

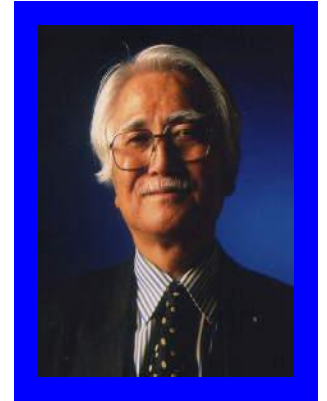
Continuous Improvement (Kaizen)

AICE : MALAYSIA AUTOMOTIVE INSTITUTE

TOPICS OUTLINE

- Introduction
- Definition of Kaizen
- Kaizen Goals
- Kaizen Key Concepts
- Phases of Kaizen
- Basic Tips for Kaizen Activity
- Process of Kaizen
- Process Improvement

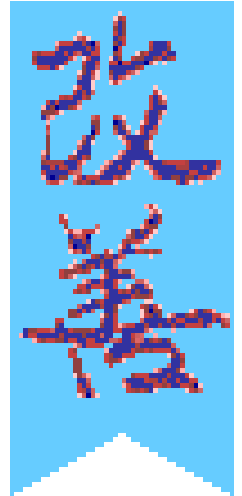
Kaizen – Just Do It!



- Kaizen means continuous improvement.
- Moreover, Kaizen means continuing improvement in personal life, home life, social life and working life (a way of life)
- When applied to the workplace, Kaizen means continuing improvement involving everyone – managers and workers alike.

Mr. Masaaki Imai (1986)

Definition of Kaizen



- Japanese word meaning
 - Kai : gradual and orderly change
 - Zen : for the better
- Involves everyone in the organization in small improvements using conventional knowledge and tools without large capital investments.
- Does not require major or drastic changes, while making little changes is sufficient.
- Focusing on eliminating waste.

Kaizen

Improvement is made by:

- Viewing all work as a process
- Making all processes effective, efficient and adaptable
- Anticipating changing customer needs
- Eliminating non value added process
- Using benchmarking to improve competitive advantage
- Innovating to achieve breakthroughs
- Incorporating lessons learned into future activities
- Using technical tools

Goals of Kaizen

- 1. Company-wide focus to improve process performance**
- 2. Gradual improvement through step by step innovation**
- 3. Organizational activities with the involvement of all people in the company**
- 4. Creating a learning and growing environment**

Kaizen Extends to Individual Life

Everybody deserves to and should be willing to improve himself/herself for the better continually.

“If a man has not been seen for three days, his friends should take a good look at him to see what changes have befallen him”

an old Japanese saying that describes how natural Kaizen is

Kaizen Key Concepts

- PDCA - standardized work
- Quality first
 - If something can be improved, a measure must exist by which improvement can be quantified - quality characteristics
- Upstream management
- Speak with data
- Variability control and recurrence prevention

Kaizen Key Concepts

Activity Aim :

Improvement on productivity, quality performance, safety, cost, working environment, system effectiveness and efficiency while reducing waste.

Benefits :

Reducing inventory, rework and scrap, material travelling, over production, poor quality, space utilization, better allocation of resource, product quality, communications, production capacity, increase employee skill and employee satisfaction.

Phases of Kaizen

1. Training
2. Documentation of the process "as is"
3. Identification of potential opportunities for improvement
4. An iterative and immediate process of introducing enhancements and assessing the effectiveness of these enhancements
5. Presentation of results (typically to management)
6. Generation of the 'action list' (for follow-up interventions)

Basic Tips For Kaizen Activities

- Discard conventional fixed ideas.
- Think of how to do it, not why it cannot be done.
- Do not make excuses. Start by questioning current practices.
- Do not seek perfection. Do it right away even if for only 50% of target.
- Correct it right away, if you make mistake.
- Do not spend money for KAIZEN, use your wisdom.
- Wisdom is brought out when faced with hardship.
- Ask 'WHY?' five times and seek root causes.
- Seek the wisdom of ten people rather than the knowledge of one.
- KAIZEN ideas are infinite.

The Kaizen Wet Blanket

1. I am too busy to study it.
2. It's a good idea, but the timing is premature
3. It is not in the budget
4. Theory is different from practice
5. Isn't there something else for you to do ?
6. I think it doesn't match corporate policy
7. It isn't our business; let someone else think about it
8. Are you dissatisfied with your work ?
9. It's not improvement, it's common sense
10. I know the result, even if we don't do it
11. I will not be held accountable for it
12. Can't you think of a better idea ?

Three Functions Should Happen Simultaneously Within Organizations

1. Maintenance

2. Innovation

- Major improvements in technology/equipment
- Requires substantial investment
- Best suited to a good economy

3. Kaizen



Process of Kaizen

1. Select

This phase select or defines the improvement projects .Its identifies critical customer requirement and link to business need. Its also define the business processes to be undertaken for continuous improvement .

Objective of Select Phase:

- To identify the process or product for improvement.
- To develop an action plan.

Process of Kaizen

Criteria For Selection

In general, any process you choose to improve should be :

- A process that is important to meeting your customer requirements .
- A process that is critical to the successful achievement of your organization goal.

Process of Kaizen

2. Measure

This phase involves selecting product, characteristic, mapping respective process, making necessary measurement and recording the results of the process. This is essentially a data collection phase.

Objective of Measurement Phase:

- Collect baseline performance data for identified projects.
- Understand current problems

Process of Kaizen

3. Analyze

In this phase an action plan is created to close the “gap” between how things currently work and how the organization would like them to work in order to meet the goal for a particular product or service.

Objective of Analyze Phase:

- The objective of this phase is to study the current process in term of WHAT ? WHO? HOW? WHEN? And WHERE?
- To established an improvement goal or the performance objective.

Process of Kaizen

4. Improve

This phase involves improving processes/product performance characteristic for achieving desire result and goals. This phase involves application of scientific tools and techniques for making tangible improvements in profitability & customer satisfaction.

Objective of Improve Phase:

- To develop a propose solution to the existing problems.
- To confirm that the propose solution will meet the desire quality improvement goal.
- To identify resources require for successful implementation of the solution.
- To plan and execute actual improvement

Process of Kaizen

5. Control

This phase requires the process conditions to be properly documented & monitor. In this phase the gains device by certain specific projects are applied to the other projects as well as for optimum business result.

Objective of Control Phase:

- To ensure that our processes stay in control after the improvement solution has been implemented.
- To quickly detect the out of control state and determine the associated cause so that action can be taken to control the problems before non - conformance are produces.

Improvement Techniques

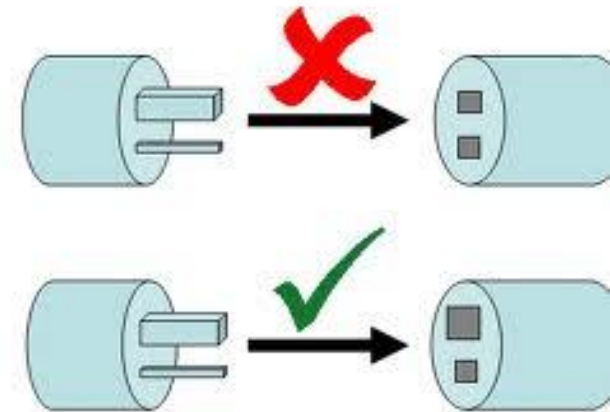
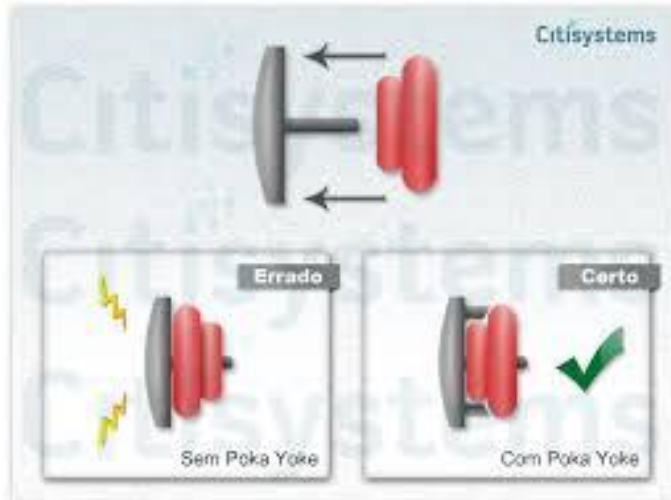
Some Simple Techniques:

- Fishbone Diagram
- Check Sheet
- Pareto analysis
- Histogram
- Scatter Diagram
- Why-Why Analysis
- Process Capability Analysis
- Time Study

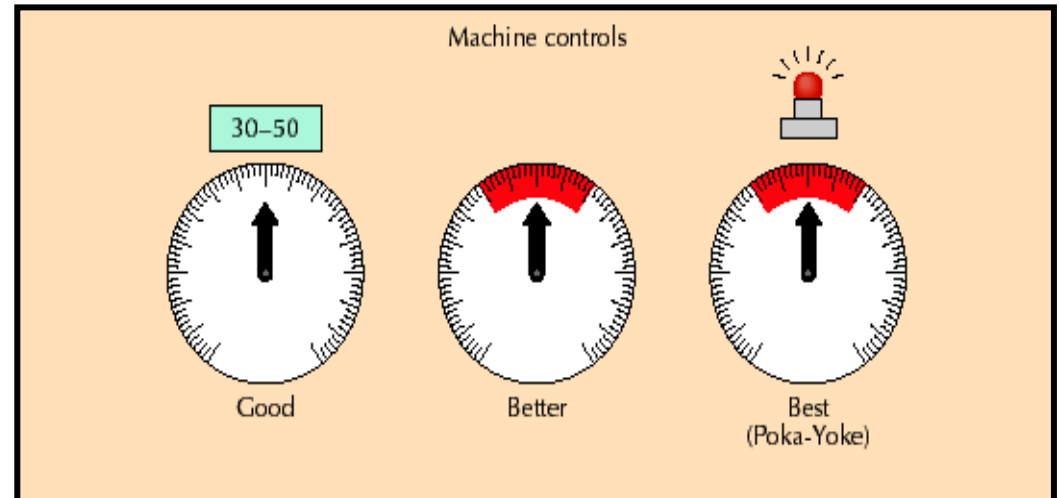
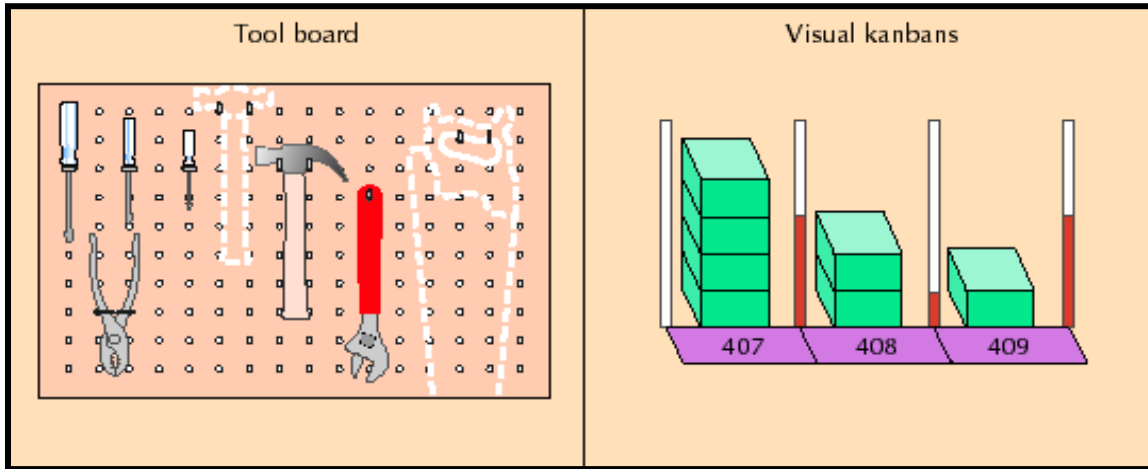
Some Powerful Techniques:

- Process Observation
- Value Stream Mapping
- SMED
- Poka-Yoke
- Cell Layout
- Taguchi Methods
- FMEA
- Response Surface

Improvement Techniques



Improvement Techniques



Process Improvement



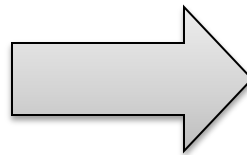
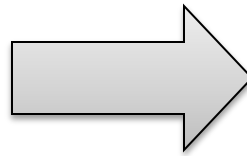
Working Table



Filling Machine
Oil



Process Improvement



Process Improvement

5 basic ways to improve process:

- 1. Reduce resources - uses more resources than necessary is wasteful**
- 2. Reduce errors - errors are a sign of poor workmanship and require rework**
- 3. Meet or exceed expectations of downstream customers**
- 4. Make the process safer**
- 5. Make the process more satisfying to the person doing it**

