

# Applying Lean Techniques to Project Communication Management Activities



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# Presentation Agenda

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- Overview
  - Definitions
- Lean Process Improvement
  - Value Stream Analysis
  - Muda - Eight Deadly Wastes
- Communications Value Chain
- Lean Analysis of Communications Value Chain
- Summary

# Point of View





# Overview

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1. Lean versus Six Sigma
2. Process Improvement
3. Foundational Definitions



# Lean Definition

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- Operational strategy oriented toward achieving shortest possible cycle time
  - Derived from Toyota Production System
  - Key thrust is to eliminate waste and reduce incidental work
  - Focus on flow and speed rather than quality
- Designed to radically improve profitability, customer satisfaction, throughput time, and employee morale

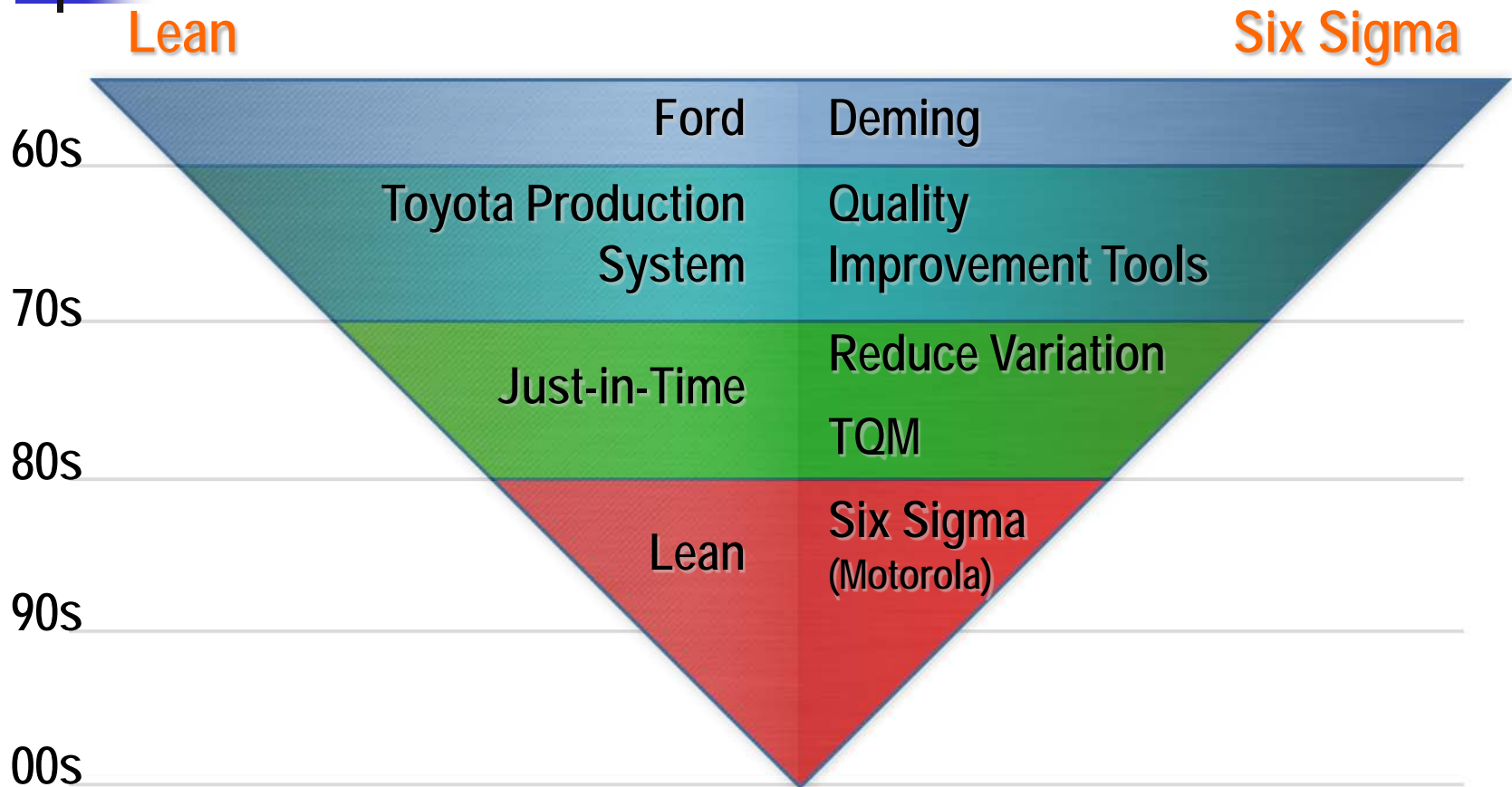


# Six Sigma Definition

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- Business strategy to impact company's bottom line
  - Evolved from Deming and Crosby
  - Key thrust is to change how work is performed
  - Focus on reduction of defects and process variation
- Designed to reduce defects and ensure consistent deliverables to the customer

# Evolution of Lean & Six Sigma



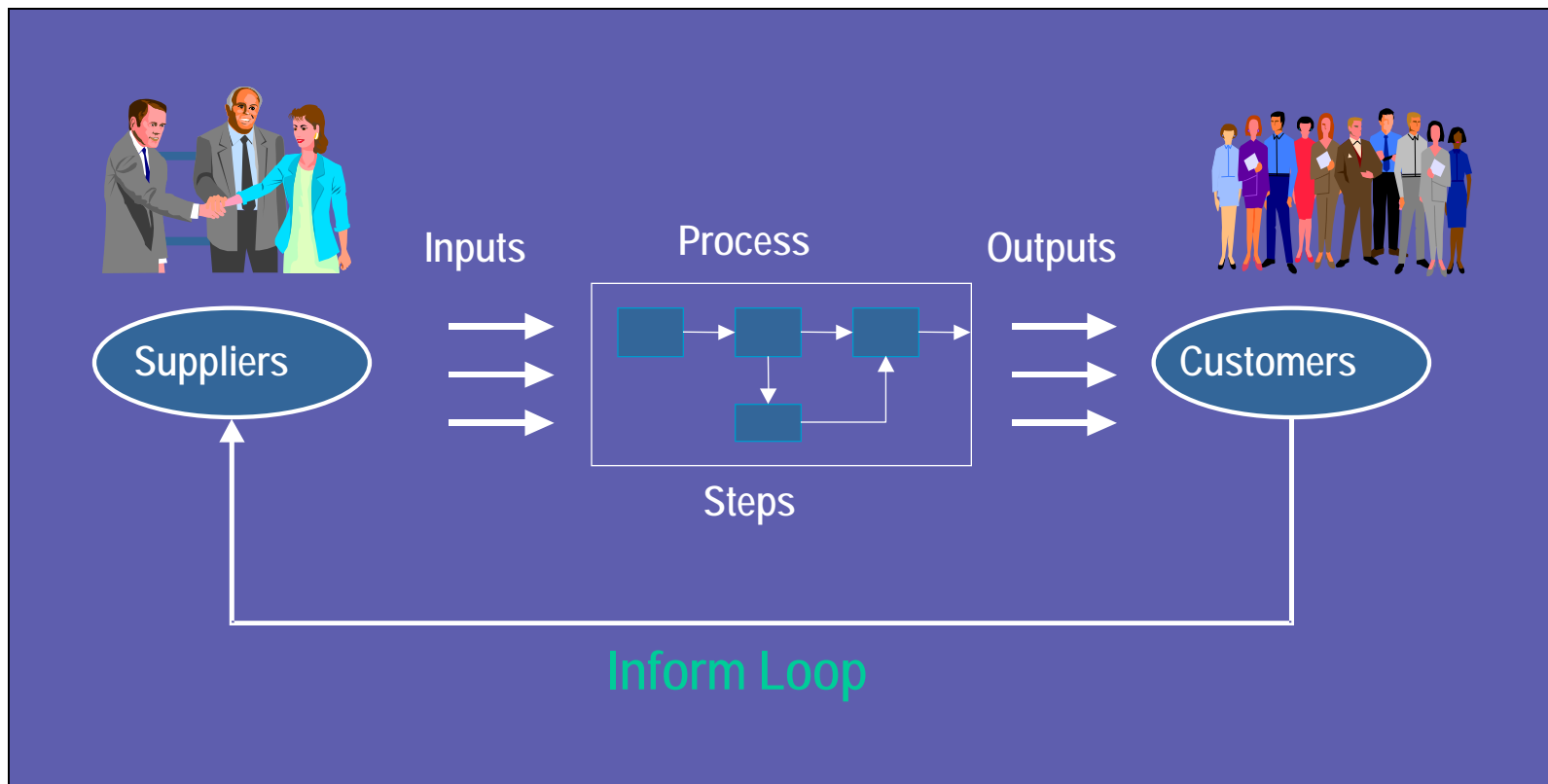


# Process Improvement

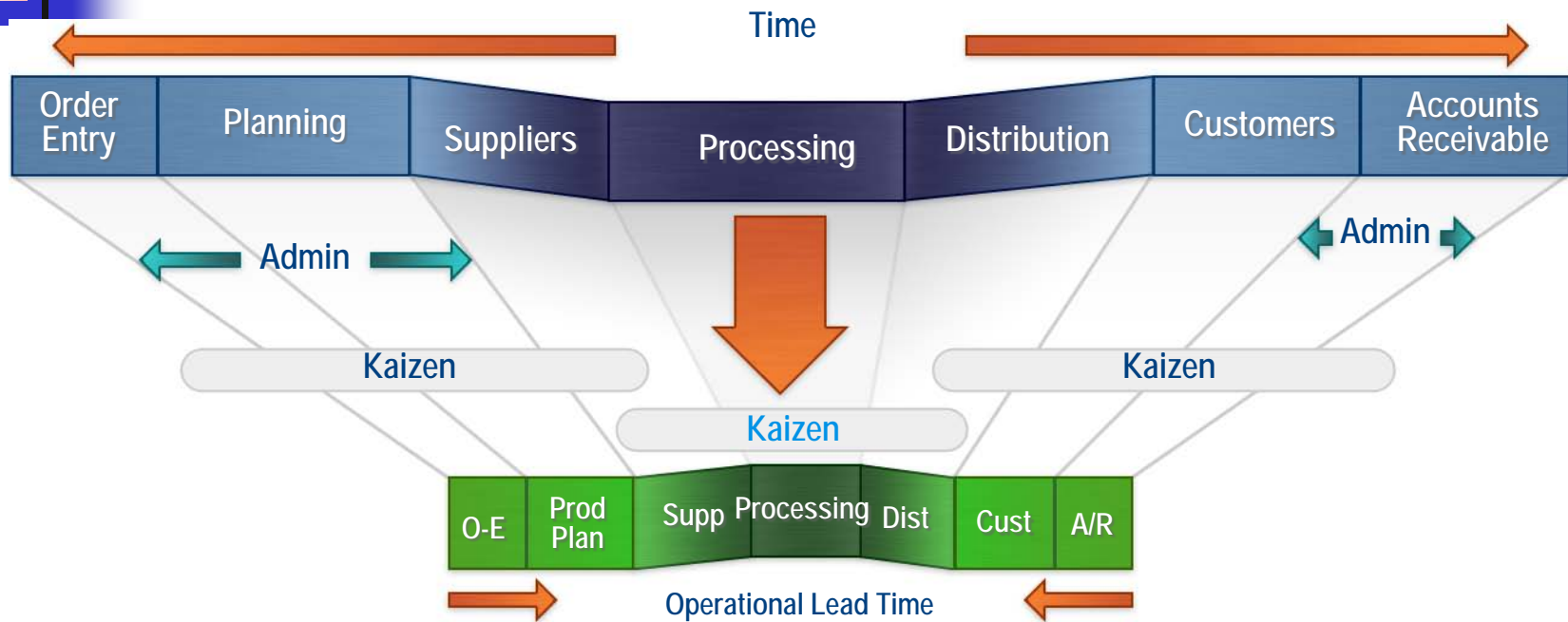
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- Any sequence of activities can be defined as a process
- Making an improved process will affect:
  - Quality of the outcome
  - Lead time to get that outcome
  - Costs to produce the outcome
- Must first understand the sequence of activities that provide value to your customers
  - SIPOC
  - Value-Stream Map
- Improvement is possible after analyzing the process

# SIPOC Acronym



# Lean Process Improvement



***Critical for driving improvement to your customers***



# Lean Process Improvement

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Process Analysis Exercise  
Value versus Waste



# Value Stream Mapping

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- Originated at Toyota
  - Called “material & information flow mapping”
- Value Stream Map
  - Value Stream: a series of processes used by an organization to create work units that deliver value to the customer, the process
  - ➔ Value: that for which the customer (can be external or internal) is willing to pay
  - Map: a visual to convey how information & materials flow through the activities of the full end-to-end process



# VSM & Analysis Process

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1. Identify Scope of Process to Map
2. Draw Current State
3. Assess Value Stream
4. Draw Future State
5. Create Improvement Plan
6. Execute Improvement Plan
7. Evaluate Success

Tonight's  
Focus



# Thanksgiving Dinner Process

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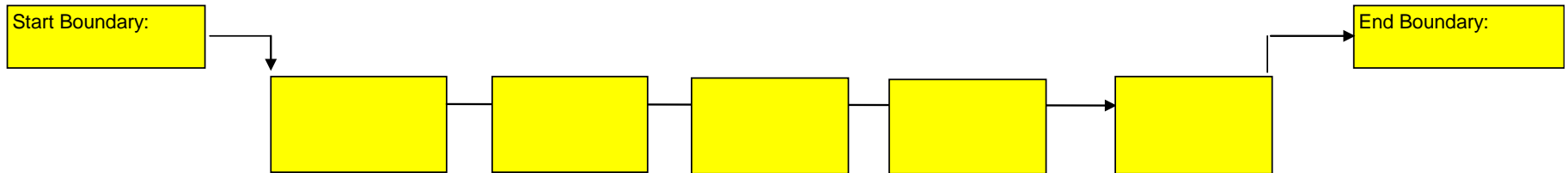
- Starting point for Making Thanksgiving Dinner
  - Supplier –
  - Input -
- Ending point of Thanksgiving Dinner Process
  - Customer –
  - Output -
- Need process experts
  - Wanted: practitioners with real-life experience

# Thanksgiving Dinner SIPOC

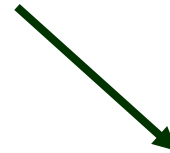
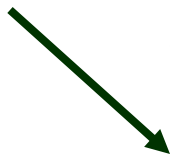
## SIPOC DIAGRAM

Process/Project Name:	<b>Thanksgiving Dinner Process</b>
	<b>17-Nov-2010</b>
Prepared By:	<b>Laura Miller, PMI NEO Consultant</b>
Notes:	<b>Interviewed Recent chefs to document Current State Process</b>

Suppliers		Inputs		Process	Outputs		Customers
Provider	Input Description	Input Req'ts (optional)	Output Description		Output Req'ts (optional)	Recipient of Output	
			<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     "DINNER"                      See Detail                      Process Steps                      Below                 </div>				



# Making Thanksgiving Dinner





# Value Stream Analysis & Waste

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- Value Stream Analysis
  - Analysis: Activity starting at closest point to customer and working upstream to identify and reduce non-value-add
    - Actual Work: Value
    - Waste: Non-Value
    - Incidental: Non-Value yet required
- Non-Value Add
  - Waste: term for all activities that do not add any value for the customer
- Many use "Muda" for waste
  - Muda means waste in Japanese
  - Using Muda shows distinction between normal waste and rubbish versus actual loss to processes



# 8 Types of Waste

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- **Waiting time**
  - People or parts waiting for a work cycle to finish
- **Motion**
  - Unnecessary movement of people or parts within a process
- **Defects / Rework**
  - Making scrap, sorting out defects, repetition of tasks
- **Overproduction**
  - Producing too much, too early and/or too fast
- **Transportation**
  - Unnecessary movement of people or parts between processes
- **Inventory**
  - Materials parked and not having value added to them
- **Over-processing**
  - Processing beyond the demand from the customers
- **Unexploited knowledge**
  - Lack of exploiting the knowledge and talent of the employees
  - Not matching the talent of employees with the work required



# Benefits of Reducing Waste

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- Increased capacity and productivity
- Shortened lead time
- Improved cash flow
- Improved and stable delivery service
- Fewer injuries; Improved safety level
- More satisfied employees



# Dinner Preparation Waste

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- **Waiting time**
  - Time for the oven to preheat
- **Motion**
  - How far to reach for the necessary utensils or wash rag or pot holder
- **Rework**
  - E.g., Redo the potatoes – too salty; recook veggies – raw or need to reheat
- **Overproduction**
  - Cooking for 8 when only 3 are coming; short lead side dishes done first
- **Transportation**
  - Running back to the market for a missed ingredient; travel to pantry
- **Inventory**
  - 10 lbs of potato, spice rack, beverages, stuffing
- **Over-processing**
  - Mashed potatoes: removing ALL skin & blemishes; excessive whipping time
- **Unexploited knowledge**
  - Not getting the offspring to do simple jobs; having grandma bake the pies



# Project Communications

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Value Stream Mapping

Value Stream Analysis

Wastes in the Communications Process



# VSM & Analysis Process

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Tonight's  
Focus

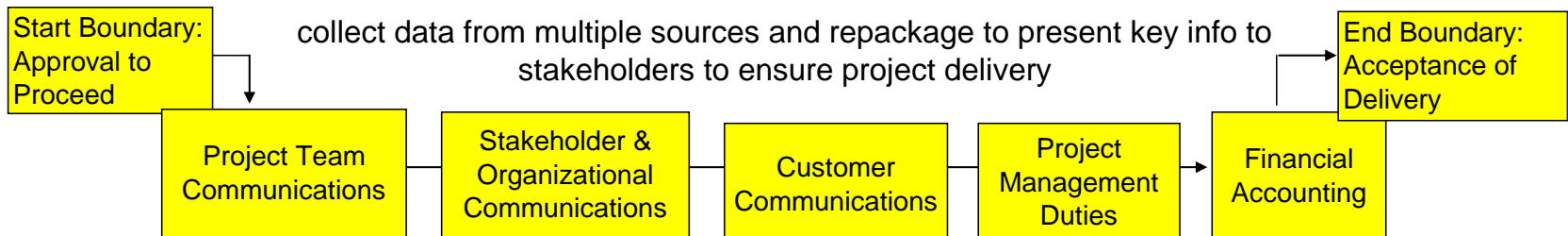
Your  
Homework

# Communications Management

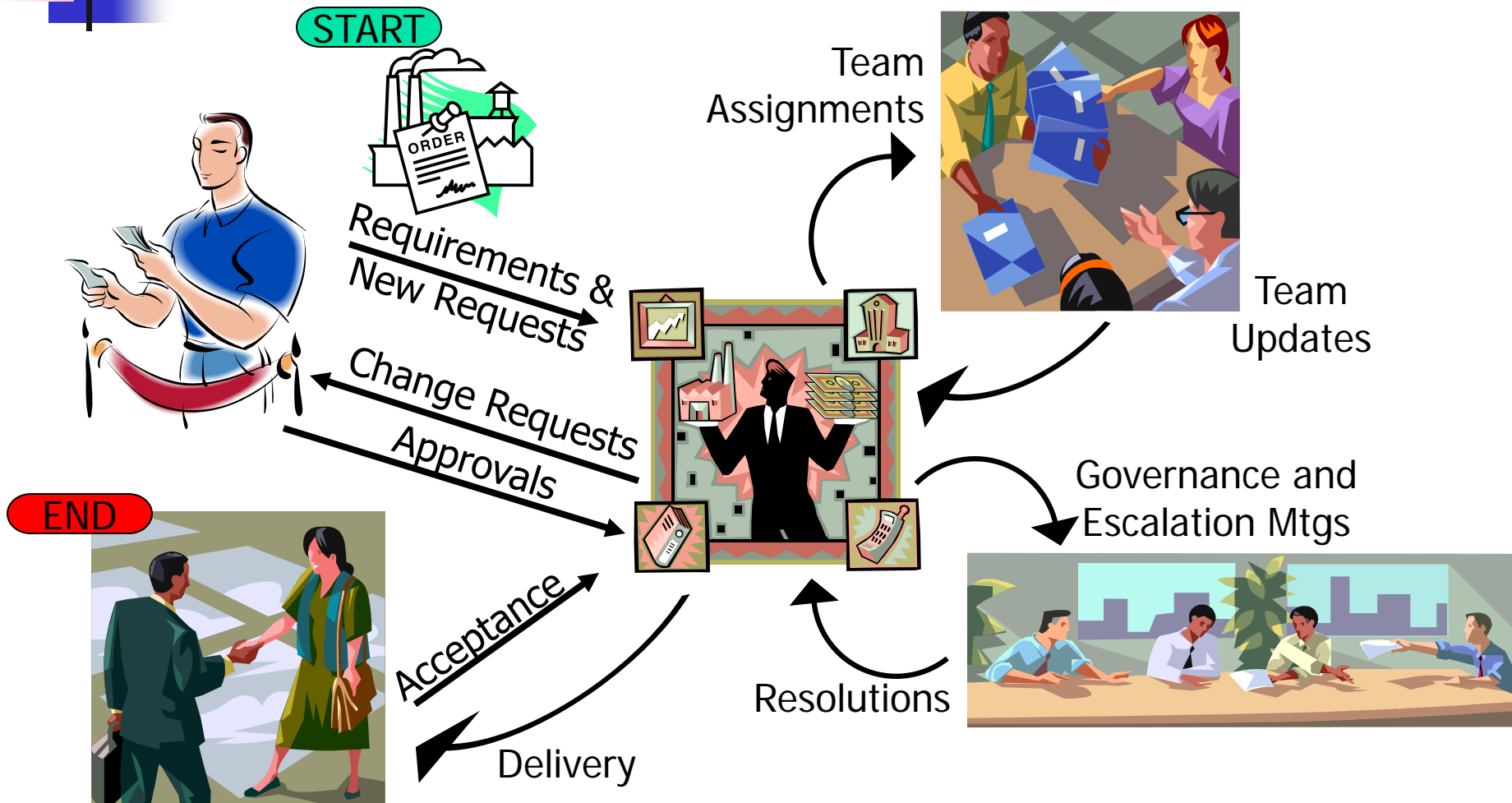
## SIPOC DIAGRAM

Process/Project Name:	<b>Project Communication</b>
	<b>17-Nov-2010</b>
Prepared By:	<b>Laura Miller, PMI NEO Consultant</b>
Notes:	<b>Interviewed Project Management Professionals to document Current State Process</b>

Suppliers	Inputs		Process	Outputs		Customers
Provider	Input Description	Input Req'ts (optional)		Output Description	Output Req'ts (optional)	Recipient of Output
Customer	Request		Facilitate Proj. Communication to accomplish proj. objectives	Deliverables	meets quality	Customer
Customer	SOO			Service	meets needs	Customer
Customer	Req'ts Doc			Invoice	not disputed	Customer
Project Manager	WBS & Tasks	Assignments to Team	Team does Work	Status	Completion %; Roadblocks	Project Manager
Project Manager	Roadblocks	Alternatives; Proj. Impact	Stakeholder(s) help resolve	Mitigations	Changes to scope,sched,\$	Project Manager
PM; Team; Cusomer	Change Requests	re scope, sched, cost	Governance Approvals	Approvals	Update Rev Outlook	Financial Mgrs



# Communications Value Stream





# 8 Types of Waste (review)

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- **Waiting time / Delay**
  - People or parts waiting for a work cycle to finish
- **Motion**
  - Unnecessary movement of people or parts within a process
- **Rework**
  - Making scrap, sorting out defects, repetition of tasks
- **Overproduction**
  - Producing too much, too early and/or too fast
- **Transportation**
  - Unnecessary movement of people or parts between processes
- **Inventory**
  - Materials parked and not having value added to them
- **Over-processing**
  - Processing beyond the demand from the customers
- **Unexploited knowledge**
  - Lack of exploiting the knowledge and talent of the employees
  - Not matching the talent of employees with the work required



# Value Stream Analysis (wait)

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- Definition for WAIT TIME or DELAY
  - People or parts waiting for a work cycle to finish
- Communications Value Chain Waste
  - Processes that accept input infrequently: weekly CRB
  - Shared team resources – wait until that resource is available to work on your project
  - Delay in key decisions – project stalled until approval from customer or sponsor
- Opportunities for Waste Reduction



# Value Stream Analysis (motion)

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- Definition for MOTION
  - Unnecessary movement of people or parts within a process
- Communications Value Chain Waste
  - Searching In box – filtering by name, by topic, by date
  - Reformatting project information
- Opportunities for Waste Reduction



# Value Stream Analysis (rework)

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- Definition for REWORK

- Making scrap, sorting out defects, repetition of tasks

- Communications Value Chain Waste

- Rework on project schedule - poor updates from team; not fully abiding by EPMO quality standards
- Resetting baseline – original schedule based on inaccurate or incomplete data
- Reiterating information repeatedly – team members not in attendance or late; written information not clear

- Opportunities for Waste Reduction

- Meeting norms: on-time start/finish; no multi-tasking



# Value Stream Analysis (over production)

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- Definition for OVER PRODUCTION
  - Producing too much, too early and/or too fast
- Communications Value Chain Waste
  - Conference calls/Meetings – too frequent; too long
  - Perfecting schedule too early in project's life cycle
  - Issues/risks – raising too early before realization
- Opportunities for Waste Reduction
  - Ask status report recipients – best method/std form



# Value Stream Analysis (transportation)

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- Definition of TRANSPORTATION

- Unnecessary movement of people or parts between processes

- Communications Value Chain Waste

- Document updates – passing a document for editing across multiple parties via e-mail multiple times
- Meeting preparation –

- Opportunities for Waste Reduction

- Place single copy in central location that can be checked out, version controlled, etc.



# Value Stream Analysis (inventory)

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- Definition of INVENTORY
  - Materials parked and not having value added to them
- Communications Value Chain Waste
  - In box management – the number of e-mails in queue for action
  - Inventory of unresolved issues – no timely escalation
- Opportunities for Waste Reduction
  - Set up Inbox folders in advance for project
  - Set up standard project workbook file folder structure



# Value Stream Analysis (over processing)

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- Definition of OVER PROCESSING
  - Processing beyond the demand from the customers
- Communications Value Chain Waste
  - Schedule WBS work packages – tracking tasks at a very detailed level (e.g., duration of hours)
  - Content of status report – giving too much detail
  - Poor scope management – allowing scope creep
  - Poor meeting facilitation – allowing discussion not appropriate for meeting and attendees
- Opportunities for Waste Reduction



# Value Stream Analysis (intellect)

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- Definition of UNEXPLOITED INTELLECT
  - Lack of exploiting the knowledge and talent of team
  - Not matching talent of employees with work required
- Communications Value Chain Waste
  - Use of PM tools – role assigned to manage the schedule; sub-contractors w/o access to tools (rework)
  - Staff assignments – not using to their fullest potential
- Opportunities for Waste Reduction
  - Ensure the “person-in-the-know” has opportunity to share information (requires meeting facilitation)



# Key VSM Summary Points

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- Value Stream Mapping
  - Creates a graphic representation of how a process works, showing the links between flows of material and information
  - Provides a common language for people to use to communicate what's happening, and why things need to change
- Value Stream Analysis
  - By working through the process, you'll have a much better understanding of how work activities fit together
- Improvement Plans
  - After discerning value-add from non-value-add, create an action plan for eliminating waste and improving productivity
  - Ultimately, for increasing profits for your organization



# Project Communications Recap

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- Work activities we do as project managers are a series of processes
- There is waste in our processes
- Project communications management is critical to a well functioning project
- Consider using a few lean techniques to identify and reduce waste

# Point of View





# Questions?

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# Back-up Slides

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Process for conducting  
Value Stream Mapping & Analysis  
Additional Lean Concepts



# Step 1: Identify Process to Map

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- Define scope of the map
- Identify the start and end points
  - What is required at the start of the process
  - What is the desired output at the end of the process
- Assemble the team representing the stakeholders in the process
  - Include those who manage the various parts
  - Include those that support the value stream
- Team membership is critical success factor
  - Need value stream map to show what actually happens and not what should happen



# Step 2 – Draw Current State

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- Initial brainstorming session
  - Who is involved, both internally and externally
  - What is needed for product or service delivery
  - The tasks or activities that go into producing the output
- Watch the process in action
  - Put tasks in proper order
  - Document delays in between stages of the process or embedded in the execution of process steps
  - Include actual working time for each task and costs



# Step 3 – Assess Value Stream

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- Label the activities as value-add, non-value-add or incidental work
- Calculate baseline metric
  - Ratio of Value-add to Non-value-add time
  - Ratio of Incidental work to Non-value-add time
  - Original Value Stream Map becomes baseline against which improvement initiatives will be measured
- Identify opportunities for lean improvement



# Important Points

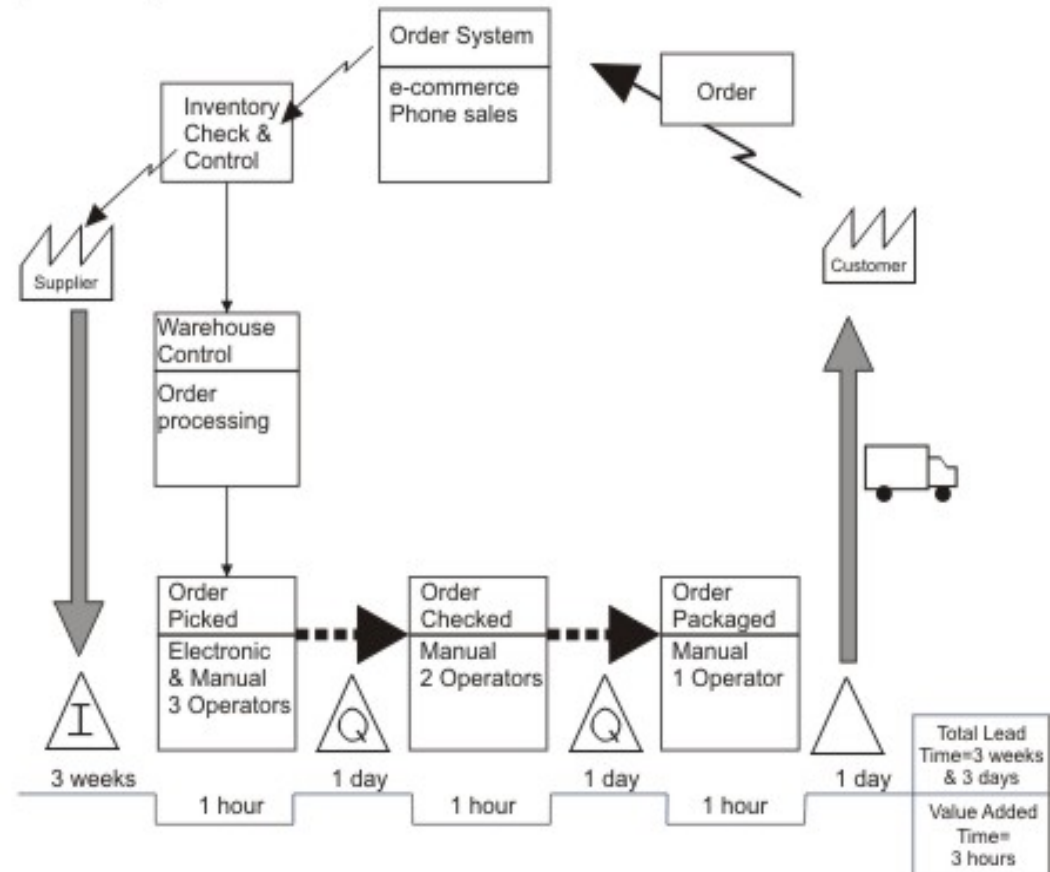
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- At each point in the map, ask “Does this activity add value?”
- Identify your value-add points
- Identify your no-value-add points
  - Refer to the “Eight Deadly Wastes”
- Determine which no-value-add steps are still necessary
  - E.g., meeting regulatory requirements,

# Value Stream Example

- Order entry and processing
- Supplier liaison
- Inventory management
- Order picking
- Packaging
- Shipping

Figure 1: Example Value Stream Map





# Step 4 – Create “Future State”

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- Map an improved process
  - Assume that anything is possible
  - Ask what your leanest competitor would do
  - Consider how to structure the process if you were starting the business today with unlimited capital
  - Look for similar activities, and see if there's a way to group them
  - Identify bottlenecks and critical events
  - Look for ways to simplify activities that are complex
- Confirm that customers actually value each transformation activity



# Step 5 – Do Improvement Plan

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- Document the gap between current and future state
- Identify “low-hanging fruit” opportunities
- Develop a plan for change
  - Use the VSM to communicate goals and objectives
  - Include people who work in the current environment as well as the potential future state to help build “buy-in”



# Step 6 – Implement the Plan

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- Execute the improvement plan
  - Talk frequently about lean and efficient operations so that it becomes part of corporate culture
  - Look for ways to reward efficient work and efficiency suggestions
- Employ other lean techniques
  - A popular technique used with VSM and analysis is a series of 'Kaizen Blitzes' each lasting approximately one week
  - Another technique (useful with remote teams) is Parallel Team Thinking, using “Six Hats” technique



# Step 7 – Evaluate Success

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- Review the Results and Repeat
- Regularly re-visit VSM to follow-up on actions and gap between current and future state



# Key VSM Summary Points

---

- Value Stream Mapping creates a graphic representation of how a process works, showing the links between flows of material and information
- It provides a common language for people to use to communicate what's happening, and why things need to change
- By working through the process, you'll have a much better understanding of how your work activities fit together
- And you'll be able to create an action plan for eliminating waste and, ultimately, for increasing profits for your organization



# 5S – Workplace Organization

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## ■ *Sort*

- The 5S workplace organization process usually starts out by sorting the useful from the unnecessary. The only things that should remain in a work area are the parts, tools, & instructions needed to do the job.

## ■ *Straighten*

- Everything has a place; everything is in its place. This is also a good time for your team to create a visual controls.

## ■ *Shine*

- Do an initial spring cleaning. Maybe painting, scouring, sweeping, washing, rinsing, scrubbing, and whatever else is needed to make your work place shine.

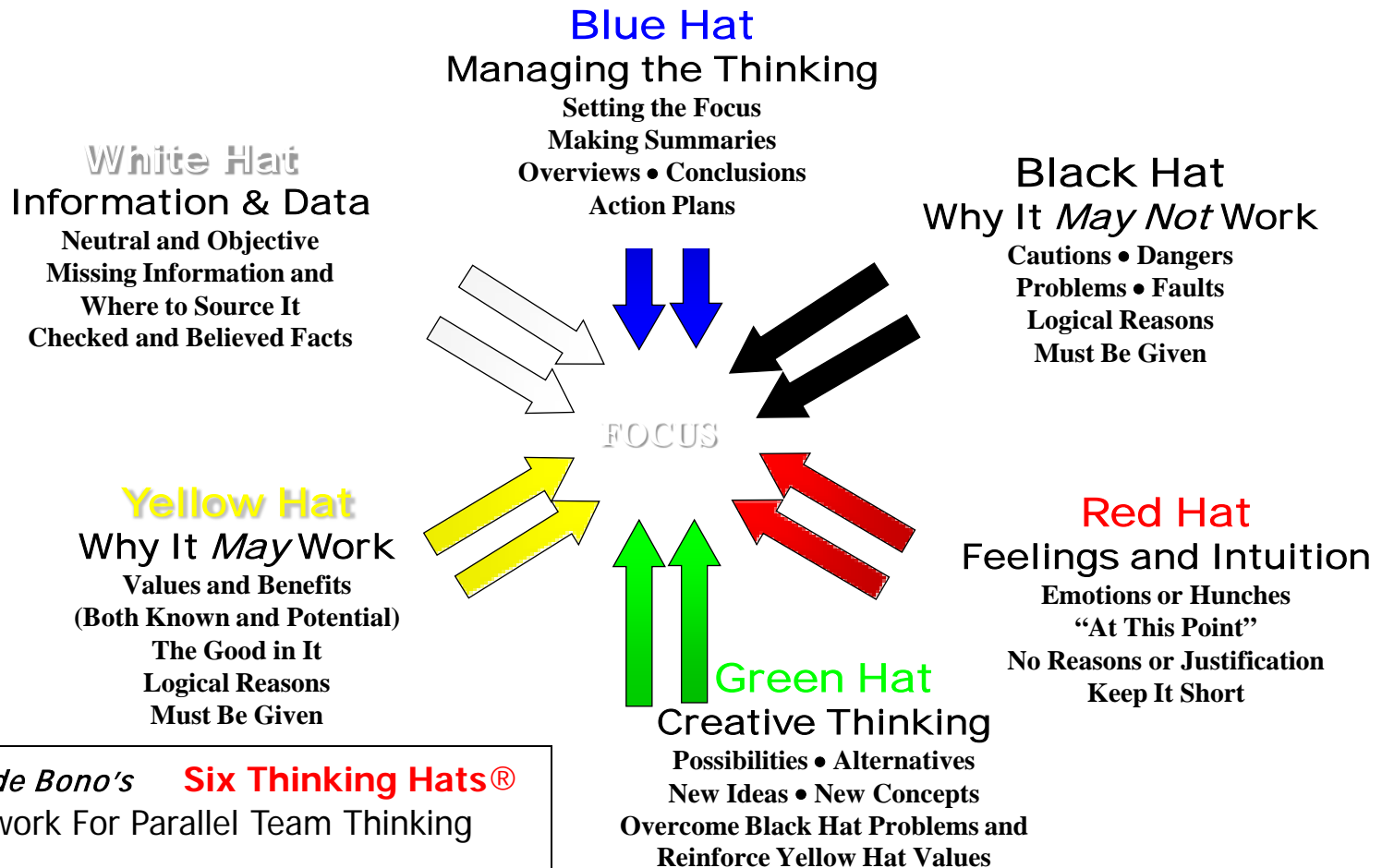
## ■ *Standardize*

- In the Standardize phase of Lean 5 S, routine cleaning becomes a way of life. Preventative maintenance is routinely performed, perhaps with planning and scheduling and some responsibilities done by central maintenance, and as much routine maintenance as possible performed by the people that know that work center better than anyone else.

## ■ *Sustain*

- Shitsuke is when Five S becomes a routine way of life. Root causes are routinely identified and dealt with. Ensure that all 4 steps are maintained.

# Parallel Team Thinking



Dr. Edward de Bono's **Six Thinking Hats®**  
A Framework For Parallel Team Thinking  
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# References

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- “Value Stream Mapping - Making Improvements that Add Value”, Mind Tools Ltd, 1995-2010
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- “Six Thinking Hats – a Framework for Parallel Team Thinking”, Dr. Edward de Bono’s