

## Seven Typical Wastes in Business and Manufacturing

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There are two types of activities in any business or manufacturing operation; they are Value-Added operations and Non-Value Added operations. Value-added operations add value to the finished product or service and the customer does not mind paying for them. Non-value added operations do not add value to the product but add cost to the product for which a customer is not very happy to pay for and must be eliminated or reduced as much as possible. A few of the non-value added operations that should be reduced or eliminated include:

1. **Over-production Waste** - is created when a company produces or has on hand more of a product than the customer has ordered. It also occurs when products are produced at a faster rate than is required. Causes may be a lack of communication, anticipating demand, over automation, poor scheduling, and production management.
2. **Excessive Inventory Waste** - can be defined as any supply of inventory which is more than what the customer ordered. With Kaizen any inventory that sits in storage areas in anticipation of future demand is a waste such as materials between stages of production, excessive material handling resources, including huge storage areas, a large materials-handling workforce, too much equipment used for moving products from production line to storage to loading dock areas.
3. **Time Delays Waste** - machine wait time or human wait time contributes to waste within a company. Wasted Time when machine and equipment failures cause the workforce to be idle, improperly trained or employees unsuitable for the job, unbalanced operations, or not enough employees for the process.
4. **Transportation Wastes** - such as any unnecessary handling or movement of materials, numerous storage areas, complicated inventory controls, excessive moving equipment such as carts, dollies and forklifts, damaged materials from multiple moves.
5. **Processing Errors** - are wastes that occur during the process manufacturing stage. They can be human error, machine-caused defects or quality problems. Some of the characteristics of process waste are: poor product design, defective parts, process bottlenecks, and poor interpretation of customer specifications.
6. **Corrections / Defects / Rework Waste** - the time it takes to correct, inspect, scrap or rework is a major waste that must be avoided. Some of the characteristics of Defective

Product waste are: extra floor space, equipment and manpower, missed shipments or late deliveries to customers, lower profits due to scrap, and the material flow to rework defective products.

7. **Excess Motion Waste** - any unnecessary bending, reaching, walking or movement during a manufacturing process is a waste. The characteristics of motion waste are: looking for tools, materials placed too far from work areas, excess reaching for materials during the building of a product. The causes of Motion Waste are: poor layout of work areas, cluttered work areas, lack of 5 S - (sort, storage, shine, standardize, sustain), inconsistent work methods, and poor machine and equipment design.

Every process during the manufacture of products or providing a service must be reviewed for Value-Added activities. If an operation does not add value to the product, it must be improved to eliminate whatever waste it may be creating and adding cost to the products or service.

### **The Cost of Waste**

Waste and its reduction or removal is the main focus of a Lean program because it involves inefficiencies, consumes time, and raises the cost of products or service to the customer. Waste is not the same thing for all people, but waste is a definite cost in any process or service. What is waste costing the average company? The average waste in businesses and companies is about 35% or higher of their annual revenue. Let us relate it to a business, company or organization that is doing one million dollars worth of business a year.

Company Business/Year	Waste Costs/Year	Waste Cost/Month
\$1,000,000	\$350,000	\$3,500

Every company could use this lost potential revenue better, the only problem is to identify and then remove or reduce as much of the waste as possible. So the first step is to implement a Lean program and see the results in days or weeks, instead of months and years. It has been done by many companies throughout the world who have saved millions of dollars a year over the past 20 years by implementing Lean Systems early

The fact that not every business or industry has implemented a Lean system many years ago remains a mystery because the rewards are so amazing. It seems that people are skeptical and not prepared to invest in themselves even though some of the Lean principles cost very little money to implement.