



The 7 WASTES of LEAN

Eliminate Waste. Streamline Processes.

Improve Quality.

KaiNexus

Contents

3 | Executive Summary

4 | Motion

5 | Inventory

6 | Waiting

7 | Defects

8 | Overproduction

9 | Transportation

10 | Overprocessing

11 | Human Potential

12 | Conclusion

Executive Summary

Companies that utilize Lean methods and management practices work endlessly to increase efficiency and improve quality by eliminating waste.

This can be done in organizations of any size, in any industry, anywhere in the world. Sometimes the waste is easy to spot; other times it requires a careful eye for detail.

There Are Actually 8

The “7 Wastes of Lean” were originally categorized by Taiichi Ohno, one of the fathers of the Toyota Production System. He separated the waste he saw into seven categories, which made them easier to identify and eliminate.

Just as Lean companies constantly evolve and adapt, so does the Lean philosophy as it changes to accommodate new situations and learning over time.

As such, an eighth waste was recognized and added in the early 2000s – the “Waste of Human Potential” or the “Waste of Talent.”

The Wastes of Lean:

1. Motion
2. Inventory
3. Waiting
4. Defects
5. Overproduction
6. Transportation
7. Over processing
8. Human Potential

MOTION

unnecessary movement of employees

Wasted motion can be small, such as walking to a waste basket that's too far from the workstation, or large, such as sending employees out in the field without the tools they need to complete their work.

Waste of motion is harmful to productivity, the bottom line, and the efficiency of a process.

Wasted motion can result in physical injuries to employees through repetitious, unnecessary movements.

Streamlining movements allows them to reduce the process time and reallocate that time to value-added activities.

CAUSE

Wasted motion occurs as a result of many things, including:

Planning of Tasks & Standard Work

If an employee needs to carry three items from point A to point B, all three should (when possible) be transported at once (or kept closer).

Poor Design of the Workspace

When you know that Item X must be used five times per hour, it should be located as close as possible to the point of use.

Poorly Designed Software

When a doctor or nurse has to click too many times in a system to complete small tasks.

INVENTORY

more inventory than necessary

Wasted inventory can be as simple as having too much of one particular supply so that it doesn't fit in its designated space or having too much work in progress in the flow of your production.

CAUSES

Poor Flow

If the capacity of different steps in a process is not balanced, inventory will accumulate between steps.

Improper Supply Ordering

Ordering enough eggs for 200 boxes of cookies “just in case” when you usually only sell 60.

Issues in the Supply Chain

Buying excess simply because it's available or cheaper without considering the cost of storing it.

Why It Matters:

Extra inventory takes up space that could be better utilized in ways that add value. Managing that inventory takes more money and resources.

Streamlining your inventory process enables you to clear overcrowded spaces, free up available cash, and reduce the amount of time your employees spend organizing, storing, and locating materials.

WAITING

too much downtime

This waste occurs when employees, processes, or customers are left waiting for something to occur before they can continue.

When people are left waiting for others to finish upstream tasks or for supplies to arrive, their entire work process can grind to a halt. This quickly results in downstream effects, as others downstream from the waiting are forced to wait as well, or fall behind in their own work.

Eliminating this waste streamlines processes and speeds the flow of value to customers by allowing you to produce your goods or service your customers at the required speed and timing.

Possible Causes:

- Process Design
- Scheduling Errors
- Insufficient Training



Defects

time and materials spent doing something incorrectly

The waste of defects includes quality errors that invariably cost you much more than you expect, as each defective product necessitates more work or replacement, wasting resources and materials, and can lead to lost customers.

Conducting Root Cause Analysis and utilizing Standard Work procedures can minimize defect.

Possible Causes

The waste of defects can occur as a result of many things:

Poor Quality Controls

Ex. Software with bugs that has to be recoded

Poor Documentation

Ex. Products that are shipped to the wrong address

Lack of Standards

Ex. Misdiagnosis in healthcare that lead to unnecessary tests or treatment

OVERPRODUCTION

producing more products than needed

Overproduction results in excess inventory that can expire, take up space and money to store and maintain, and tie up capital that could be more productively utilized.

CAUSES

Schedule

Insisting on producing to your planned schedule because of targets or incentives.

Poor Planning of Production

Producing 200 items to get costs down by spreading out overhead when you usually only sell 100.

Just in Case

A company produces extra products 'just in case' they will need them later.

Why It Matters:

Overproduction is one of the most damaging wastes because of the slippery slope that affects other areas. It leads to an excess in inventory, which causes more changes for defects, and then costs more in transportation and management.

Money, time, space, and materials are valuable, and overproduction drains all of them at once. Eliminating overproduction helps alleviate waste in the other areas as well.

TRANSPORTATION

excess movement in the transport of products or personnel

A waste of transportation results in costs such as the fuel, equipment, and time.

Long transportation distances also leads to increased inventory, which can make defects harder to find quickly.

Eliminating unnecessary transportation helps to streamline processes and increase efficiency, including reducing risks of damages to goods and the cost of transportation.

CAUSE

The waste of transportation can occur as a result of many things:

Poor Logistics

A poorly designed transportation route or supply chain network extends shipping times and costs.

Poor Trip Planning

An employee was sent on a work trip without the correct tools and was not able to complete work.

Poor Layout

A manufacturing plant requires that a product be moved from one end of the plant to another instead of in a line.

OVERPROCESSING

over-engineering or putting more effort into a product than it's worth

Overprocessing is sometimes difficult to find because you will need to understand how customers use your product or service so that you can put more effort into the parts of the product or service that get the most use.

Overprocessing is also related to multiple redundancies in the production process. For example, quadruple checking the product may be excess and can be considered time consuming and a case of overprocessing.

Possible Causes:

- **Misreading the customer's needs**
Ex. Developing a software feature that customers do not use or did not want, or polishing a part that no one will ever see.
- **Overdoing "quality"**
Ex. When you don't understand what the customer values, you might put a product in a pretty box that's hard to open, creating additional work and frustration for the customer.
- **Trying to fix what isn't broken**
Ex. When you know that a feature is used often and try to add to it but end up removing or changing what people actually liked about it.

HUMAN POTENTIAL

stifling the human potential in an organization

The waste of human potential results from a failure to engage people in being their best selves by preventing them from doing their best work, being fulfilled, and improving themselves and their work.

Having new ideas or suggestions to improve processes and the way that business is done and not taking advantage of them could be considered the biggest waste of them all.

The waste of untapped human potential could offer improvements to help eliminate the other seven wastes, therefore reducing the financial and time-related costs and increasing value to customer.

CAUSE

Wasted human potential occurs as a result of many things, including:

Not Taking Input from Staff

A frontline staff member may have a way to solve an issue, but their input is not taken into consideration because “that’s not the way we’ve always done it.”

Discouraging Innovation

When an employer drills into an employee that there is only one way to do things, they stifle innovation and participation.

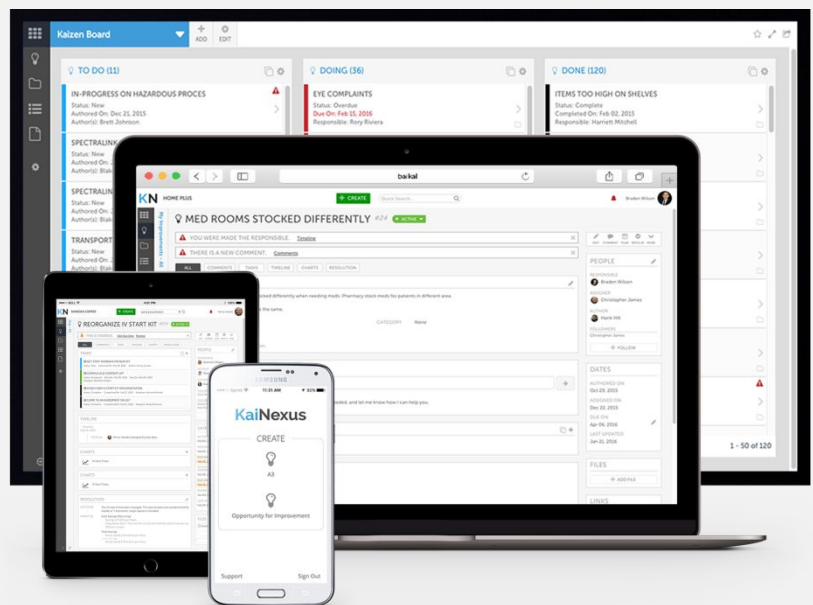
Using Skilled Workers for Less-Skilled Tasks

Nurses in a hospital taking out the trash instead of employing enough environmental services staff so that nurses can focus on patients.

CONCLUSION

Eliminating the wastes of Lean requires a never-ending journey of continuous improvement. Successful organizations implement an intentional improvement culture based on leadership, methodology, and enabling technology.

- Staff can easily capture and implement opportunities for improvement eliminating waste with software that improves communication, accountability, and visibility. Of course, empowering employees in this way also reduces the waste of human potential.
- Leaders establish that eliminating wastes is a priority in the organization, demonstrating their commitment to the culture of improvement by providing a platform built to specifically support it.
- The best continuous improvement software gives metrics and statistics to measure the changes. When a staff member, team, or department can see the changes that they implemented had tangible results, they are more apt to suggest improvements in the future. These changes can be measured with financial implications, time spent or hours worked and have direct connections to the wastes of Lean.



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