



Managing for Daily Improvement

Standard Work and Tools for Management to
Drive Continuous Improvement

Front Line Leadership Development System Module
Part 1 of 12

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MDI Workshop Agenda

Day	Subject Matter
Monday	Workshop Kick Off Introduction, Objectives & Expectations for the Week Visual Workplace (5S) Safety SQDC
Tuesday	Waste Identification Defects & Quality Measurement Point Kaizen Error Proofing
Wednesday	Standard Work Training & Change Management
Thursday	Abnormality Management Supervisor (Manager) Standard Work
Friday	Wrap Up Team Report

Objectives

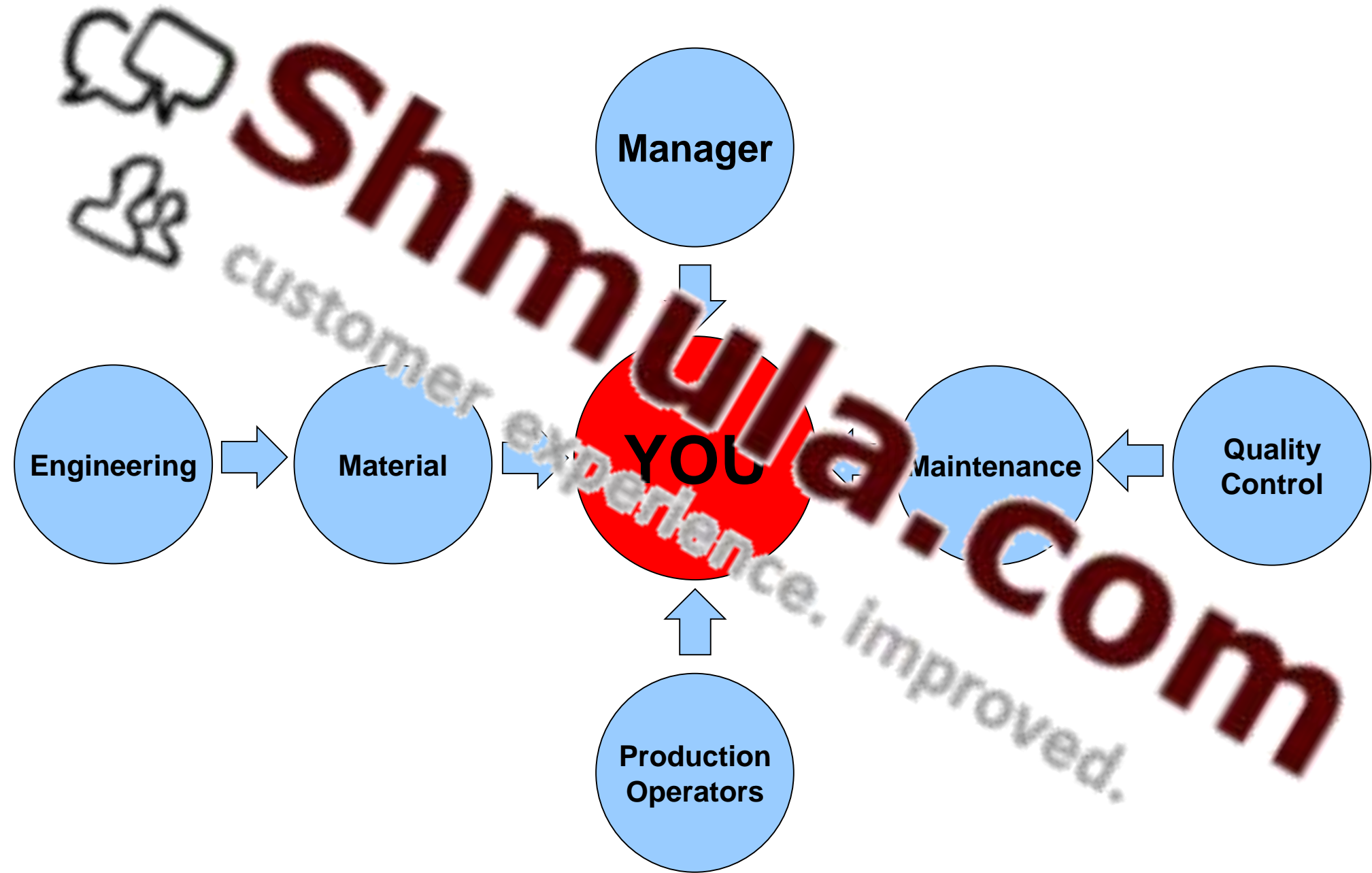
Learn the tools and techniques you need to implement and sustain improvements in your work area

Our focus is on daily continuous improvement as opposed to “events”, sometimes referred to as Kaizen Events.

By the end of this week:

1. Learn to “See” wastes in your area and systematically reduce or eliminate it daily.
2. Identify Relevant Metrics, Design Visual Management, and expose those metrics, and begin daily habit of improvement.
3. Apply many of the tools and practices taught this week

Your Work Relationships



Daily Management?

What?

Daily Management is a fact-based, systematic, goal oriented active style of management where the principles of Lean Management are applied daily with a focus on daily activities linking with higher level strategy.

Why?

Links team activities to company big picture

Enables communication with team and shifts

Systematic problem resolution (daily)

YOU – it involves you and makes work meaningful

Learn Overview



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What is Lean

A Business Strategy that:

Reduces waste and lead time in all processes relating to new product development, production, distribution and administration

Improves quality, cost and delivery of the final product to the customer

Establishes a competitive advantage that will enable sales and profitability to grow

Builds a culture of involvement and mutual respect to improve enterprise capability and enables continuous improvement

History: The Automatic Loom



THE LOOM was a significant invention because it created a mindset that remains a thread throughout the development of Lean.

When the needle broke, the machine stopped.

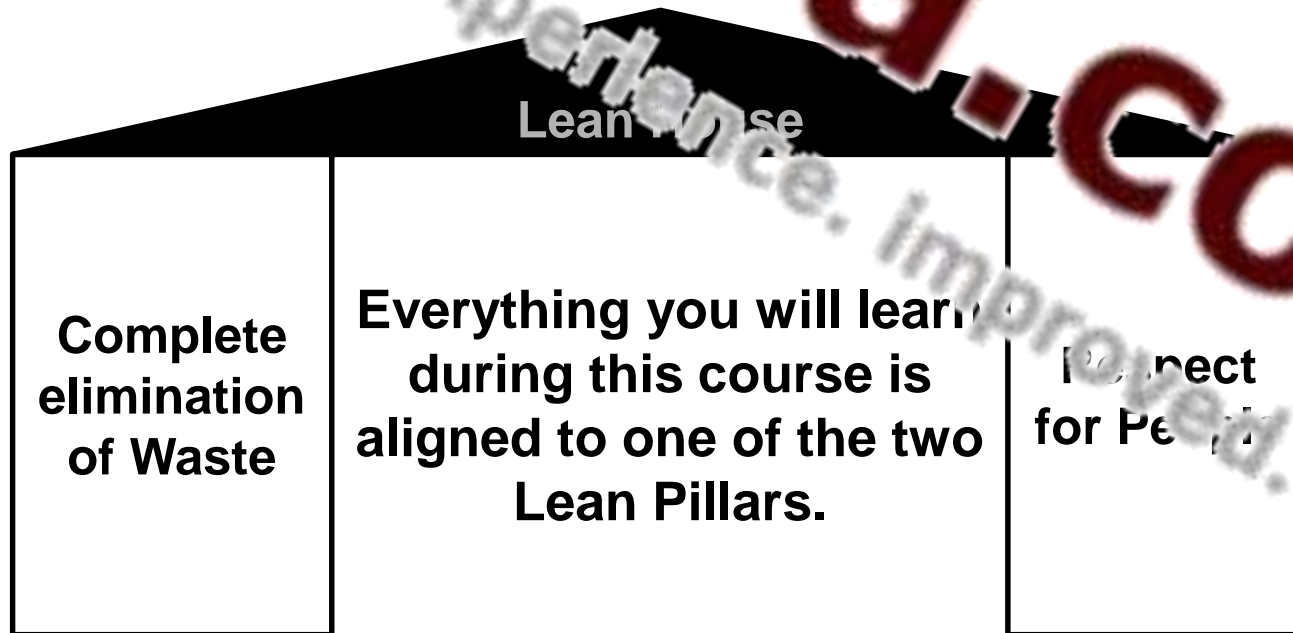
In 1726, this was a huge development and this principle became one of the pillars of Lean today.

Today, these principles are known as Jidoka and Andon.

How the term “Lean” was Coined

The word “Lean” was coined when a group of MIT researchers visited Toyota and they noticed that Toyota did “Everything with Half of Everything” – half the space, half the people, half the money, half the materials but with very high quality. – the word “Lean” was born.

Lean is both a System and a Worldview. In the next few days, we’ll learn about the worldview and how to actually apply the system daily.



The Customer, Value, and Flow



Customer

The customer defines value. There are 2 types of customers:

• The customer is the *end* customer

• The customer is also the *downstream process* from

YOU

Value

There are 3 types of activities:

1. Activities that *Add Value*
2. Activities that *Do Not Add Value*
3. Activities that *Do Not Add value, but you need them right now*

Flow

- Perfection: all the steps in your process add value
- Waste: Goal is to identify these, eliminate them, and let value flow.
- Necessary Waste: Need to put-up with these (regulatory, reporting)

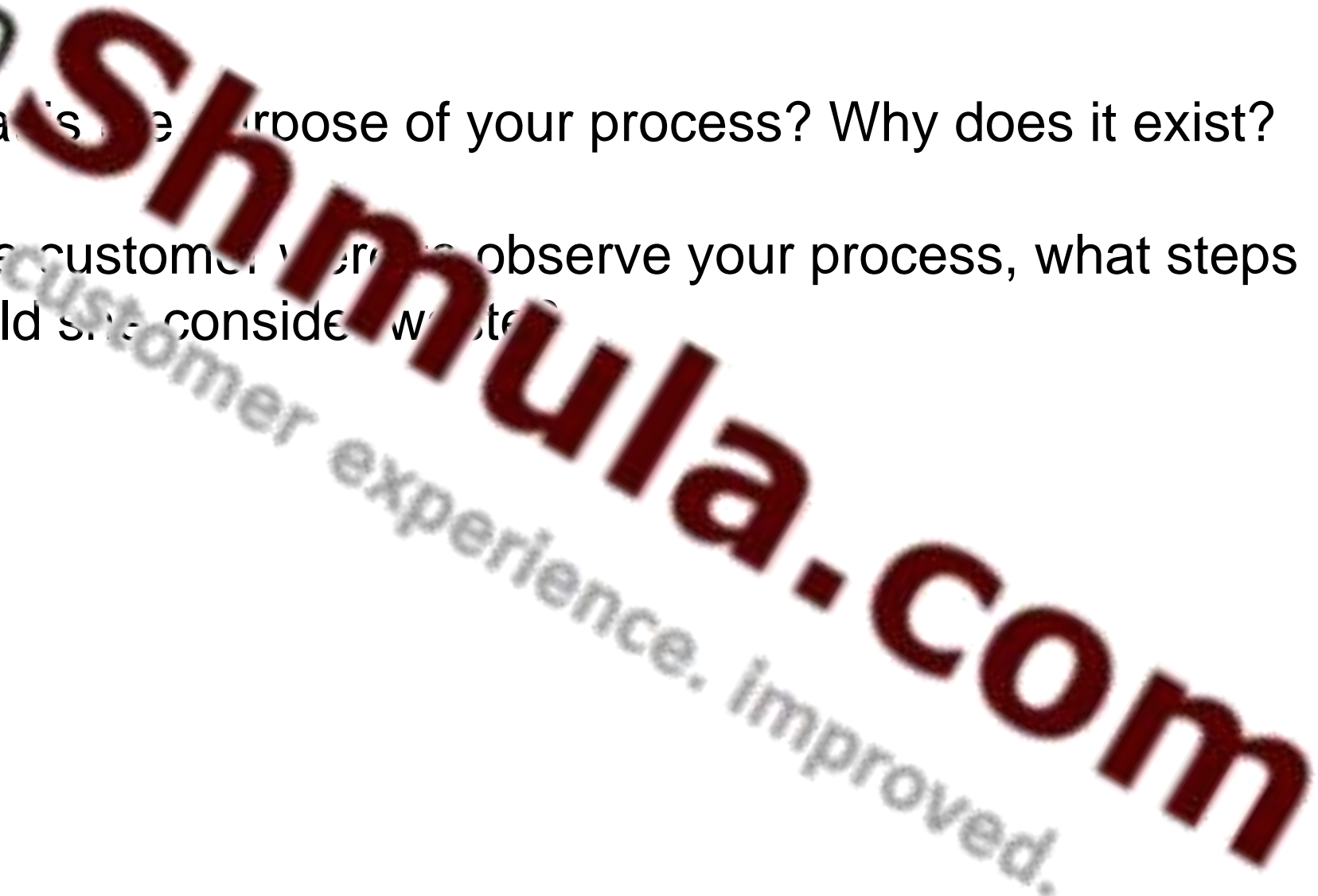

Activity #1

On a piece of paper, draw a line down the middle. Think of a process you manage.

On the left side, write the sequential steps *for perfect flow*.

On the right side, write the steps that *prevent perfect flow*.

Activity #1 Discussion

- 
- 
1. What is the purpose of your process? Why does it exist?
 2. If the customer were to observe your process, what steps would she consider wasteful?

Introduction to Lean Principles

Define Value from Customer Perspective

Identify the Value Stream

Eliminate Waste

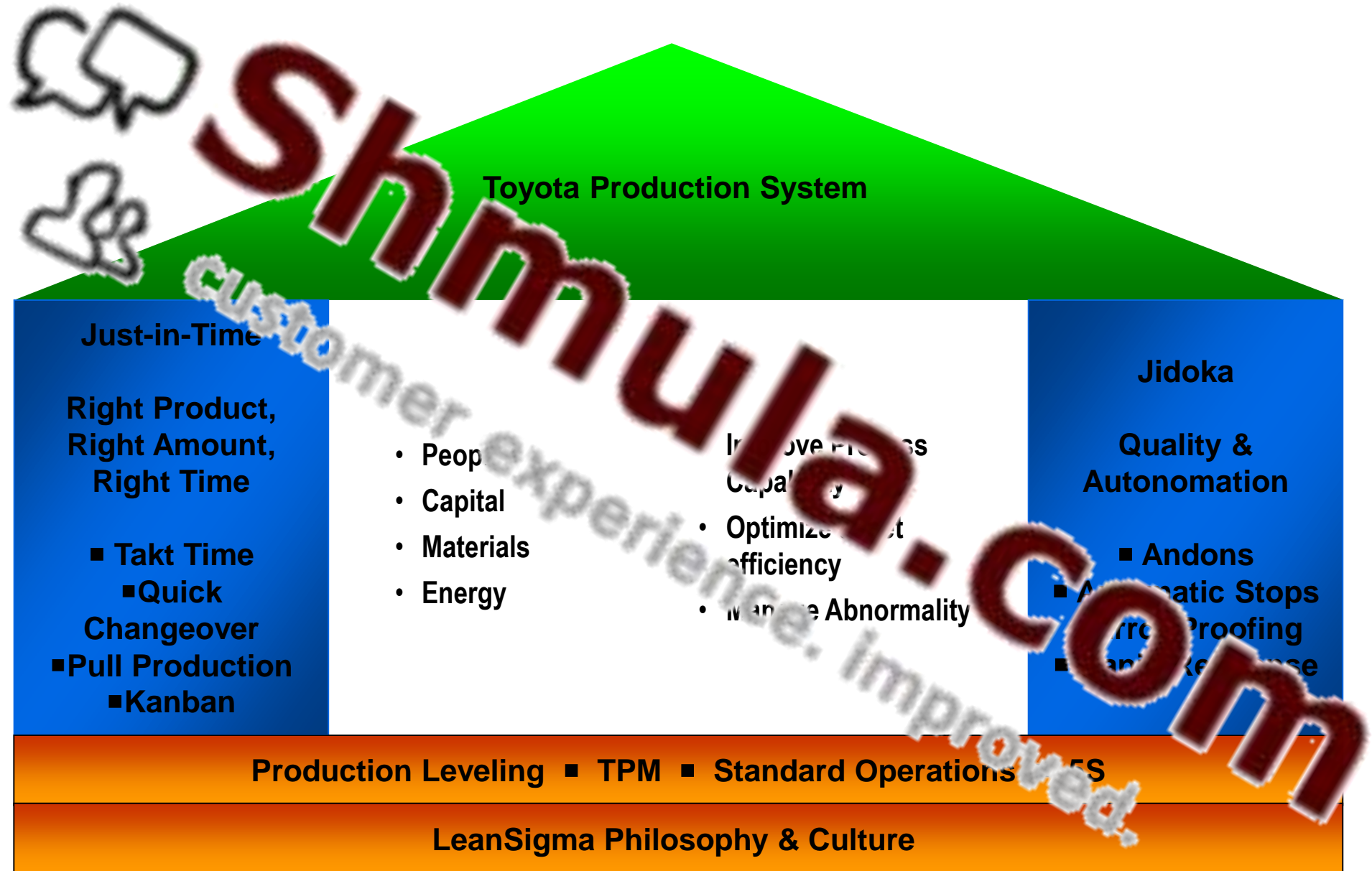
Flow the Process

Pull the Product

Involve & Empower Employees

Pursue to Perfection

House of Lean Production System



Jidoka is...

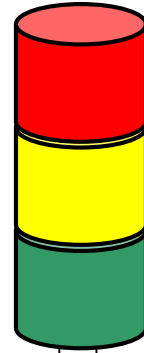
- Building quality (mistake proofing) into the process and/or activity
 - Six sigma capability
 - Assets that are able to run when needed at rated speeds without idling, delays or adjustments
- Equipment automation
 - Capable machine processes that enable separation of machine and operator
 - Capable of detecting abnormalities and signaling operators before defects or stoppages occur
- Visual Control
 - Immediate response to abnormal conditions
 - Prevent the accumulation of defective product and passing it on to the next process

Visual Workplace



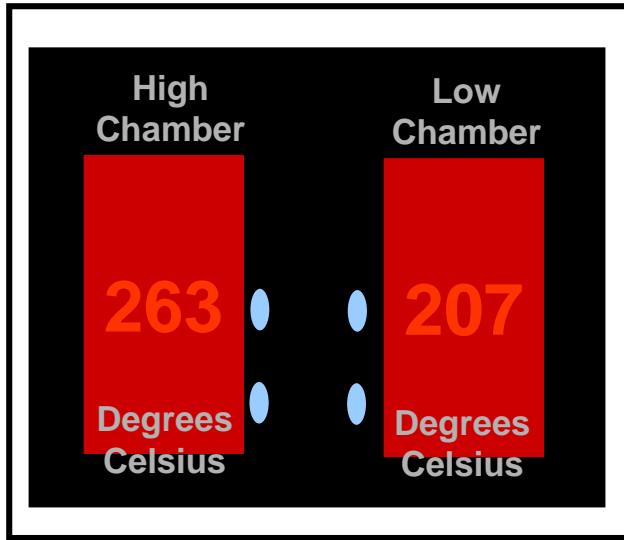
Hour-By-Hour Chart

Hour	Actual	Target	Actual	Comments / Downtime
8-9	30	15	15	Training new work sequences
9-	31	7	7	Operator #2 over takt time
	5	0	0	Line change for new model (10 minutes)
	2	0	0	Wrong parts delivered for new model (8 minutes)
	3	0	0	Operator late returning from lunch (4 minutes)
2:30-3:30	12	14	14	at press - line stop (5 minutes)
3:30-4:30	23	5	5	problems
	0	0	0	end-of-shift (minutes)



Standard Operation Sheet

Cell / Machine: GOLD #1	Operator: Puller	Issue Date: 9/11/2003	Standard Work Flow:
Business: BINDERS	Operator: Scott Dougherty	Approval:	
Tools Required: 1. Safety scissors	Safety Equipment: 1. Safety glasses 2. Safety shoes		
Step #	Description of Work Content	Freq / CT	
1	Feed both board feeders with panels and spines (Only refill board feeders when below the marked line)	10 min / 60 s	
2	Inspect flats from Puller #1	5 min / 30 s	
3	Load flats from Puller #1 into Hang (Always leave the Hang full of flats for the next shift)	10 min / 60 s	
4	Empty scrap bin in front of Puller #1	30 min / 120 s	
5	Splice new vinyl rolls onto both Pullers	120 min / 300 s	
6	Perform host inspection daily at beginning of shift	8 hr / 300 s	
7	Perform 2 DPM checks per shift with Hang Operator	4 hr / 300 s	
Takt Time:	300 seconds	Expected Cycle Time:	132 seconds



Safety

Quality

Delivery

Cost

Calendar

2
5
7 8
9 10 11 12 13 14
17 18 19 20 21 22 23 24
25 26
27 28
29 30
31

Scatter Plot

Line Graphs

Skills Matrix

100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0
100	90	80	70	60	50	40	30	20	10	0

Line Graphs

Pareto Analysis

Line Graphs

Pareto Analysis

Kaizen Newspaper

Problem	Action	Who	When	Result
Problem	Action	Who	When	Result
Problem	Action	Who	When	Result
Problem	Action	Who	When	Result
Problem	Action	Who	When	Result
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Kaizen Newspaper

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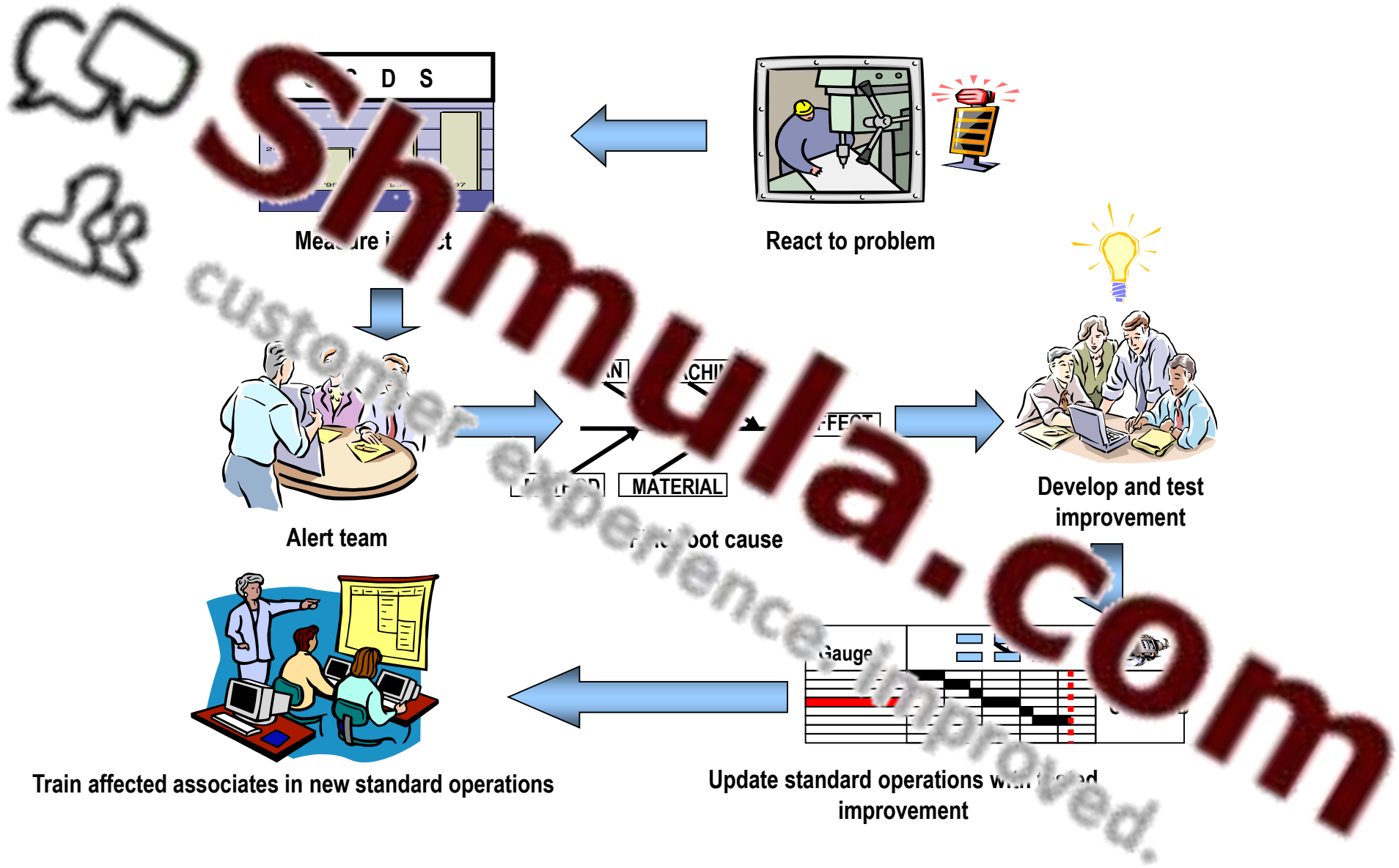
Kaizen Newspaper

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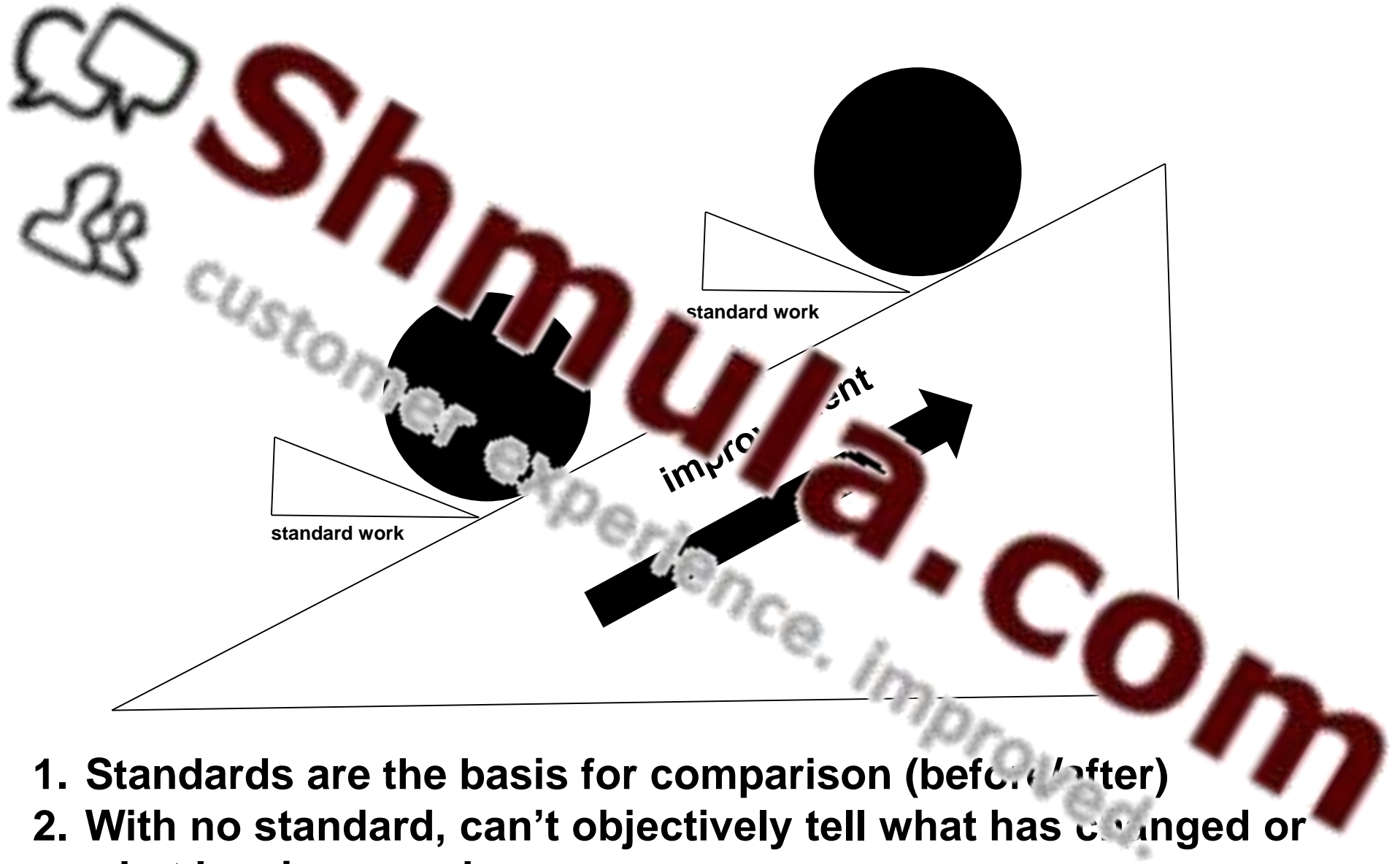
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Abnormality Response & Reaction



Improving Quality

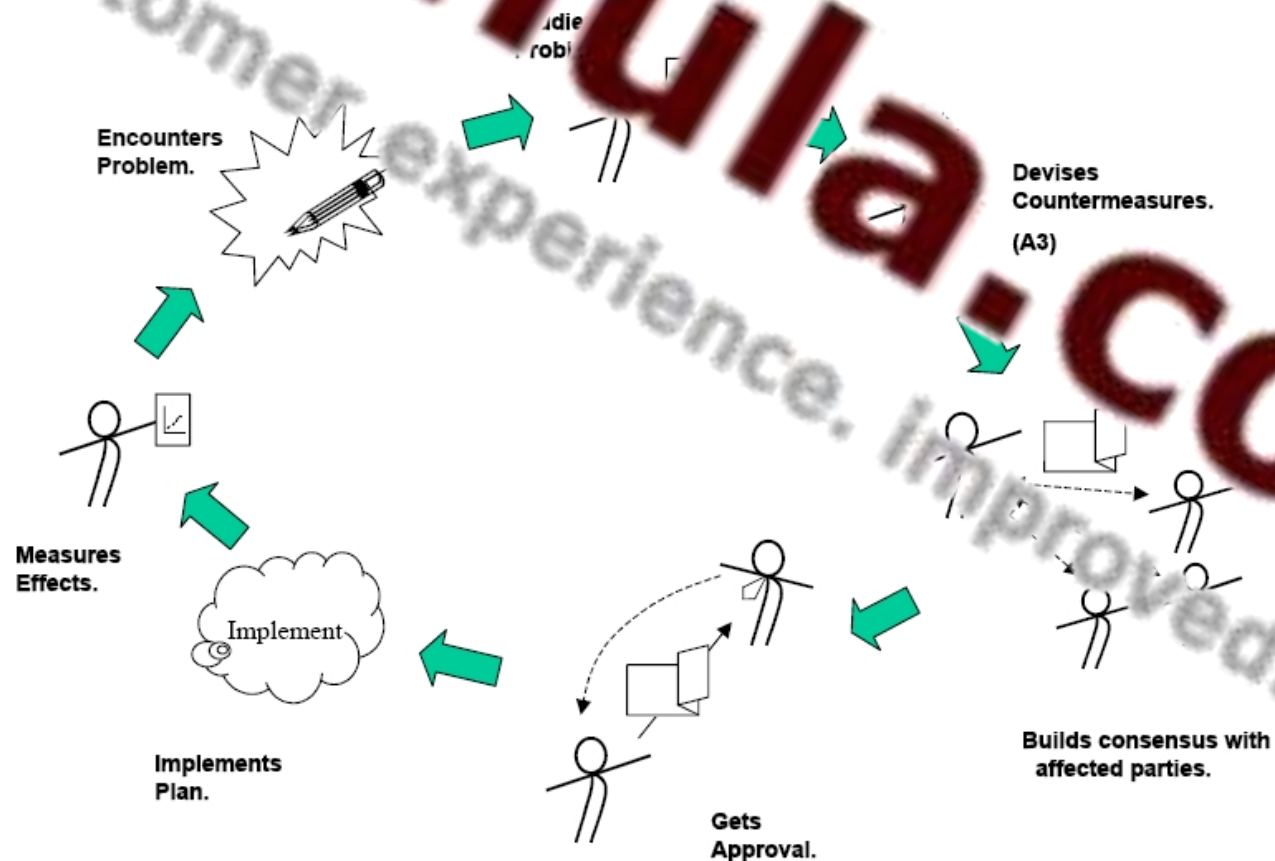


1. Standards are the basis for comparison (before/after)
2. With no standard, can't objectively tell what has changed or what has improved

Continuous Improvement Cycle

Plan → *Do* → *Check* → *Act*

- Plan: Identify & Eliminate Waste
- Do: Develop and Deploy Improvements
- Check: Assess Improvements & Confirm Results
- Act: Standardize / Associated Processes & Procedures



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Lean Progression (1)

JIT							
Category	Takt Time	Process Flow	Material Flow	Pull	Standard Ops	Setup Reduction	Material Replenishment
Level							
1	T/T unknown	No standard routings	Mtl stored at the operators and in plants	MRP driven (push)	Undefined	Greater than 30 minutes	Large batch, variable delivery, EOQ driven
2	T/T known, but not achieved	Standard routings by process	W/H with one shift inventory stored in stockpiles	pull in plant	Defined, but not used	10 minutes	Product packaged in daily quantities
3	Work completed within T/T	Standard routings by product	S'markets with water spiders kitting	Supplier pull	Defined & used	Single digit	Daily quantities delivered to customer demand
4	Optimum productivity at T/T	Integration from supplier to the customer	Mtl delivered in kits from suppliers direct to operators	Build based on customer demand	Reviewed & kaizened frequently	Single digit, zero scrap, zero adjustments	Mtl received in kit containers with daily deliveries to customer demand

Lean Progression (2)

Category → Level ↓	Jishu Ka		Production Smoothing			
	Detection (Quality)	Automation (Productivity)	Production Planning	Visual Control	Cross-Trained Associates	Continuous Improvement Culture
1	Unknown undetected	Machine operator dependant	Reactive & expedite	No visual controls	1 person-- 1 process	No program
2	Manually detect	Operator start, stop, and monitor machines	Reliable weekly schedule	Hourly taking on strategic measures on some lines	Some ability to rotate on like operations (classifications)	Program in place, but not unified (flavor of the month)
3	Auto detect	Operators react to machine andons and TPM is in place	Reliable biweekly schedule	Hourly taking on strategic measures on some lines	Cross-trained for all processes with-in a group	Unified program, but not sustained
4	Prediction of problems	Operators monitor critical attributes from a distance, "Lights out"	Reliable monthly schedule	Plant-wide & aligned using policy deployment	Cross-trained for all processes on the line	All employees accountable for program

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