

The Role of Lean Management in Tough Economic Times

-- It's Back to the Basics Time Again

John Shook

2009 Lean Transformation Summit

Atlanta, Georgia



Small(er) batch presentation

- Part I – History
 - Lessons from the early days of Toyota
 - Back to the basics
- Part II - Today
 - History is interesting, but
 - So what?

The Ages of Lean (Dr. Womack)

■ **Invention/Innovation:** 1935 - 1975

■ **Global discovery:** 1975 – 1990

■ **Tools:** 1990 – 2006

■ **Management:** > 2006?!:

In a contest between two sharply contrasting management systems.

Common Sense Then.

Common Sense Now.

- **Tool age:** if you copy these tools, you too can be lean like Toyota.
- **Post-tool age:** Copying tools is wrong. Focusing on tools is wrong. Management, culture, thinking and people are the issues.
- Copying anything is wrong – you can't copy management, culture, and thinking. You have to adapt to your own circumstance, solve your own problems, and develop your own “culture”.

Taiichi Ohno

“Common sense is always wrong.”

Forward by Jim Womack



The Birth of Lean

Conversations with **Taiichi Ohno**,
Eiji Toyoda, and other figures
who shaped Toyota management



Koichi Shimokawa *and*
Takahiro Fujimoto, *Editors*

Translated by Brian Miller with John Shook

Toyota's Early Crisis

- Economy in total shambles...
 - Toyota 1000 units per month
 - “Can we catch Nissan?”
- No money...
 - banks refused to loan
- Kiichiro to Eiji to Ohno (and the others):
 - “Catch up with Detroit in three years!”

Ohno's Response

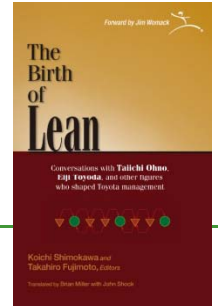
- A system “for success in a down market...”
- “It’s easy to make money when everyone is making money. The key is to be able to make money when times are bad.”

Toyota's Early Crisis

From Downsizing to Shared Destiny



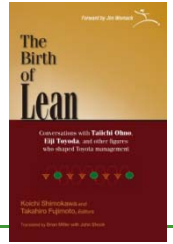
Taiichi Ohno



“People love to make things complicated. The key is to make things simple.”

“Whether or not people recognize problems and go to work solving them is a matter of instinct. Once you’ve developed that instinct, you notice all sorts of things.”

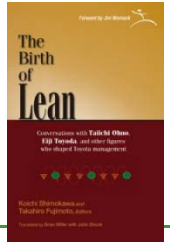
Daihatsu Chairman on Ohno



"What became clear during my work with Ohno-san is that his chief interest was something other than reducing work-in-process, raising productivity, or lowering costs.

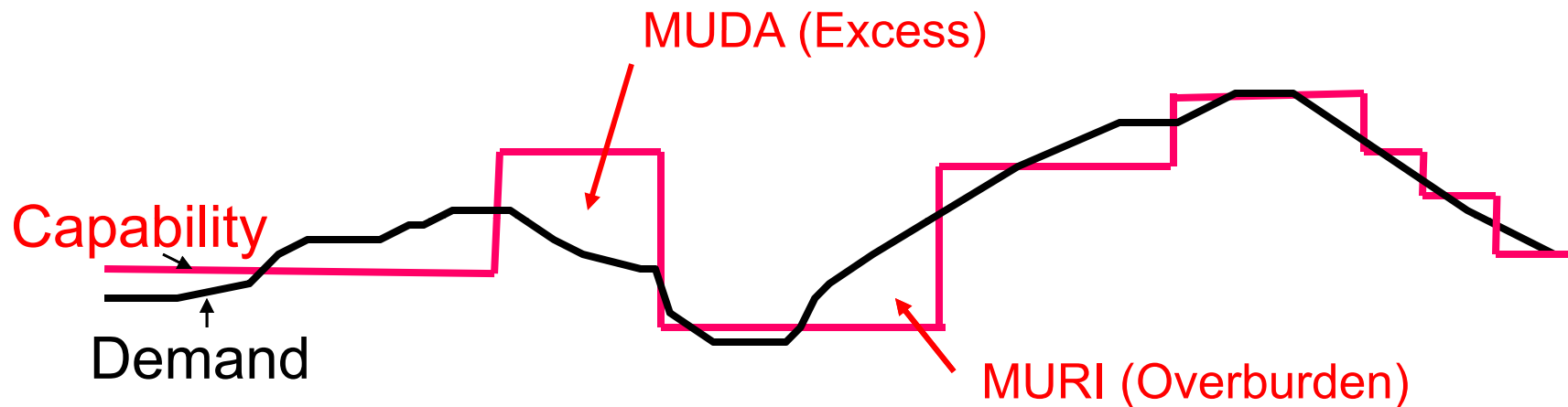
His ultimate aim, I gradually learned, was to help employees assert their full potential. And when that happens, all those other things will occur naturally."

Ohno



“An increase in production volume shouldn’t necessarily mean a decline in unit costs any more than a decline in volume should mean an increase in unit costs. Those sorts of things happen as the result of arranging things poorly.”

The challenge of any business: Matching capability (capacity) with demand



MURA (Instability)

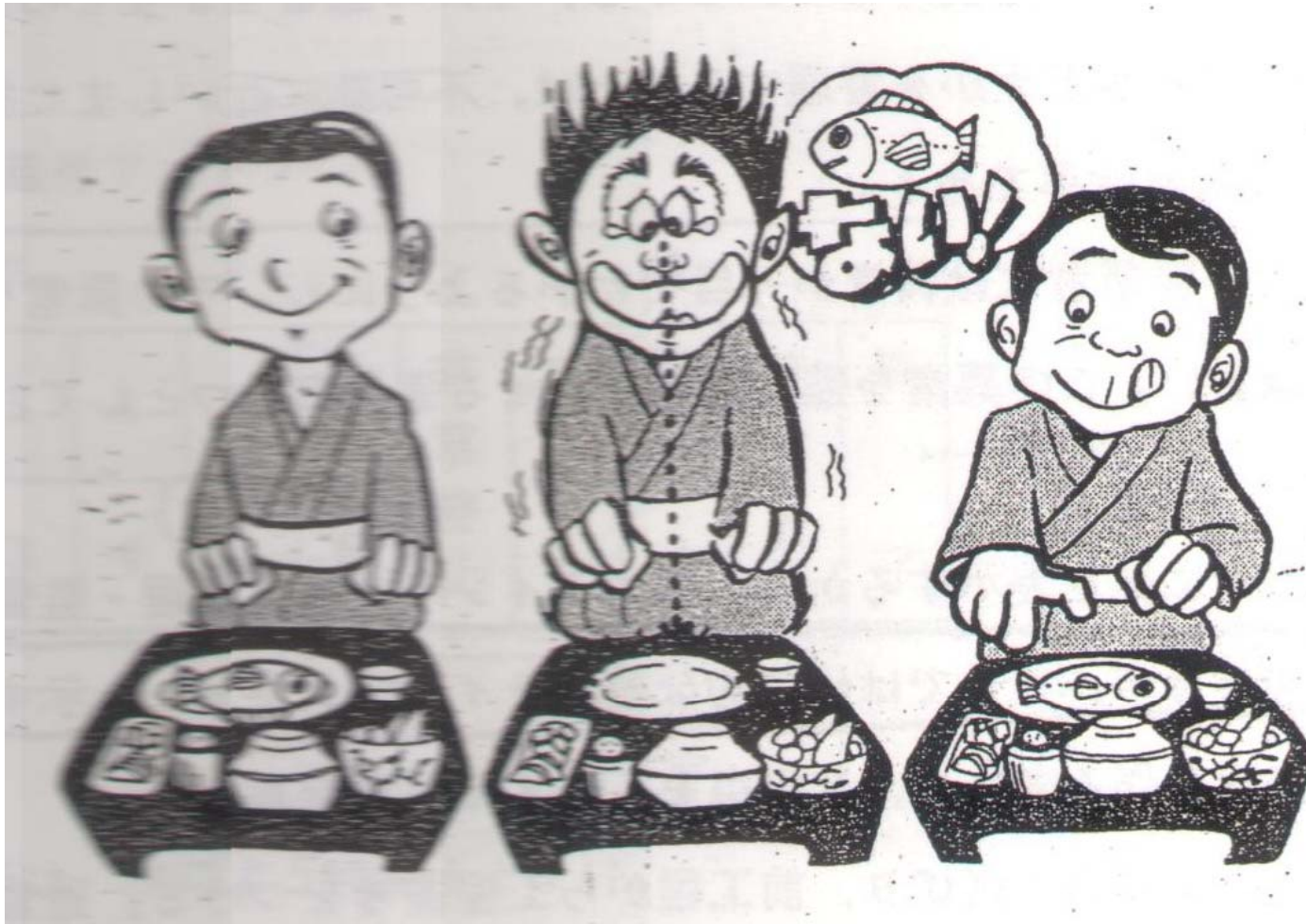
Management

- Know your demand
- Know your true capability (capacity)
- Create flexibility to get them to match

----- TIME ----->

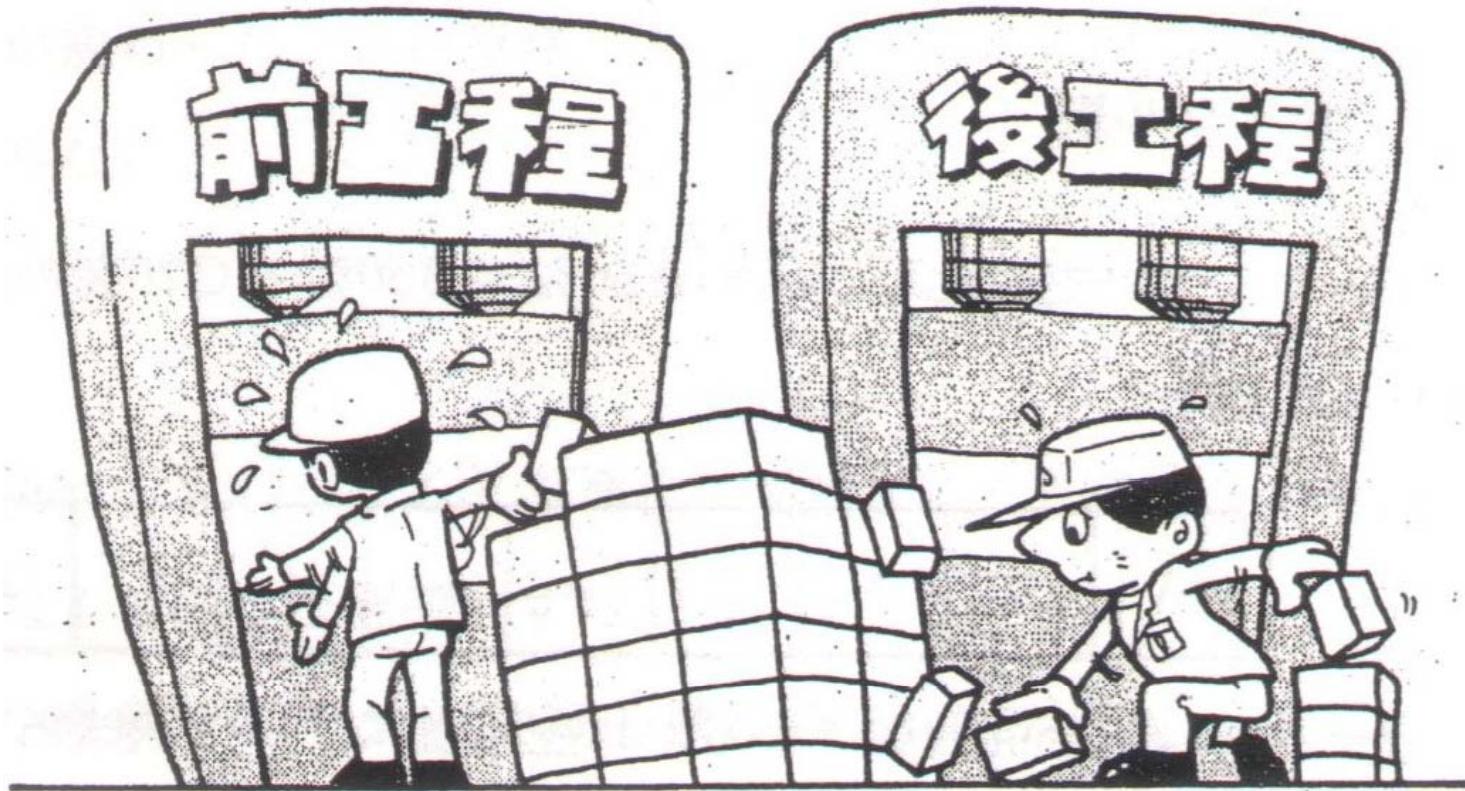
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Don't "short" the customer



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The following process is the customer



Overproduction: Misunderstood and forgotten

- Management's job is to align around preventing overproduction
- In the rush to meet demand of some boom periods of the past ten plus years – the dot.com boom, the China phenomenon – overproduction became forgotten.

Ohno's Seven Wastes

and the company that kaizened them

- You know the seven wastes
 - correction, overproduction, motion, material handling, waiting, inventory, processing
 - Many companies have added an eighth...
 - human potential/talent, time, environment
 - One company decided it could eliminate waste from the seven wastes...
 - Less is better than more..."let's kaizen the list of seven wastes down to six...!"
- Which one would you eliminate?

Overproduction

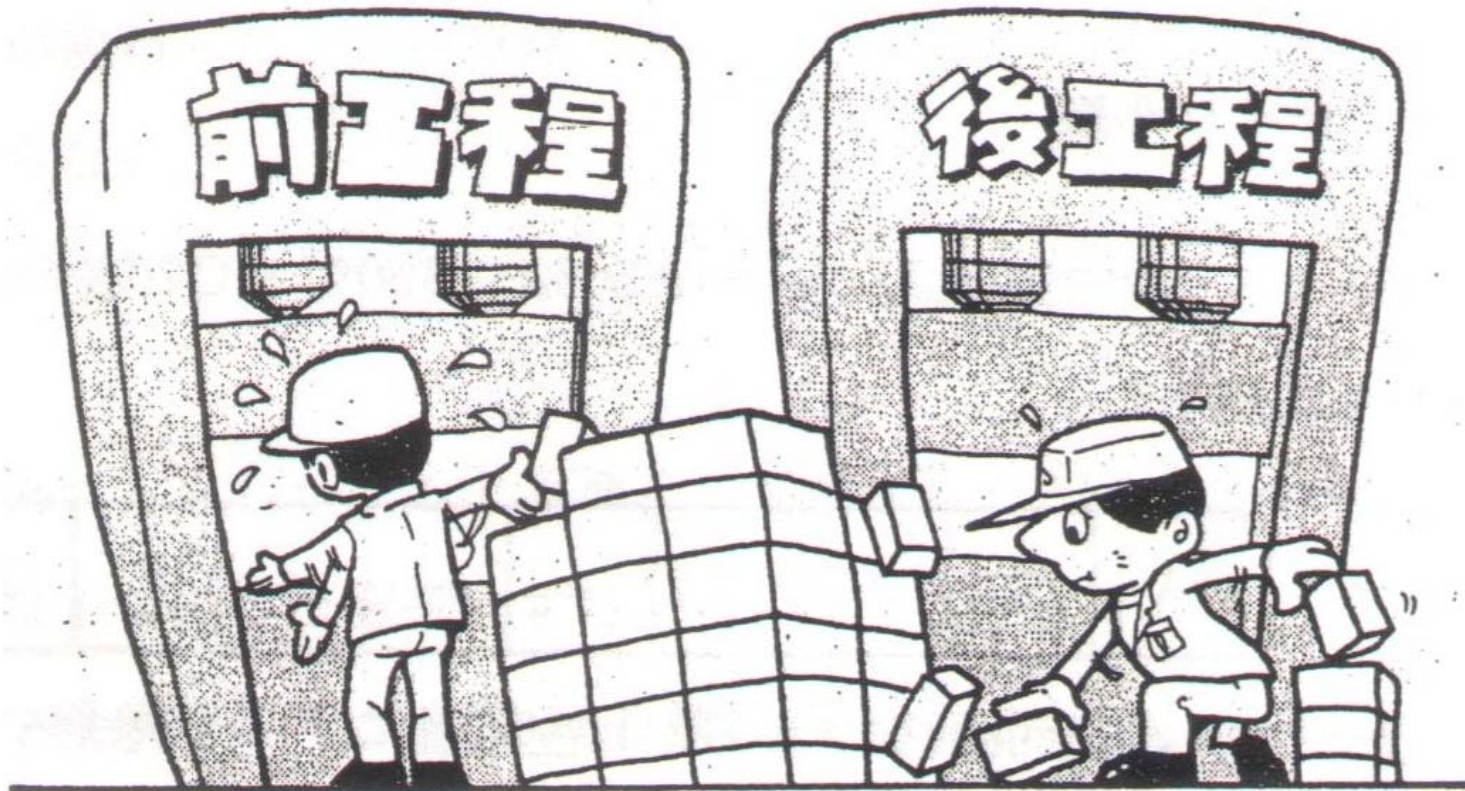
- There is nothing magical about the number of “seven.”
- Ohno said there are actually many more kinds of waste. His point was that...
- Even you eliminate almost all waste from your system, you will surely still have some residue of these seven. To thoroughly eliminate those seven, you will surely have to thoroughly change your production *system*.
- And the key to building a system to thoroughly eliminate the sources of all waste is to eliminate overproduction.

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Overproduction: Misunderstood and forgotten

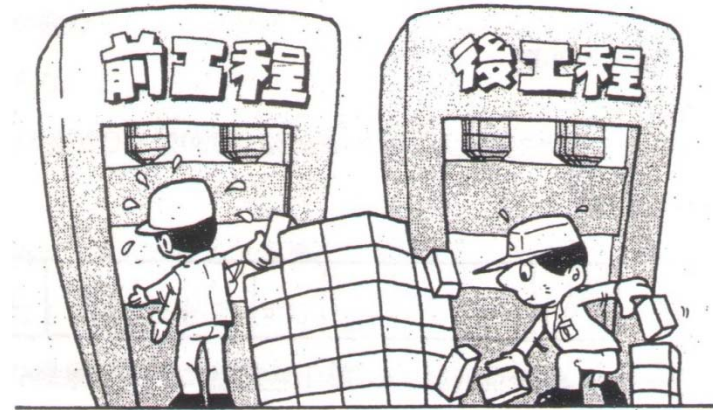
- The tools of HK, SW, A3 and VSM are tools to use to align around that objective, to prevent overproduction. That shortens the lead time. That creates flexibility and generates cash. That provides value for customers and prosperity for companies.

**In a democracy (“Kanban Democracy”),
the customer isn’t just “King”...**



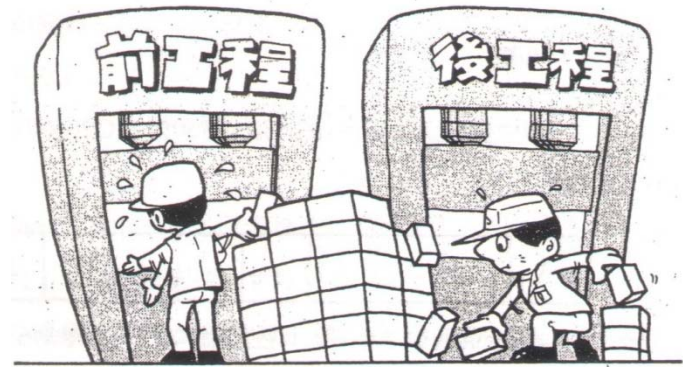
A democracy mean rules (Rule of law) ("Kanban Democracy")

- The customer doesn't decide just on whim
- There is a customer-supplier agreement
 - Rules they agree to abide by



“Kanban Democracy” → Kanban Rules

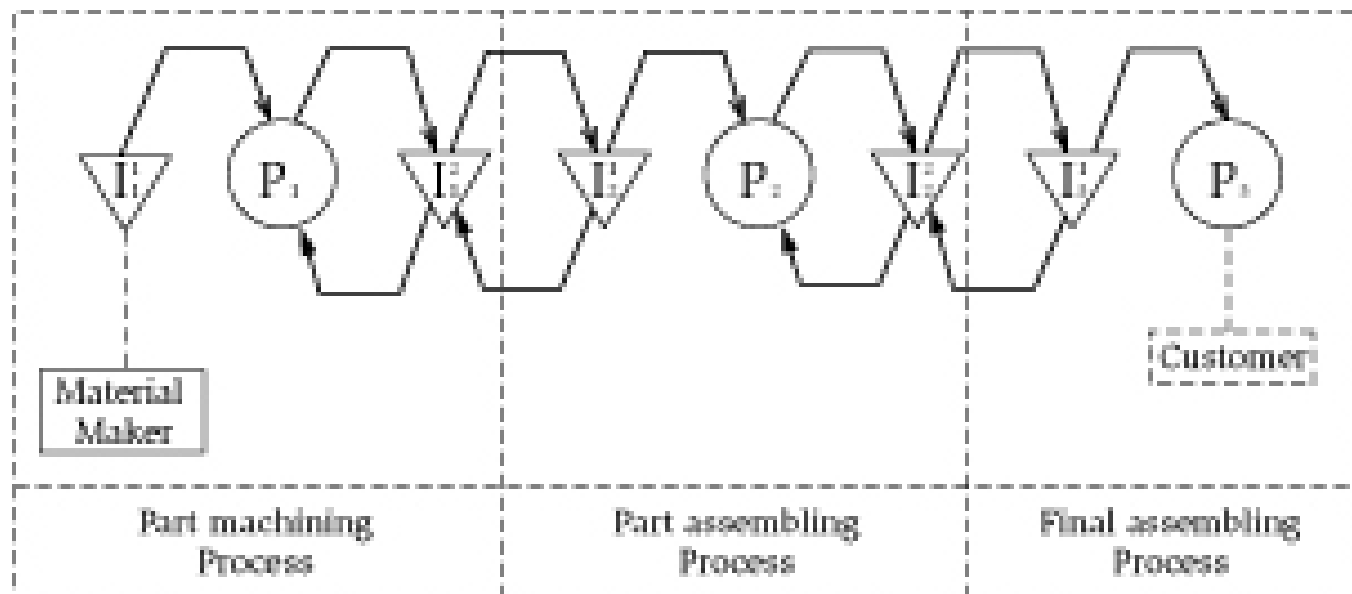
Properly implemented,
the processes embody
the thinking



Ex: Kanban rules:

- 1.** Each item must have KB
- 2.** No production without KB authorization
- 3.** Etc...

First English Kanban Explanation



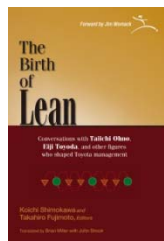
P_i ; Operation of process i

I_i ; Part inventory for process i

I_i' ; Finished good inventory for process i

—→ ; Flow of Kanban

- - - -> ; Flow of parts



First draft - 1977

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Foreword by Ben Womack

Kaizen Express

Fundamentals for Your Lean Journey

By Toshiko Narasawa and John Shook

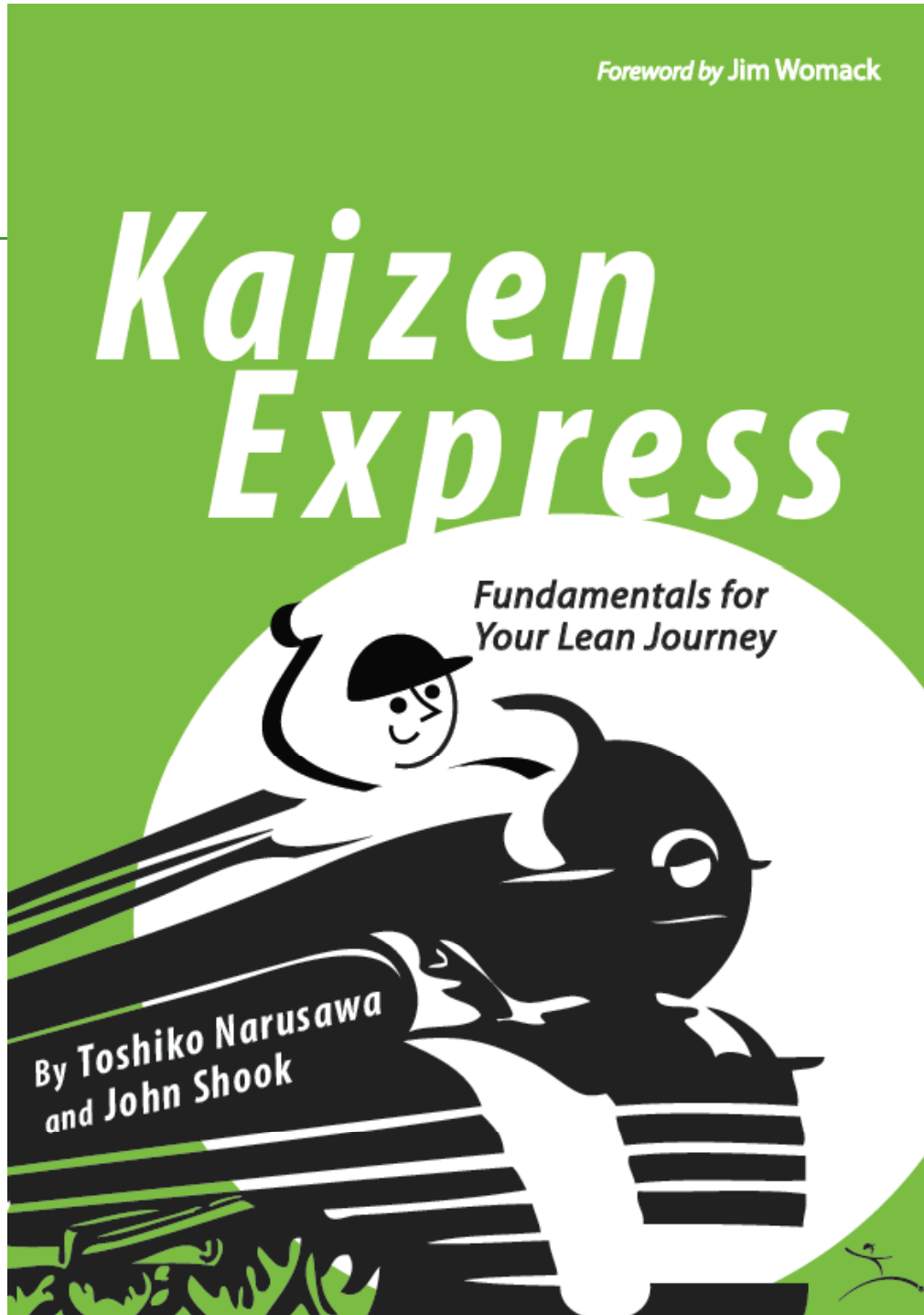


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*Fundamentals for
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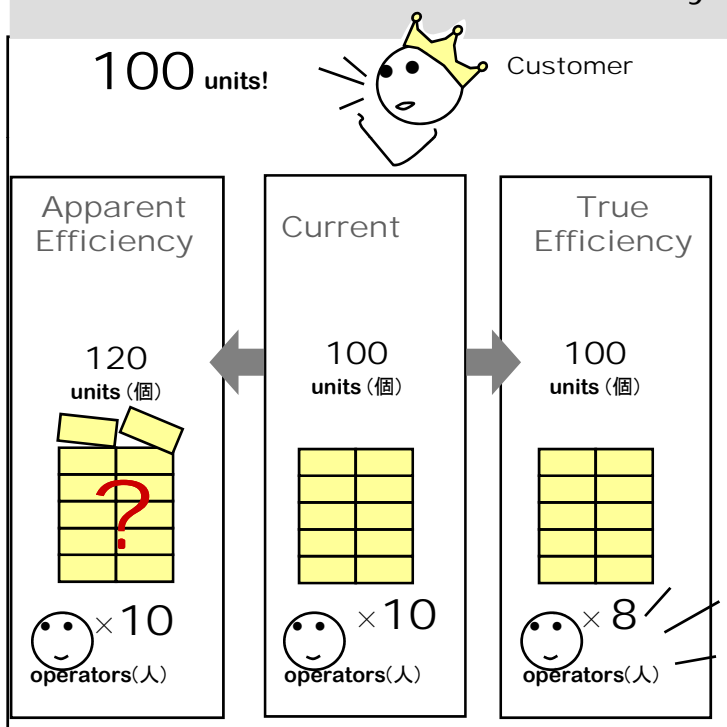


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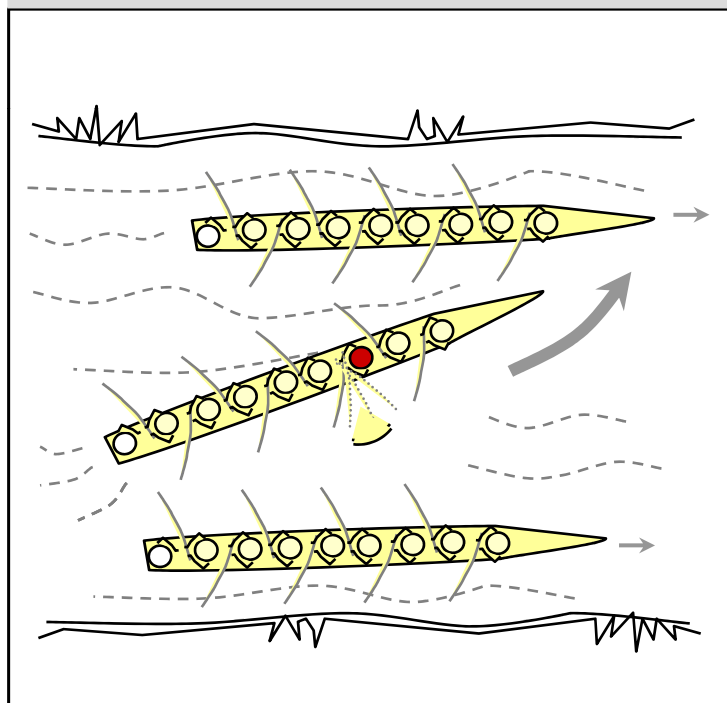
What do *you* mean by “efficiency”

What is your philosophy of efficiency?

Apparent Efficiency
vs. True Efficiency



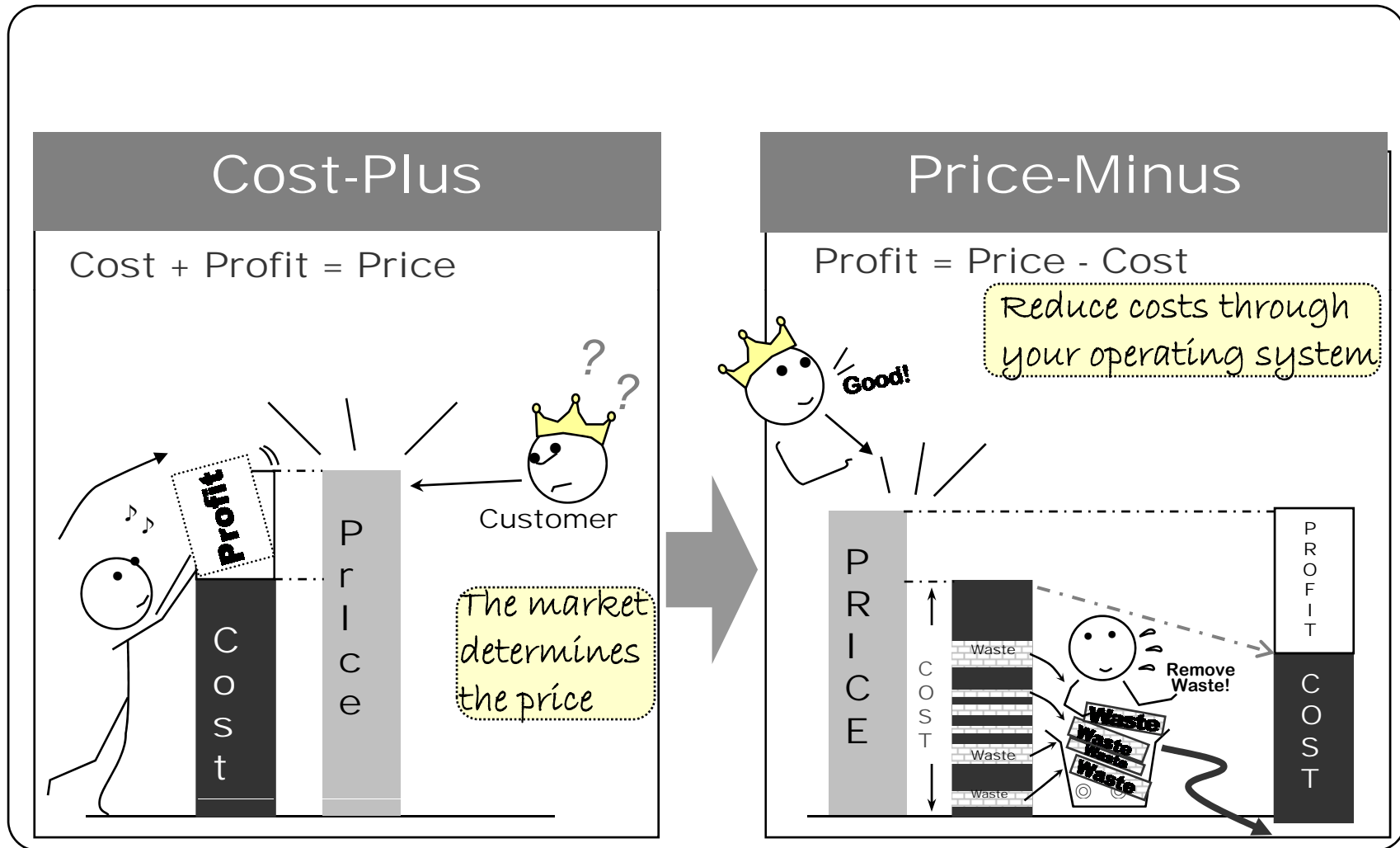
Local Efficiency
vs. Total Productivity



Kaizen Express

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Operations as a competitive advantage



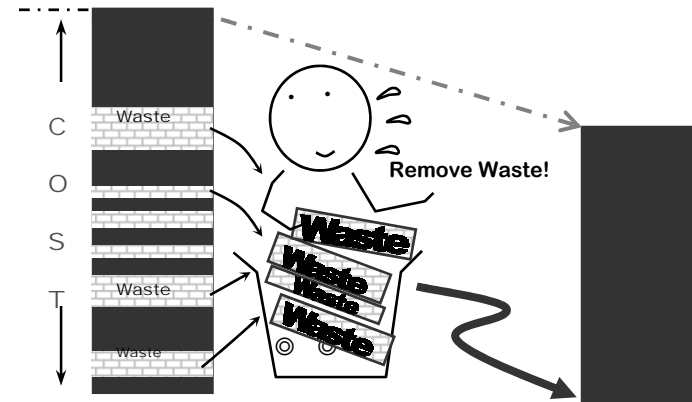
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Kaizen Express

Strategy and Operations, Operations and Strategy



Business strategy
→ Senior Management responsibility to align resources with market need

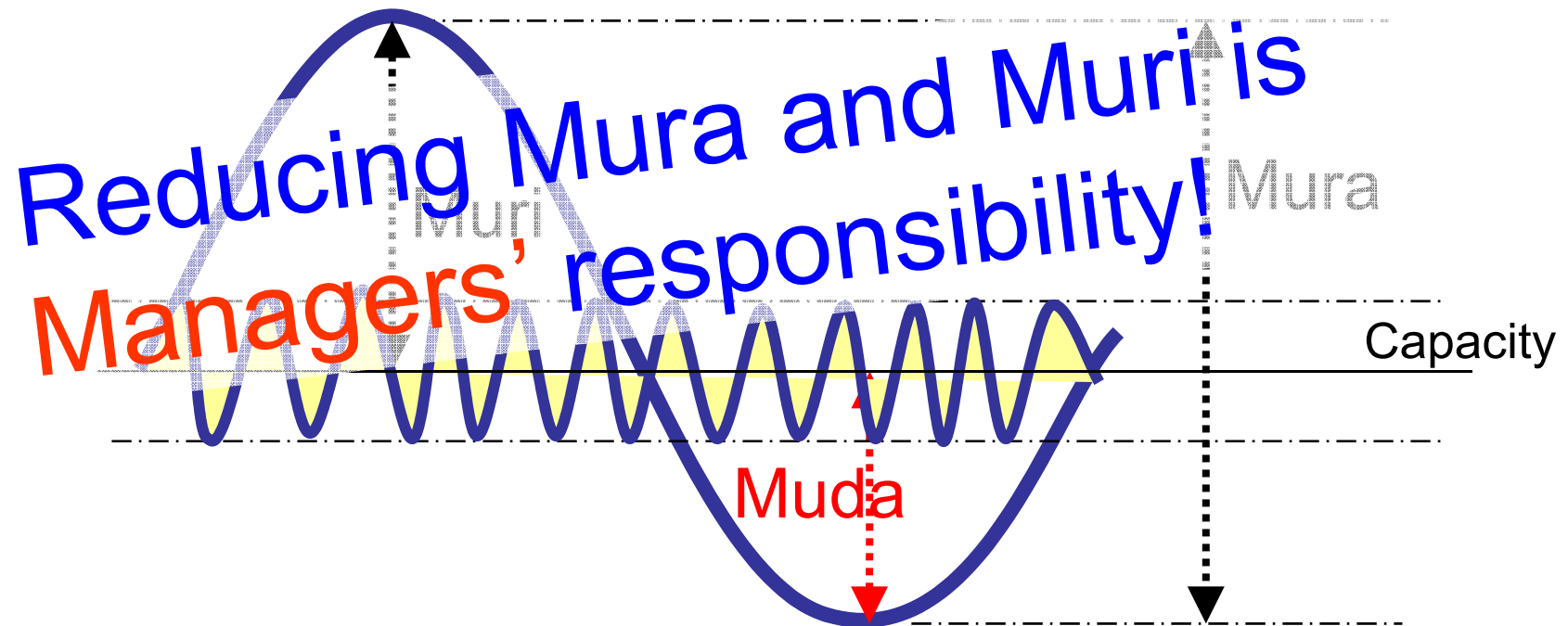


The Work
→ Management creates the environment and aligns Process and people.

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Muda is caused by Mura and Muri!

Mura → **Muri** → **Muda**



The Toyota Production System

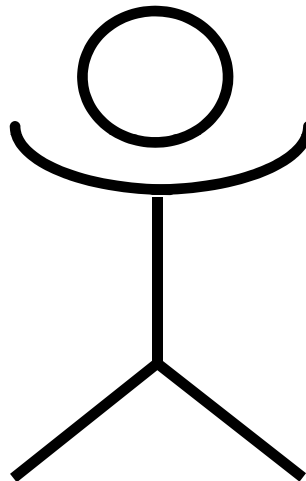
Best Quality - Lowest Cost - Shortest Lead Time
Through Shortening the Production Flow By Eliminating Waste

Just in Time

“The right part
at the right time
in the right amount”

- Continuous Flow
- Pull System
- Takt Time

HEIJUNKA



Jidoka

“Built-in Quality”

- Automatic Machine Stop
- Fixed Position Line Stop
- Error Proofing
- Visual Control
- Labor-Machine Efficiency

*Production Lines
That Stop for
Abnormalities*

Standardized Work and Kaizen

Mutual Trust; Employee Development
Stability; TPM; 5S

Robust Products and Processes
Supplier Involvement

The Thinking Production System

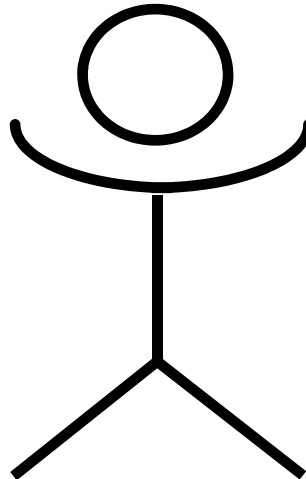
Best Quality - Lowest Cost - Shortest Lead Time
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Just in Time

“The right part
at the right time
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- Continuous Flow
- Pull System
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HEIJUNKA



Getting people
to think and
take initiative
is the key!

- Automatic Machine Stop
- Fixed Position Line Stop
- Error Proofing
- Visual Control
- Labor-Machine Efficiency

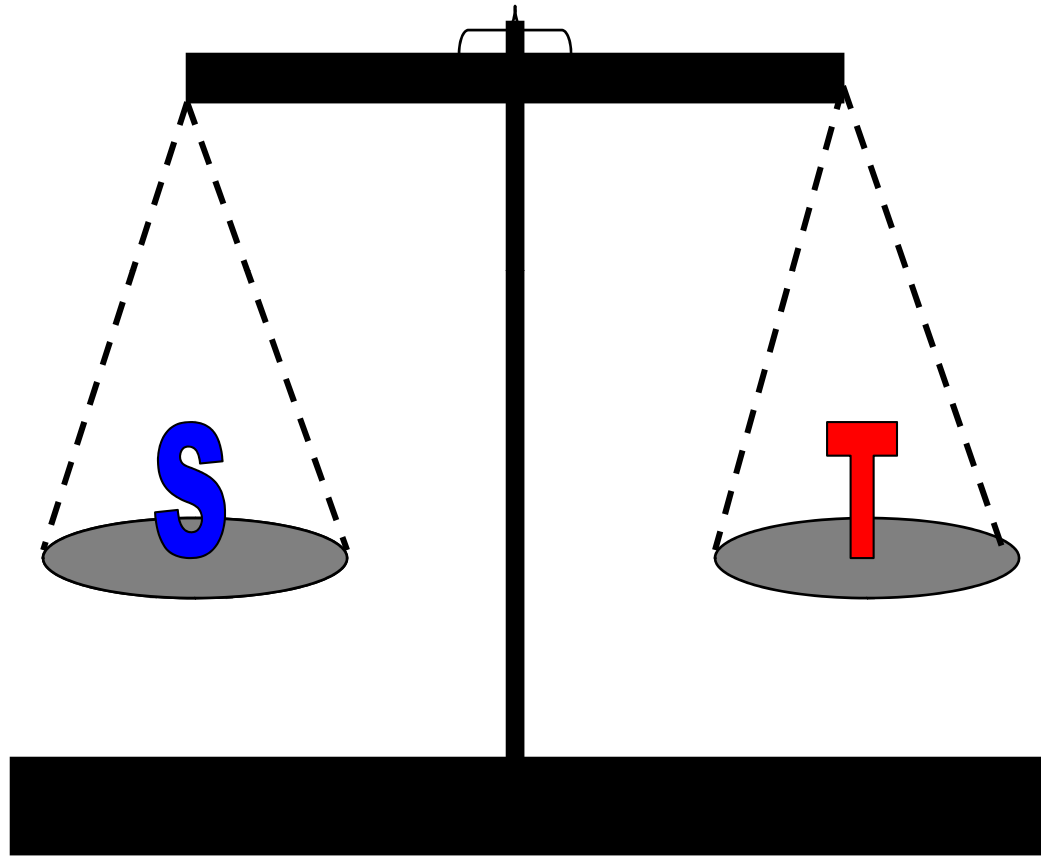
*Production Lines
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Standardized Work and Kaizen

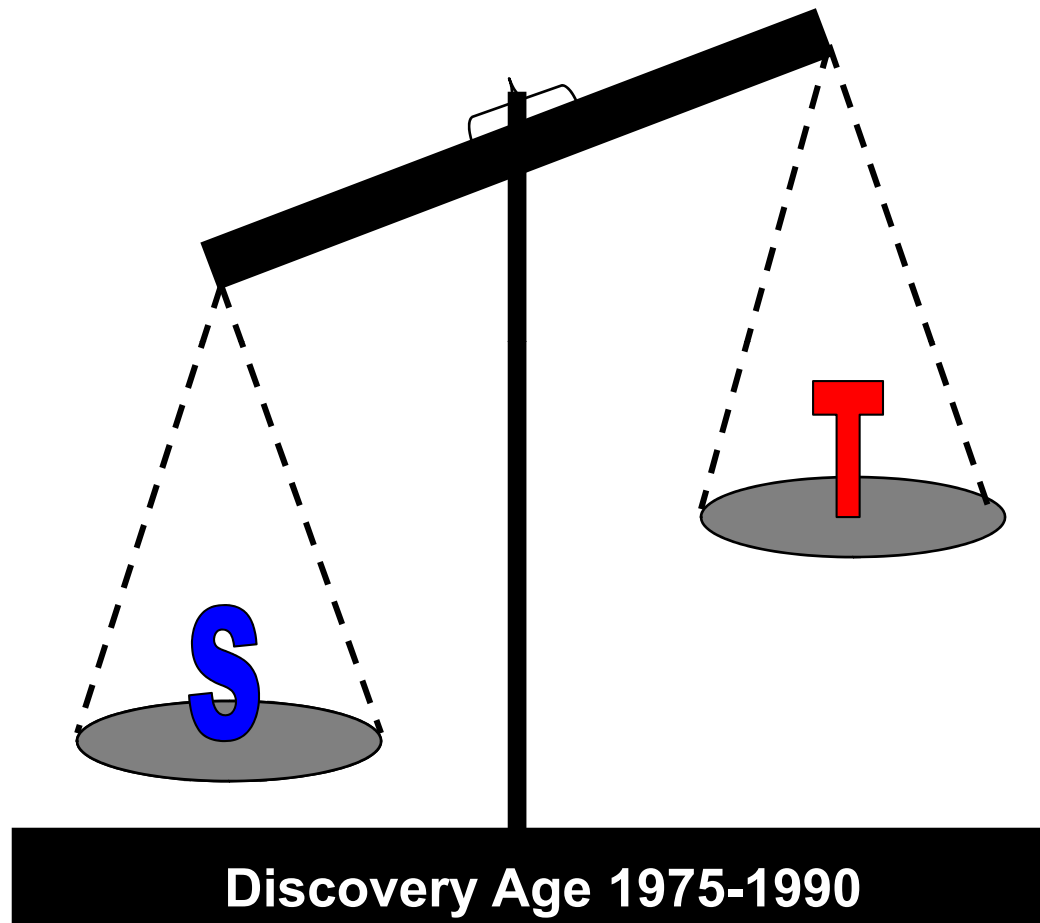
Mutual Trust; Employee Development
Stability; TPM; 5S

Robust Products and Processes
Supplier Involvement

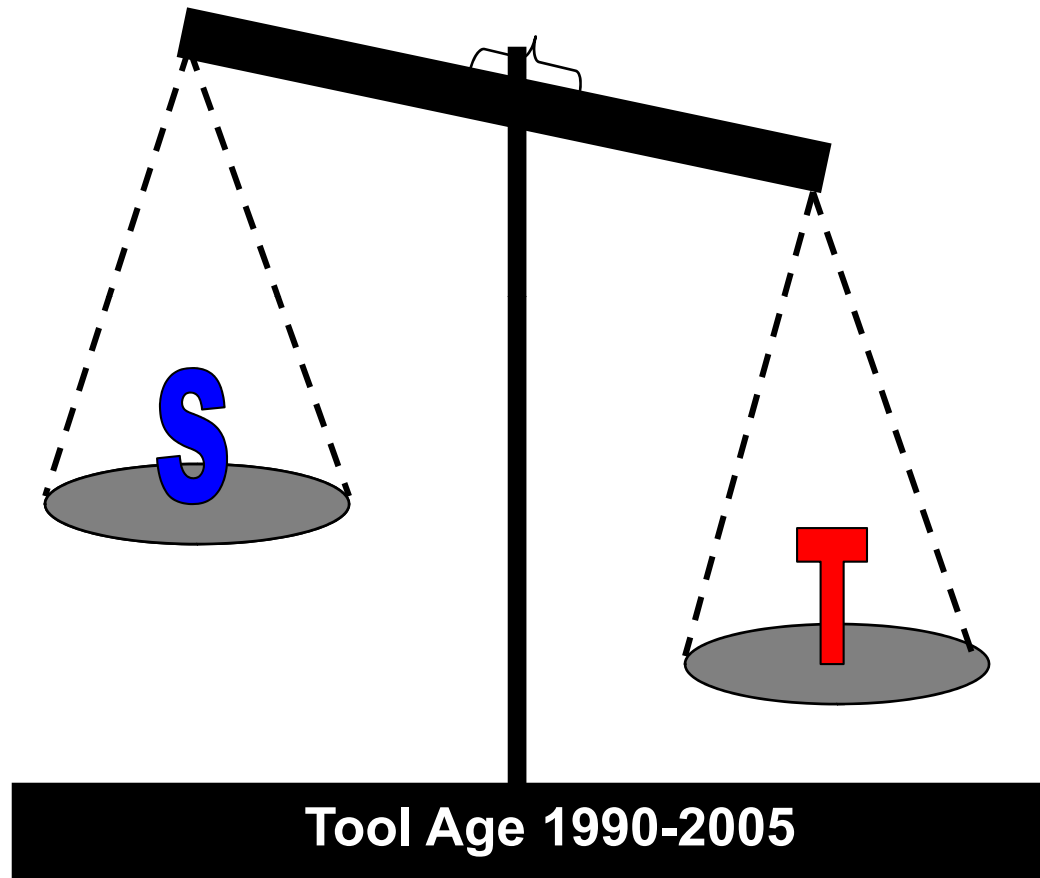
Lean Transformations: Social and Technical



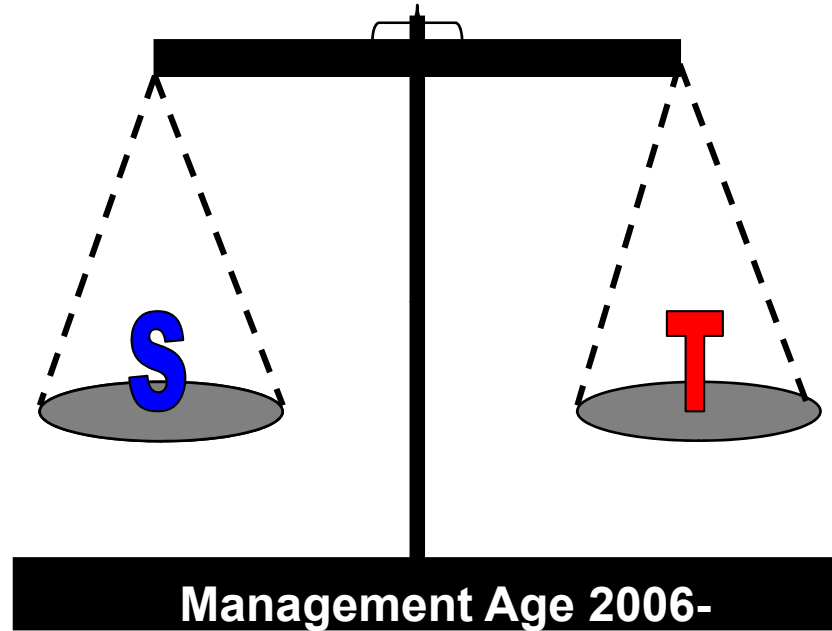
Lean Transformations: Social and Technical



Lean Transformations: Social and Technical



Lean Transformations: Social and Technical



Where do you start? What do you emphasize?



The Role of Lean Management in Tough Economic Times

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- **Part II: History is interesting but so what?**

- **→ What do lean leaders need to do now?**



Every Organization Must Address

- **Purpose** – Provide value to customers cost-effectively in order to prosper.
 - **Process** – Through value streams for design, make, and use.
 - **People** – By engaging employees touching value streams (including support streams) to sustain and improve them.
- Aligning **purpose**, **process**, and **people** is the central task of management.

What do leaders need to do now?

- **A large enough tsunami will sink any boat**
- **This is when the sea will separate the lean wheat from the chafe**
- **In my view, for most companies, that means this is a time for back to basics**
 - **This is where the lean companies will take advantage of the turbulence to strengthen their position.**

The biggest lean history lesson

- Tough times separate the truly lean from the fashionably lean.
- Even Toyota is struggling mightily.
- But, does anyone doubt that Toyota will come out of this in a stronger competitive position?
 - **That's what has happened every time in the past**

Toyota's current struggles...

Lean Sensei to young(er) John:

“Don't confuse the
‘Toyota Production System’ with
Toyota's production system...”

A lean transformation example

■ **Phase One:** Copied TPS in production
(adopted)

■ **Phase Two:** Made TPS their own (adapted)

■ **Phase Three:** Disseminated through the rest of
the company

Is *copying* really so wrong?

- COPY
- ASSIMILATE
- INNOVATE



-- Sonny Rollins

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Eiji Toyoda on Leadership

“The people at the top are just flag-wavers. It is pure MUDA to wave your flag and have no one follow you. Waving that flag in a way that makes people fall in line behind you is what is important.”

– Eiji Toyoda

→ Another 8th waste:

“The Waste of Empty Flag-Waving”

The lean leader's job

- Get each person to take initiative to solve problems and improve his or her job.

and

- Ensure that each persons' job is aligned to provide value for the customer and prosperity for the company.

For any endeavor, basic skills are required

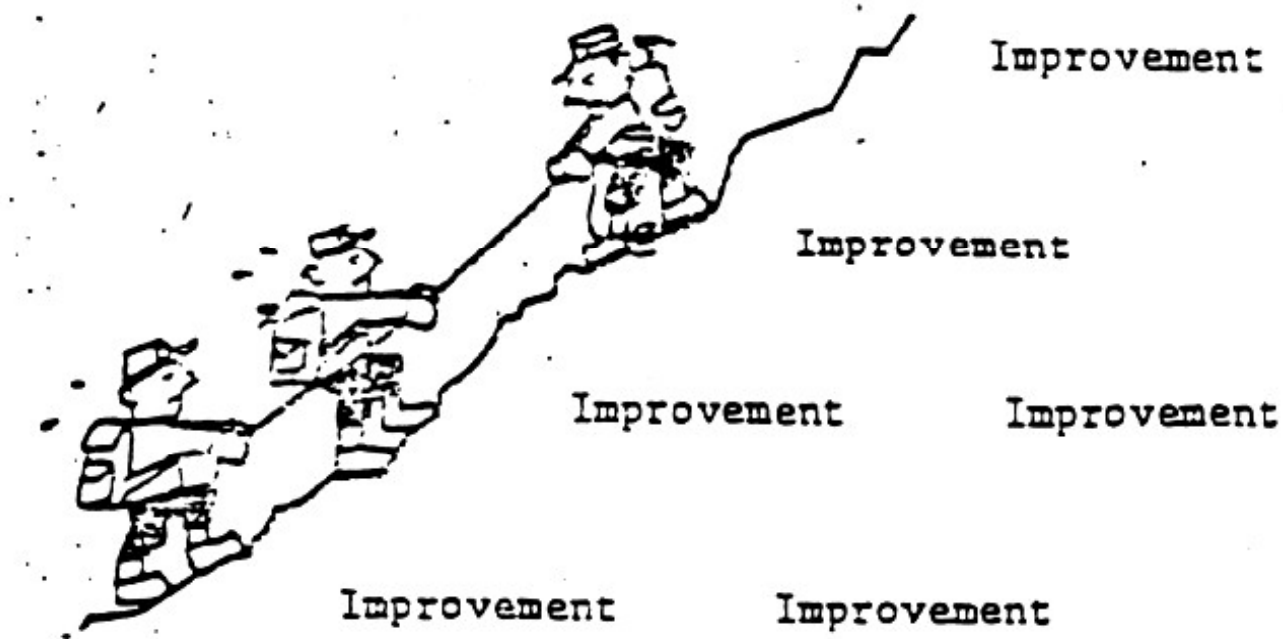
For any basic skill...
you need:

- Practice
- Practice
- Practice



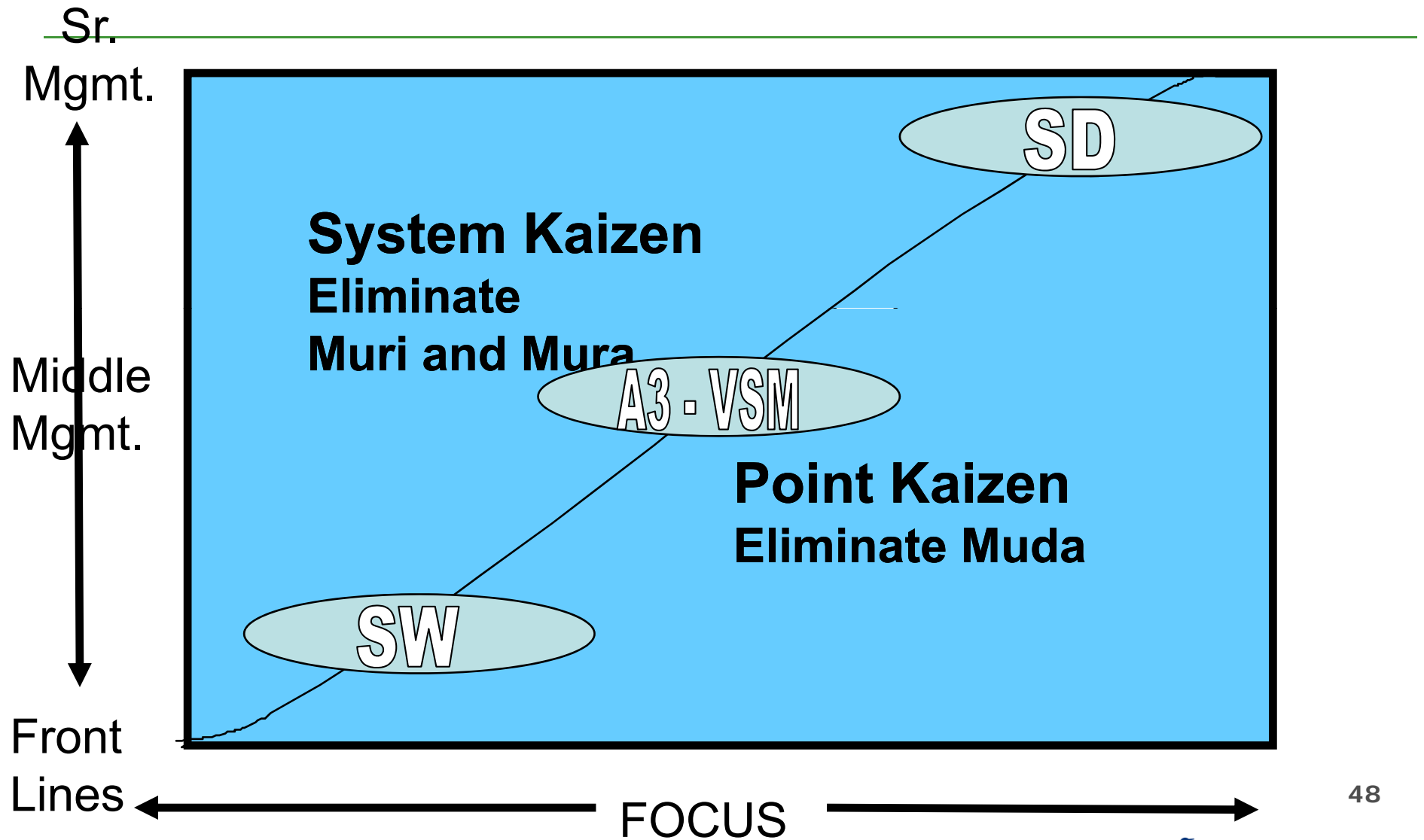
The Leader's job is to develop his or her people

Get the work done
THROUGH developing people...

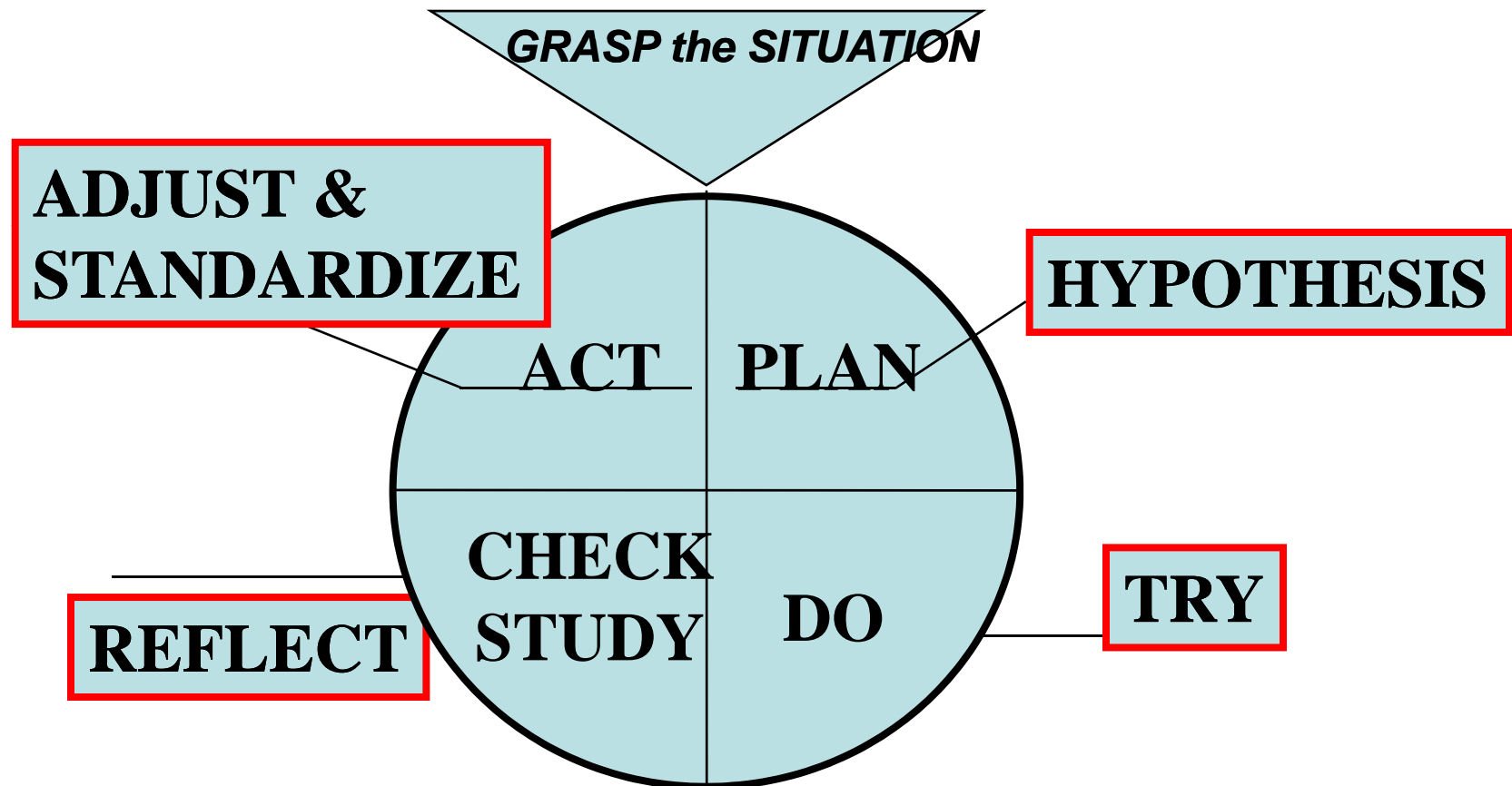


Individual improvement *and* Aligned Direction





From p-D-p-D Fire-fighting to P-D-C-A Management Cycle



Lean is...

- Lean is “process-focused”.

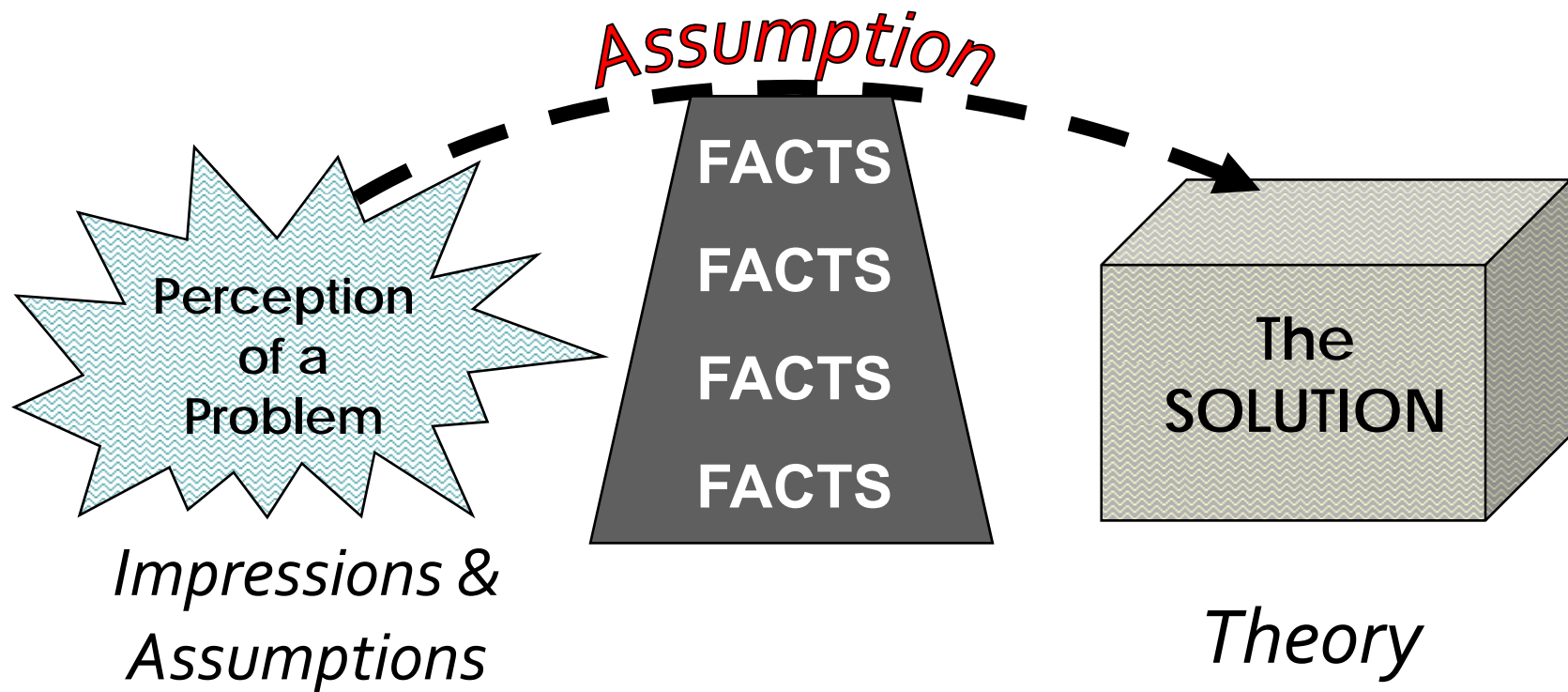
- *Which process is most important?*

- The process of creating processes
 - through “root cause thinking”

- *Lean is not jumping to conclusions.*

A Problem with Problem Solving

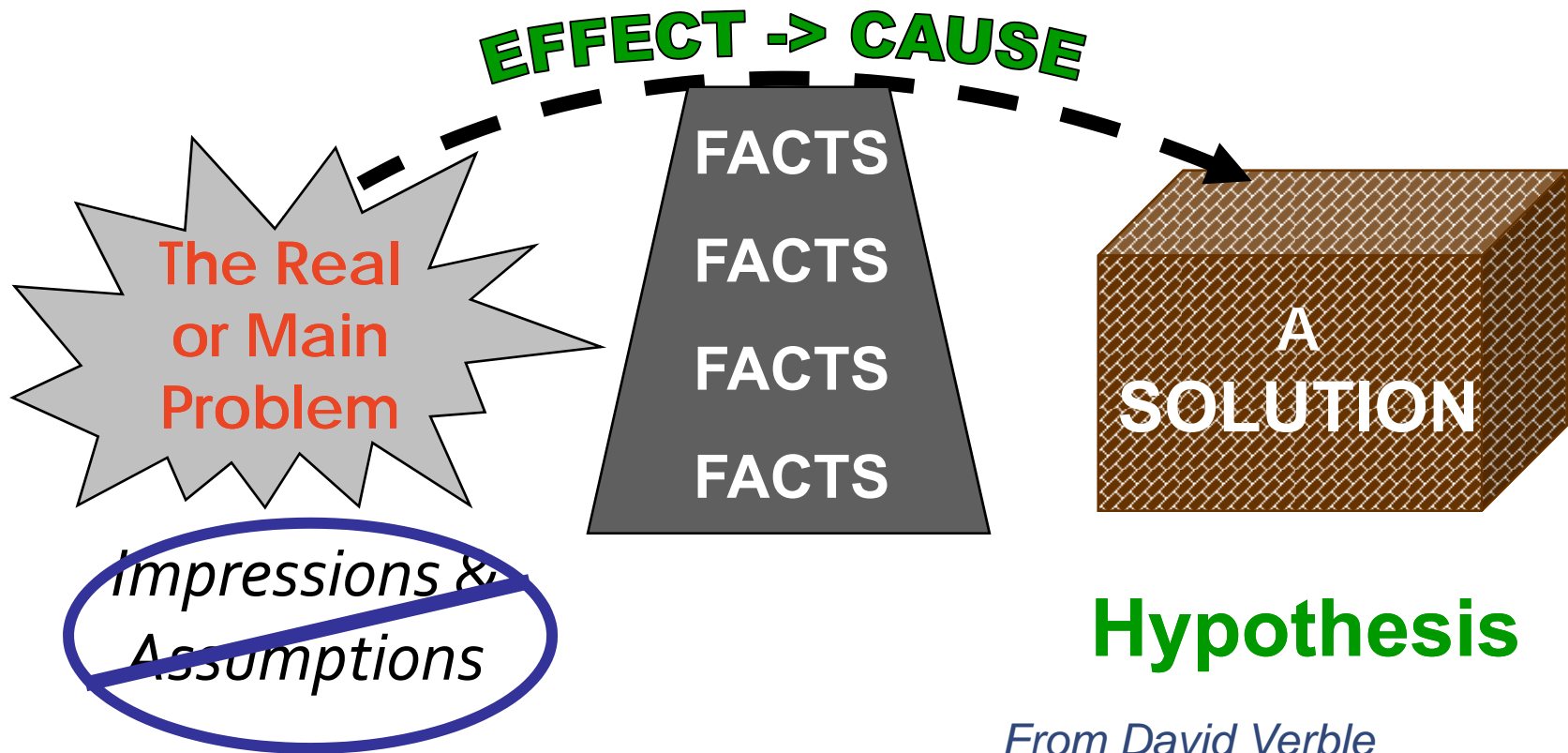
Our Natural Human Tendency (?)



From David Verble

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Solving the Problem with Problem Solving



The famous lean tools (processes)...

Even more than the “mechanical” or tangible benefits they bring,

They are learning and improvement structures,

Designed to make it:

- Easy to see problems

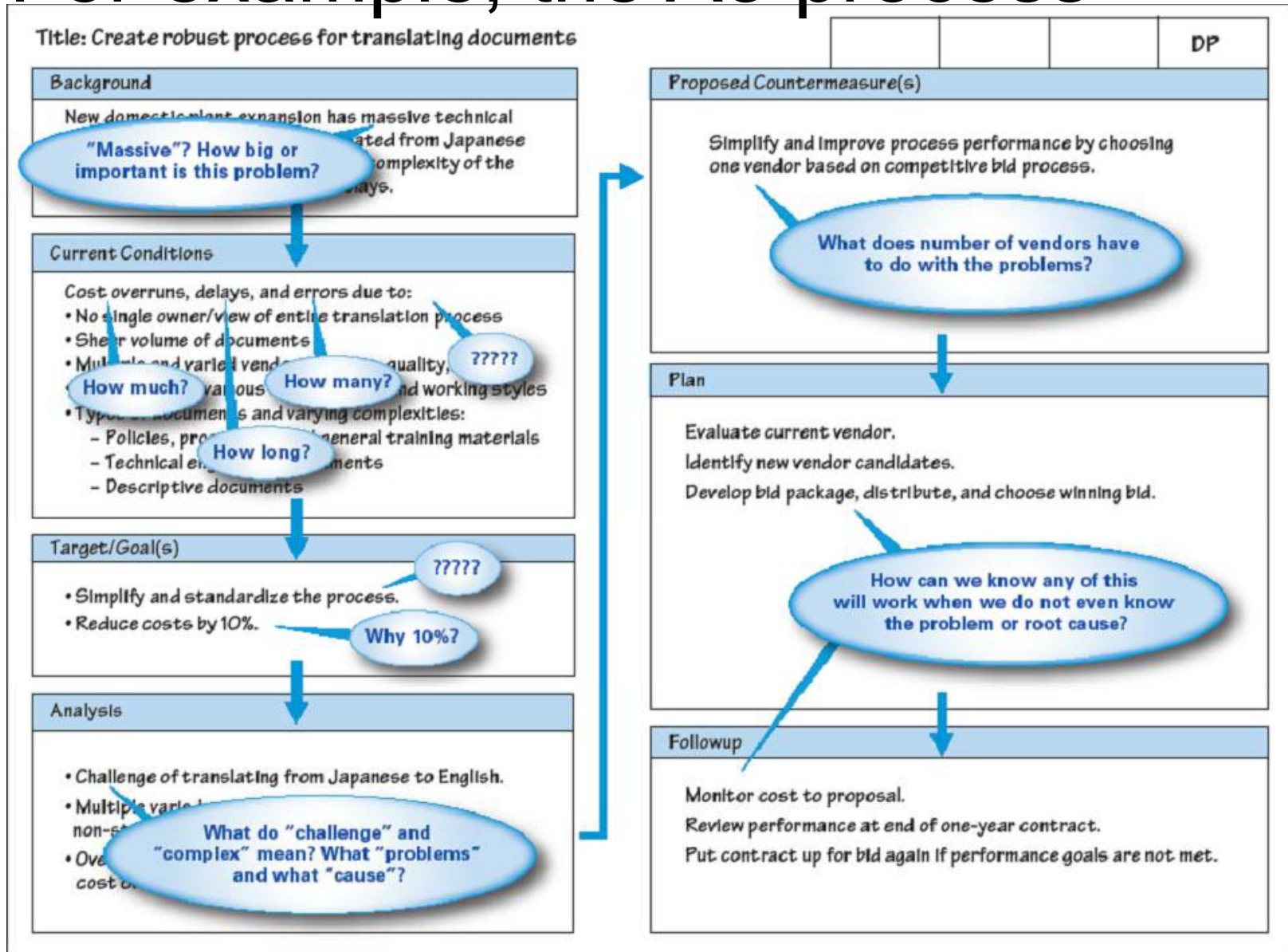
- Easy to improve

- Easy to learn from

(What is calculus??

A solution? Or a means to derive solutions?)

For example, the A3 process



Being technically “right” is half the battle

■ What makes an A3 a good one?

- Tells a story
- Contains objective facts, data
- “Solves” a problem
- Engages and aligns the organization

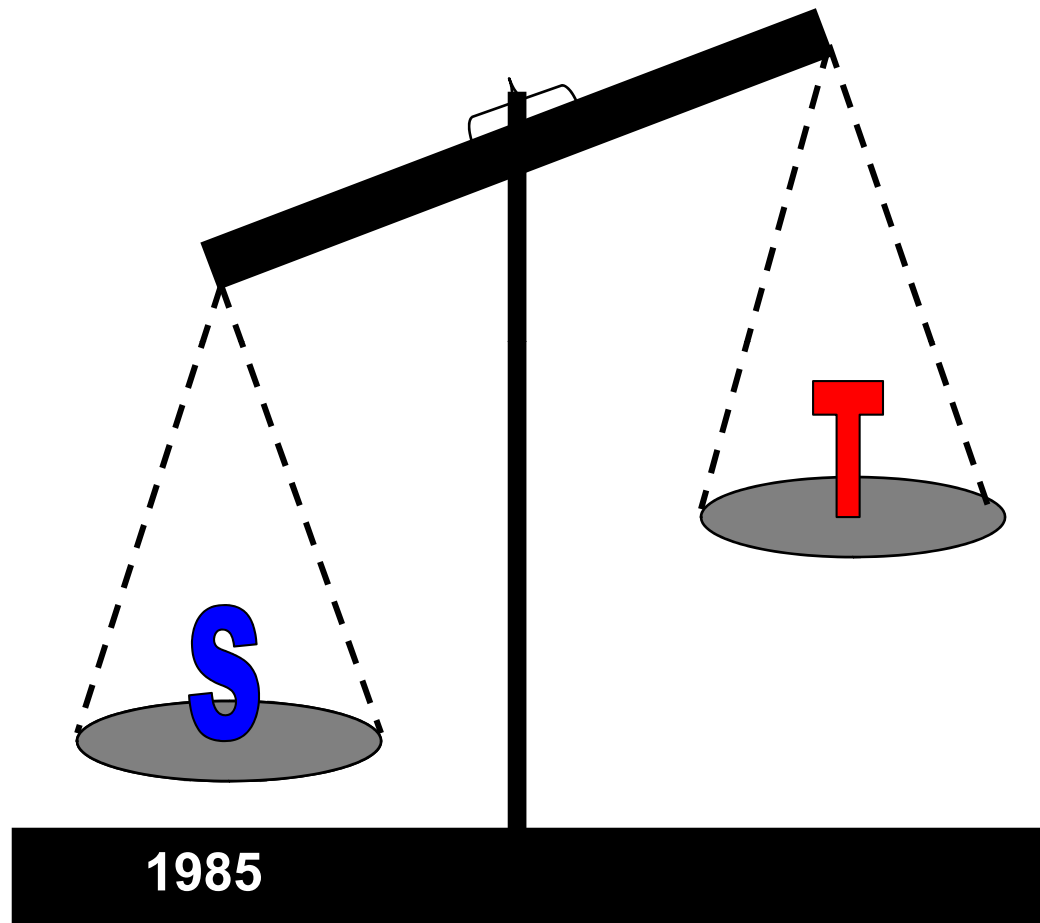
Being technically “right” is half the battle

- **What really makes an A3 a “good one” isn’t the specific collection of facts and data that tell a perfect problem solve.**
- A good A3 is a reflection of the dialogue that created it. The same problem and set of facts & data in different situations may result in a very different A3 depending on the views, concerns, opinions and all the particulars raised by the affected parties.

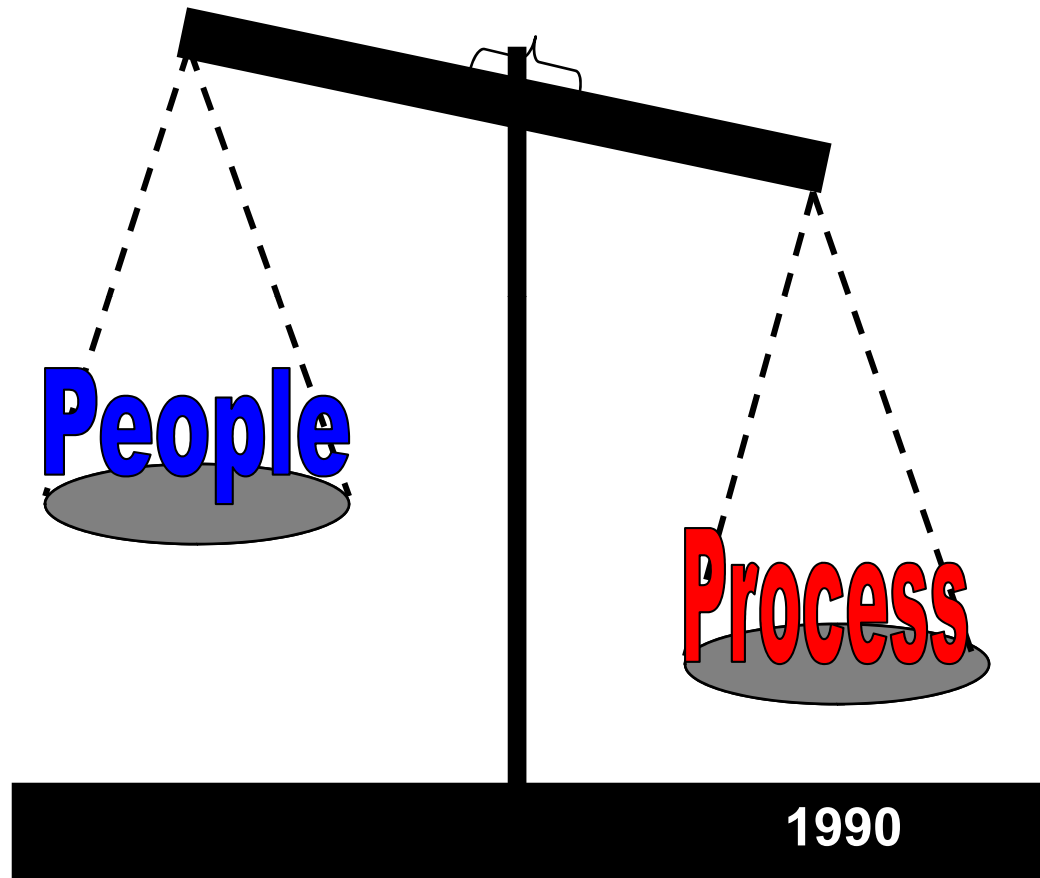
What do leaders need to do now?

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- This is when the sea will separate the lean wheat from the chafe
- In my view, for most companies, that means this is a time for back to basics
 - This is where the lean companies will take advantage of the turbulence to strengthen their position.
- For that, is anything needed more than leadership (yours)?

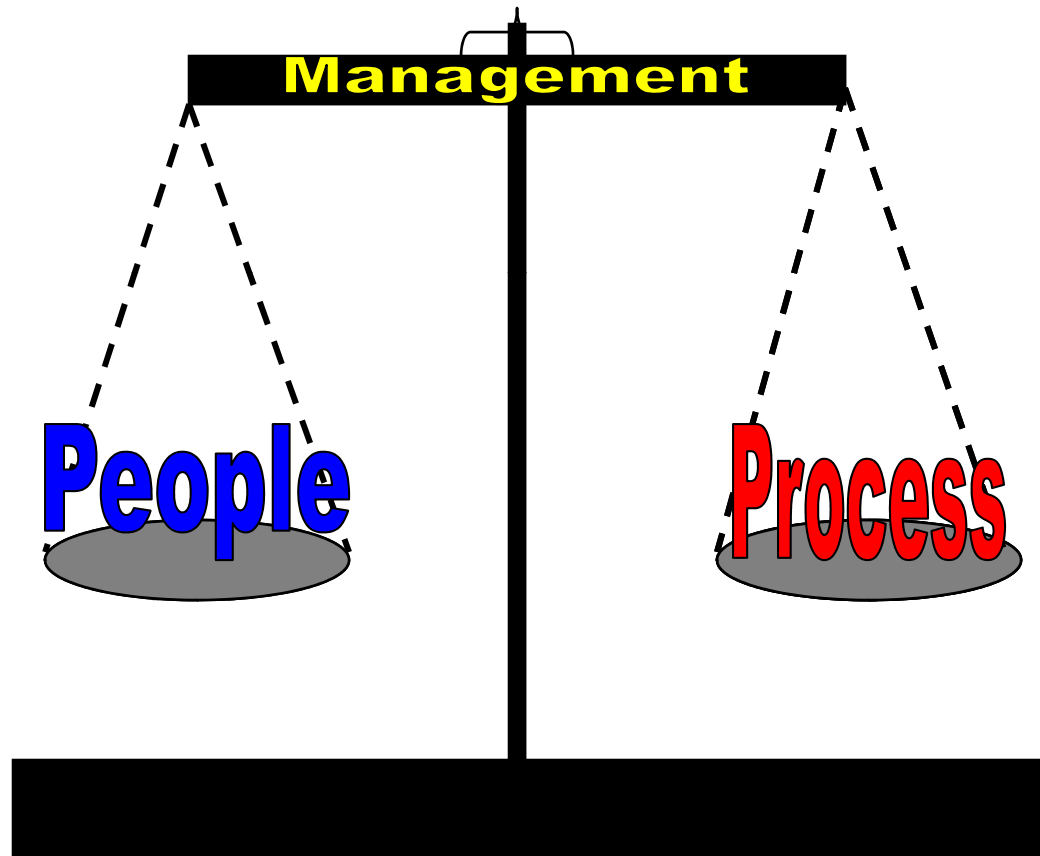
Lean Transformations: Social and Technical



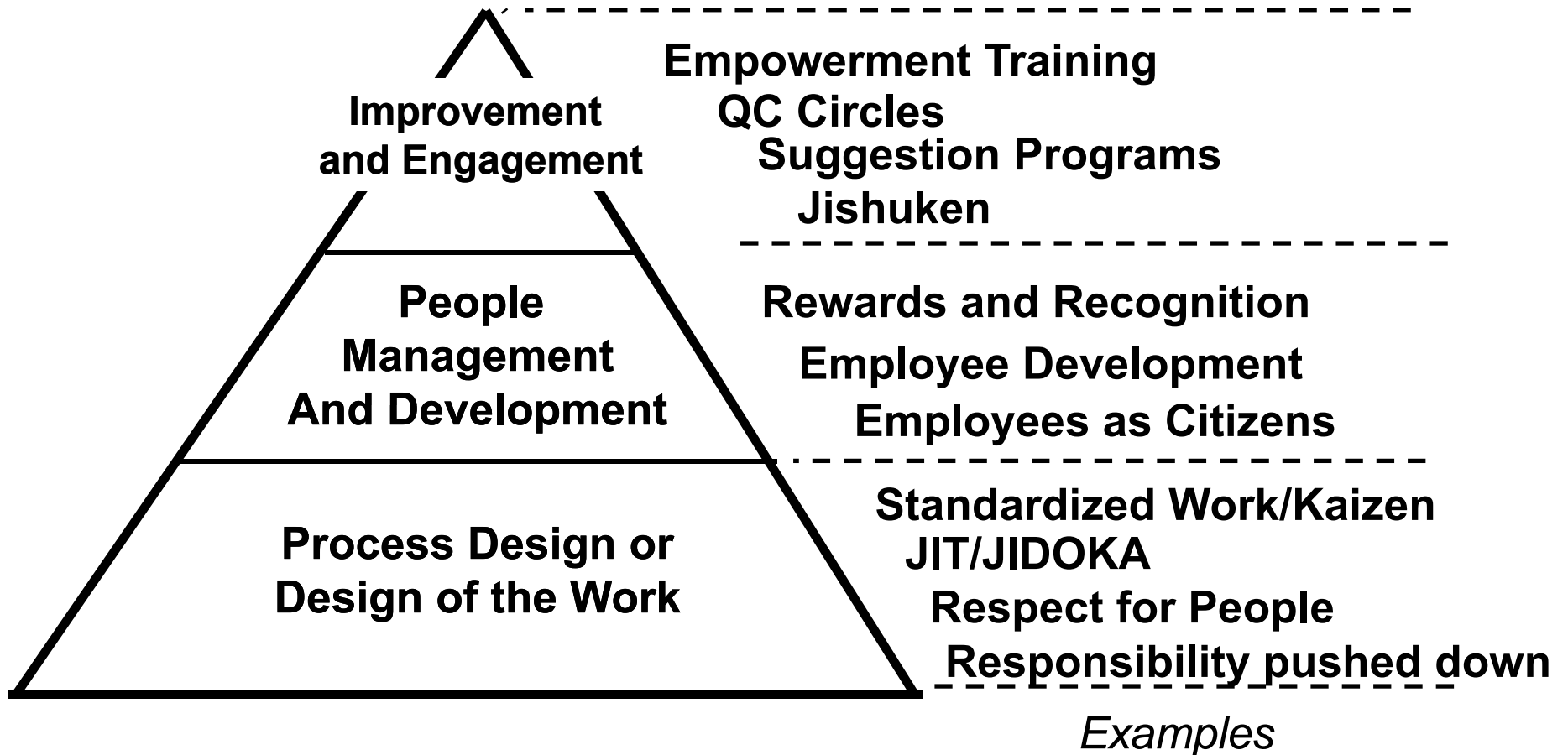
Lean Transformations: People and Process



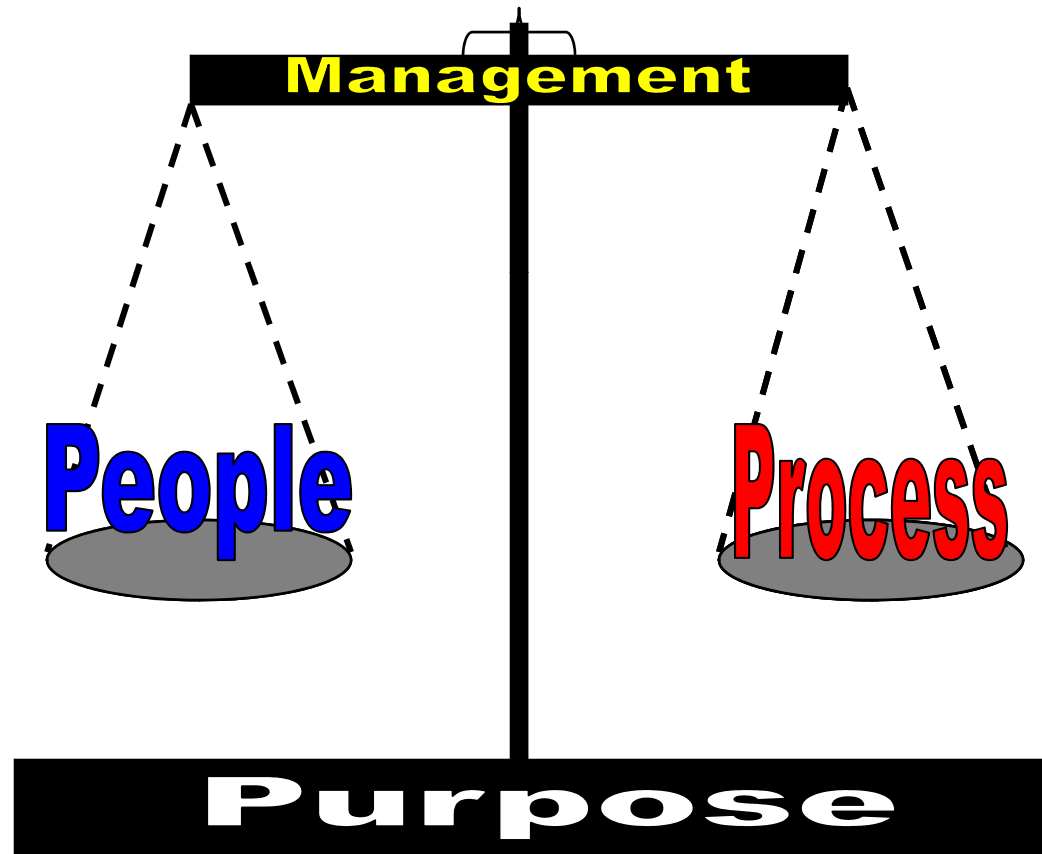
People & Process – balanced by management



People and Process



People & Process – balanced by management on what basis?



What to do?

An effective lean system will be equal parts:

- **“Social” - People**

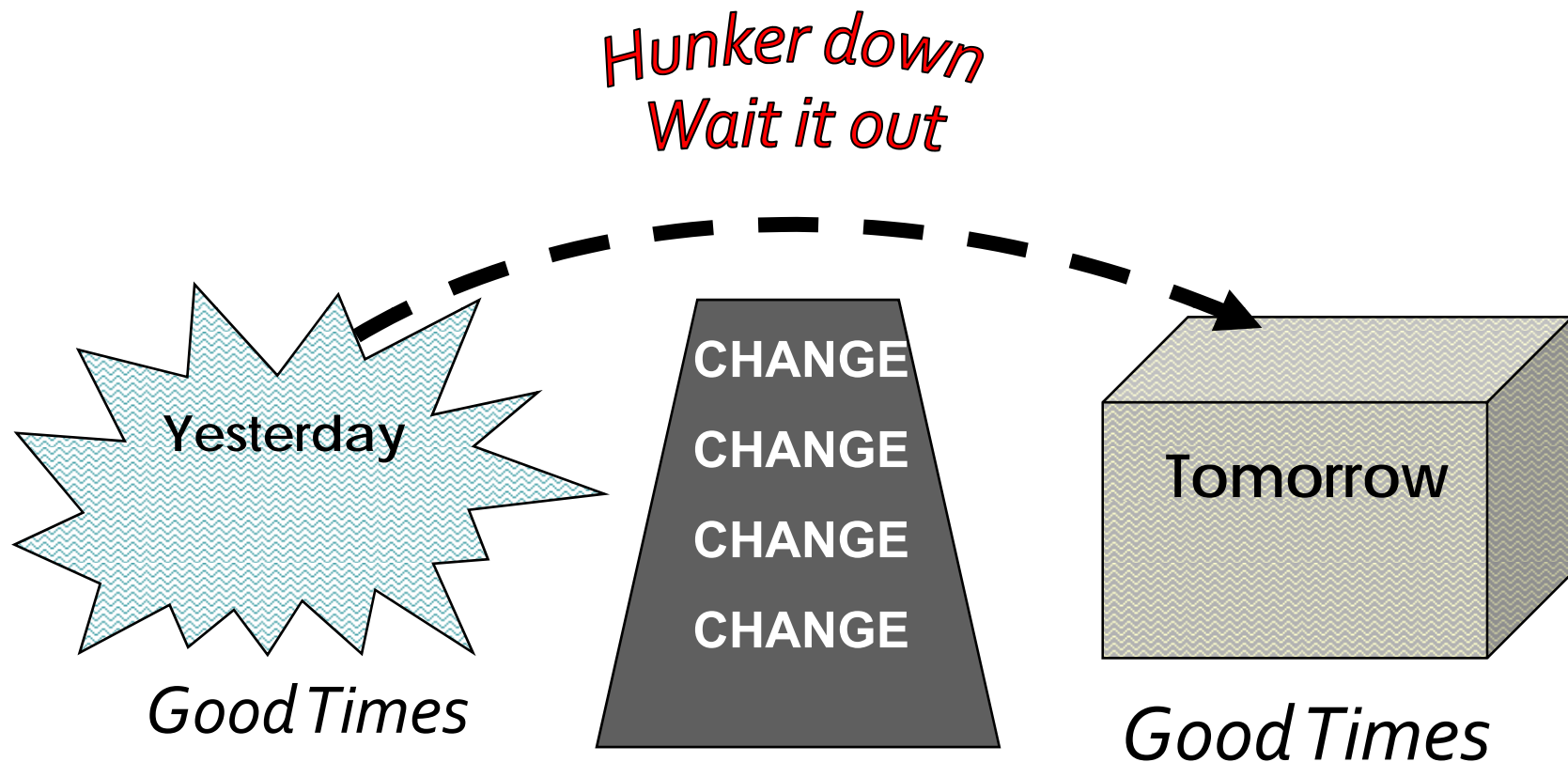
- All the people, thinking, organizational, people, cultural aspects of how your organization engages and aligns its people to accomplish its purpose

- **“Technical” - Process**

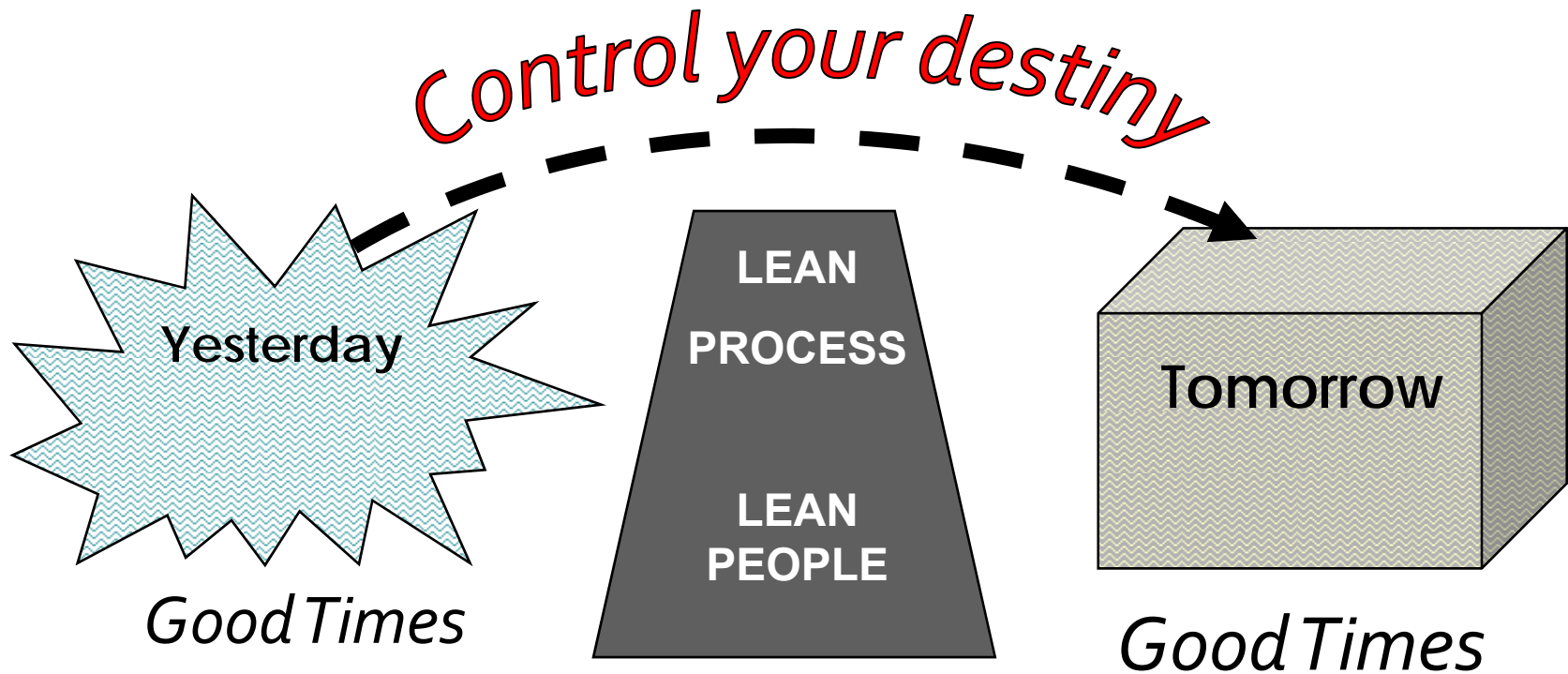
- All the process, technical, mechanical, process, ways work is designed to deliver value to the customer and accomplish its purpose

- **Management must align those to achieve the purpose of the organization. That’s your job.**

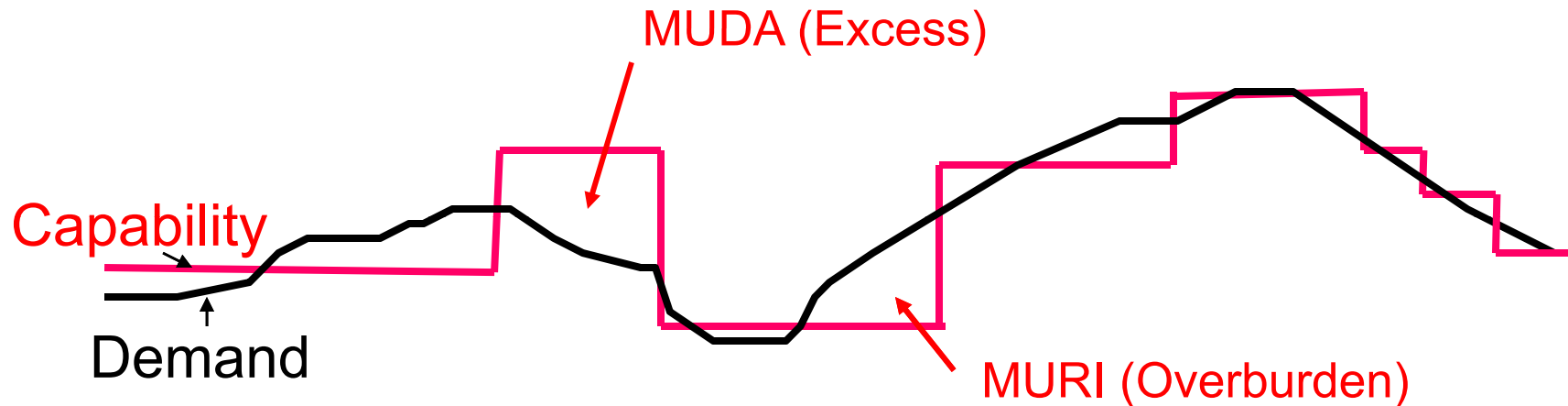
What is your strategy?



What is your strategy?



The challenge of any business: Matching capability (capacity) with demand



MURA (Instability)

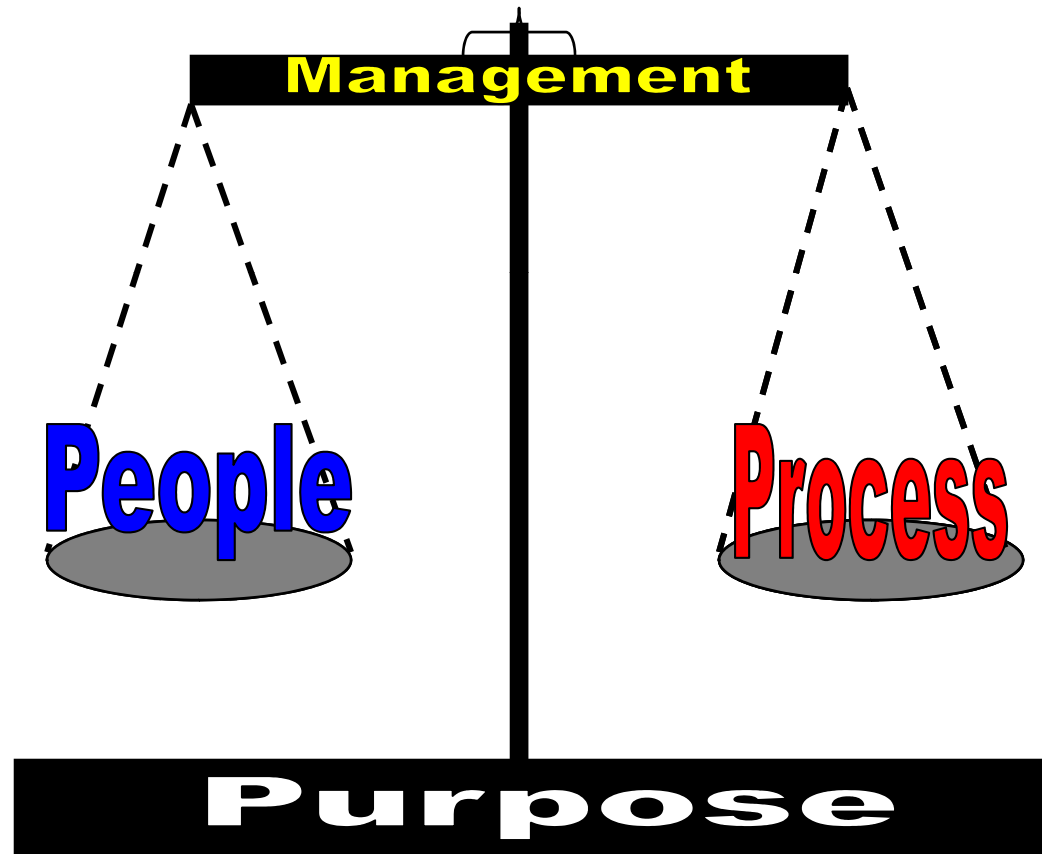
Management

- Know your demand
- Know your true capability (capacity)
- Create flexibility to get them to match

----- TIME ----->

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Lean Transformations: People – Process – Purpose!



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- A large enough tsunami will sink any boat
- This is when the sea will separate the lean wheat from the chafe
- For most companies, surely that means this is a time for back to basics
- This is where the lean companies will separate themselves
- That can happen – simply if not easily – through your leadership.