



REAL TOOLS FOR YOUR BUSINESS

Businesses and organizations have unique challenges. As you know, our current experience is no exception. The question becomes how do we meet the challenge and opportunity in front us. I would advocate proven principles that have helped companies such as Toyota. This manufacturer has made popular Lean manufacturing program which teaches correct principles for business that transcend all business. Whatever your business may be, you may already be using Lean principles or could benefit from them. The journey starts with the first step to change. Improvement is not a destination but a process. Lean is often times referred to as, "Continual Improvement." Lean has been adapted ,for all work environments. It is typically not one silver bullet, rather it is incremental steps that over time add up to measureable improvements. For example, a Toyota manufacturing facility may implement a thousand small changes over a period over a year. All of these small changes add up and have moved Toyota to the position of second largest auto producer in the world. However, a few specific changes in your business might bring the change or improvement that you have been looking for.

Here are a few of the programs that make up Lean. These principles have been utilized from companies both large and small. Locally, you will find that several companies have benefited from Lean manufacturing programs.

One of Lean's best programs is 5S. Effective 5S Programs improve quality, cost, safety, the customer experience, and morale. It is easily applied to any business and any process, by anyone. Establishing clear standards for 5S and clear local ownership of the work zones is essential to operational excellence. The ability to set and follow basic standards of excellent organization and cleanliness is a precondition to high performance in any workplace. There are many reasons to begin your Lean journey with 5S:

- Improves set up times
- Improves quality
- Improves safety
- Improves morale
- Improves productivity

There is an order and logic to how 5S is carried out. It doesn't make sense to start by arranging things neatly, if most of those things are not needed. The five 'S' words below are the steps of this program.

Step	Name	Action	Catch Phrase
1	Sort	Remove unnecessary items from the workplace	"When in doubt, throw it out"
2	Straighten	Locate everything at the point of use	"A place for everything , and everything in its place"
3	Sweep	Clean and eliminate the sources of filth	"The best cleaning is to not need cleaning"
4	Standardize	Make routine and standard for what good looks like	"See and recognize what needs to be done"
5	Self-discipline	Sustain by making 5S second nature	"The less self-discipline you need, the better"

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10 Commandments of Improvement

1. Abandon fixed ideas
2. Think of ways to make it possible
3. No excuses needed
4. Go for the simple solution, not the perfect one
5. Correct mistakes right away
6. Use your ideas, don't hide them away
7. Problems are opportunities
8. Repeat 'why' five times
9. Seek ideas from many people
10. There is no end to improvement

The activities the comprise work can be grouped into three categories:

1. Value-added work
2. Non value-added work
3. Waste

7 Types of Waste

- Overproduction
- Transportation
- Waiting
- Motion
- Processing
- Inventory
- Defects

The 7 Wastes of Production

Taiichi Ohno defined the 7 types of waste that describe all activity that adds cost but not value. In a Lean Enterprise these 7 types of "Muda" (Japanese for "Waste") are the target of an endless pursuit of waste elimination. Learning to see "Muda" all around you is the key to starting out on your journey of transforming your organization into a Lean Enterprise.

The 7 Wastes	Definition	Examples	Causes	Countermeasures
Overproduction	Producing more than the customer needs right now	Producing product to stock based on sales forecasts Producing more to avoid set-ups Batch process resulting in extra output	Forecasting Long set-ups "Just in case" for breakdowns	Pull system scheduling Heijunka – level loading Set-up reduction TPM
Trans- portation	Movement of product that does not add value	Moving parts in and out of storage Moving material from one workstation to another	Batch production Push production Storage Functional layout	Flow lines Pull system Value Stream organizations Kanban
Motion	Movement of people that does not add value	Searching for parts, tools, prints, etc. Sorting through materials Reaching for tools Lifting boxes of parts	Workplace disorganization Missing items Poor workstation design Unsafe work area	5S Point of Use Storage Water Spider One-piece flow Workstation design
Waiting	Idle time created when material, information, people, or equipment is not ready	Waiting for parts Waiting for prints Waiting for inspection Waiting for machines Waiting for information Waiting for machine repair	Push production Work imbalance Centralized inspection Order entry delays Lack of priority Lack of communication	Downstream pull Takt time production In-process gauging Jidoka Office Kaizen TPM
Processing	Effort that adds no value from the customer's viewpoint	Multiple cleaning of parts Paperwork Over-tight tolerances Awkward tool or part design	Delay between processing Push system Customer voice not understood Designs "thrown over the wall"	Flow lines One-piece pull Office Kaizen 3P Lean Design
Inventory	More materials, parts, or products on hand than the customer needs right now	Raw materials Work in process Finished goods Consumable supplies Purchased components	Supplier lead-times Lack of flow Long set-ups Long lead-times Paperwork in process Lack of ordering procedure	External kanban Supplier development One-piece flow lines Set-up reduction Internal kanban
Defects	Work that contains errors, rework, mistakes or lacks something necessary	Scrap Rework Defects Correction Field failure Variation Missing parts	Process failure Mis-loaded part Batch process Inspect-in quality Incapable machines	Gemba Sigma Pokayoke One-piece pull Built-in quality 3P Jidoka