

CONTINUOUS IMPROVEMENT (Kaizen)

(A Never-Ending Improvement Process)

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Transforming a factory into a Lean manufacturing operation is a gradual process that can be described as a journey rather than a destination. Both long-term and short-term goals are needed to guide the transformation. The journey to Lean is an ongoing one, it requires a strong commitment, an appropriate organizational structure, and just plain work. The term continuous improvement is linked to Kaizen that means change for the better. In Lean manufacturing, this change for the better can result in gradual improvement of products, workplace efficiency, customer service, and reduction of waste. Lean production can help to create a continuous learning environment that will keep the gains achieved and encourage new strategies to achieve a company's long-term goals.

The Basic Principles of Kaizen

The principles of Kaizen that must be understood are:

1. People are the most important asset. Teamwork provides results and gives everyone a feeling of accomplishment. A dozen heads are better than one.
2. Everyone must be open to change and improvements. Ideas from workers, management, suppliers, and customers can lead to new, better and easier ways of doing things.
3. Gradual changes are easier to accept than complete overhauls and employees are more likely to accept gradual change. Small changes will demonstrate how a tiny improvement can provide real results.
4. Old ways of doing things may be comfortable, but not very efficient. Everyone in a company has to accept **Change is Good** and necessary for company survival.
5. Making excuses is unacceptable if it is *We have always done it this way and don't see why we have to change now*. Keeping the old ways may result in a company not being able to survive the competition.
6. If the job is right the first time, waste will be reduced. Waste accounts for as much as 35% or higher of manufactured product. By eliminating waste, profits increase.



7. Correct process errors immediately or they become larger. Equipment breakdowns and failures are a result of letting a minor problem become a major headache.

Seven Typical Wastes in Production Systems

1. **Over-production Waste** - occurs when products are produced at a faster rate than is required. Causes may be a lack of communication, anticipating demand, poor scheduling, and production management.
2. **Excessive Inventory Waste** – is any inventory that is more than what the customer ordered. Inventory that sits in storage areas waiting for an order is a waste of material, money tied up, and the use of valuable factory space.
3. **Time Delays Waste** - machine wait time or human wait time contributes to waste within a company.
4. **Transportation Wastes** – such as unnecessary handling or movement of materials, numerous storage areas, and excessive moving equipment
5. **Processing Errors** - are wastes that occur during the process manufacturing stage. They can be human error, machine-caused defects or quality problems.
6. **Corrections/Defects/Rework Waste** - the time it takes to correct, inspect, scrap or rework is a major waste that must be avoided.
7. **Excess Motion Waste** - any unnecessary human bending, reaching, walking or movement during a manufacturing process is a waste such as looking for tools and material too far from work areas.



Kaizen's Event Purpose

The purpose for holding a Kaizen event is basically to identify waste in a manufacturing process and to eliminate it, thereby improving production. A Kaizen event is **Team Oriented**, as it gathers the managers, operators, and owners of a process in a specific place to analyze, and map out the existing methods of the operation. It is also a forum for developing, discussing, and allowing changes to be made to improve the process.

Usually there are four stages that a Kaizen Team undertakes.

- **Step One:** Analyze and map the current processes of a specific area of the plant.

- **Step Two:** Identify the problems and the opportunities for improvement.
- **Step Three:** Implement changes to the process that allow for improved workflow.
- **Step Four:** Evaluate the changes made and follow up, with adjustments as required.

Kaizen's Key Personnel

- The **Team Leader** who is respected by both the workers and the company's managers. The ideal leader will have some experience with Kaizen principles and events.
- The **Team Coordinator's** role is to ensure that all of the components of the event are well planned, scheduled, implemented and reviewed. The coordinator acts as the events facilitator and guide, to help team members.
- The next key group is **Upper Management** whose duty is to choose the Event Coordinator and to support that person with whatever resources may be required.



After the Event

Once the event has been completed, it is the team leader's responsibility to put the hard copy of the final presentation together and to circulate it to team members, management, and anyone else who requires a copy.

- The follow-up to the event is also the team leader's responsibility. He or she should organize a meeting where all team members and other concerned parties may review the results of the Kaizen and discuss further changes that can improve a future Kaizen blitz.
- The team leader must prepare a personal report, outlining his or her experiences for the Kaizen including successes and failures.
- This report should be made available to any future Kaizen Team Leaders for review before they embark on Kaizen journeys.