

**Vlerick Leuven Gent
Management School**

the Autonomous Management School of
Ghent University and Katholieke Universiteit Leuven



Leiderschap in nieuwe samenwerkingsvormen

Prof. dr. Ann Vereecke en Prof. dr. Katleen De Stobbeleir

Content



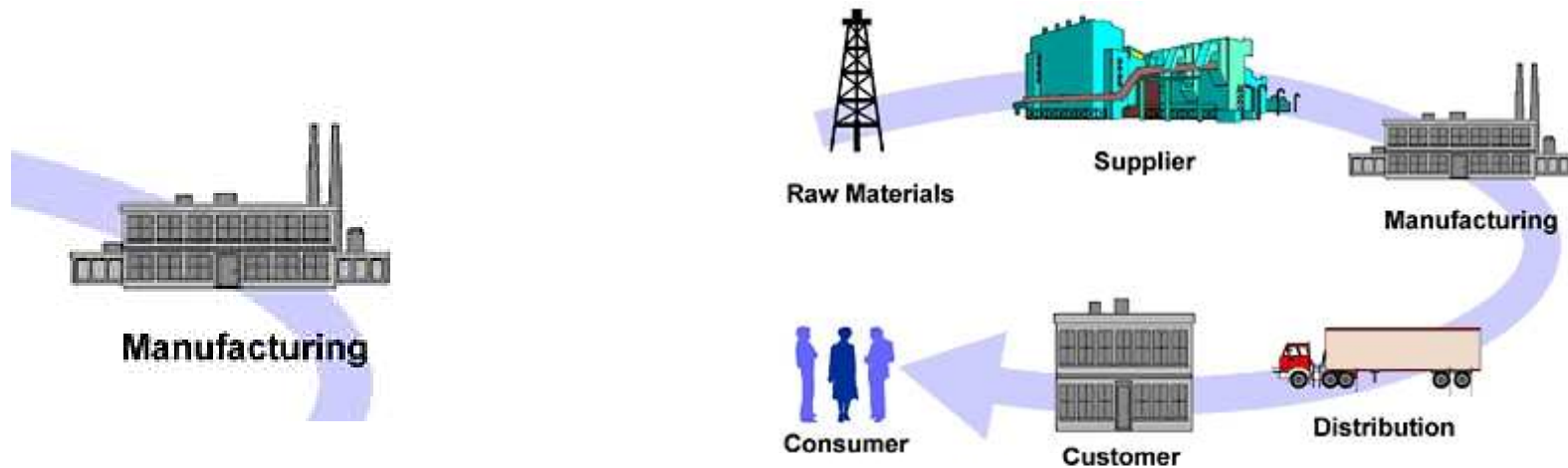
Trends in Operations & Supply Chain Management

Best practices in Operations and Supply Chain don't always work

Barriers to sustainable lean improvements

- The employee
- The system
- The manager

Trends in operations and supply chain management



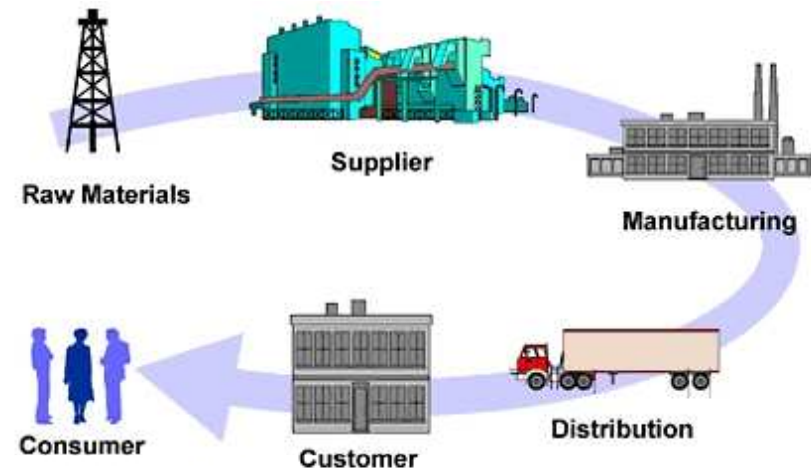
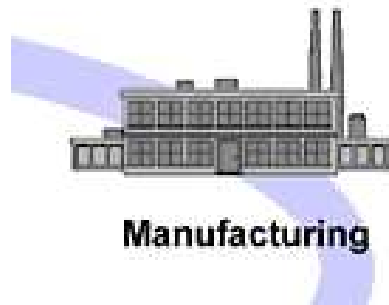
■ Best practices in operations:

The lean factory

■ Best practices in supply chains:

The lean supply chain

A couple of great examples



- The lean factory
 - Umicore Burlington factory
 - Caterpillar Production System
 - Daikin Production System
 - “XPS”

They all have their “XPS”

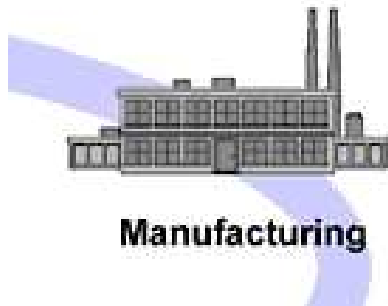


**Bosch Production System
or “BPS”**

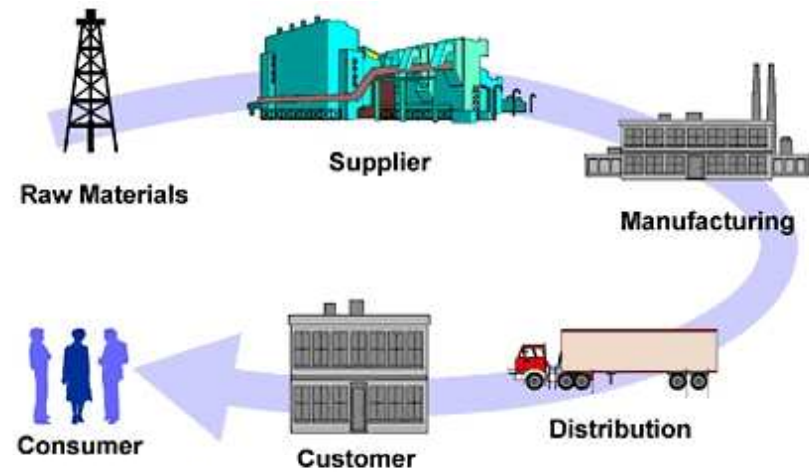


**Volvo Production System
or “VPS”**

A couple of great examples



■ The lean factory

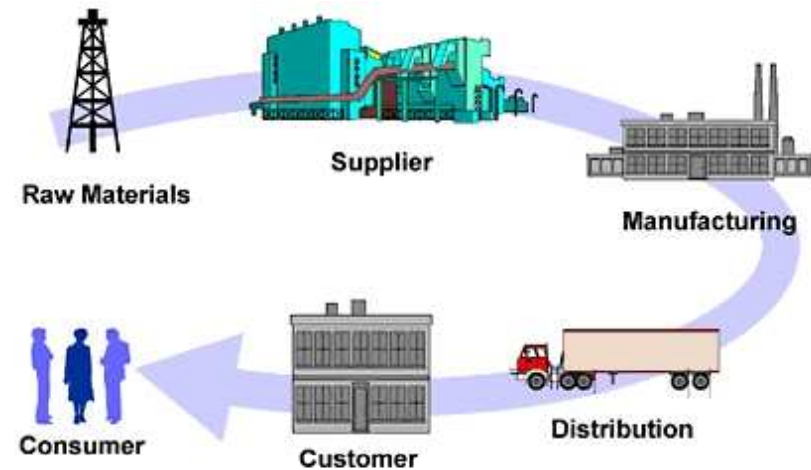
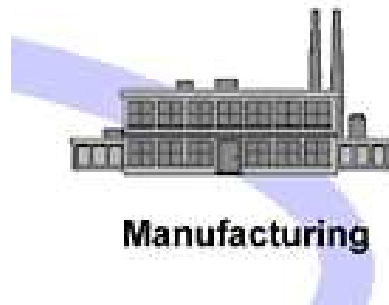


■ The lean supply chain

Unless it travels to your grocery store



A couple of great examples



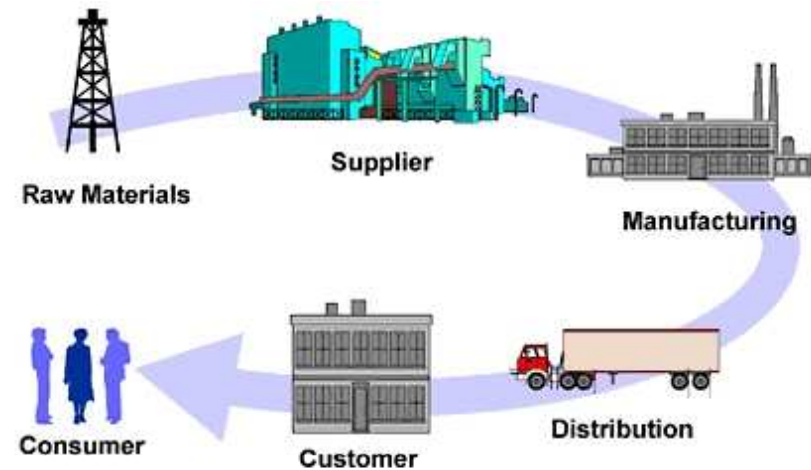
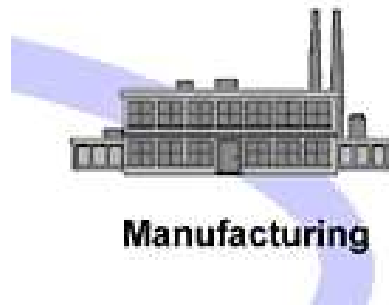
■ The lean factory

- Daikin Production System
- Umicore Burlington lean plant
- Caterpillar Production System
- XPS...

■ The lean supply chain

- Just-in-Time, Just-in-Sequence deliveries to assembly plants
- Vendor-Managed-Inventories (for example sugar-chocolate)

But the “best” practices don’t always work



■ The lean factory

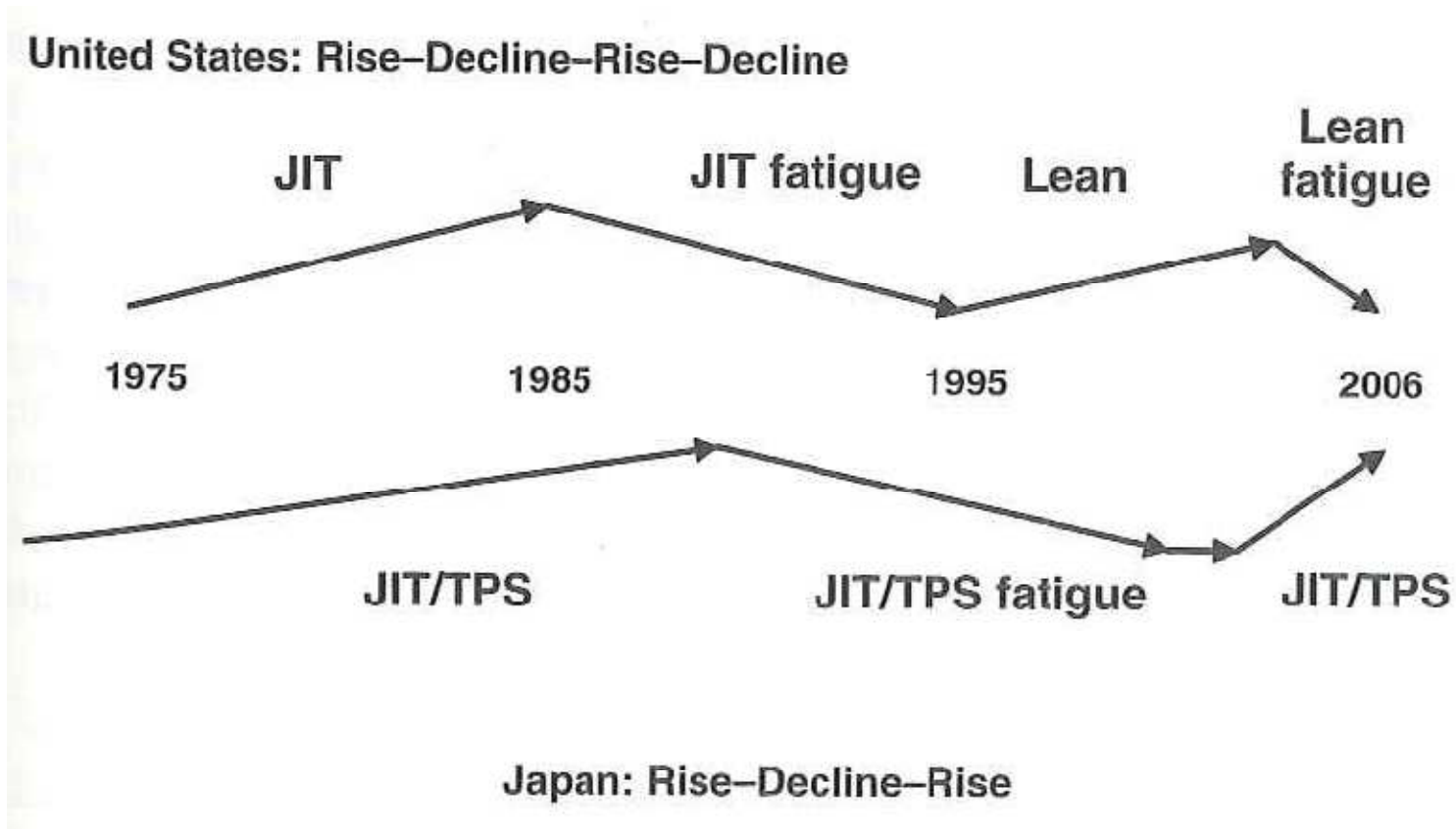
- What managers tell us:
 - “Not interested in lean. We’ve tried ... and failed”
 - “We’ll now introduce Gemba Kaizen, because 5S didn’t work”
- There is research evidence of “Lean fatigue”

■ The lean supply chain

- Research shows mixed results

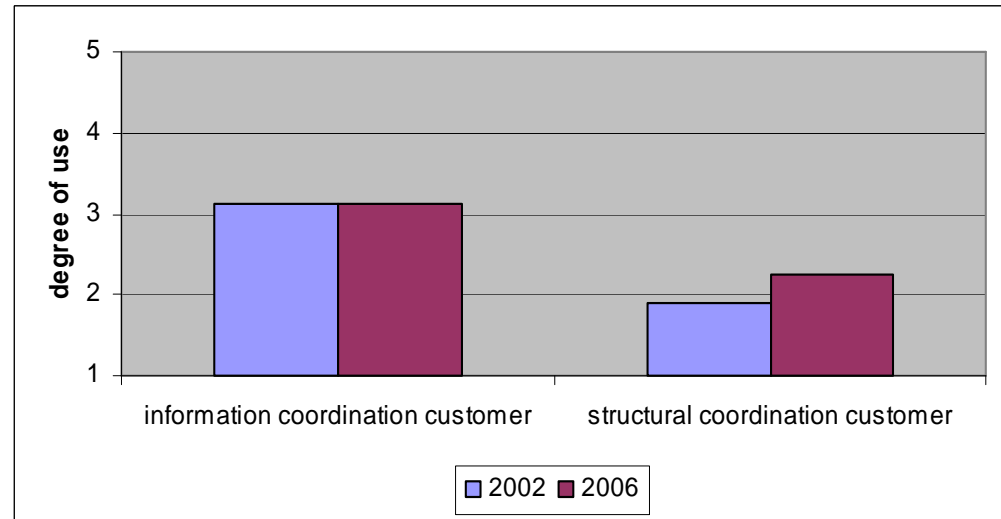
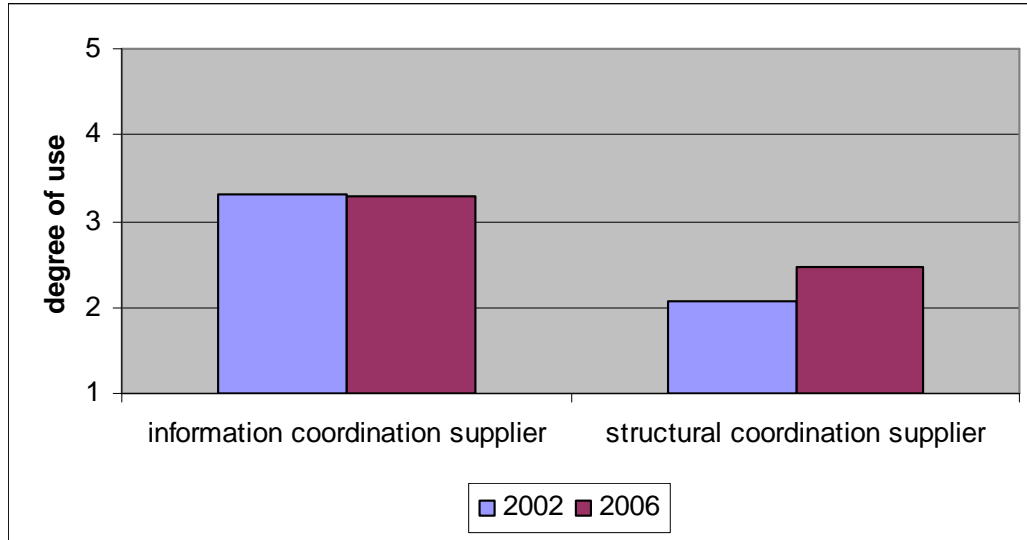
Lean doesn't last

Evidence of "lean fatigue"



Taken from Schonberger 2007

A low degree of SC coordination (IMSS Europe)



“Pushing” inventories upstream - Electronics

80 A-graded companies

1. Dell
2. Xerox
3. Apple
4. Nec
5. Western Digital
6. Ericsson
7. Scientific Atlanta
8. Honeywell
9. Motorola
10. Thomas & Betts
11. Philips
12. International Game Tech
13. IBM
14. TDK
15. Hewlett-Packard
16. Seagate
17. Sony
18. Woodhead Industries
19. CTS Corp.
20. Molex

31 D or F-graded companies

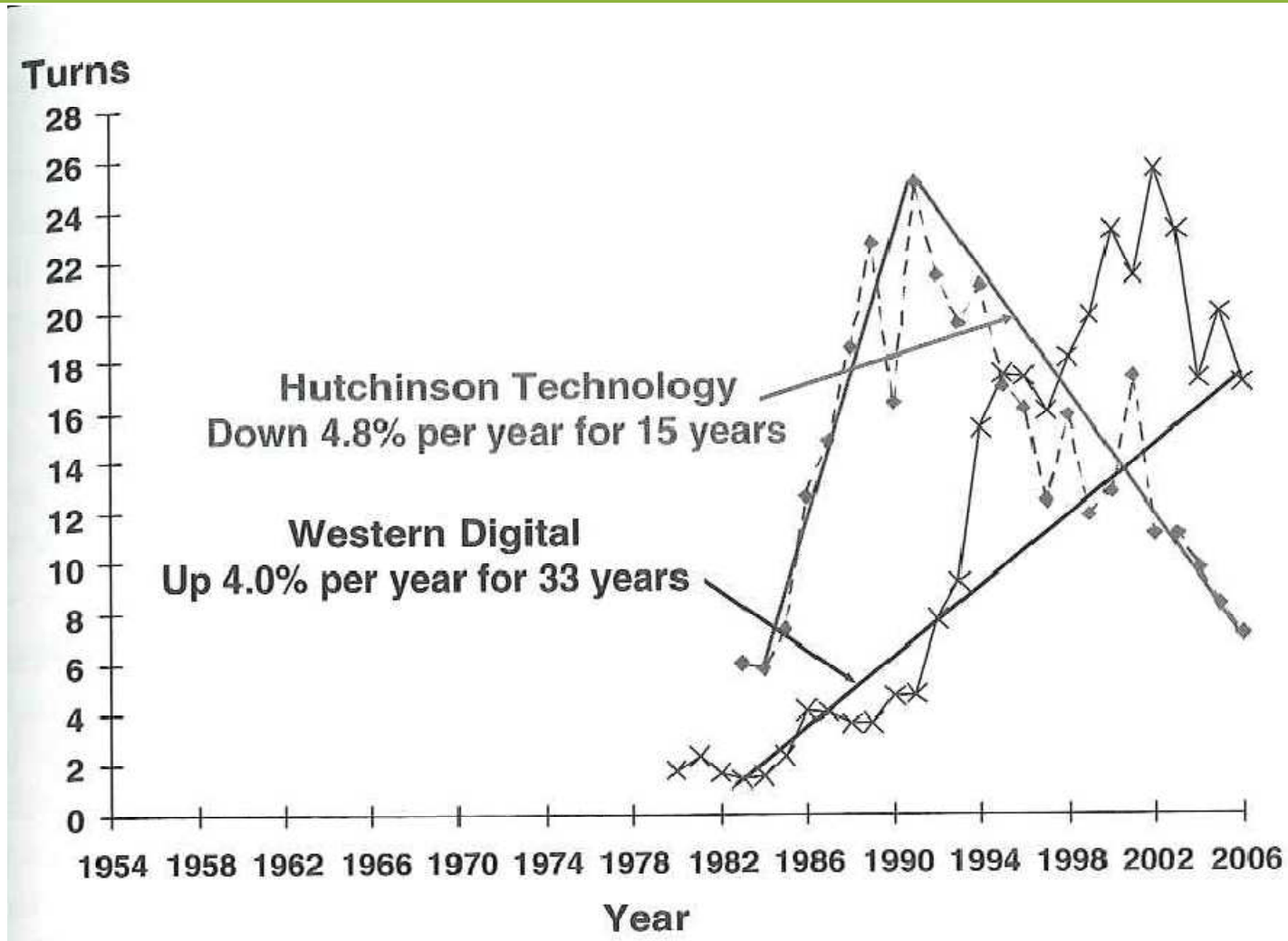
- » For example:
Hutchinson Technology



Taken from Schonberger 2007

Pages 226-228 (Schonberger 2007)

“Pushing” inventories upstream - Electronics

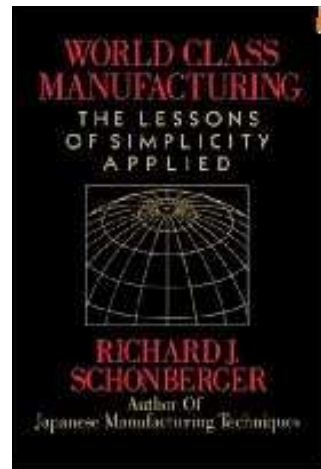


Exh. 19.2 – Contrary inventory turnover patterns for Hutchinson Technology and its customer, Western Digital (Schonberger 2007)

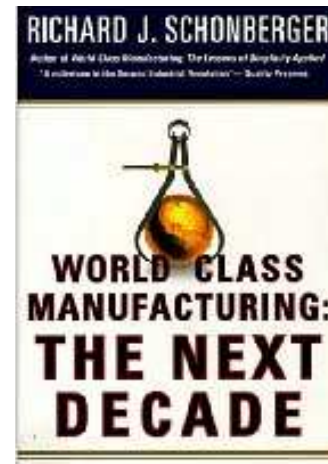
Handbooks full of tools and techniques



1982



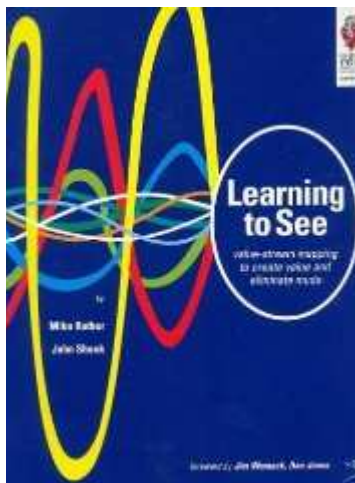
1986



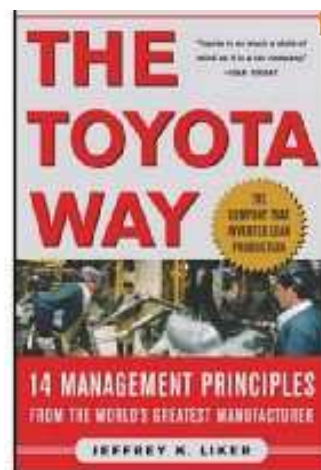
1996



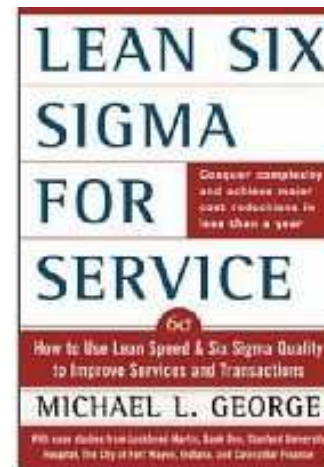
2001



1999



2003



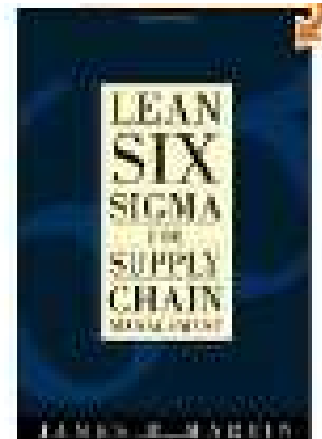
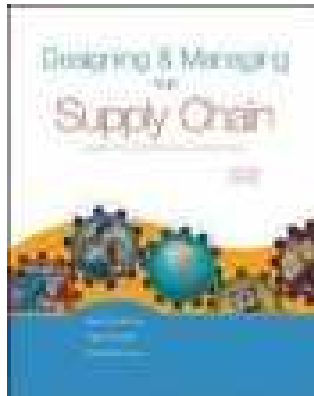
2003



2007

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Handbooks full of tools and techniques



An overview of the main tools and techniques

■ Lean Operations

- Value stream mapping
- Kaizen events
- Going to the Gemba
- Six Sigma project methodology
- Quality Function Deployment
- Total Productive Maintenance (TPM)
- Total Quality Management, Quality Circles
- Design for Manufacturing and Assembly (DFMA)
- Pull and Kanban
- Heijunka
- 5S
- 5 Whys
- SMED
- Kaizen events
- Jidoka and Andon
- Ishikawa and Pareto
- Visual workplace
-

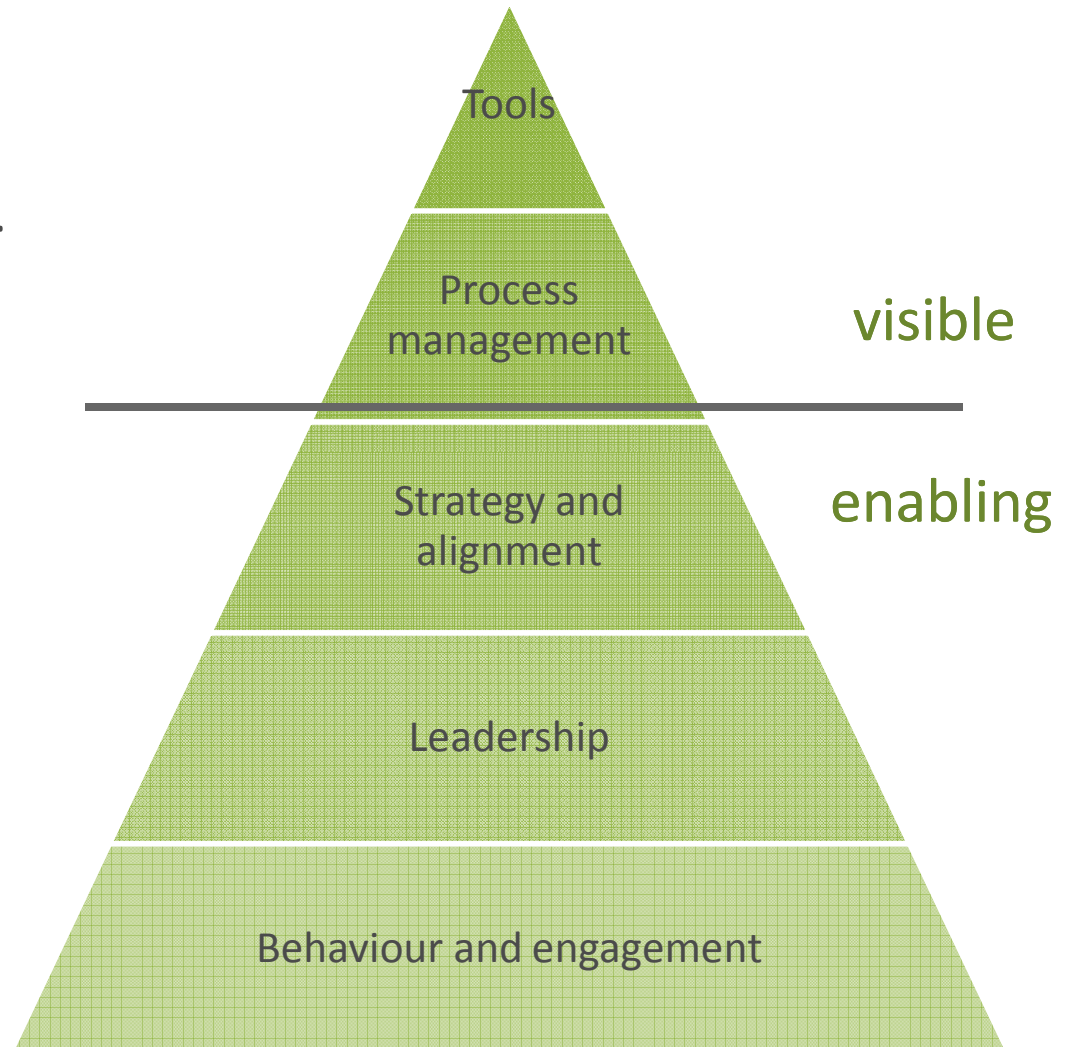
■ Lean Supply Chain

- Supplier Managed Inventory (SMI & VMI)
- Collaborative Planning, Forecasting and Replenishment (CPFR)
- Supplier certification
- Supplier collaboration
- Cross-docking
- Direct Delivery
- Total Cost of ownership
- Postponed Manufacturing & Value-Added Logistics
- Point-of-Sales, EDI, Rfid
- Just-in-Time
-

So why don't lean programmes sustain?

“There may be many reasons, but nearly all will be something to do with people, their leadership and their engagement.

This is often made worse by a preoccupation with lean tools.”

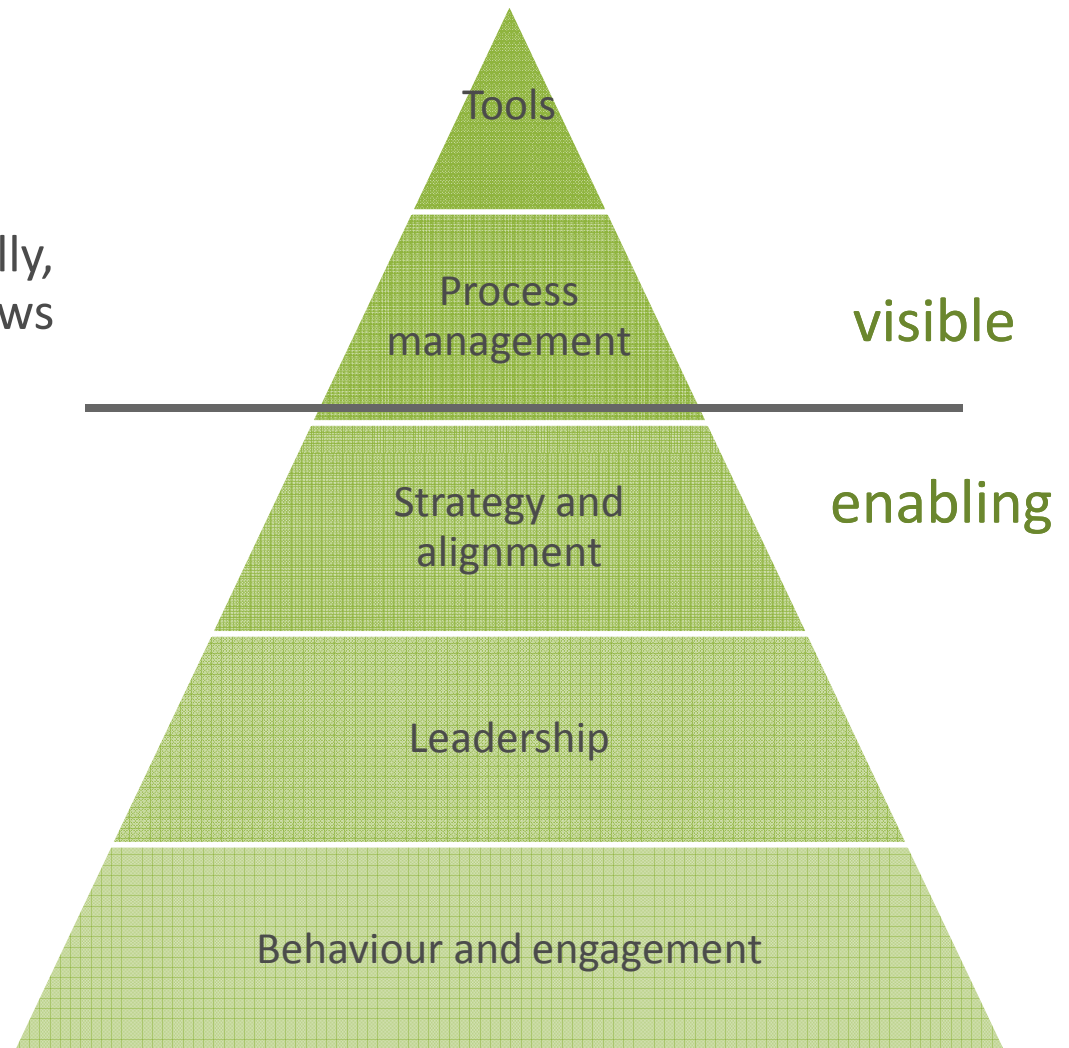


Taken from Hines et al, Staying Lean

How to make lean programmes sustainable?

“Lean managers think horizontally,
in the direction that value flows
through the organisation.”

James Womack

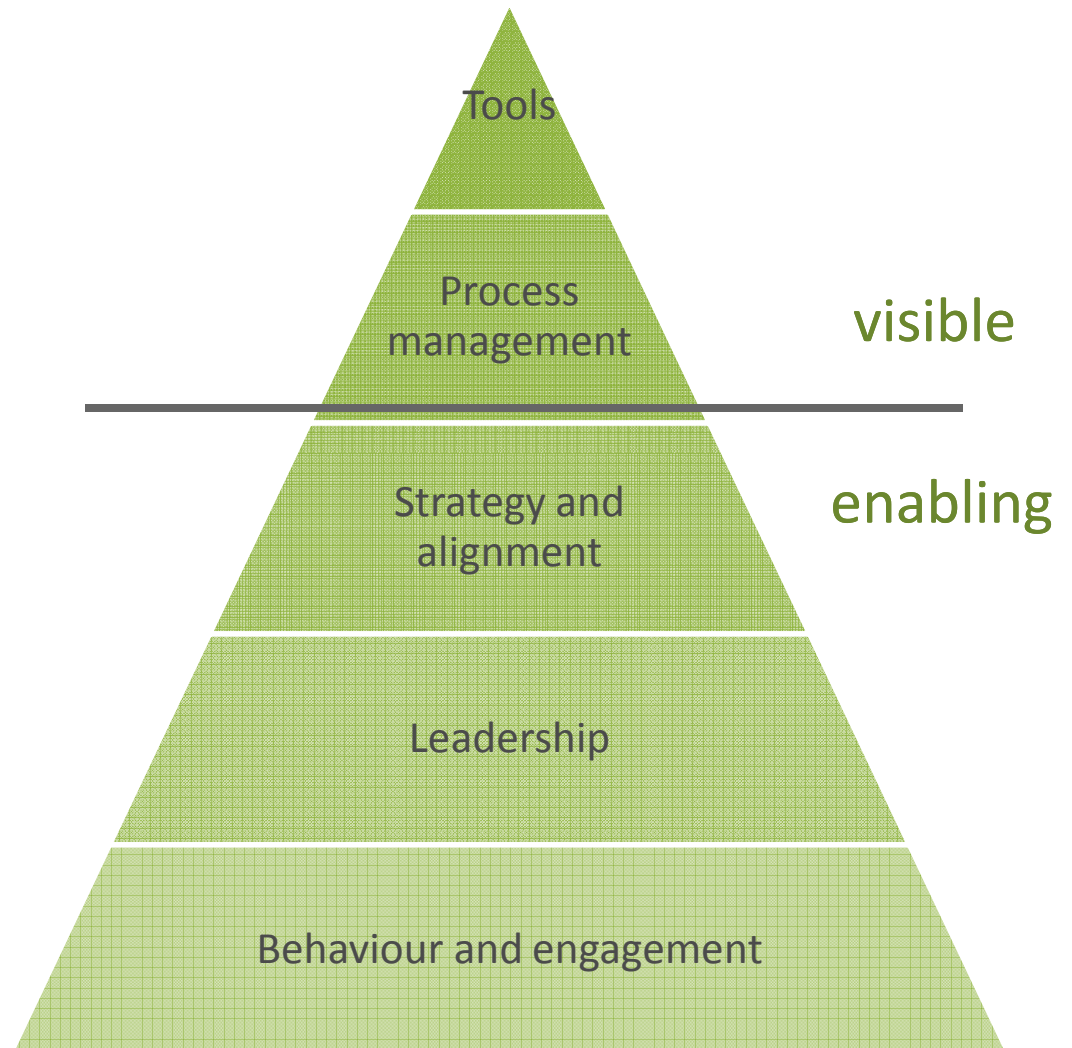


Taken from Hines et al, Staying Lean

How to make lean programmes sustainable?

■ 7 Lean Skills

- Customer consciousness
- Enterprise thinking
- Adaptation
- Taking initiative
- Innovation
- Collaboration
- Influence



Taken from Hines et al, Staying Lean

Not surprising...

Work

Complexity
Knowledge work
Lean
Supply chain collaboration



Leadership Challenges

Goal setting
Evaluating
Giving feedback



Employees anno 2010

“Feedback Junkies”

38%

1834 €

Why?

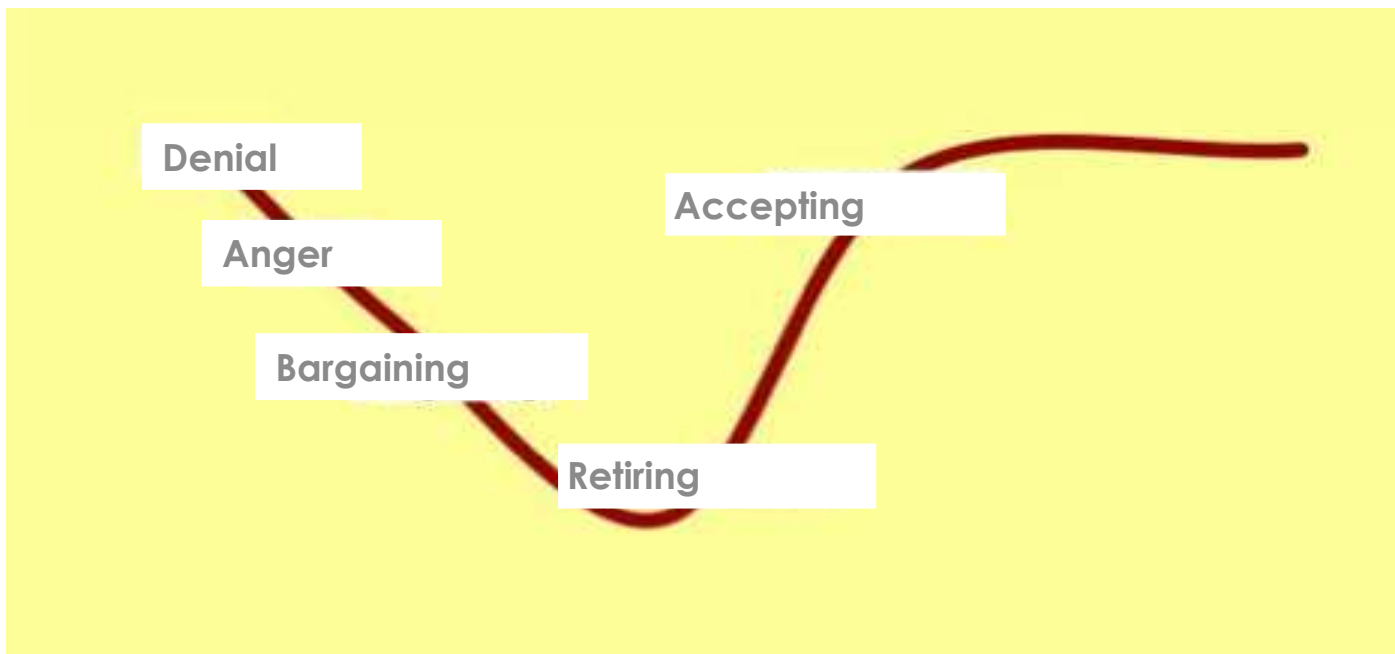
Enemy n°1 = The Employee

Enemy n°2 = The System

Enemy n°3 = The Manager

Enemy n°1: Employee Factors

- How do people react to change?
 - Generally, people do not react positively to change.
 - Reactions you may encounter:



Enemy n°2: The System

- Tools are not translated into HR processes
 - Goal setting
 - Evaluation: forced distributions, individual versus group
 - Compensation & Benefits
 - Evaluating rather than dialogue





Examples of lean operations practices

Just-in-Time and Jidoka: Kanban and Andon

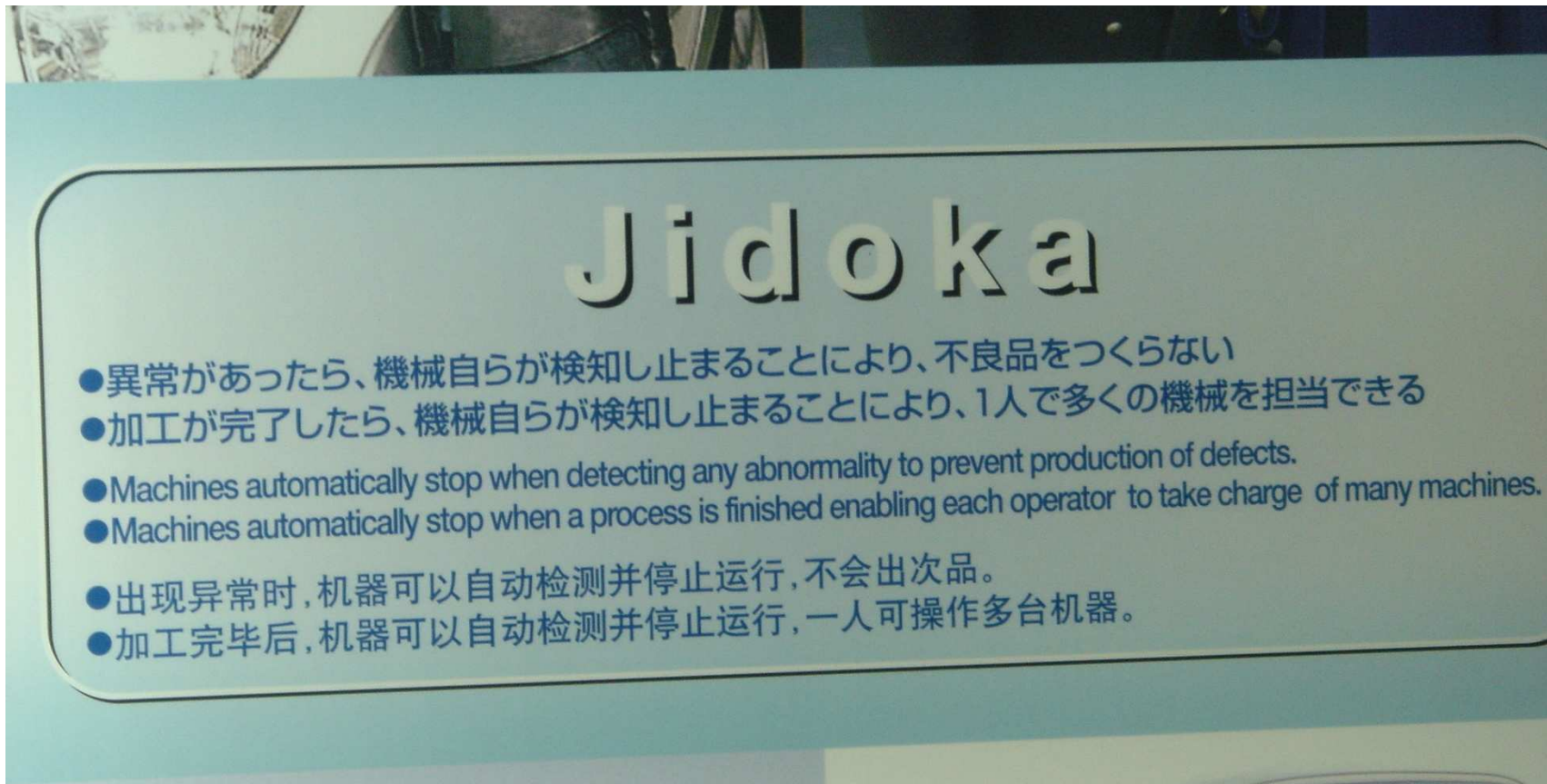
Just in Time as part of the TPS philosophy



Just-in-Time

- 必要なものを、必要な時に、必要な量だけつくる
- Producing only what is needed, when it is needed and in the exact amount needed.
- 对必要的产品在必要的时间内生产必要的数量。

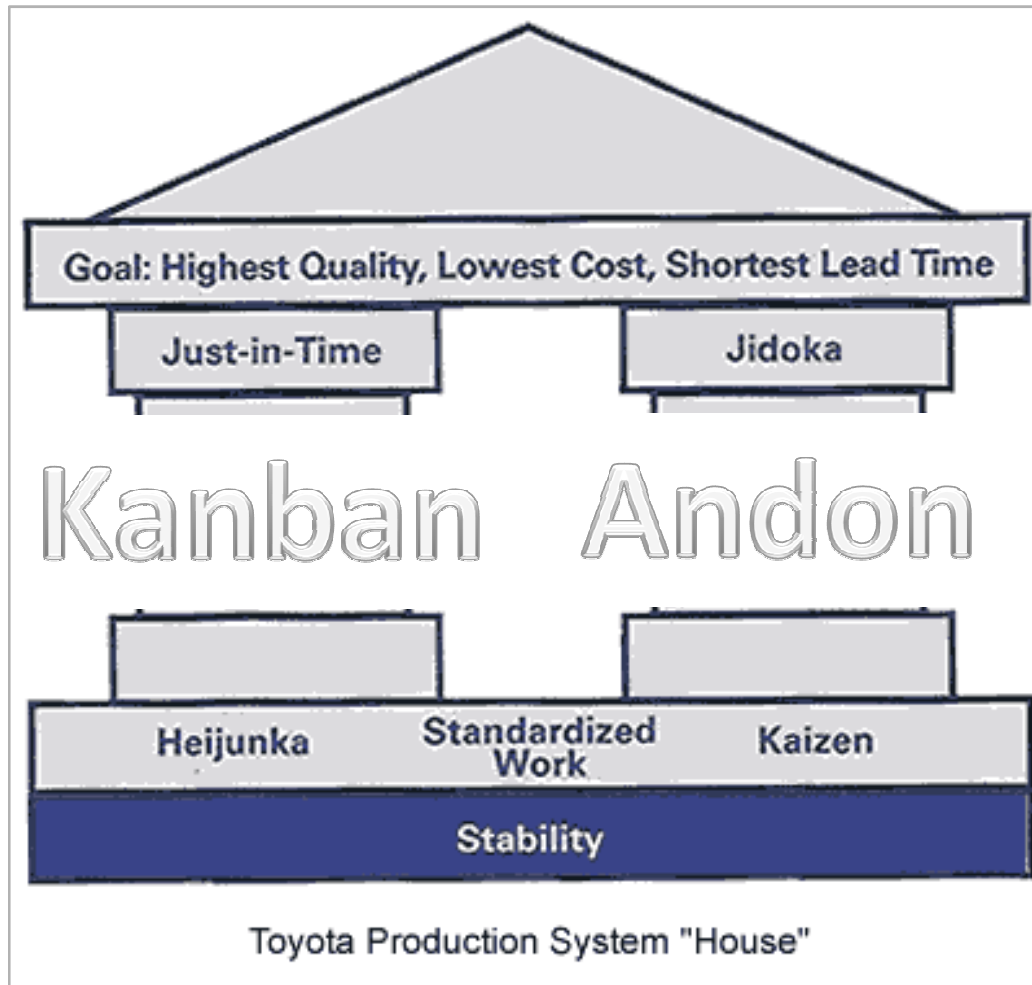
Jidoka as part of the TPS philosophy



Jidoka

- 異常があったら、機械自らが検知し止まることにより、不良品をつくらない
- 加工が完了したら、機械自らが検知し止まることにより、1人で多くの機械を担当できる
- Machines automatically stop when detecting any abnormality to prevent production of defects.
- Machines automatically stop when a process is finished enabling each operator to take charge of many machines.
- 出现异常时, 机器可以自动检测并停止运行, 不会出次品。
- 加工完毕后, 机器可以自动检测并停止运行, 一人可操作多台机器。

Toyota Production System (TPS)



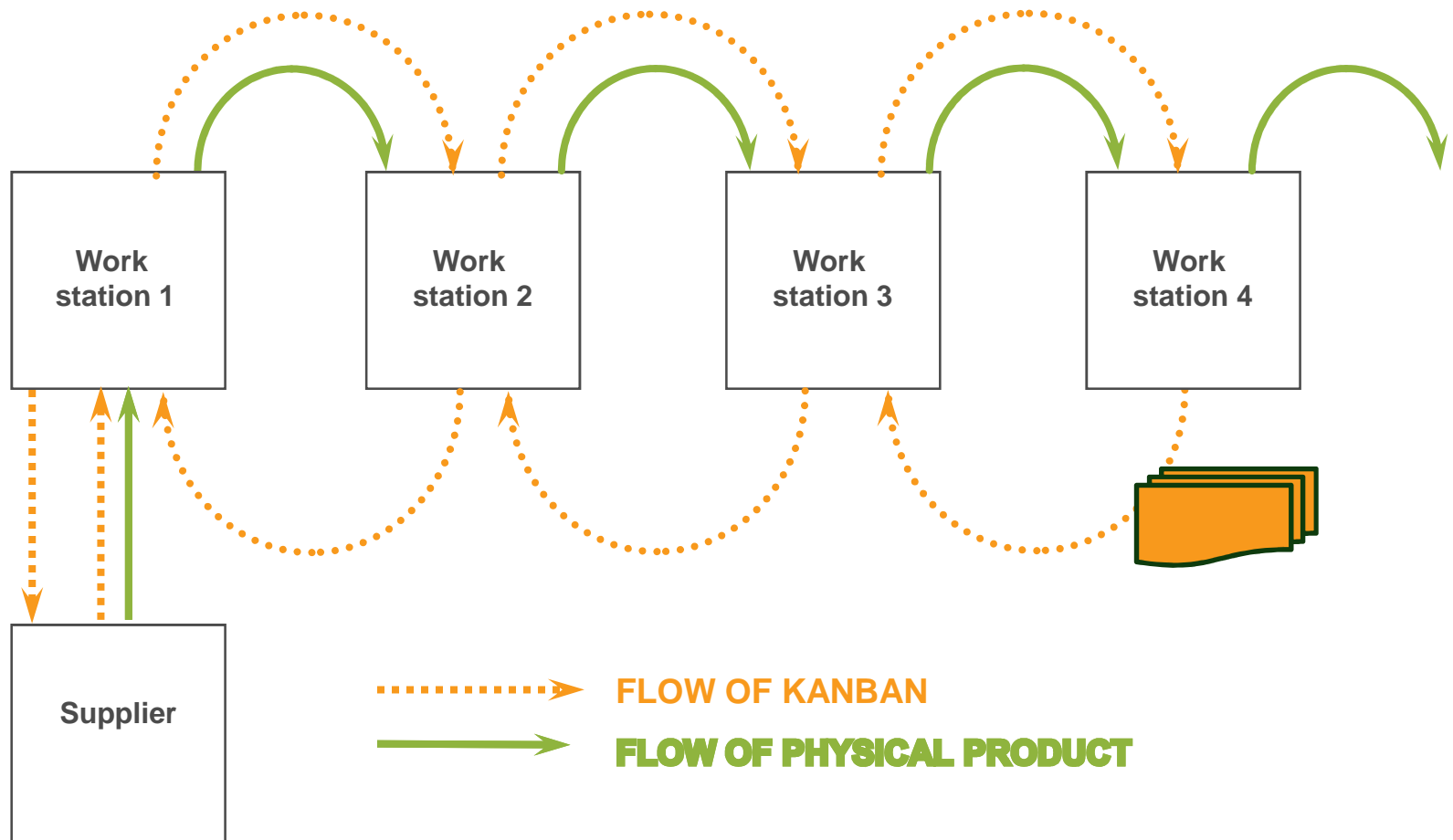
The Southwest Manufacturing Advisory Service

Kanban

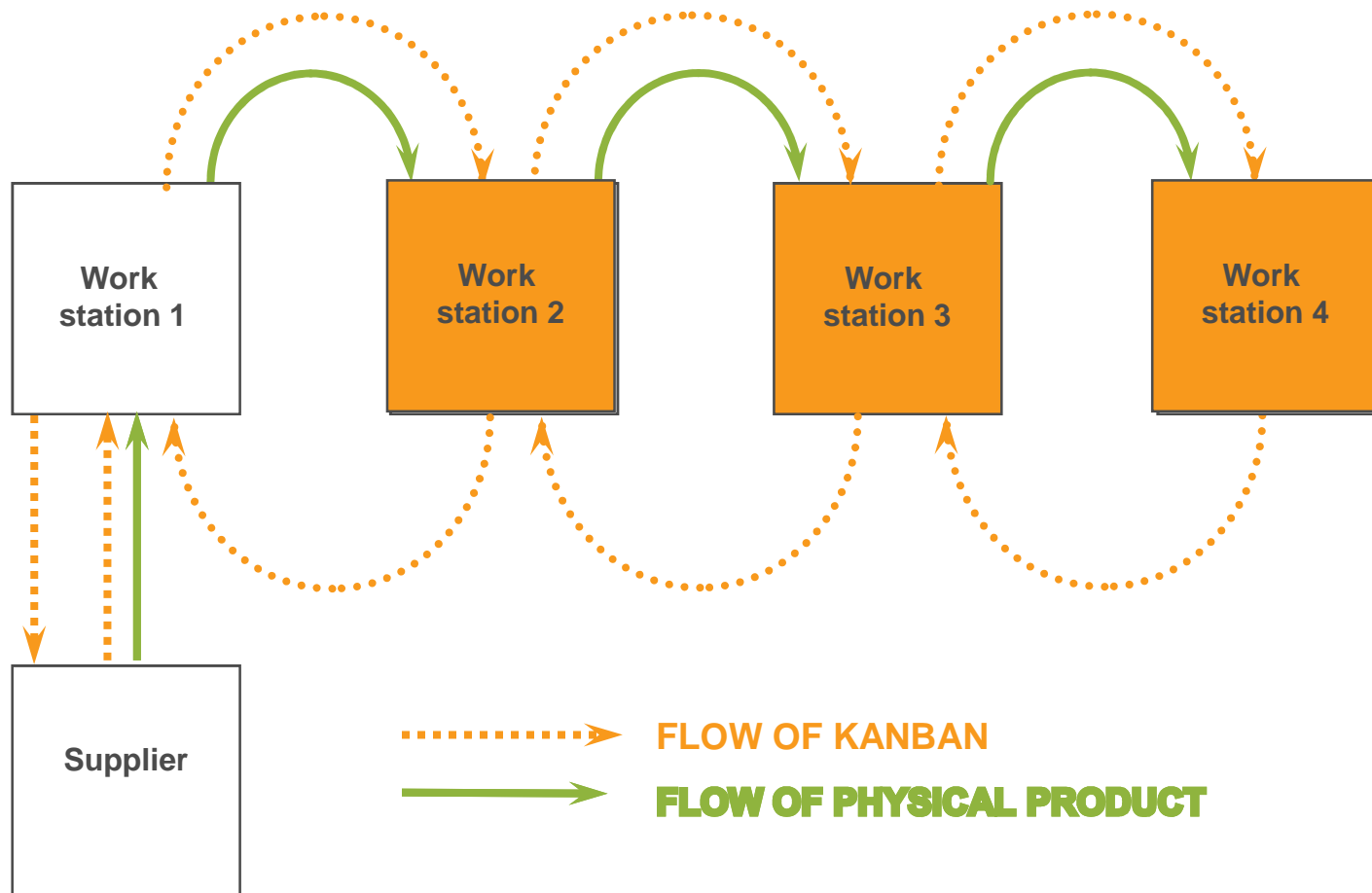
- System for pull production
- “kan” = card
- “ban” = signal



Kanban system



Imagine a machine breakdown in a Kanban system



Andon

- Operators pull the cord to signal problems



Andon

- Information board visible to everyone



LINE PRODUCTION INFORMATION BOARD

PANEL NO:	EFF(TAR)	940 %	DATE		
057611	EFF(ACT)	100 %	2303		
GSPH	TAR.	0464	CYCLE TIME (SEC.)	TAR.	645
	ACT.	0520		ACT.	608
	AVE.	4304	A D C	TAR.	347
TOTAL STROKE	TAR.	0240	(MIN.)	ACT.	268
	ACT.	0178	L.STOP (MIN.)	CUR.	000
				TOT.	402

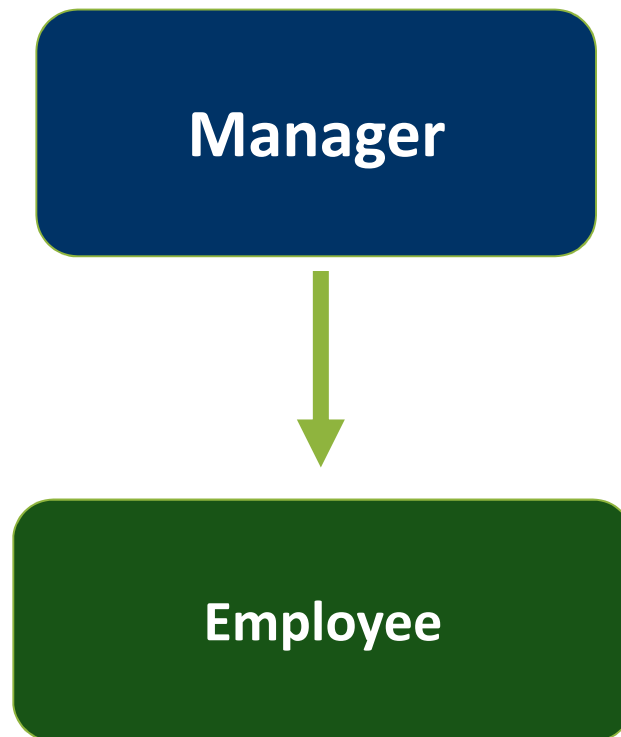
Andon

- the traditional meaning

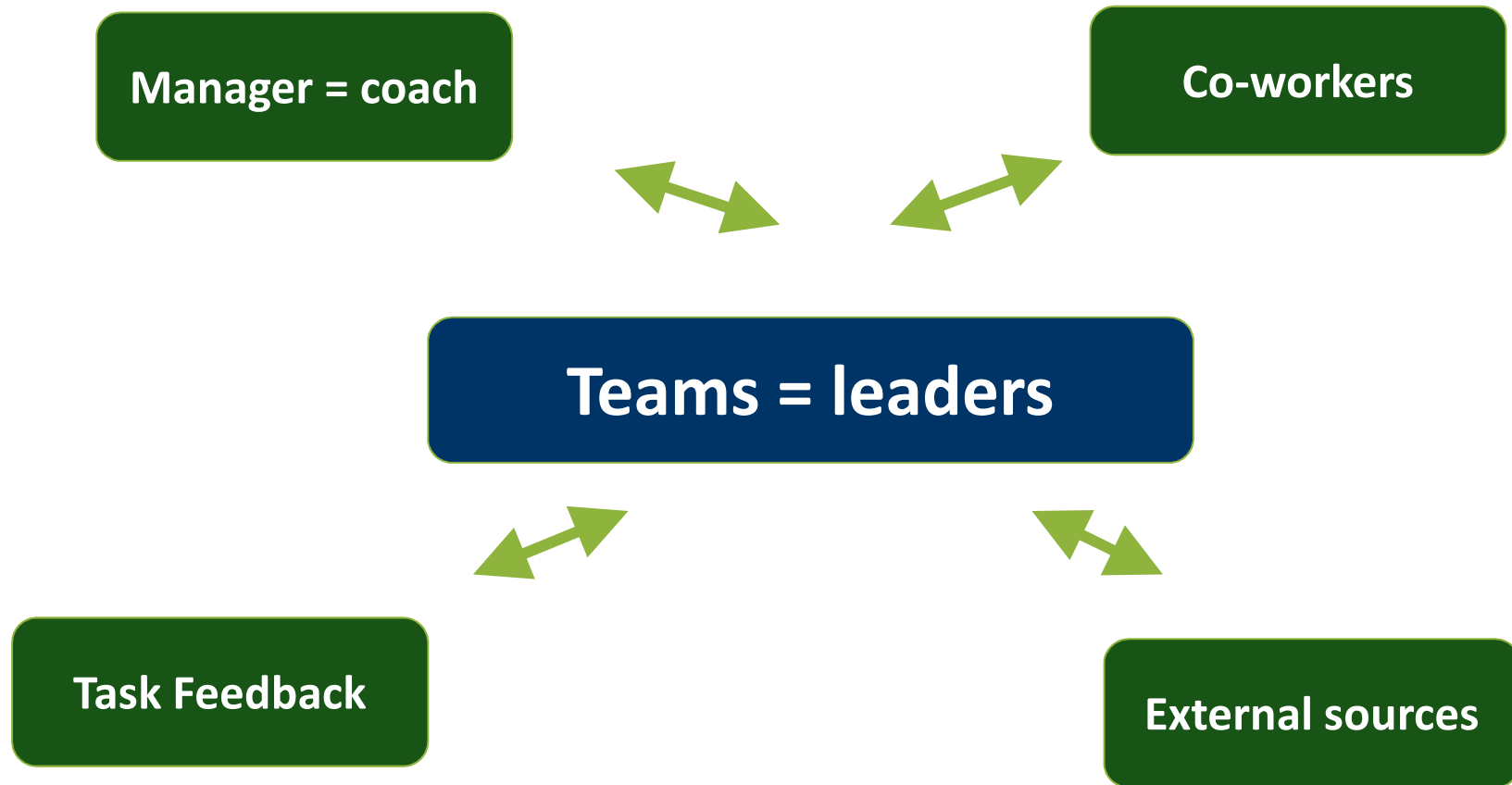


Enemy n°3: The Manager

■ Leadership in the past

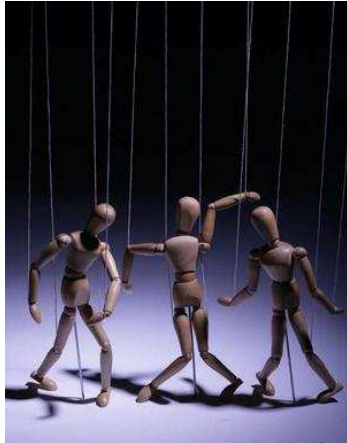


Leadership in the future



Employee:
others
control my
destiny

Employee: I
control my
own destiny



Locus of control

Manager:
I have the
power

Manager:
I have to
empower

Let me prove what I can do

Effort/struggle indicates low ability

Mistakes reveal lack of talent

SETBACK

I think I'd like to do something else...

Challenges test my abilities

Entity vision



Anxiety, avoidance

Let me improve what I can do

Effort/struggle develops my ability

Mistakes reveal inadequate effort or strategies

I need to try harder and/or a different approach...

Challenges stretch by abilities

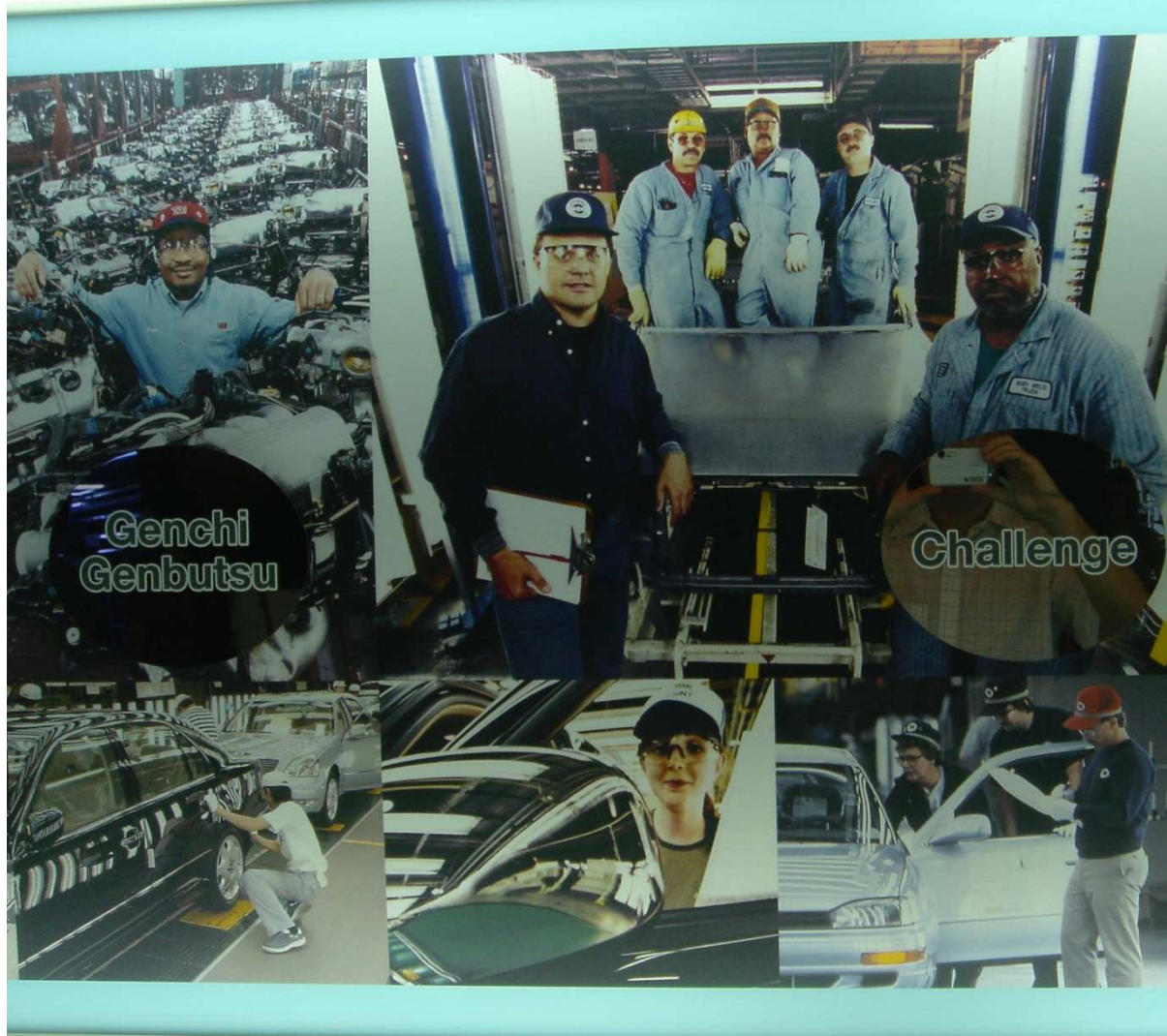
Growth vision



Satisfaction, engagement



Kaizen as part of the TPS philosophy



Continuous Improvement

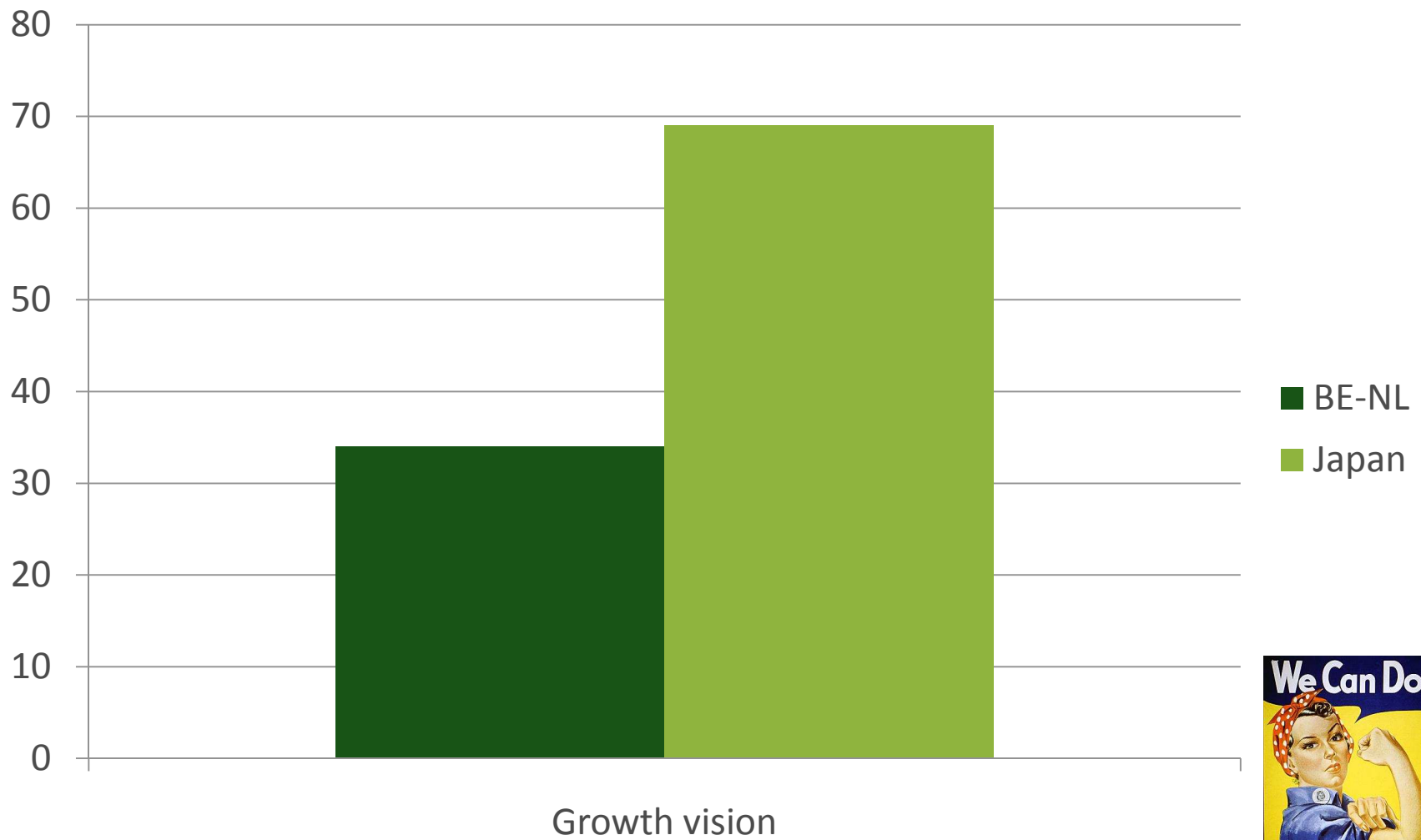
知恵と改善
智慧与改善

高い目標を掲げて、知恵を絞り、絶え間なく改善を続ける。この継続的な改善の実践により、品質と効率の向上が達成できると考えます。

We set high targets, and then push ourselves to achieve them through a process of continuous improvement called "kaizen".

树立远大目标, 开动脑筋不断进行改善。我们认为, 通过这样持续不断的改善, 可以保证质量, 提高效率。

Growth vision



Can a growth vision on development be developed?

■ Yes!

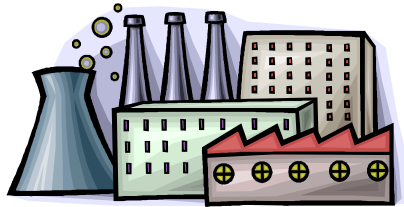
- Through self-awareness
- Through training: Error Management Training, Self-management training
- Through coaching
- Stop thinking about satisfaction surveys as snapshots, start thinking dialogue
- IT support (web-forums, chat, employee-owned 360° feedback)



Example of lean supply chain practices

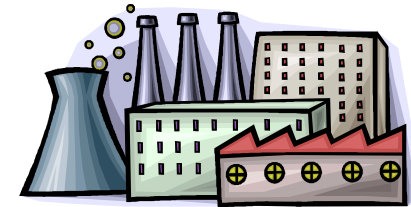
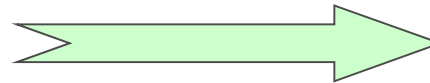
Vendor-Managed-Inventory (VMI)

Vendor-Managed Inventory



supplier

better forecasts (POS)
lower inventory
less errors in orders placed
leveling of production
capacity



customer

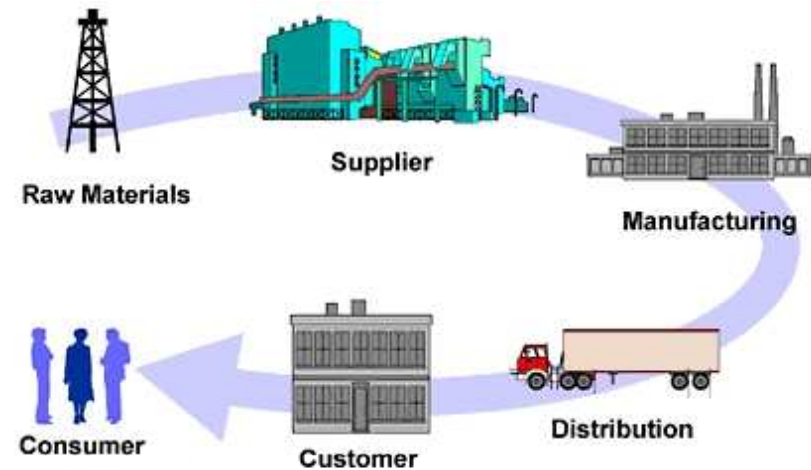
less stock-out
lower inventory
better service level
lower planning & ordering
costs

Examples of HR across boundaries

- 360° feedback incl. Suppliers
- Performance metrics across organizational boundaries
- Cross Company Compensation & Benefits
- Collaboration in Selection & Recruitment
- Training Consortia
- Other?

If collaboration goes beyond the firm's boundaries

- “Improved collaboration needs to become part of your firm's DNA.
- The journey should be fun; but anyone who believes it is an easy road to travel is best advised to leave it alone.”



Taken from Cordon and Vollmann, The Power of Two

Discussion



- Thank you for your attention
- We invite
 - your questions.
 - your comments.
 - your experiences.

A selection of references



Richard Schönberger, 'Best Practices in Lean Six Sigma Process Improvement: A deeper look', John Wiley & Sons, 2007.

Cordon and Vollmann, 'The Power of Two', Palgrave Macmillan, 2008.

Coens & Jenkins. "Abolishing Performance Appraisals. Why they backfire and what to do instead.", Berrett & Koehler, 2000.

Fisher, Graham, Vachon & Vereecke, 'Don't miss the boat: Research on HRM and supply chains', in Human Resource Management, Vol. 49 nr 5, pp 813-828, September/October 2010.

Hines, Found, Griffiths & Harrison, 'Staying Lean: Thriving, not just surviving', Lean Enterprise Research Center, 2008.