Understanding 8 Areas of Waste:

- **System downtime or response time**
- **Approvals from others**
- **Information from customers**
- **Meetings starting late**
- **Late reports, paychecks, or projects**
- **Excessive office supplies**
- **Computer files never used**
- ** initial reports, paychecks, or projects**

**Why Use Lean?**

Lean principles help to examine business processes and focus on minimizing unnecessary costs, reducing waste and improving inefficient procedures.

**Benefits:**
- Identifies problem areas and bottlenecks
- Increases business efficiencies – make sure staff time is spent on value-added activities.
- Save money – reduce overhead in paperwork
- Simplify processes
- Conform to rules & regulations and codes of conduct – standardizing processes using Lean principles.

**What is Lean?**

Lean consists of proven tools and techniques that focus on minimizing wasteful activity and adding value to the end product to meet customer needs. The 8 areas of waste can be used to understand the inefficiencies:

<table>
<thead>
<tr>
<th>Waste Area</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting</td>
<td>Activities or actions taken that add no real value to the product or service, making the activity or action a form of waste.</td>
</tr>
<tr>
<td>Inventory</td>
<td>Activities or actions taken that add real value to the product or service.</td>
</tr>
<tr>
<td>Under</td>
<td>Activities needed to stay in business legally.</td>
</tr>
<tr>
<td>Correction / Rework</td>
<td>Activities or actions taken that add real value to the product or service.</td>
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**How to Implement Lean:**

1. **Identify Waste:** Recognize and quantify the areas of waste.
2. **Create a Lean Culture:** Encourage a mindset of continuous improvement.
3. **Plan and Implement the Change:** Develop and execute a plan to eliminate waste.
4. **Measure the Results:** Monitor progress and adjust the plan as necessary.

**Value-Stream Mapping (VSM):**

A mapping method called Value-Stream mapping is typically used ot capture the “current state” process, including both the value-added and non-value added steps. Value-stream mapping provides an overall view of business processes as they are now, mapping the material and information flows and can be used to create the “future state” process after the “leaning” has taken place.

**Lean Terminology/Metrics:**

- **Non-value added**
  - Activities or actions taken that add no real value to the product or service, making the activity or action a form of waste.
  - Value-added
  - Activities or actions taken that add real value to the product or service.
  - Incidental Work
  - Activities needed to stay in business legally.
  - Internal Customer
  - Receiver of the product or service inside the organization, often the individual downstream process.
  - External Customer
  - Receiver of the product or service outside the organization.

**Kaizen Philosophy:** Japanese for “improvement” or “change for the better”. Frequent small improvements, the cycle is:

- Standardize an operation
- Measure the standardized operation
- Gauge measurements against requirements
- Innovate to meet requirements and increase productivity
- Standardize the new, improved operations

**Lean Metrics:**

1. **Process Time (PT)** – actual “touch time” of one work item; exclude interruptions
2. **Delay Time (DT)** – time work item is delayed or not touched
3. **Lead Time (LT)** – start time to finish time; L=T+D+T
4. **% Complete and Accurate (CA)** - % of work entering a process that is complete and accurate.

**MOTION:**

- Copy machine too far away from users
- Digging through stacks of paper
- Reaching for commonly used tools
- Misplacing equipment/items
- Using too many layers for electronic folders

**EXTRA PROCESSING:**

- Producing repetitive documents from scratch
- Poor filing system
- Lack of visual controls
- Too many approvals required for action
- Unclear reports/memos published
- Reviewing a document multiple times to determine action
- Meetings without agendas for action
WASTE WALK
Audit questions to determine “pain points” in an area to be Leaned

WAITING
1. Are there excessive signatures or approvals required?
2. Is there too much dependency on others to complete a task?
3. Are there delays in receiving information?
4. Are there computer program version problems causing delays?
5. System downtime or response time causing delays?
6. Are there cross-departmental resource commitment issues?

INVENTORY –
1. Are files (or work) awaiting excessive signatures or approvals?
2. Are files awaiting task completion by other?
3. Are there delays in receiving information?
4. Are we purchasing excessive supplies of any kind?
5. Do we have any obsolete files (electronic or hardcopy) in the area?
6. Do we have obsolete equipment in the area?
7. Is there batch processing of transactions or reports?

UNDERUTILIZATION OF PEOPLE –
1. Are we in positions we were trained to do?
2. Can we assist other areas when work is slow in an area?
3. Can we be trained to do more within the organization?
4. Are the business tools adequate for the job?
5. Are you restricting or not offering training on technical resources?
6. Are you delaying implementation of computer components or software?

CORRECTION/REWORK –
1. Do we have any data entry errors?
2. Do we have pricing, quoting, billing, or coding errors?
3. Do we forward partial documentation?
4. Do we ever lose files or records?
5. Do we ever encounter incorrect information on a document?
6. Is there a lack of standardized work?

OVERPRODUCTION –
1. Are making extra copies, more than needed?
2. Are we printing, faxing, e-mailing more than what is needed?
3. Are we entering repetitive information on multiple work documents or forms?
4. Are we ordering more tests or services than what is required by the customer?
5. Are we purchasing items just in-case they are needed?
6. Are we preparing reports that are not used or read?
7. Are we having meetings without the necessary information for action?

SORT – When in doubt, sort it out!
1. Are we entering repetitive information on multiple work documents or forms?
2. Are we preparing reports that are not used or read?
3. Are we entering repetitive information?

MOTION –
1. Are you searching for computer files on your desktop or using too many layers for electronic folders?
2. Are you searching for work documents (files) in cabinets and/or drawers?
3. Are you constantly reviewing the same manuals for information?
4. Are you hand-carrying paper work to another process or department regularly?
5. Are you misplacing equipment?/Items?
6. Are you reaching for commonly used tools?

MATERIAL MOVEMENT/TRANSPORTATION –
1. Are you delivering documents that are not required?
2. Are you doing excessive filing of work documents or filing documents that will never be used again?
3. Are you requiring multiple approvals?
4. Are you hand delivering items that can be sent in interoffice mail?

EXTRA PROCESSING –
1. Are we producing repetitive documents from scratch?
2. Do we have a poor filing system?
3. Is there a lack of visual controls?
4. Are we too many approvals required for action?
5. Are we entering repetitive information?
6. Are we doing more work than is required for that process?

SHINE – Inspection through cleaning!
1. Clean
2. Organize loose cords
3. Replace damaged items
4. Place small items on trays for easy cleaning

STANDARDIZE – Everything in a state of readiness!
1. Rules to maintain and control system (checklist, audits, and visual controls)
2. Minimum and maximum limits
3. Quick reference checklist

SUSTAIN – Training, reinforcement and measurement!
1. Communicate importance
2. Train on rules
3. Share success in meetings
4. Effective visual controls

5S ORGANIZATION SYSTEM
Tool to organize spaces and introduce Lean concepts

<table>
<thead>
<tr>
<th>Description of conducting 5S improvement:</th>
<th>Audit questions for 5S area.</th>
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<tr>
<td>Sort, Set in Order, Shine, Standardize, Sustain</td>
<td>Rating: No problems – 0, 1 problem – 1, 2 problems – 2, 3 problems – 3, and 4 or more problems – 4. Goal is to have a low total number. Correct problems immediately.</td>
</tr>
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- Excess/unnecessary tools, furniture in area
- Unneeded/outdated items on walls
- Items are present in aisle ways, corners, etc.
- Excess/unnecessary inventory, supplies, material in area
- Correct places for items are not clearly marked
- Items are not marked or labeled with “return addresses”
- Aisle ways, workplace, equipment locations are not marked
- Items are not put away immediately after use
- Height and quantity limits are not clearly marked
- Floors, walls, stairs, and surfaces are dirty
- Equipment is dirty
- Appropriate cleaning materials are not available in area
- Lines, labels, signs, etc. are dirty and hard to see
- Other cleaning problems are present
- Standards to maintain sort and set in order do not exist
- Checklist for all cleaning and maintenance jobs do not exist
- Standards are not visible in the area and known to area stakeholders
- Quantities and limits cannot easily be seen
- Items needed to do job function cannot be located in 30 seconds
- Workers in area have not been trained in 5S
- Daily 5S was not done this week
- Personal belongings cannot be easily stored
- 5S checklist/standards are not available or up-to-date
- Scheduled 5S audits have not been completed this week

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