# Management Essentials

# Exercise # 13

# Eliminating Waste

With your team, study your process and identify waste that you can eliminate. Use the worksheets son the following pages to help facilitate your discussion.

# The Seven Forms of Waste

The founders of Lean Manufacturing were Taichi Ohno and Dr. Shigeo Shingo. They focused on seven types of waste:

1. **Inventory:** Any “piles” are waste. Anything that is standing still and not in motion is waste, whether it is in a warehouse or in bins or on pallets in the production area. Inventory consumes space (waste), requires employees to move and manage (waste), inventory requires accounting (waste), and instead of having one mistake that is caught immediately, you will have a large pile of defects… big waste! Just-in-time is the process of arranging the supply chain and production process so that each input arrives at the process just in time, and each output goes directly to the next stage of the process, just in time.
2. **Motion:** Motion is a key variable addressed by industrial engineering. Teams in lean processes constantly study their motions to determine how motions can be eliminated or made easier by placement of fax machines and filing cabinets.
3. **Transportation:** If steps in the process are separated by physical space, forklifts, trucks, dollies, or other mechanisms of transportation are required. All of this is waste. The production process should be designed to minimize transportation.
4. **Defects:** Every defective product is waste. The time, effort, and supply that went into producing it are waste. Re-working errors is necessary, but waste is not, because if it had been done right the first time, the re-work would not be needed. It is the job of the team to use problem-solving methods to study and eliminate waste.
5. **Waiting time:** Kanban and other methods in lean production are designed to eliminate waiting time. People should be flexible, trained, and assigned to move from one job to another in a production area so they can smooth the flow of production elements to prevent waiting for someone else to do something that only he or she can do.
6. **Overproduction:** Overproduction produces the need for storage, big piles rather than small piles.
7. **Processing:** By processing Shingo is referring to inefficiencies within a process – things done the wrong way, lack of training, etc.

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| The Seven Forms of Waste | |
| Type of Waste | Examples in Your Organization |
| Inventory |  |
| Motion |  |
| Transportation |  |
| Defects |  |
| Waiting Time |  |
| Over Production |  |
| Processing |  |



