See Problems
• Solve Problems
• Share Learnings
• Lead disciplined innovation
Jet Engine Design

2: Workflow maps

3: Design Criteria

4: Activity Maps
   -- Proficiency Tests
   -- Technology Assessment

1: Design Objectives:

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Section 3: Failure Modes
I: Stabilization

Job Shop to Focused Factory

Chaotic Push to Self Pacing Pull

Improvisation to Repeatable Standard

...Engineer...

Chaos Out

Stability In

Requests

Deliveries

Customer
Why Toyota (again)?

Performance
-- Efficiency
-- Quality
-- Variety
-- Speed

Why Toyota (again)?

-- Many Specialties
-- Tremendous depth
-- Complex systems

-- Few Specialties
-- Limited Depth
-- Linear Systems


GM Ford Chrysler

Toyota

General Motors Ford Chrysler
II: High velocity improvement and innovation

4: Engaged Leadership
   -- Manage systems
   -- Develop people

3: Knowledge sharing
   -- Apply discoveries systemically.

2: Problem solving
   -- Stop spread
   -- Build knowledge

1: System design
   -- Best approach
   -- See problems
Section 6: Problem Solving and Knowledge Sharing
# Problem Solving: A sick patient

## Background: Patient history

<table>
<thead>
<tr>
<th>Work-up: Symptoms, vital signs, and lab results</th>
<th>Expected outcome: Symptoms gone and lab measures ‘normal’</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="patient.png" alt="Patient" /> <img src="physician.png" alt="Physician/Nurse" /></td>
<td><img src="patient.png" alt="Patient" /> <img src="physician.png" alt="Physician/Nurse" /></td>
</tr>
<tr>
<td><strong>PROBLEM/SYMPTOM</strong> = DEPARTURE FROM DEFINED NORMAL</td>
<td><strong>SYMPTOM CURED</strong></td>
</tr>
</tbody>
</table>

## Diagnosis:
- Particular causes for symptoms

## Treatments:
- Actions to remove root causes for particular symptoms

## Implementation plan and follow up:
- who, what, where, when, how, and why...

## Lessons learned:
- What worked, what didn’t work, why...
Problem Solving: A ‘Sick’ Process

Background: Business case for change
• Business  • Process  • Demands
• Successes  • Failures (quality, cost, capacity, safety, etc.)

Current condition: How the process works and the problems (symptoms) it has.

Root cause diagnosis:
Symptom causes:
• Delays <-- Unclear output
• Confusion <-- Broken pathways
• Fumbles <-- Broken handoffs
• Impediments <-- unreliable methods

Countermeasure treatment:
Symptom relief:
• On-time <-- Clear output
• Clarity <-- Well designed pathways
• Well-synced <-- Dependable handoffs
• No obstacles <-- Reliable methods

Implementation plan and follow up: who, what, where, when, how, and why...

Lessons learned: What worked, what didn’t work, why...

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Knowledge Sharing: Example

Step 1: (Home)work on our own processes

Step 2: Together improve processes to improve process improvement

Step 3: Join up with other teams

Guests

Hosts

Knowledge Sharing: Example

Background:

• Business
• Process
• Demands
• Successes
• Failures (quality, cost, capacity, safety, etc.)

Root cause diagnosis:

Symptom causes:

• Delays <-- Unclear output
• Confusion <-- Broken pathways
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Countermeasure treatment:

Symptom relief:

• On-time <-- Clear output
• Clarity <-- Well designed pathways
• Well-synced <-- Dependable handoffs
• No obstacles <-- Reliable methods

Current condition:

How the process works and the problems (symptoms) it has.

4: Work-activity methods
1: Output
2: Pathway
3: Handoffs over connections
Request
Response
Request
Response
DELAYS
CONFUSION
FUMBLES
IMPEDIMENTS

Problem=
Departure from Defined Normal

Target condition:
Prediction of process with countermeasures in place.

ON
TARGET
CLARITY
NO
FUMBLES
NO
IMPEDIMENTS
SYMPTOM CURED

Implementation plan and follow up:
who, what, where, when, how, and why…

Lessons learned:
What worked, what didn’t work, why…

Updated Jan 25, 2011
Background:

- Business case for change
  - Process demands
  - Successes and failures (quality, cost, capacity, safety, etc.)

Root cause diagnosis:

- Symptom causes:
  - Delays <-- Unclear output
  - Confusion <-- Broken pathways
  - Fumbles <-- Broken handoffs
  - Impediments <-- Unreliable methods

Countermeasure treatment:

- Symptom relief:
  - On-time <-- Clear output
  - Clarity <-- Well-designed pathways
  - Well-synced <-- Dependable handoffs
  - No obstacles <-- Reliable methods

Current condition:

- How the process works and the problems (symptoms) it has.

4: Work-activity methods

1: Pull Local Expertise to Best Collectively Known Method
2: Share with regional support centers
3: Share with plants and collect feedback for modification
4: Feedback from regional support centers

Target condition:

- Symptom cured
  - On-target clarity
  - No fumbles
  - No impediments

Implementation plan and follow up:

- Lessons learned: What worked, what didn't work, why...

Community of Use:
Section 7:
High Velocity Management
## Beyond the Vernacular

<table>
<thead>
<tr>
<th>Intent</th>
<th>Tool</th>
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<tbody>
<tr>
<td>Design before use</td>
<td>Value stream maps</td>
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<td>Continuous flow</td>
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<td>‘Focused factory in the factory’</td>
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<td>Re-engineering</td>
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<td>Scientific Method</td>
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</table>

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...Assignment...

• What is the complexity in your own work?

• What is the structure/non structure?

2 steps to increase it!

• Where is the daily discovery?

2 steps to increase it!
The Perfect Storm to Hit Toyota

• Competing on capabilities.

• Capability to develop capabilities gets taxed

  -- Market expansion

  -- Technological complexity

  -- Regional diversification