International
LEAN HEALTHCARE CONFERENCE
15 - 16 August 2023 | The Everly Putrajaya | Inspiring Lean Thinking, Enhancing Value to Patients

Organizational Changes Through Lean

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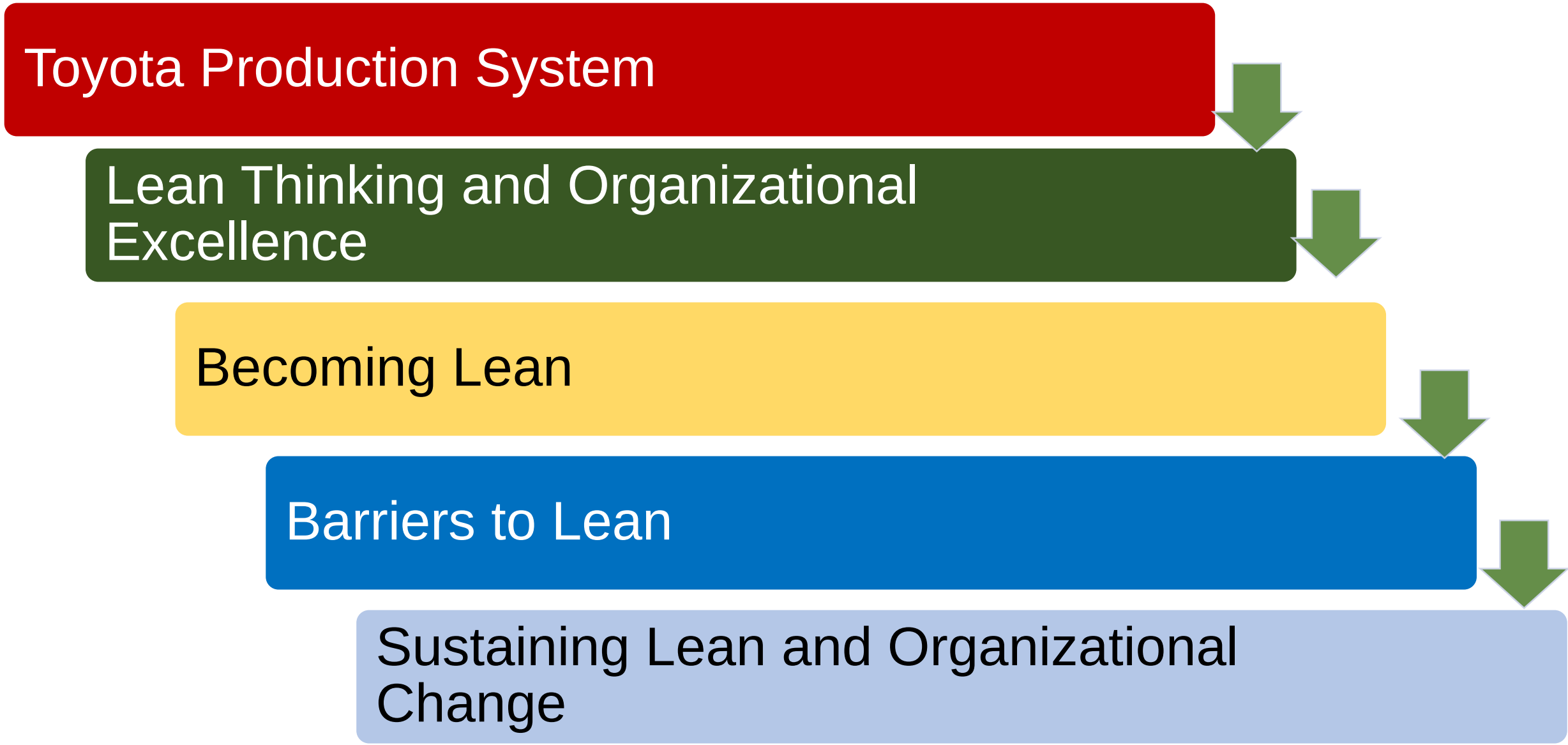
Meiji University
16 August 2023

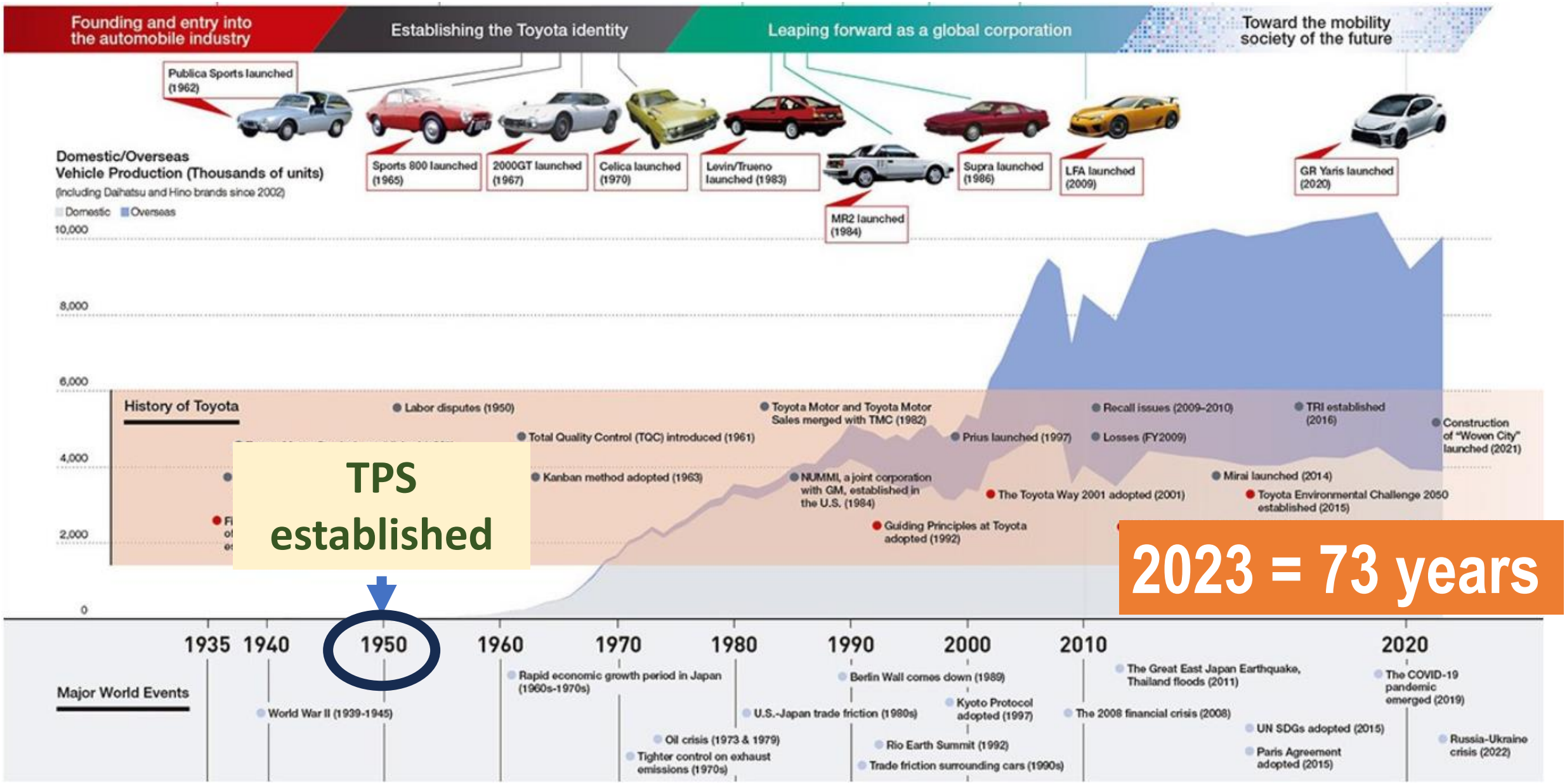
MEIJI UNIVERSITY

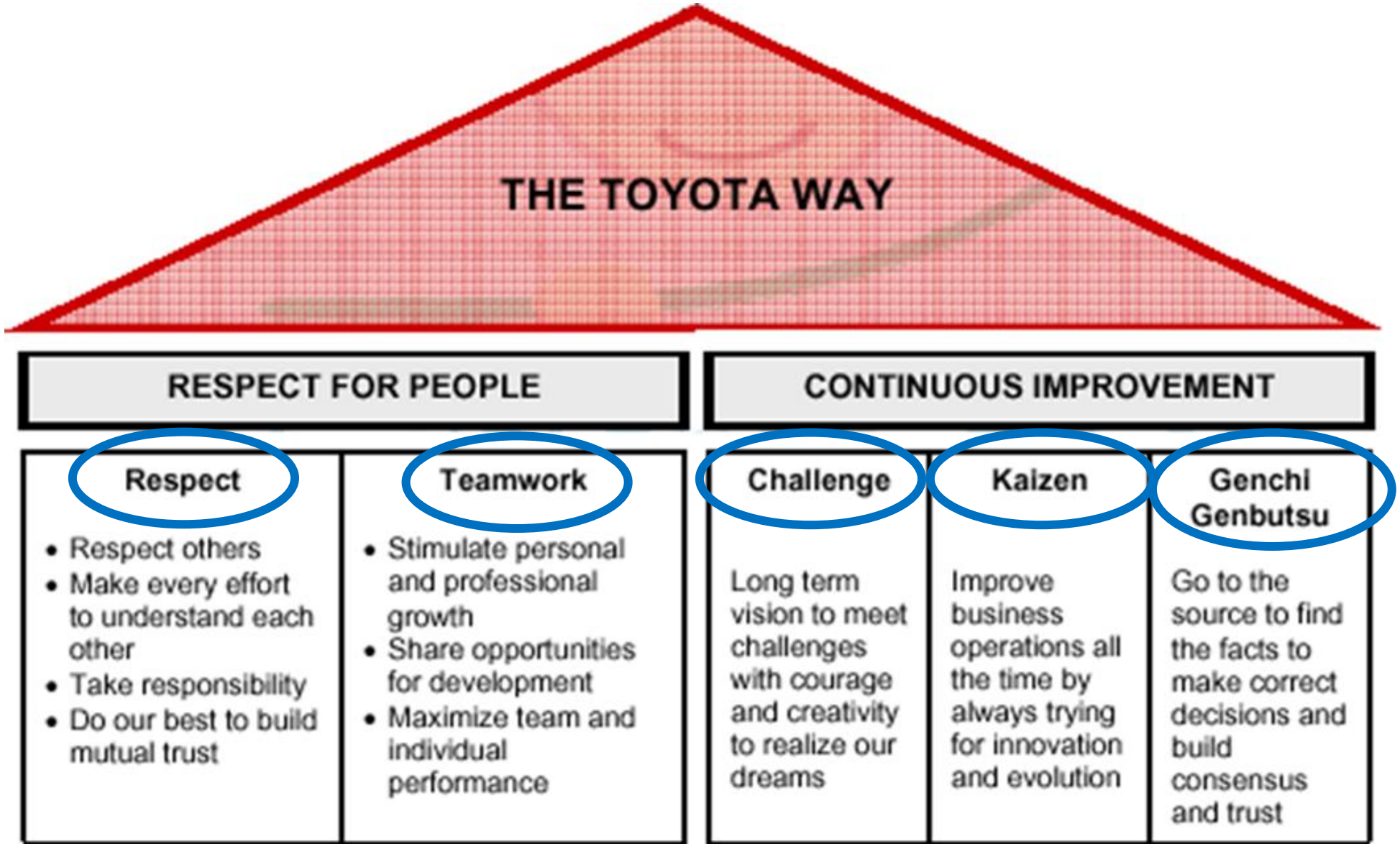
Flow of Talk


Toyota Production System
Lean Thinking and Organizational Excellence
Becoming Lean
Barriers to Lean
Sustaining Lean and Organizational Change

Toyota Production System

History of Toyota Journey to Excellence



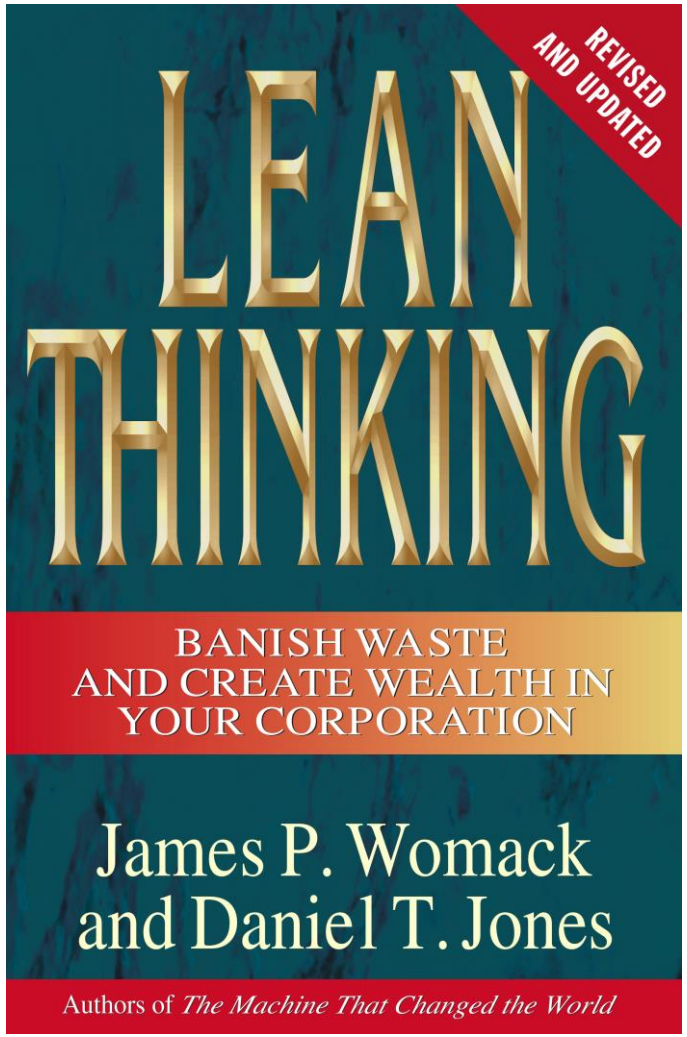

THE TOYOTA WAY
RESPECT FOR PEOPLE
CONTINUOUS IMPROVEMENT
Respect
Respect others
Make every effort to understand each other
Take responsibility
Do our best to build mutual trust
Teamwork
Stimulate personal and professional growth
Share opportunities for development
Maximize team and individual performance
Challenge
Long term vision to meet challenges with courage and creativity to realize our dreams
Kaizen
Improve business operations all the time by always trying for innovation and evolution
Genchi Genbutsu
Go to the source to find the facts to make correct decisions and build consensus and trust

DNA of Toyota Production System

- **Rule 1 : How People (Toyota Employee) Work?**
  - Standards, Procedures, Specifications, Work Instructions, Rigid but Changing – Continuous Improvement
- **Rule 2 : How People Connect ?**
  - Andon, Kanban, Communication Channels
- **Rule 3 : How Production Line Connected ?**
  - Arrange ensure piece flow, Cell production, Innovation, Set Part System
- **Rule 4 : How to Improve ?**
  - Toyota Business Process 8 Steps , Problem solving, Innovation Competition

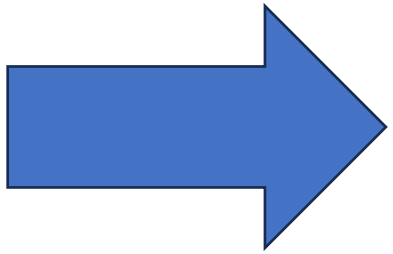
Source: Decoding the DNA of the Toyota Production System by Steven Spear and H. Kent Bowen, HBR Sept1999

Lean Thinking and Organizational Excellence



Lean Thinking

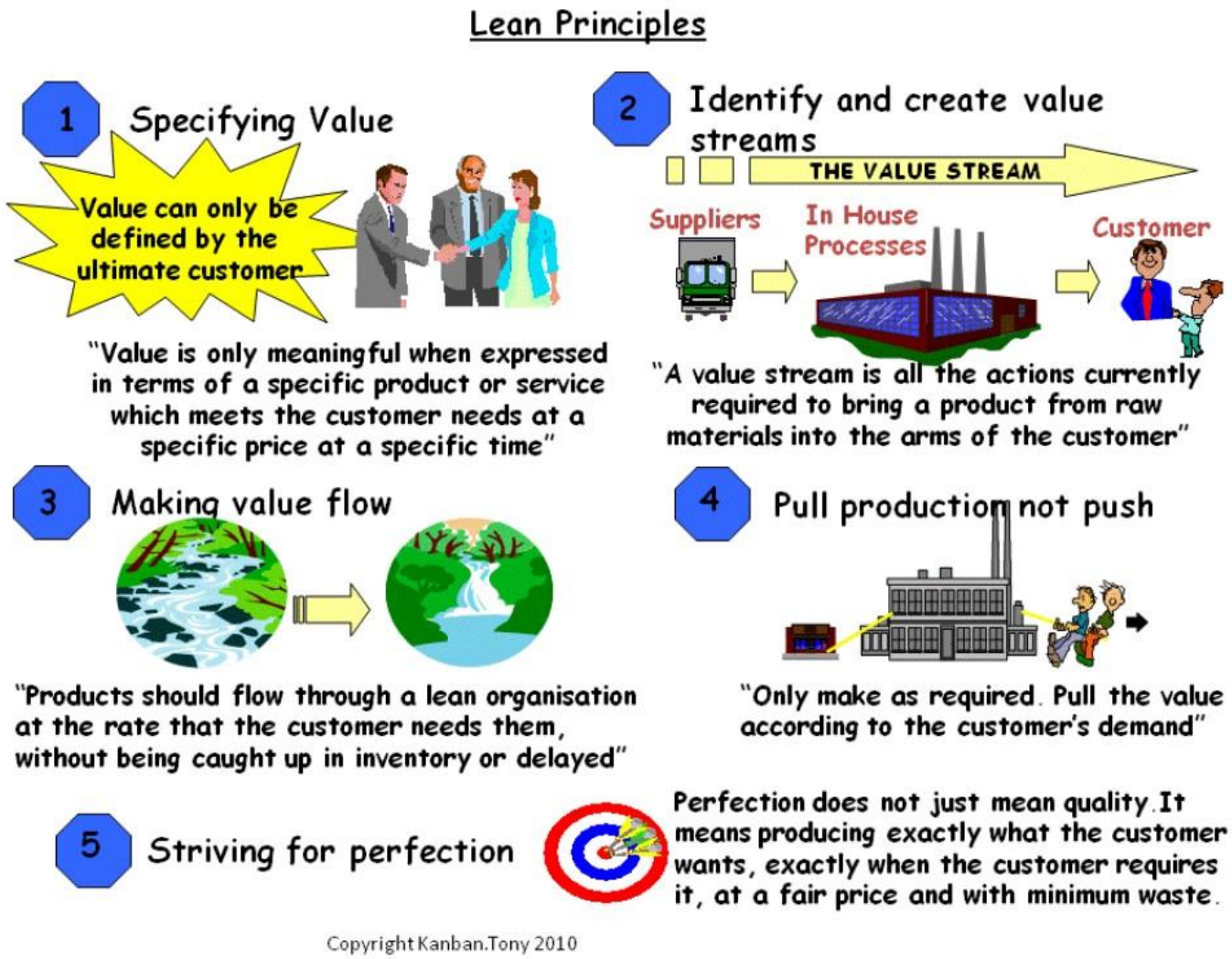
- A **mindset** and a **methodology** from TPS
- Aims to eliminate **waste**, **optimize value**, and **improve processes** in any organization – faster, better, cheaper, easier



Achieving Organizational and Operations Excellence

Lean Thinking Principles

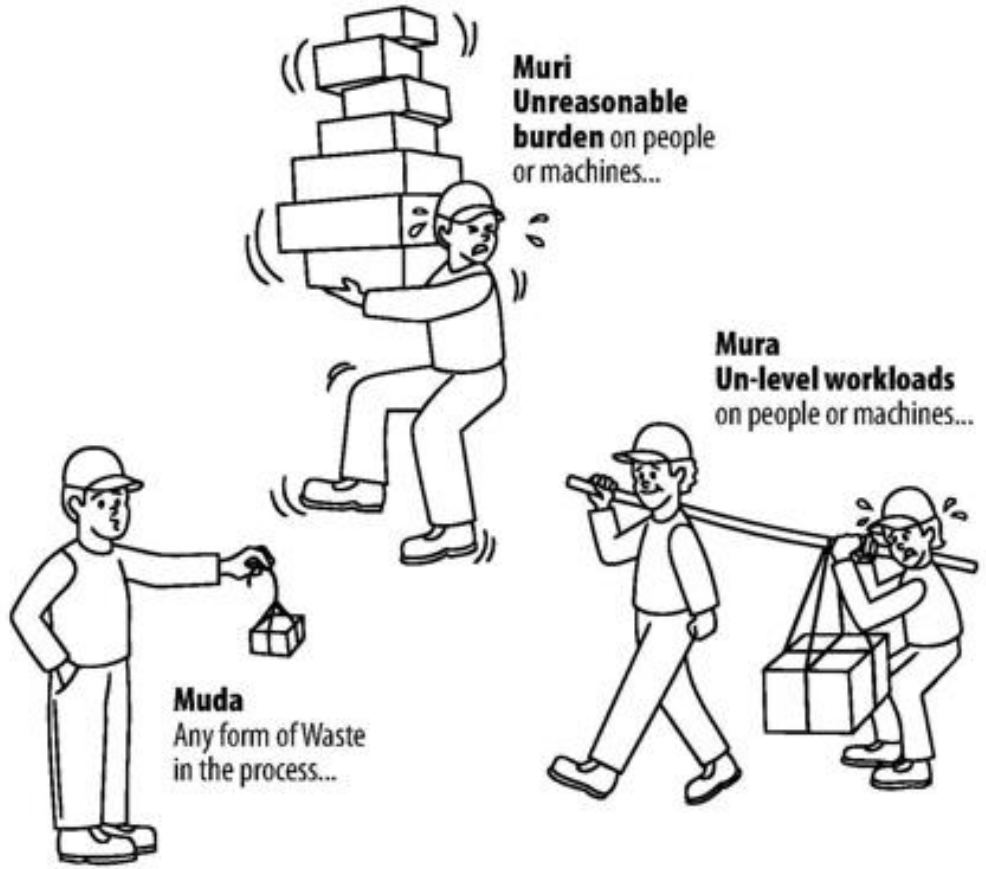
- **Specify Value**
- **Identity and create value streams**
- **Make value flow**
- **Pull process – pull patients (NOT PUSH)**
- **Strive for Perfection (Excellence)**



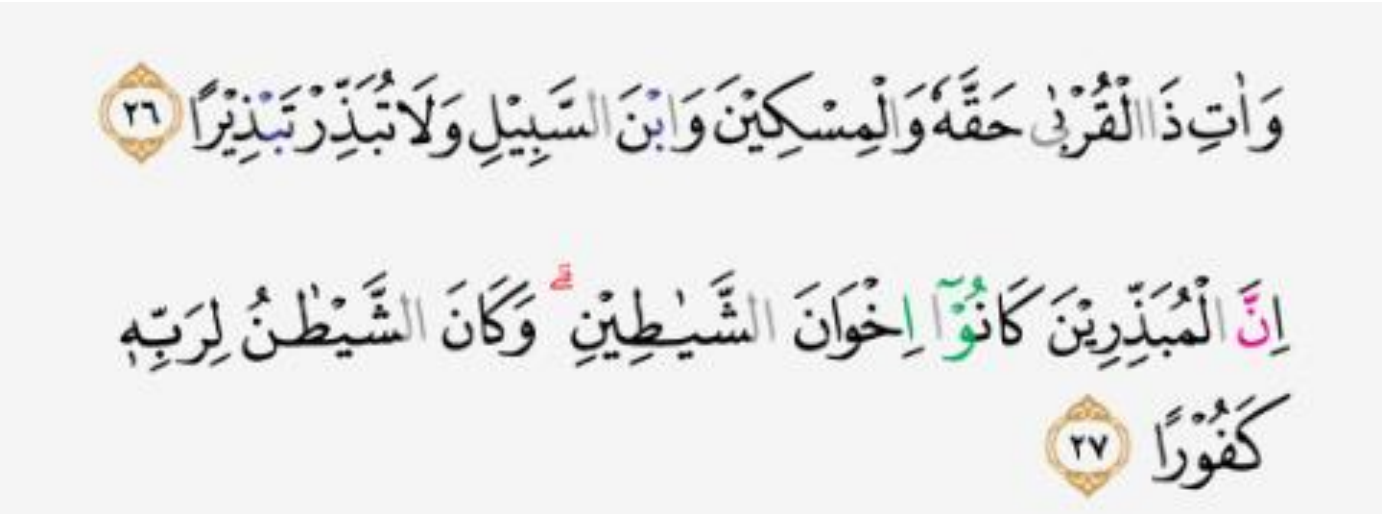
Lean Creates Efficient and Effective Work Processes - Constant Search for Better Ways

Does it ADD Value?

Muda is Japanese word = WASTE



Waste according to Islam


وَاٰتِ ذَا الْقُرْبٰى حَقَّهٗ وَالْمِسْكِيْنَ وَابْنَ السَّبِيْلِ وَلَا تُبَذِّرْ تَبْذِيْرًا ﴿٢٦﴾

اِنَّ الْمُبَذِّرِيْنَ كَانُوْٓا اِخْوَانَ الشَّيٰطِيْنِ ۭ وَكَانَ الشَّيْطٰنُ لِرَبِّهٖ كَفُوْرًا ﴿٢٧﴾

And give the relative his right, and [also] the poor and the traveler, and do not spend wastefully (Israk:26)

Indeed, the wasteful are brothers of the devils, and ever has Satan been to his Lord ungrateful (Israk:27)

Waste according to Islam

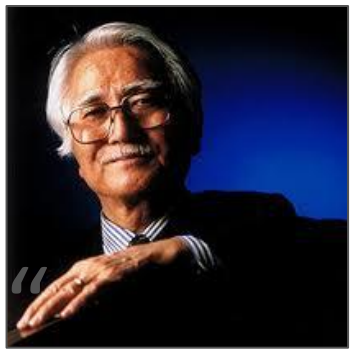
Ablution - Wuduk (washing before prayers)

- 'Abdullah ibn 'Umar narrated that the Messenger of Allah passed by Sa'd while he was performing ablution and said, "What is this extravagance, Sa'd?" He said, "Is there **extravagance (WASTE)** in the use of water?" He said, "Yes, even if you are at a flowing river." (Related by Ahmad and Ibn Majah with a weak chain.)

改 KAI=Change

善 ZEN=Good

“how can we improve something today?”



‘Kaizen is not only continuous improvement.

It is more than that. It is actually **everyday, everywhere, everyone improvement**.’

MASAAKI IMAI

Lean Guru, Founder of Kaizen Institute

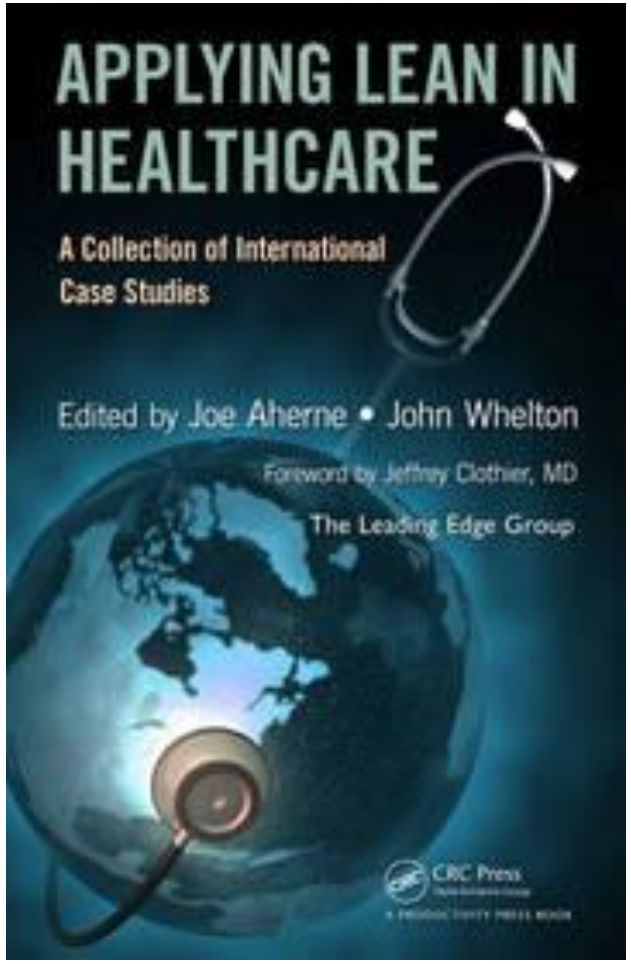
Kaizen

Too **many people just assume that things are all right the way they are**. But that way may not be the right way. Kaizen is about **changing the way things are**. If you assume that things are all right the way they are, you can't do kaizen. So change / improve something!

TAIICHI OHNO

Father of Toyota Production System

Becoming Lean



Lean Thinking

- Implementing lean principles and practices is **not always easy**
- Requires changing the **way people work**, **think**, and **communicate**
- How do you handle **resistance and change management** when implementing lean principles and practices?

How we work

Kaizen (incremental improvements) or Innovate (Big change)

How we communicate

How we think

How to overcome or reduce Resistance to Change and Manage Change in Lean Implementation

Need Strategy, Framework and Efforts (Suitable to Stipulated Conditions and Situations of Hospitals – Public, Private, Specialists, Teaching) and many other Factors.

ONE SIZE DOES NOT FIT ALL

1. Assess current state

Britannica Dictionary definition of

ASSESS [+ object]

•**:** to **make a judgment about** (something)The school will *assess* [=*evaluate*] the students' progress each year.

•After the hurricane, officials *assessed* the town's need for aid.

•*assess* a problem

•We **need to *assess* whether or not the system is working**.

•*assess* the situation/danger/impact/severity

Organization

State of existing processes

Culture and Practices

Want to understand our existing systems, situations, and work practices – need to go to **Genba** (place of action) = Genba Genbetsu

1. Assess current state

Use **tools** such as VSM, genba walks, and **root cause analysis** to identify the **sources of waste**, **inefficiency**, and variation in your operations

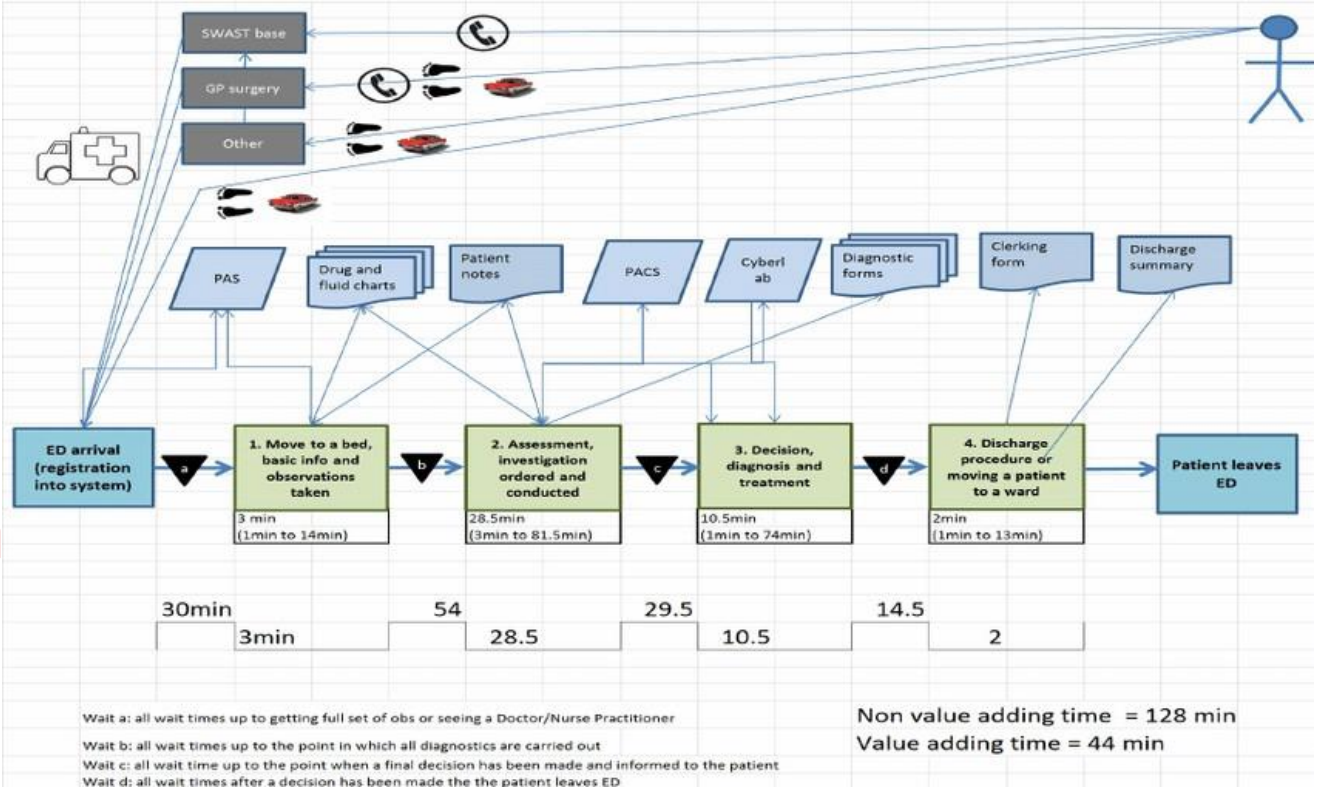


Table 3.4 The Eight Types of Waste

Type of Waste	*Brief Description*	**Examples in Hospital**
Defects	Time spent doing something incorrectly, inspecting for errors, or fixing errors	Surgical case cart missing an item; wrong medicine or wrong dose administered to patient
Overproduction	Doing more than what is needed by the customer or doing it sooner than needed	Doing unnecessary diagnostic procedures
Transportation	Unnecessary movement of the "product" (patients, specimens, materials) in a system	Poor layout, such as the catheter lab being located a long distance from the ED
Waiting	Waiting for the next event to occur or next work activity	Employees waiting because workloads are not level; patients waiting for an appointment
Inventory	Excess inventory cost through financial costs, storage and movement costs, spoilage, wastage	Expired supplies that must be disposed of, such as out-of-date medications
Motion	Unnecessary movement by employees in the system	Lab employees walking miles per day due to poor layout
Overprocessing	Doing work that is not valued by the customer or caused by definitions of quality that are not aligned with patient needs	Time/date stamps put onto forms, but the data are never used
Human potential	Waste and loss due to not engaging employees, listening to their ideas, or supporting their careers	Employees get burned out and quit giving suggestions for improvement

Need to Identify ALL forms of Wastes in Our Processes

https://www.leanblog.org/eight-types-of-waste-in-healthcare/

1. Assess current state

- Other things to assess
  - **Level of awareness**
  - **Readiness**
  - **Commitment** of stakeholders, including customers, employees, managers, and suppliers

Use surveys, interviews, focus groups, and observation to measure attitudes, expectations, and concerns

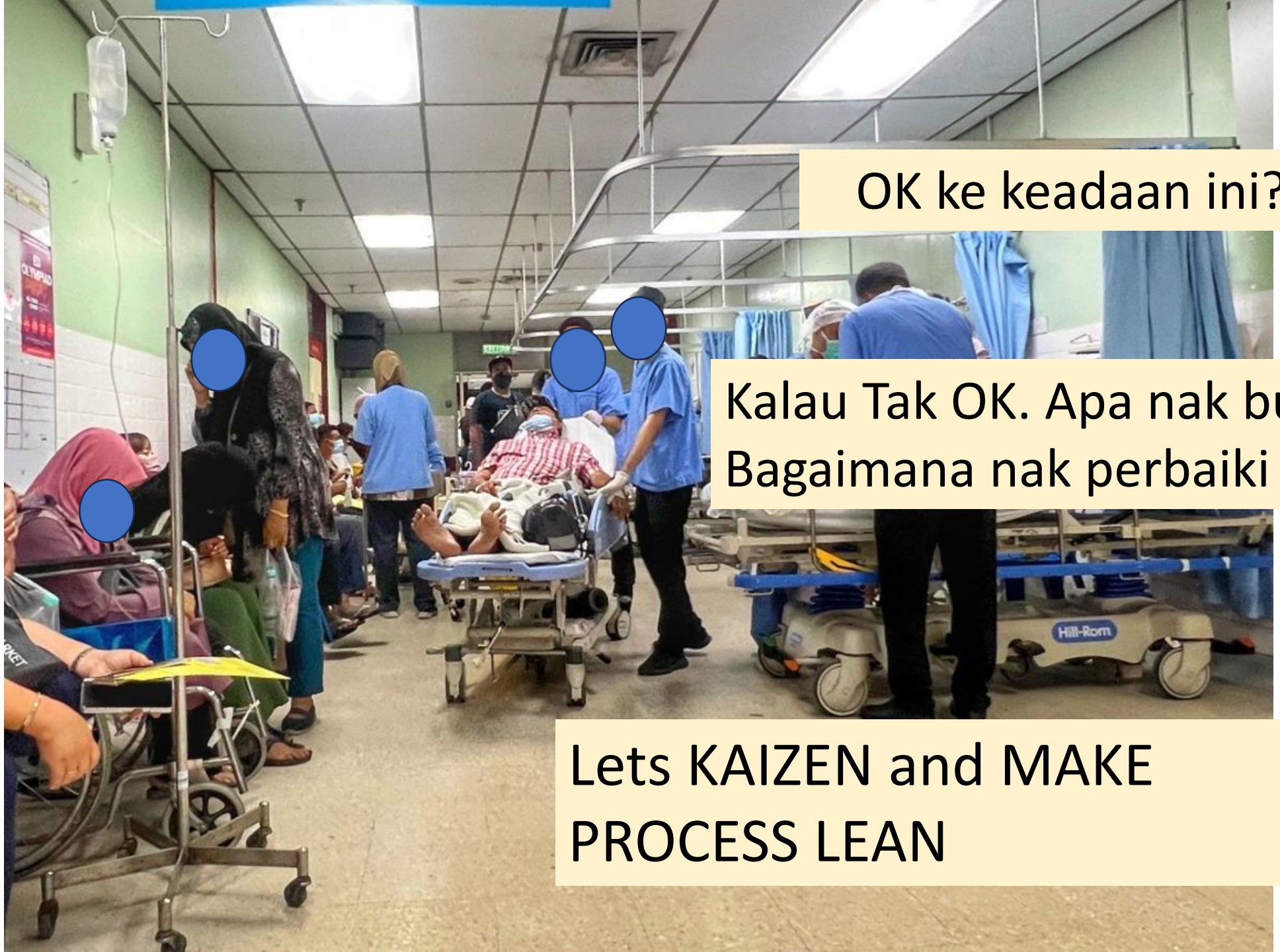
2. Communicate the vision and benefits

- One of key reasons why people resist change is they don't understand the **purpose**, the **benefits**, and the **impact of the change**
- **"what will we gain?"**

1. **Improving patient outcomes – reduce errors, waiting times**
2. **Enhancing patient safety**
3. **Reduce time and effort required to complete tasks**
4. Deliver quality healthcare, reduce wastage of resources
5. **Enhancing staff satisfaction and improved staff efficiency**
6. **Meeting regulatory requirements**

2. Communicate the vision and benefits

- **Create the vision** and benefits clearly, consistently, and frequently to your stakeholders
- Explain **why lean thinking** is important for your organization
- **Goals and objectives**



OK ke keadaan ini?

Kalau Tak OK. Apa nak buat ?
Bagaimana nak perbaiki ?

Lets KAIZEN and MAKE PROCESS LEAN

BEFORE KAIZEN

AFTER KAIZEN

2. Communicate the vision and benefits

- Need to address any **myths, misconceptions, or fears** that they may have about lean thinking.

Myth 1: "Lean is primarily about doing more with less, which means reducing cost. It's an efficiency programme."

Myth 2: "Lean describes the specific tools and methods that Toyota uses, so we should copy them."

Myth 3: "It requires an incredible amount of discipline that westerners simply don't have."

Myth 4: "Lean prevents problems from happening."

Myth 5: "Lean works best in manufacturing environments".

https://thegemba.com/article/lean-myths-jeffrey-liker

What is it that Toyota really does?

Ohno replied,

"The Toyota style is **not to create results by working hard**. It is a system that says there is no limit to people's creativity. **People don't go to Toyota to 'work'; they go there to 'think'."**

Taiichi Ohno,
Father of the Toyota Production System

3. Involve and empower the people

- Why people resist change? Feel excluded, threatened, or powerless
- Need **to involve and empower people affected by change**, and **make them part of the solution**
- Create cross-functional teams, get feedback and suggestions
- Provide **training and coaching**, delegate authority and responsibility
- Create a culture of **trust, respect, and collaboration**, where people can **share ideas, opinions, problems openly** and **constructively**

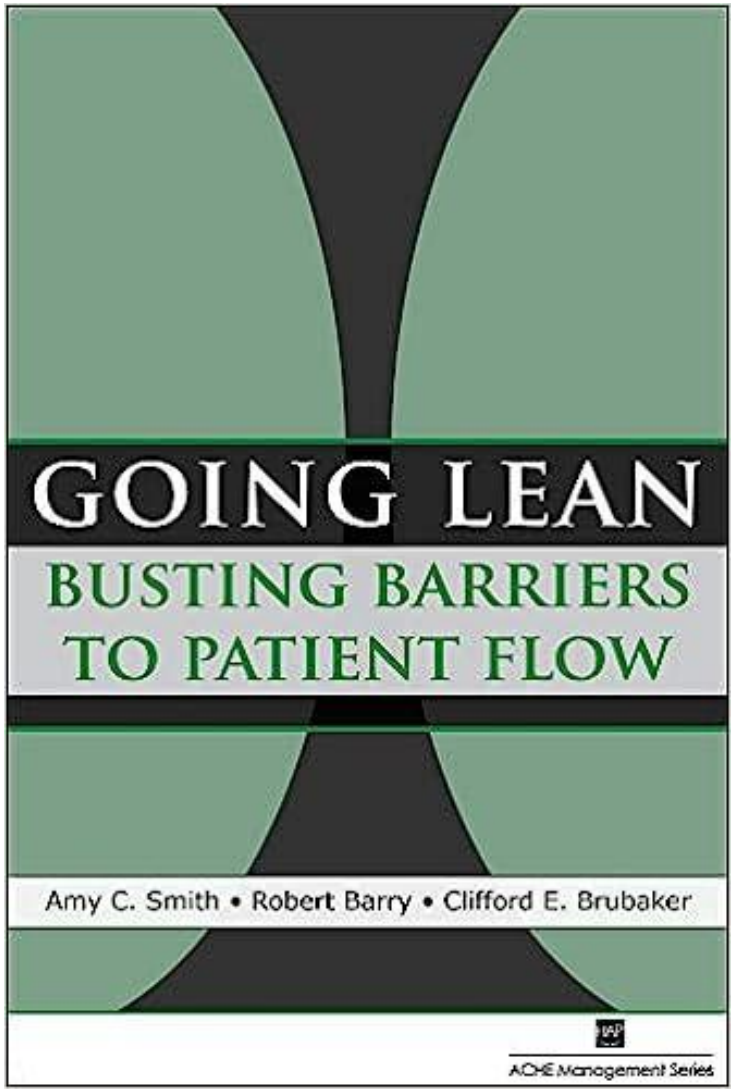
4. Implement and sustain the change

- Next, need to implement and sustain the change
- Use tools - kaizen events, standard work, visual management, and 5S to execute and monitor the change initiatives
- Measure and evaluate results - relevant KPIs, metrics, and feedback
- Celebrate successes, learn from failures + continuously improve
- Reinforce the change by **embedding lean principles and practices into policies, procedures, and culture of your organization.**

5. Adapt and innovate

- Lean **not a one-time project**, but a continuous journey
- Need to **adapt and innovate** as organization, environment, and customers change
- Need to **keep experimenting, testing, and learning** from your experiences
- Need to **keep applying the lean principles** and practices to every aspect of your organization
- Strive for excellence

Barriers to Lean



TEST Engineering & Management

January - February 2020
ISSN: 0193 - 4120 Page No. 1972 - 1981

The Barriers in Lean Healthcare Implementation

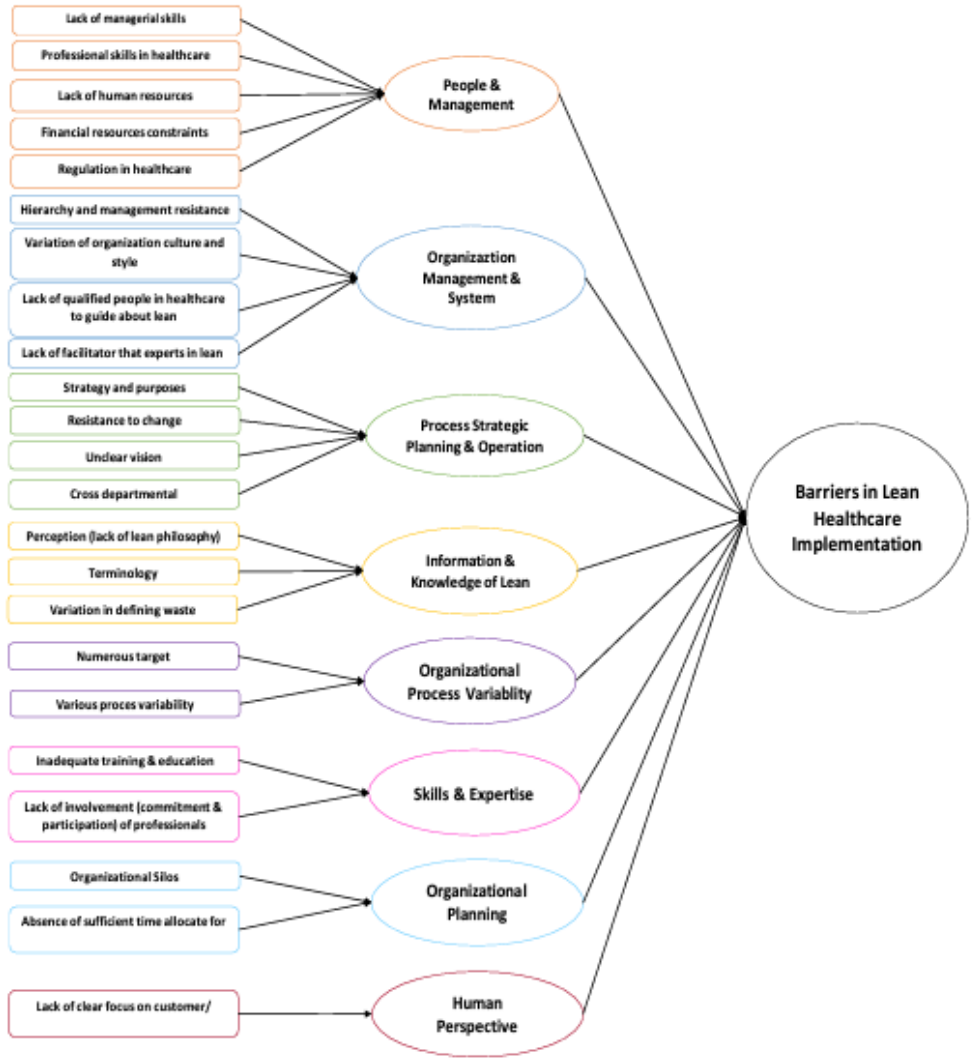
M. D. Mohd Amran[1], *Fatihhi Januddi[2], *S. Nuraina[3], A.W. Mohamad Ikbar[4], S. Khairanum[5]

[1,3,4,5]Quality Engineering Research Cluster, Quality Engineering Section, Malaysian Institute of Industrial Technology, Universiti Kuala Lumpur.
[2]Facilities Maintenance Engineering Section, Malaysian Institute of Industrial Technology, Universiti Kuala Lumpur.
*Corresponding Authors

Rank of Barriers (item)

1. (B3) **Lack of qualified people in healthcare service** to teach or guide about lean transition
2. (C3) **Lack of outside facilitator who is expert in lean** to guide the lean transition in healthcare service
3. (G1) **Perception** (lack of philosophy and knowledge in lean in healthcare)

"concluded that absence of these three crucial factors will significantly lead towards failure along lean initial project implementation in healthcare" in Malaysia



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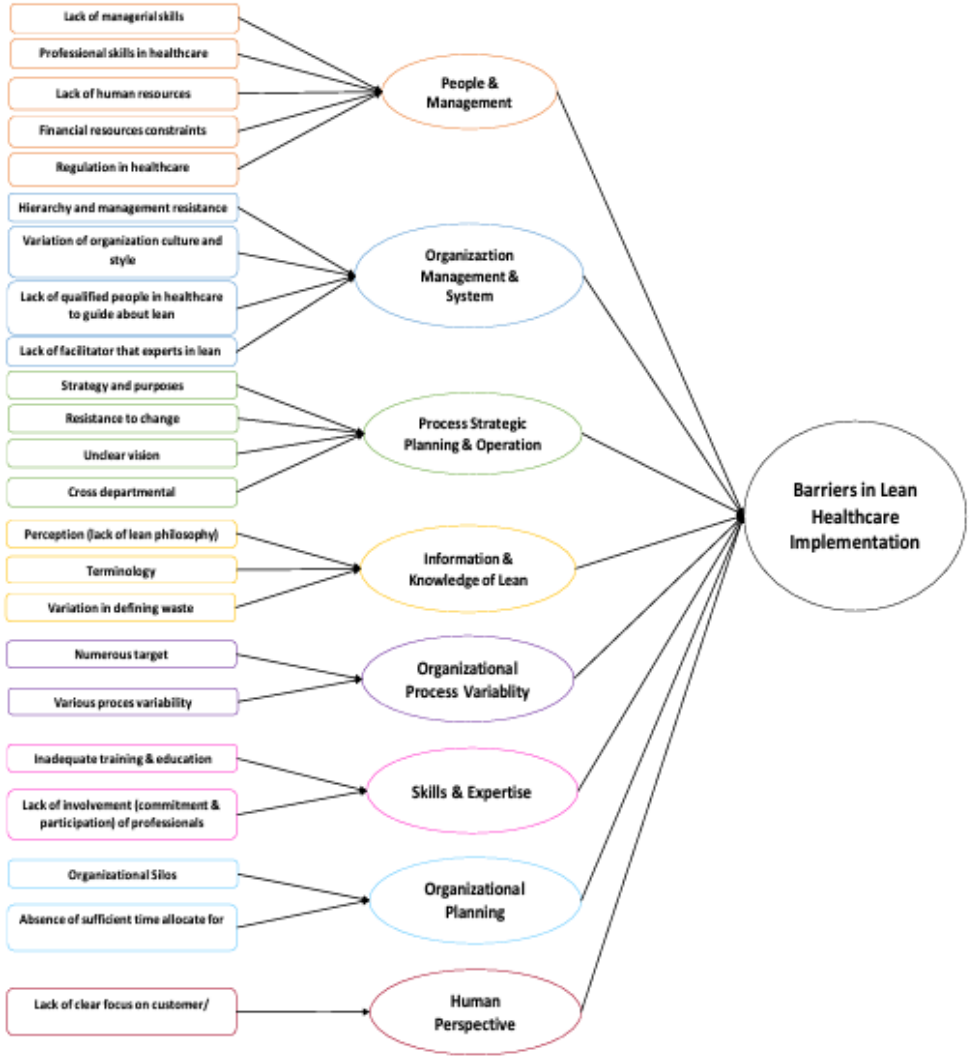
[2]Facilities Maintenance Engineering Section, Malaysian Institute of Industrial Technology, Universiti Kuala Lumpur.
*Corresponding Authors

Rank of Barriers (Construct)

1. **Leadership empowerment** (B) "absence of leadership empowerment in healthcare environment will hinder lean healthcare transition".
2. **Employee empowerment and involvement** (D)
3. **Information and knowledge about lean** (C) "absence of these three significant factors will extremely affect initial lean transition"



LEAN HEALTHCARE IMPLEMENTATION IN MALAYSIAN SPECIALIST HOSPITALS: CHALLENGES AND PERFORMANCE EVALUATION

Noris NJ[1], Indera Putera KAS[2], Libasin Z[1], and Krishnan M[1].
[1]Institute for Health Systems Research, Ministry of Health, Block B2, National Institutes of Health (NIH), No. 1, Jalan Setia Murni U13/52, Seksyen U13 Setia Alam, 40170 Shah Alam, Selangor, Malaysia
[2]Institute for Health Management, Ministry of Health, Block B1, National Institutes of Health (NIH), No. 1, Jalan Setia Murni U13/52, Seksyen U13 Setia Alam, 40170 Shah Alam, Selangor, Malaysia

Table 6: Challenges faced by hospitals during Lean implementation (Modified From Original - Percentage Added)

Rank	Barrier	Count	Percent
1	Infrastructure	16	44.4
2	Staff resistant to change	14	38.9
3	Financial restraint	13	36.1
4	Inadequate Human Resources	12	33.3
5	Silo Mentality	10	27.8
6	IT System (inadequate/ unstable)	6	16.7
	Total No Hospitals	36	

PATIENT SAFETY

Majority of patients wait longer than six hours in an emergency department to be seen by a doctor

The results of the first ever National Patient Experience Survey show that long waiting times continue to be a problem in Irish hospitals.

12.8k 49 Dec 11th 2017, 2:37 PM

OVER 70% OF patients have said they waited more than six hours to be seen by a doctor when they presented to an emergency department.

The results of the first ever National Patient Experience Survey shows that long waiting times, which have been linked with negative health outcomes, continue to be a problem in Irish hospitals.

Review Article (excluding Systematic Reviews)

INQUIRY: The Journal of Health Care Organization, Provision, and Financing
Volume 57: 1–15

DOI: 10.1177/0046958020910305
journals.sagepub.com/home/inq
SAGE

Waiting Time as an Indicator for Health Services Under Strain: A Narrative Review

Daniel McIntyre, BSc[1] and Clara K. Chow, MBBS, PhD[1,2]

Abstract

As pressure increases on public health systems globally, a potential consequence is that this is transferred to patients in the form of longer waiting times to receive care. In this review, we overview what waiting for health care encompasses, its measurement, and the data available in terms of trends and comparability. We also discuss whether waiting time is equally distributed according to socioeconomic status. Finally, we discuss the policy implications and potential approaches to addressing the burden of waiting time. Waiting time for elective surgery and emergency department care is the best described type of waiting time, and it either increases or remains unchanged across multiple developed countries. There are many challenges in drawing direct comparisons internationally, as definitions for these types of waiting times vary. There are less data on waiting time from other settings, but existing data suggest waiting time presents a significant barrier to health care access for a range of health services. There is also evidence that waiting time is unequally distributed to those of lower socioeconomic status, although this may be improving in some countries. Further work to better clarify definitions, identify driving factors, and understand hidden waiting times and identify opportunities for reducing waiting time or better using waiting time could improve health outcomes of our health services.

Keywords

waiting time, elective surgery, emergency department, primary care, inequality

NSW GOVERNMENT

CLINICAL EXCELLENCE COMMISSION

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Home ▸ CEC Academy ▸ Quality Improvement Tools ▸ Flow Charts

CEC Academy

- The Safety & Quality Essentials Pathway
- **Quality Improvement Tools**
  - Affinity Diagrams
  - Aim Statements
  - Basic Statistics
  - Brainstorming
  - Cause and Effect Diagram
  - Control Charts
  - Driver Diagrams
  - Failure Modes and Effects Analysis
  - **Flow Charts**
  - Histogram

Flow Charts

A Flow Chart provides a systematic, visual di
where things are happening, the order in which things happen and the relationships between parts of a process. A Flow Chart is recommended as the first step in almost any study. Often a Flow Chart may reveal that a process does not operate the way management or the operators in the process actually think it does.

The first step in developing a Flow Chart is a high level flow, which provides a helicopter view. The second step is a more detailed Flow Chart of all the steps that the patient may take on their journey. One way to do this is for the team to write down the current process on a whiteboard. In the example below (see Figure 1), this will involve following a patient on anticoagulants from when they first see a surgeon, admission for surgery and post-operative care.

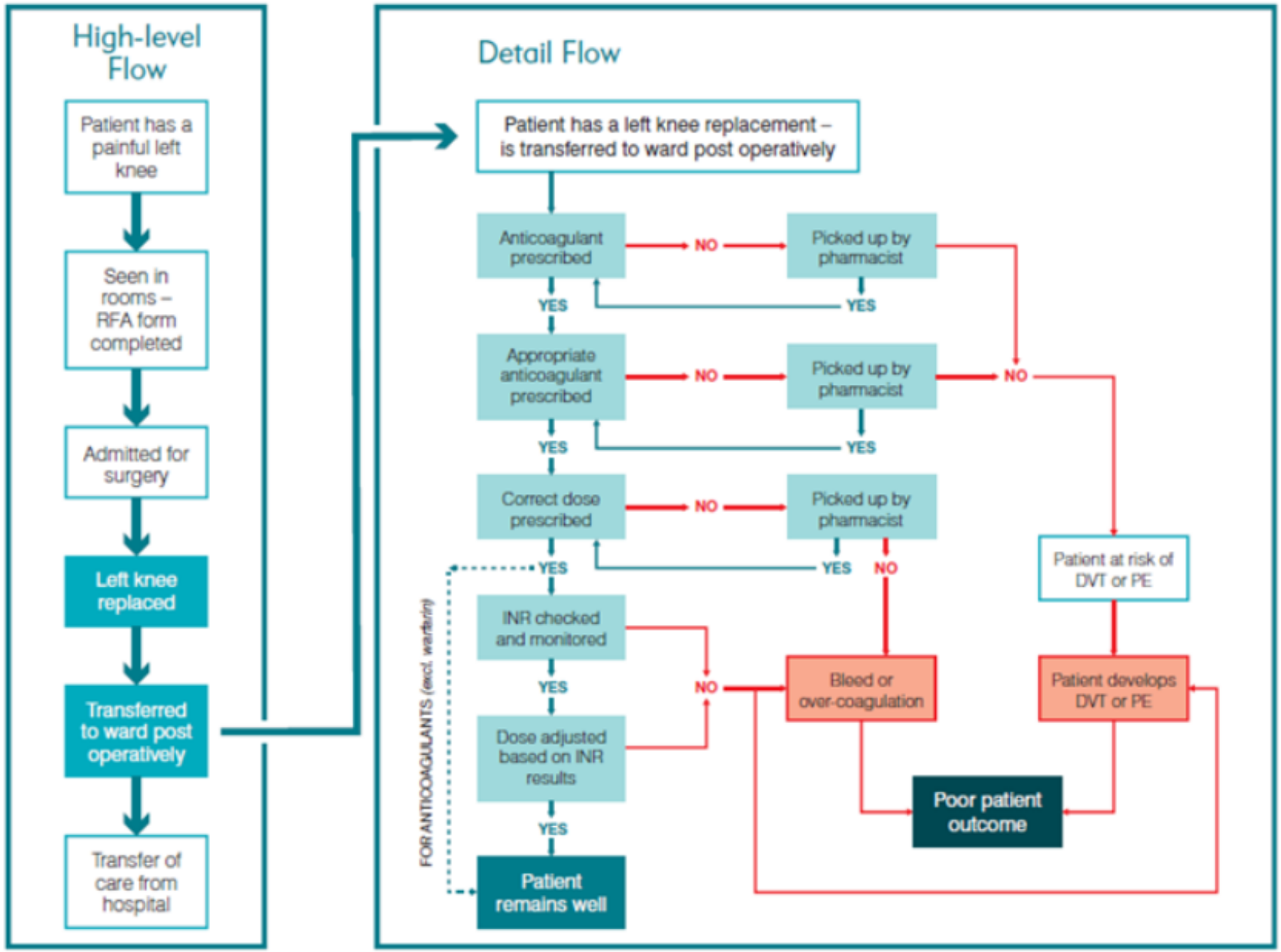
Start your own Flow Chart by downloading this template in PowerPoint and keying in your information.

- Flow Chart Template PPT ~84KB

Figure 1: Flow Chart of Patient Journey

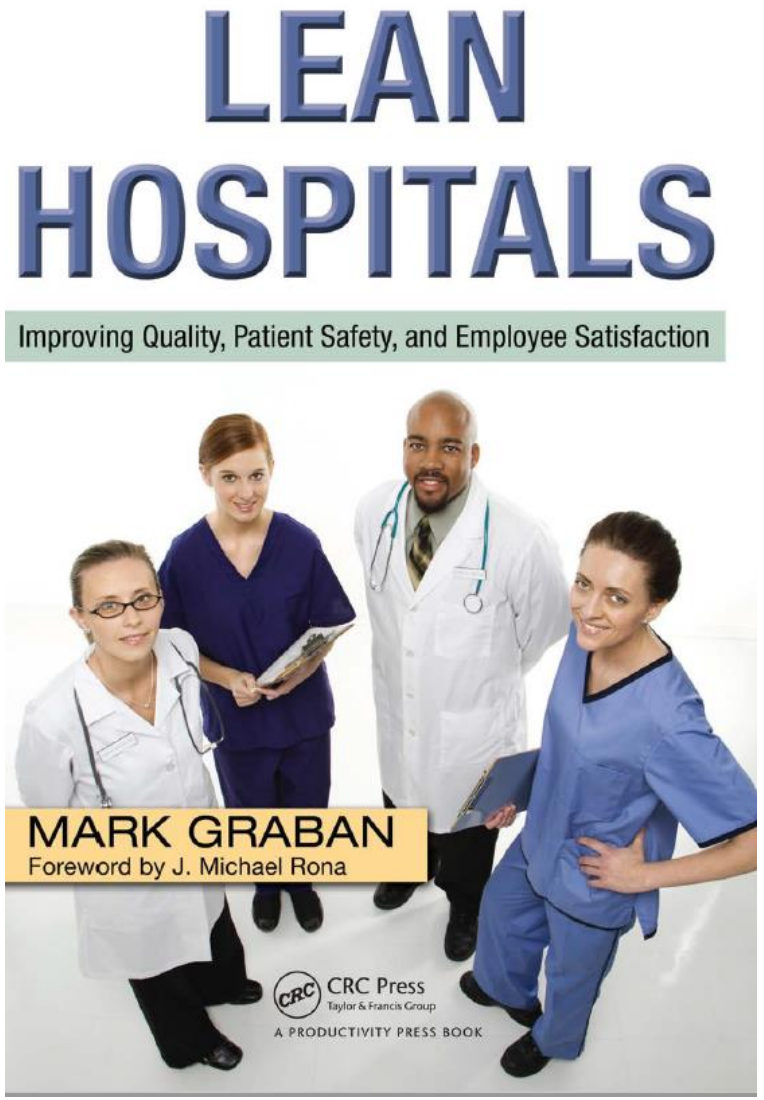
Don't Forget!!!
There are Many Simple Tools for Process Improvement – Useful for Complimenting Lean

Figure 1: Flow Chart of Patient Journey



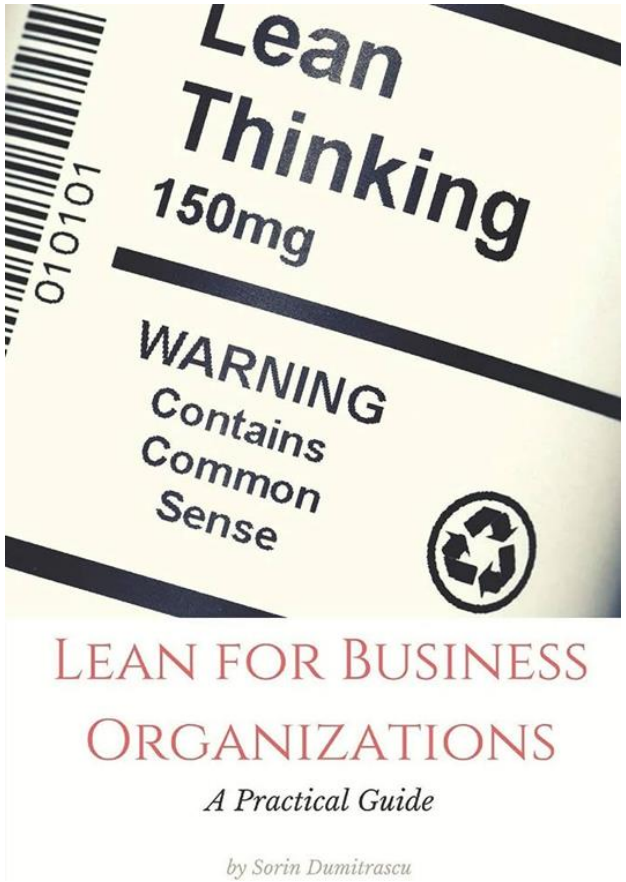
NB: Routine International Normalised Ratio (INR) is only required for Warfarin. It is not required with contemporary oral anticoagulants

Sustaining Lean and Organizational Change



Sustainable Systems/Process/Activities

- Sustaining = To keep in existence; maintain, continue, or **prolong**: sustain an effort
- Ensure a system developed continue to be in existence well after it has been implemented – **maintained, enhanced until mature and stable**



Lean Sustaining Factors

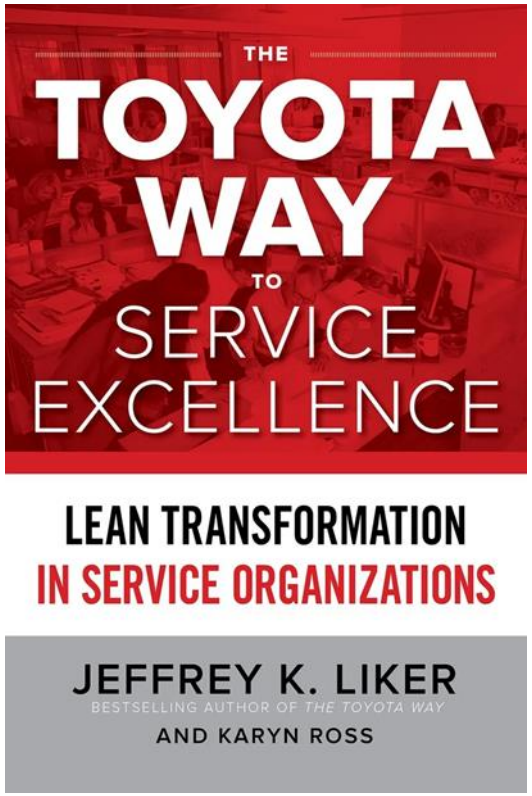
- Lean involves reducing wastes, inventory, improving productivity, and ultimately lowering costs.
- BUT, ultimate aim is to **draw out people's motivation** [Hino, 2006]

Lean Sustaining Factors

- Continuously improve and innovate all work
- ‘To get rid of waste, **train your eyes to find waste** and then **think how to get rid of the waste** you’ve found. Do this over and over again, always, everywhere, relentlessly and unremittingly.” [Taiichi Ohno as quoted in Hino (2006)]

Lean Sustaining Factors

- Single philosophy – long years (Toyota Way)
- Standardization of Management Systems and Processes (Satoshi Hino, 2006) and Products
- Standardization of Problem Solving and Method for work – Toyota Business Practices
  ➔ Adopt and adapt for Service Organizations



Lean Sustaining Factors

- **Monozukuri wa hitozukuri** = (Art of) making things (any thing) is building people (continuous lifelong process of human development)
- **Human motivation and development process** – pride in work produce ideas in all aspects of company functions– design, production, etc.
- **Challenge** = smaller, better, faster, cheaper, newer

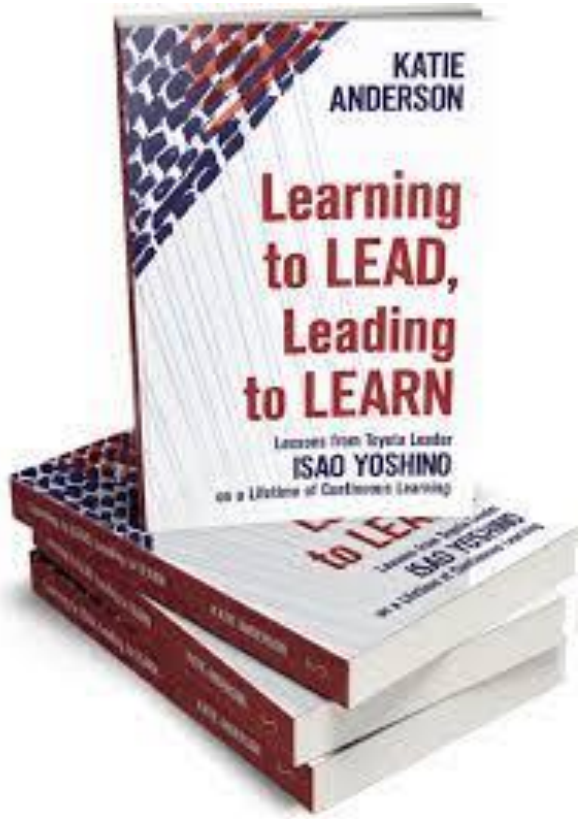
物づくりは人づくり

Building People – Knowledge, Skills, Attitude and Actions

- **Employee development** is core of Lean
- Must allow employees to **experiment with ideas** (if we expect them to learn and grow)
- **Problems or mistakes should be treated** as something to be learned from (and prevented) rather than covered up

Building People – Knowledge, Skills, Attitude and Actions

- **Leading differently** – create virtuous cycle everyone feel good making improvements that improve patient care and improve own work environment - enthusiasm grows and **want to make more improvements**
- **Employee engagement and *kaizen*** are the keys to improving **quality and safety**, reducing **costs**, and improving employee morale.



Leadership principles for health-care leaders in organizations making the transition to Lean

- Leaders should actively create a culture
  - where problems are seen as opportunities for improvement (OFI) instead of failures
  - people should be seen as problem solvers, not as problems
- Four leadership behaviors and attitudes linked to effective creation of an improvement culture
  1. demonstrating support to and interest in Lean
  2. expressing commitment to and involvement in Lean
  3. showing an understanding of Lean concepts
  4. changing the existing hierarchy

Leadership Requirements for Successful Implementation of Lean Management in Health Care: A Systematic Review of the Literature, Kjeld H. Aij and Marion E. Veth, (2016), **Provisional chapter,** © 2016 The Author(s). Licensee InTech. http://dx.doi.org/10.5772/65653

Where are the Organizational Changes?

- Organization = People, Processes, Technology, Systems
- New **organizational practices** will change an organization
- Lean Leadership – coaching of staff and create **learning organization**
- **Search for perfection** create BETTER organization
- Most important is the **THINKING PHILOSOPHY**
- DON'T WAIT FOR CHANGE TO HAPPEN - IMPLEMENT LEAN (and other organizational excellence/total quality improvement initiatives) WILL SURELY **CHANGE YOU AND YOUR ORGANIZATION**

Final Remarks

- Must develop your own **Organizational Excellence SYSTEM** (**Lean** is one of the most successful and practical)
- To survive we must '**do things differently**'
- People development **(hitozukuri**) – Key to excellence – imposing fear does not solve problem
- Creating the **thinking employees** at all levels for Innovation – Kanban, Quick Change Over/SMED, Andon, Meiruka, Obeya, etc.
- Future is even more challenging : Fourth Industrial Revolution – AI, Robotics, IOT application, Digitalization, Remote Medical Services, RPA and others

Terima kasih.

ALL THE BEST TO EVERYONE

Domo arigato gozaimasu

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On FB, Instagram

Further readings – Homework