

# Study Guide: The 8 Wastes of Lean



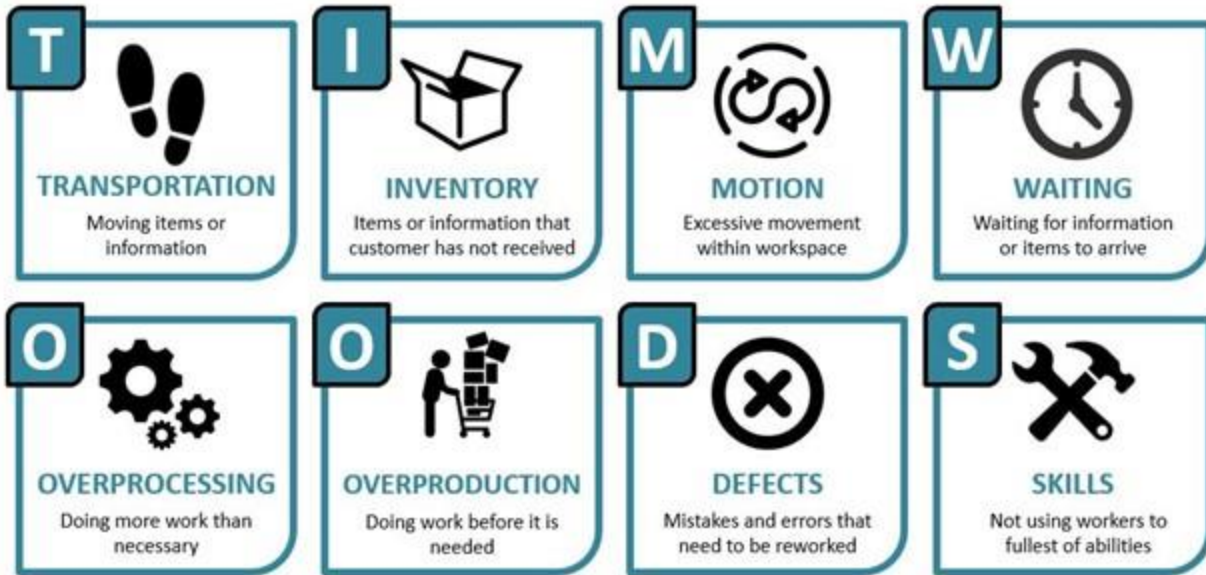
## Introduction to the 8 Wastes of Lean

The 8 Wastes of Lean is one of the most important concepts in Lean.

A waste is anything that does not transform your product or service into what the customer wants.

Put another way, waste is any part of the process that does not produce value for the customer.

The goal of Lean is to eliminate waste so that we don't struggle, and the customer gets exactly what they want.



**There are 8 Wastes in Lean:**

- Over production - whenever you make more than what is needed or sooner than its needed.
- Inventory - goods or services stored up and waiting to be used
- Motion - any human activity (motion) that does not create value for the customer
- Transportation - moving things from place to place; transportation is similar to motion
- Extra processing - the added steps taken to bring the product or service to the desired quality (this includes rework)
- Waiting - products, services, or customers remaining idle while other steps in the process are being executes
- Defects - a bad product or service
- Non-utilized talent and ideas - failing to appreciate, utilize, and gain from the talent and ideas of people

Over production is often considered the worst of all wastes because it multiplies the effect of all others. Others consider non-utilized talent and ideas to be the worst of all wastes.

You can't eliminate waste if you can't see it. The first step to driving improvement is to learn to see waste. With practice, you'll learn to see waste every that you go.

## The 8 Wastes of Lean: Motion

Motion has to do with human motion. It accounts for a ton of inefficiency and waste in how we do our jobs every day.

Motion does not add value to your customers.



By rearranging the workspace so that tools, supplies, and resources are organized near the point of use can dramatically help to reduce motion.

## The 8 Lean Wastes: Inventory

Inventory is a waste. It generally falls in to three categories:

- Raw materials
- Work in Process (WIP)
- Finished product

Other types of inventory:

- Computer files
- Emails
- ...stuff of any kind



The more inventory that is stored, the more waste of transporting, motion, and other forms of waste is produced.

As inventory increases, the need for more space increases. As the need for space increases, overhead cost increases as well. The more inventory you have, the more expensive it is to manage.

There is a close relationship between Over production and inventory.

Maintaining inventory can also lead to more defects. Defects will hide inside inventory. You may produce enormous amounts of defects before you learn that there is a major problem.

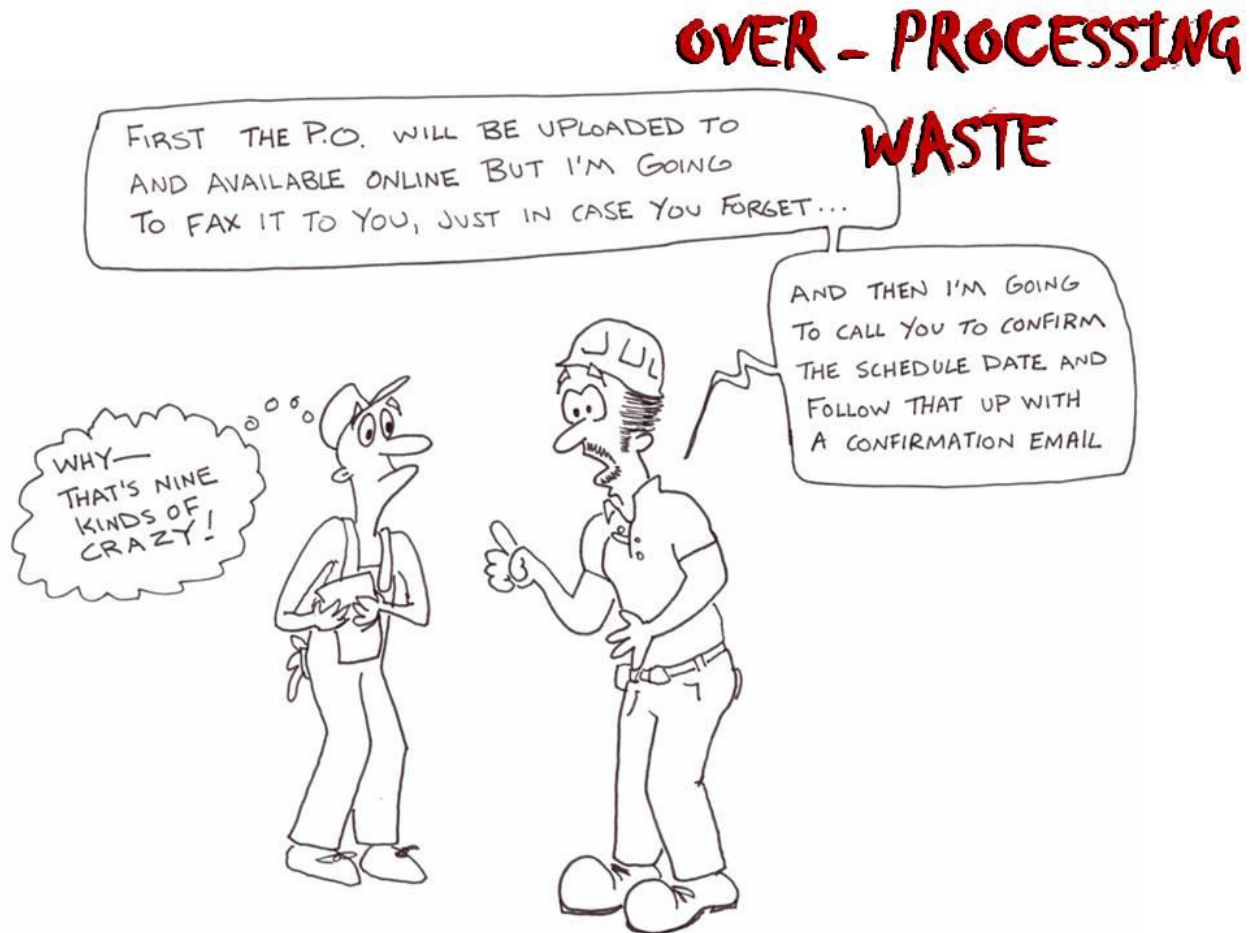
The more inventory you have, the more inefficient things become.



## The 8 Lean Wastes: Over processing

Over processing is any extra effort taken to get things right.

Whenever we spend more time, energy, material or other resources needed to do something, its a waste.



Very often, Over processing is the results of not really understanding what's needed to get the job done.

## The 8 Lean Wastes: Defects

A defect is anything that is wrong with a product, service, or even information.

We want to get rid of all defects is possible.

There's generally two ways to get rid of defects:

- Increase inspection
- Improve controls

Controls are almost always better for preventing defects. Its better to make it impossible for defects to happen than catching the issue after the fact.

No amount of inspection will prevent defects. Defects within a company can be costly, inefficient, and can damage your reputation with customers.



Use Poka-yokes to prevent defects from happening in the first place.

Poke-yoke is a Japanese term that means to error-proof a process.

By improving controls, you can eliminate the need for inspection, thus minimizing wasted motion.

## The 8 Lean Wastes: Waiting

Waiting is a waste because your time is a resource as well. If you're not using your time to create value for your customers, then its being wasted.

The ultimate form of the waste of waiting is when you cause your customers to wait.

There are several forms of the waste of waiting:

- Waiting people
- Waiting things
- Waiting information



When people have to wait, they become frustrated and annoyed.

In a well-designed process, things don't wait. They keep moving through the process.

Waiting information can be hard to see; however, work can often be delayed due to waiting for information.

Delays within the process ultimately cause delays for the customer.