An Introduction to the Lean Process

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ILLINOIS BUSINESS INNOVATION SERVICES

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Business Training and Consulting

Our Mission:

Illinois BIS provides exceptional consulting and training to help our customers grow.

We specialize in companywide strategic business improvement solutions that result in bottom-line profitability.

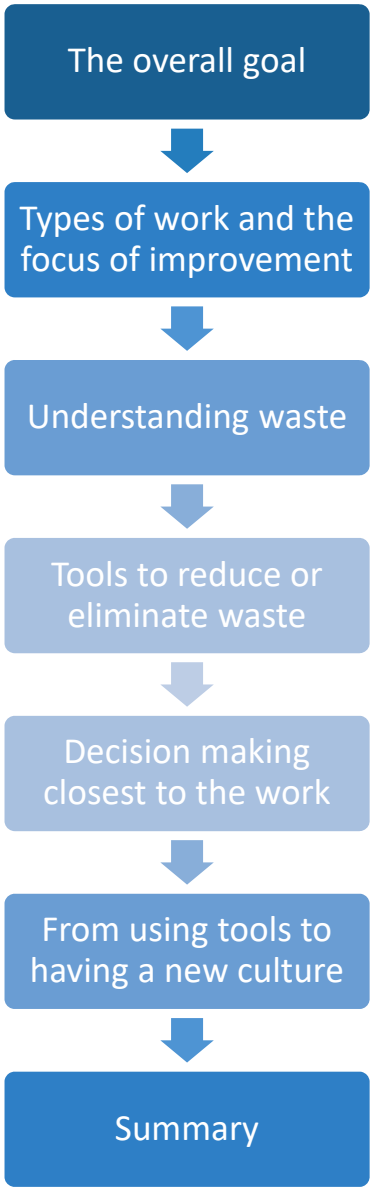
Our Purpose:

We help organizations solve problems.

WE SERVE

MANUFACTURERS,
HEALTHCARE INDUSTRIES,
SERVICE SECTOR FIRMS,
NOT-FOR-PROFITS AND
GOVERNMENT AGENCIES.

Today's Agenda



What We Accomplish

“Red Tape”

Excessive regulation or rigid conformity to formal rules considered redundant or bureaucratic and hinders or prevents action or decision-making.

…oppressively complex and time-consuming.

…hair splitting or foot dragging…”

Examples

- Filling out paperwork
- Obtaining licenses
- Multiple people or committees approve a decision
- Various low-level rules that make conducting one's affairs slower, more difficult, or both
- Filing and certification requirements, reporting, investigation, inspection and enforcement practices, and procedures“.

According to Wikipedia, covered under Creative Commons Attribution-ShareAlike License;

“Do Overs”

A new attempt or opportunity to do something after a previous attempt has been unsuccessful or unsatisfactory

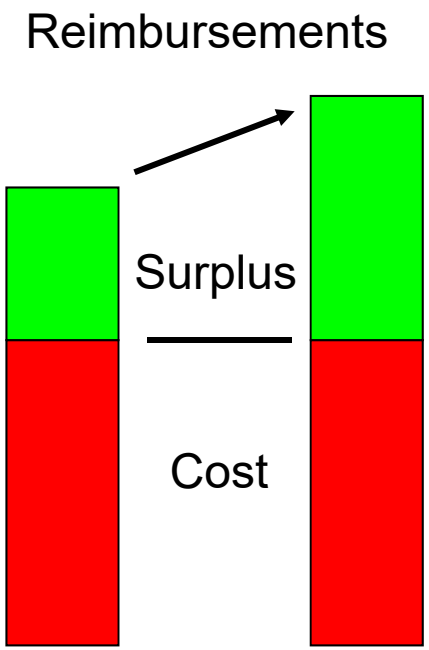
Merriam-Webster.com. Merriam-Webster, n.d. Web. 1 Apr. 2018.

I’m Next in Line…

Why Do Anything

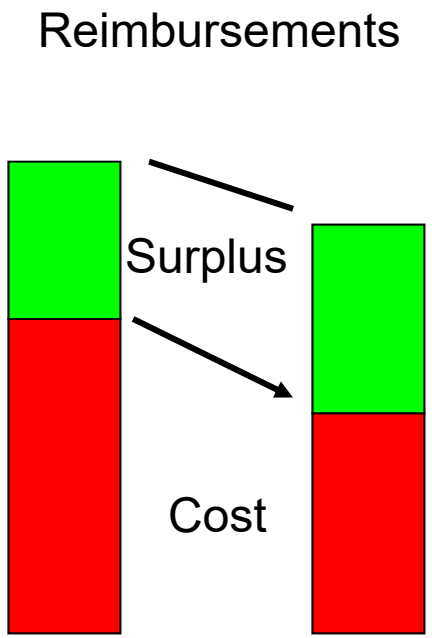
TRADITIONAL THINKING

Cost + Surplus = Reimbursements



NEW THINKING

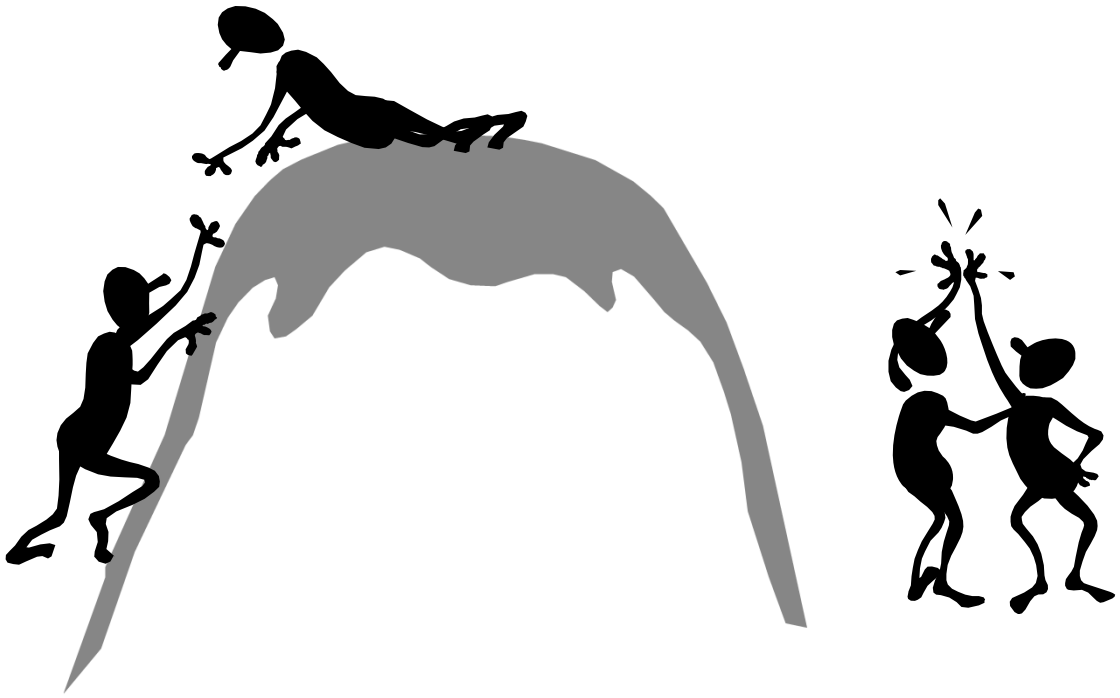
Reimbursements – Cost = Surplus



Look Familiar?

The Other Side…

The Organization Learns…



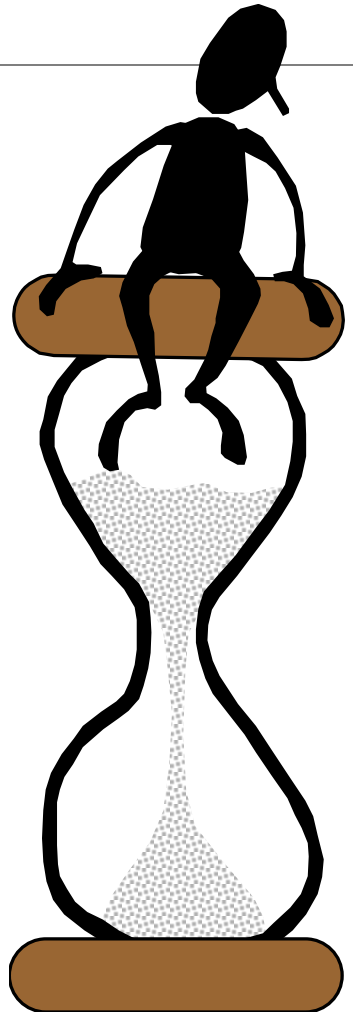
To work around the problems

Those Needing Service Learn…

To be patient…

or to go somewhere else if they can…

or to dread the process and those involved if they cannot



3/19/2018

The Goal

"All we are doing is looking at the time line, from the moment the customer gives us an order to the point when we collect the cash. And we are reducing the time line by reducing the non-value adding wastes."

- Taiichi Ohno

Shigeo Shingo
Architect of Toyota's Main Tools

"There are four purposes of improvement:
- easier, better, faster and cheaper.
These four goals are listed in
their order of priority."

Dr. Shigeo Shingo

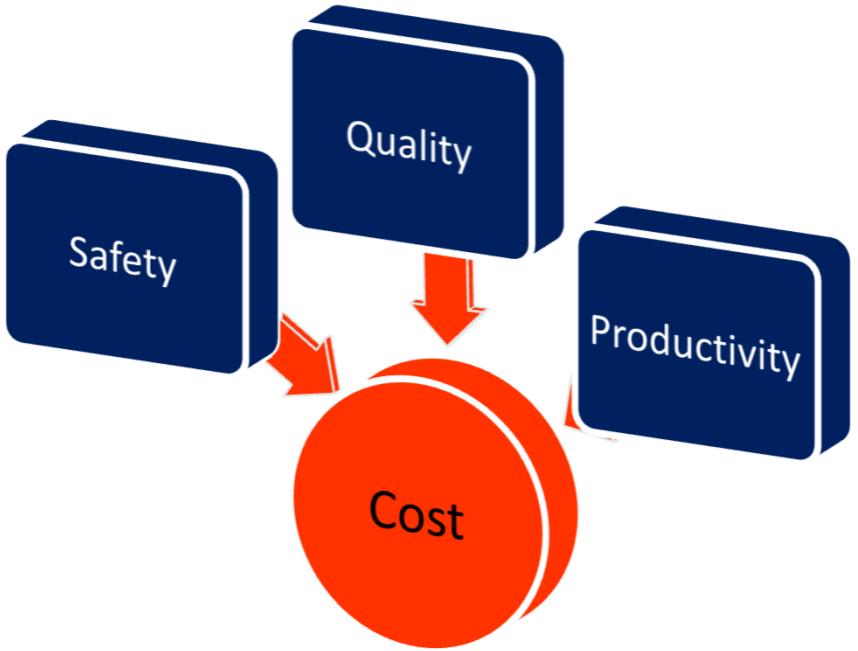
What We Accomplish and Why

Safety – make it easier for people

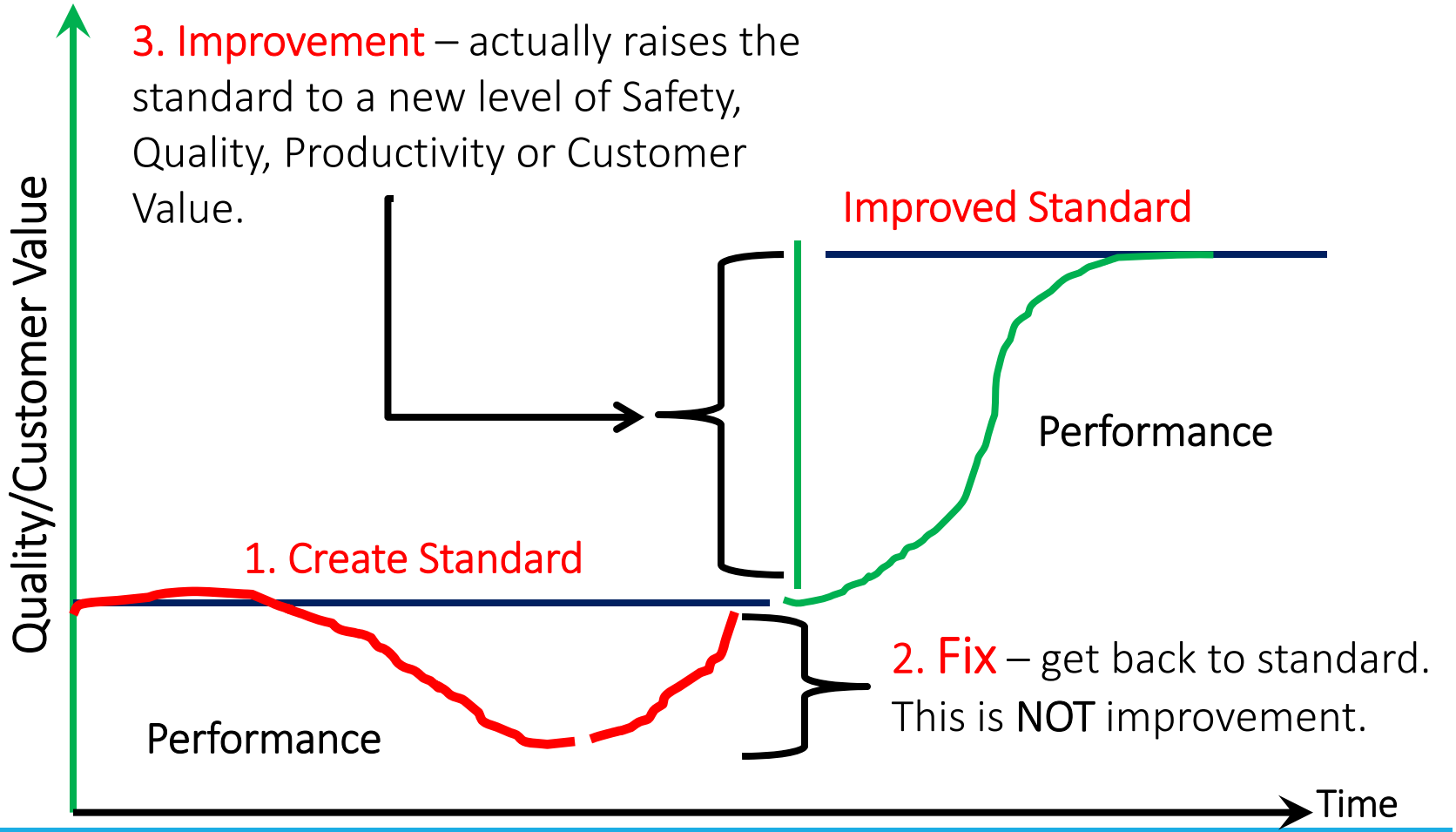
Quality – make it better

Productivity/Delivery – make it faster

RESULT = **Cost** is reduced



What is Improvement?



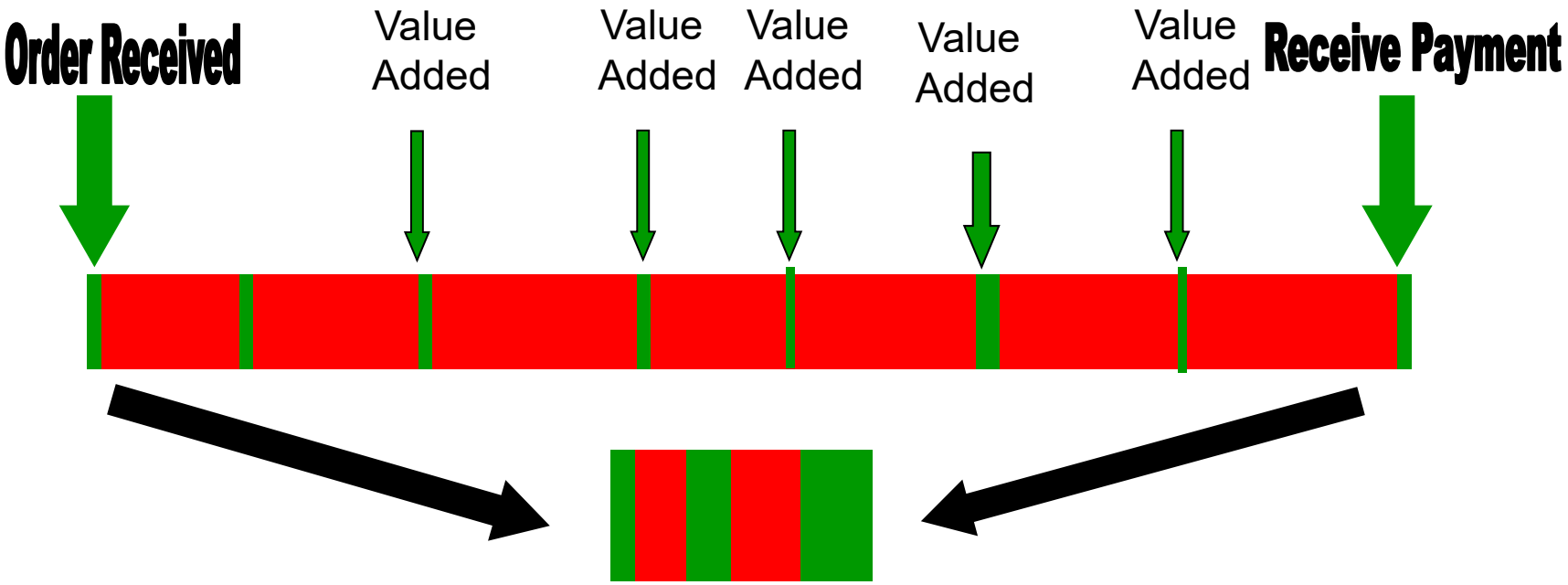
How We Do It

What to Improve?

Reduce duration, start to finish, by cutting out unnecessary steps

- Many improvement efforts focus on improving the time that people are actually working, having them work harder.
- A better approach may be to address the non value-added time first, ***reducing wasted steps to do more value added work without working harder.***

What Causes Long Lead Time?



- Cycle time (mostly value added) is typically very small percent of the total processing time (aka - lead time).

Two Types of Work

VALUE ADDED

Customer is willing to pay for it.

Is done right the first time.

Transforms a product or service .

NON VALUE ADDED (WASTE)

Consumes resources without creating value for the customer.

Is rarely complete and accurate

Usually slows down the process of creating value for the customer.

Why Focus on Waste?

VALUE ADDED WORK

Only 10%-20% of the total time worked

People already doing well while doing value added work

People frustrated when told to work faster

Faster can be risky and unsafe

WASTE

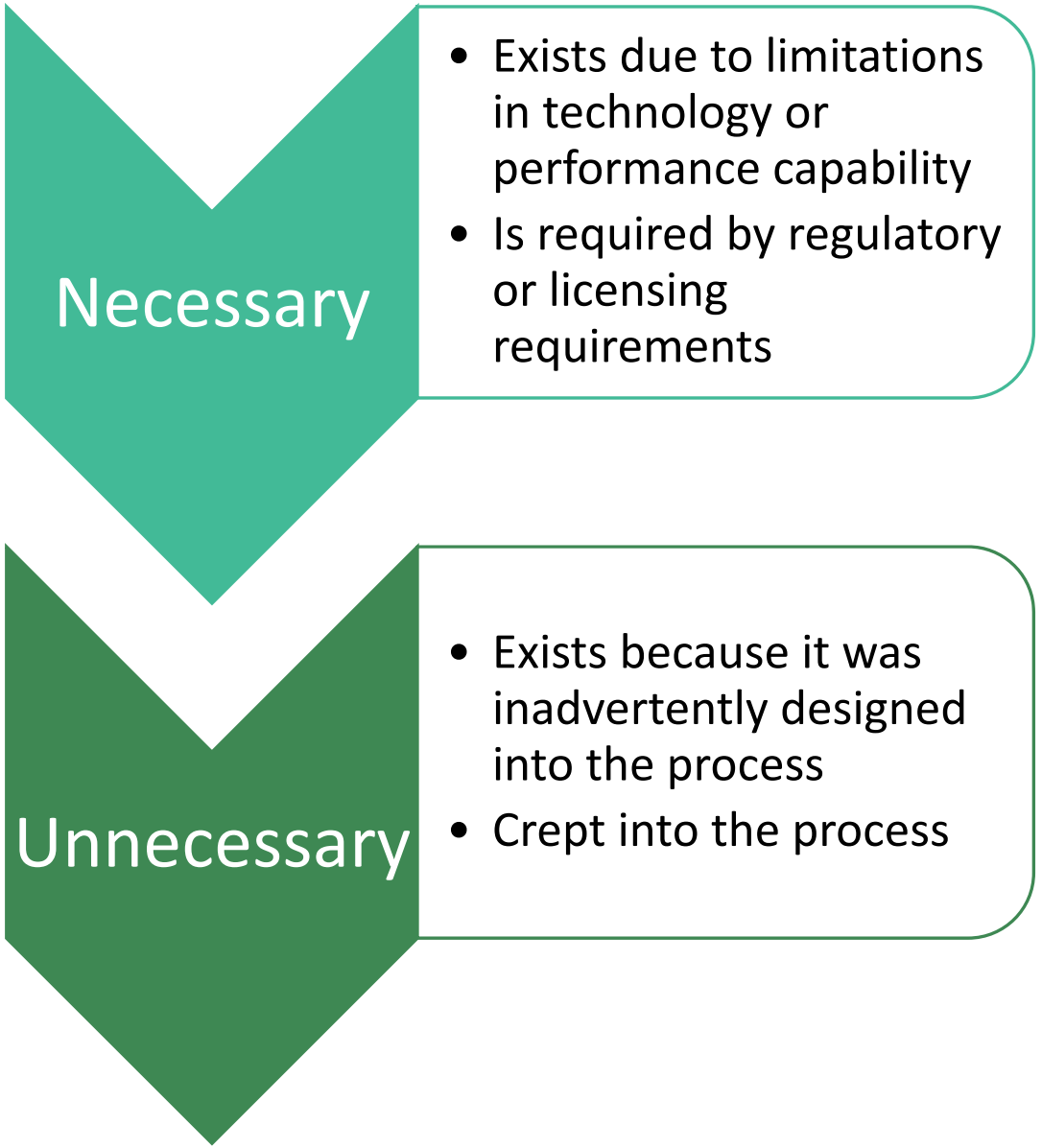
Up to 90% of the total time worked

Frustrates people

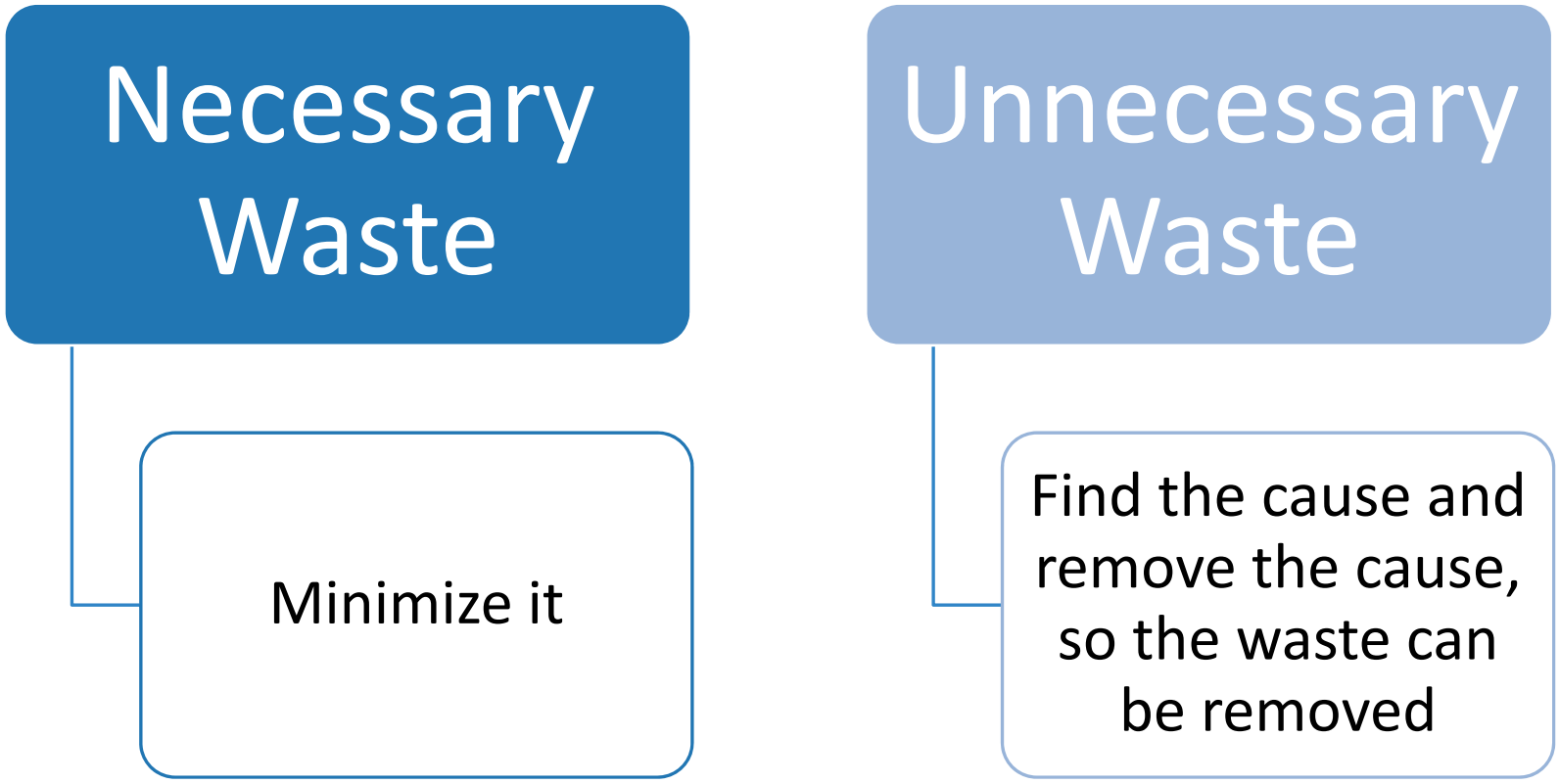
Stops value added work from being done

People happier when it is removed or minimized

Two Forms of Waste



Techniques



What is Considered Waste?

- **C**orrection
- **O**verproduction
- **M**otion
- **M**aterial Movement
- **W**aiting
- **I**nventory
- **P**rocessing
- **U**nderutilization

Correction

Definition: Rework because of defects, low quality, or errors.

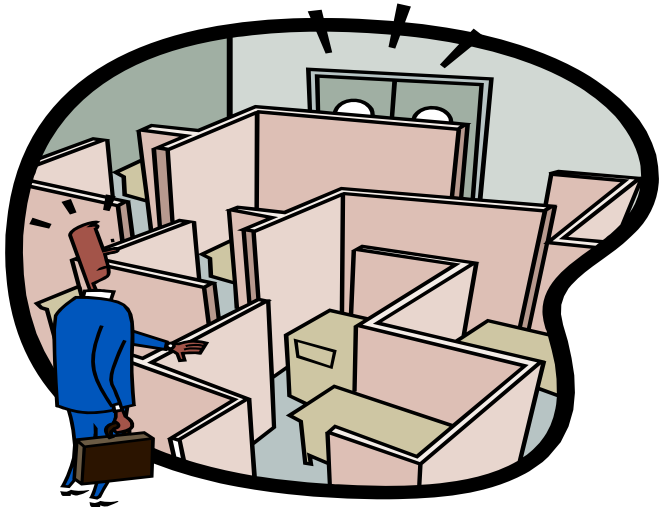
Example: Incorrect Customer information on invoice. Product that must be repaired or scrapped and remade.

Overproduction

Definition: Producing more than is needed now

Example: Entering Customer info on multiple forms, printed reports nobody reads or uses to make decisions, buying large quantities of forms that may change, because of quantity discounts.

Motion



Definition: Movement of PEOPLE that does not provide value

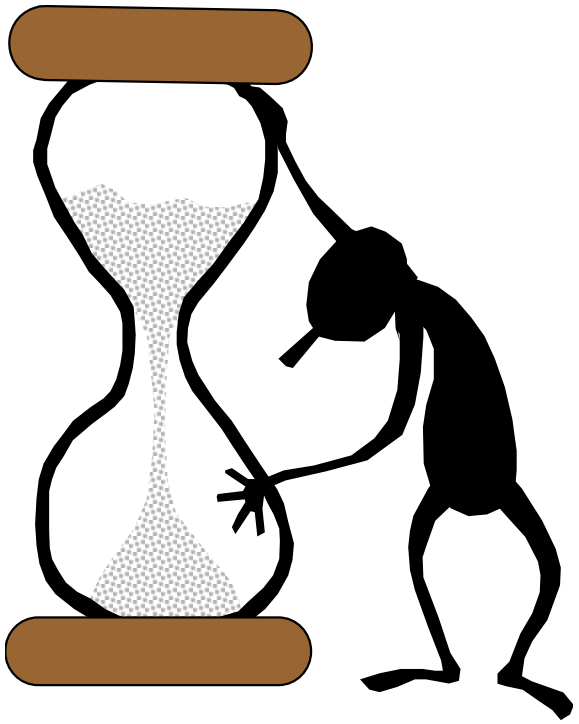
Example: Searching for materials and supplies needed to do the job. Looking for information needed to complete work.

Material Movement

Definition: Movement of THINGS that does not provide value

Example: Items moved around because they have no clear drop off location. Storing items far from where they are used.

Waiting



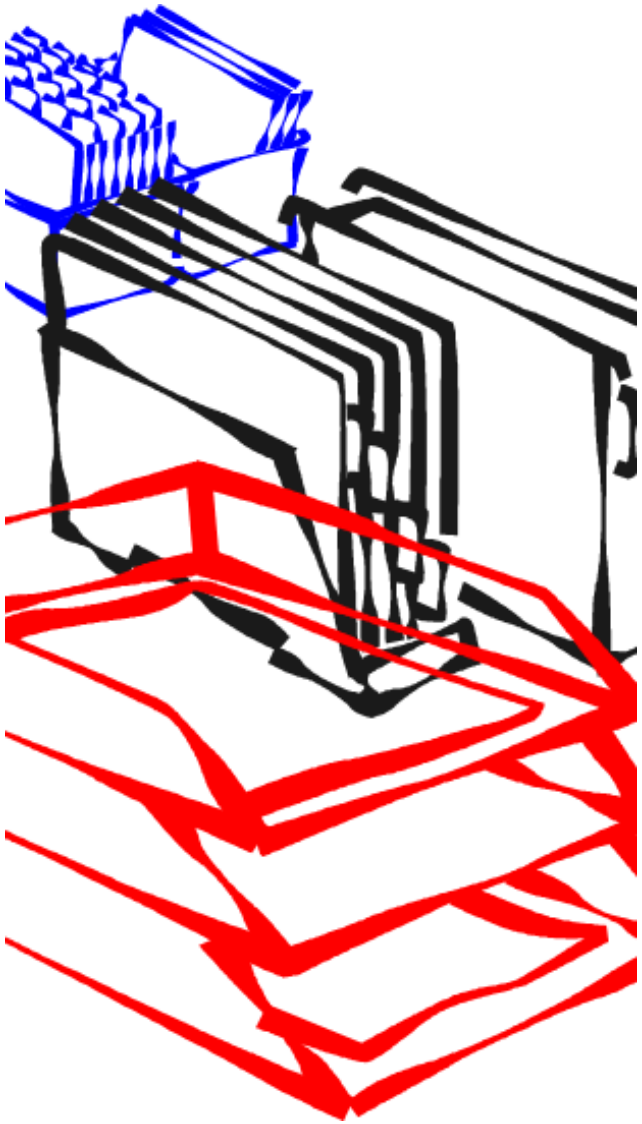
Definition: Idle time when material, info, people or equipment is not ready

Example: waiting on hold for customer service. Delay in care waiting for X-ray results or lab results at doctor office.

Inventory

Definition: More materials, parts or products on hand than the customer needs now, the evidence of Overproduction waste

Example: 6 months worth of forms in the storeroom bought at a “discount”



Processing (Over)

Definition: Effort that adds no value from the customer's viewpoint

Example: Doing tasks "because we've always done it that way." Double and triple checks or approvals needed to process work.

Underutilization

Definition: To not use people in improvement ideas.

Example: Decisions made by people furthest from the work due to a “command and control” mentality

Reducing Waste

Toolbox

Tools to Eliminate Waste

Correction
- Mistake Proofing
- Standard Work

Overproduction
- Level Loading
- Kanban
- Quick Changeover

Motion
- Visual Management and 5S

Material Movement
- Point of Use Storage
- Cellular Layouts

Waiting
- Total Productive Maintenance
- Line Balancing
- Work Combination

Inventory
- See Overproduction

Processing (Over)
- Value Analysis/Value Engineering

Underutilization
- Employee Engagement
- Problem Solving by Those Closest to the Work

Most Common Tools

- Problem Solving Closest to the Work
- Visual Management and 5S
- Mistake Proofing
- Work Combination

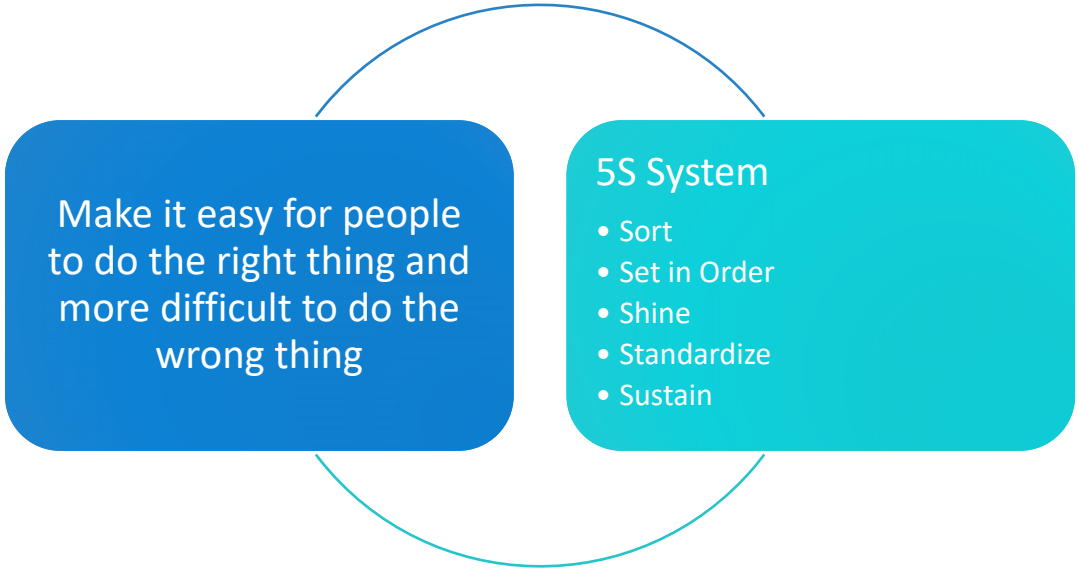
Problem Solving Closest to the Work

People closest to the work are responsible to stop problems from happening in their area of responsibility

- 37 hours to do the work
- 3 hours to improve the work

A3 Problem Solving

Visual Management and 5S



Mistake Proofing

Do not allow	Do not allow someone to be able to make a mistake • When mistakes are significantly serious or recurring
Detect	Detect a mistake is about to be made
Act	Act on the potential mistake to prevent it

Work Combination

Specialization

Can help quality

ALWAYS slows down flow

ALWAYS causes some people to be "swamped" while others are not busy

Caused by a singular focus on cost without addressing flow

Who Eliminates Waste

People Closest to the Work

- Always are more knowledgeable about daily issues
- Always are more likely to buy into decisions when engaged in making them
- Always are more likely to find ways to fine tune processes when they own the design

Changing Roles

Management

- Plan
- Organize
- Direct
- Control

Leadership

- Turning control over to those who are best to execute

New Behaviors Changing Managers into Leaders

- Engage
- Explain
- Support
- Communicate
- Help others improve
- Lead by example

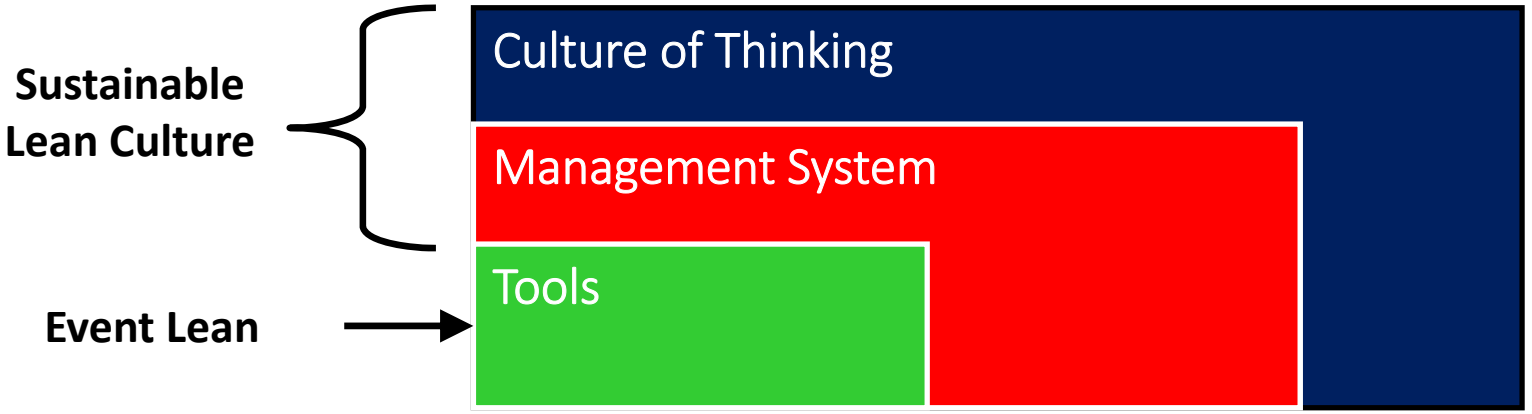
Systems Thinking

The Evolution

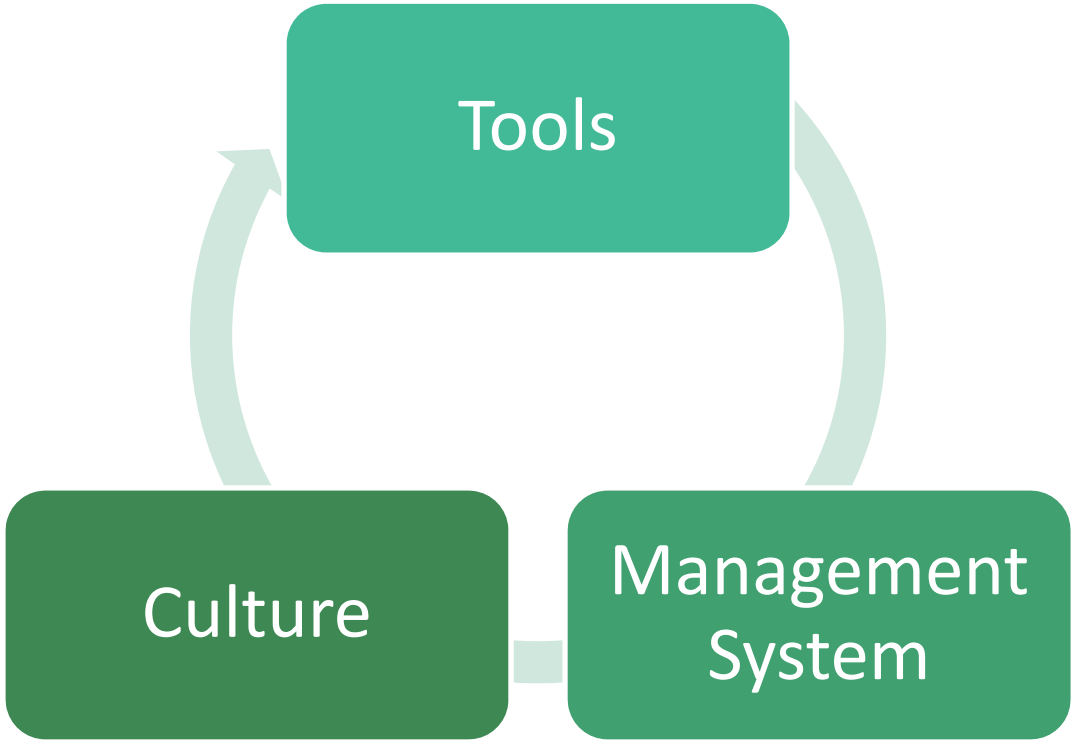
Most Organizations start by applying some tools – e.g. 5S, Process Mapping, Quick Changeover, …

From the tools they start to define and create a Management System to ***sustain*** the improvements.

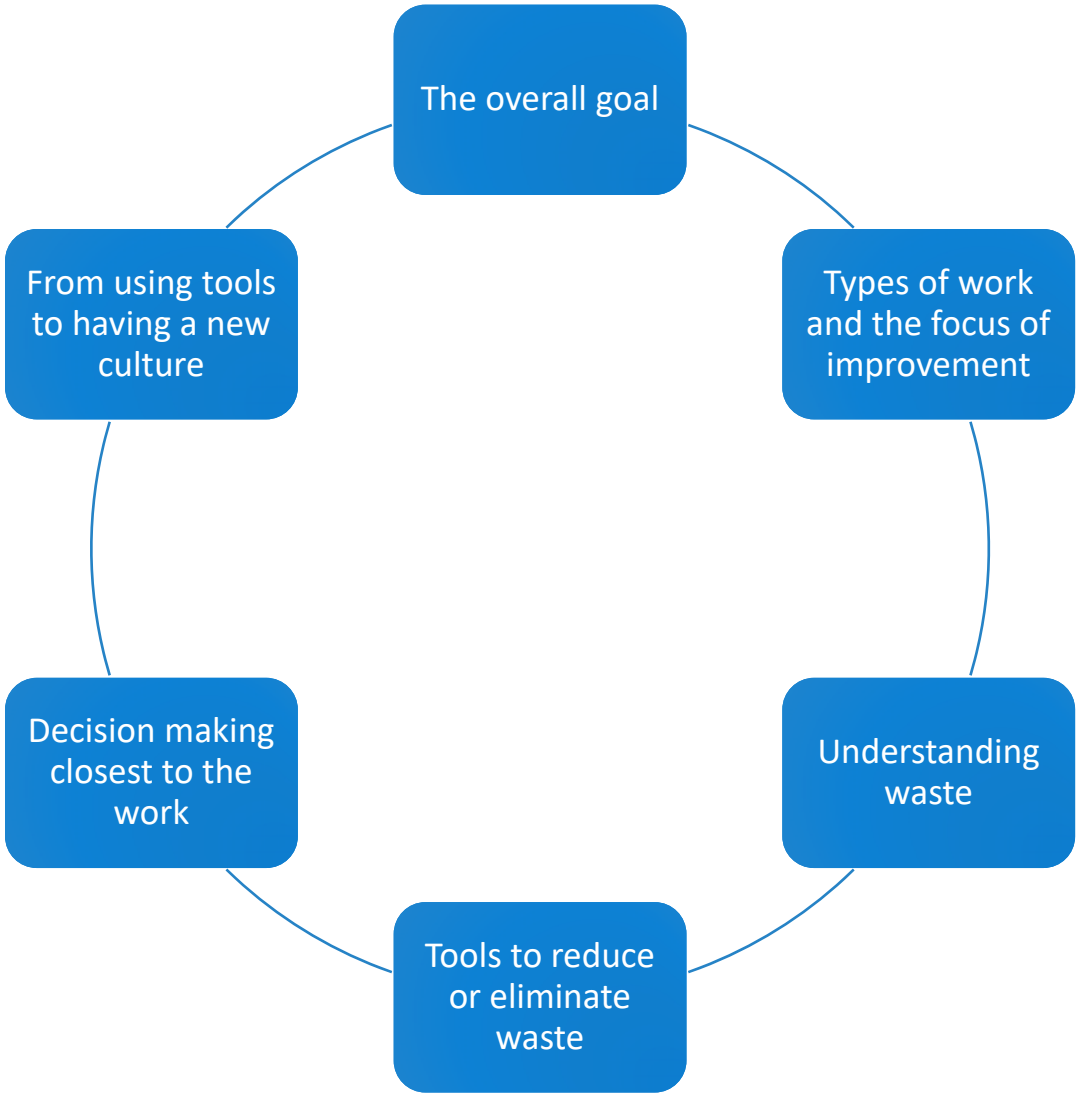
Eventually a new culture of thinking emerges which changes fundamental behaviors and builds systems thinking in at the beginning.



The Cycle



Summary



Questions?

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