Value Stream Mapping

LEAN TOOLS FOR CQI

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Benefits

- **What's in it for me? (WIIFM)**
  - Reduce frustration from inconsistencies
  - Improve morale and satisfaction
  - Eliminate repeated steps
  - Streamline work environment and processes
  - Simplify training
  - Standardize forms, reports, other tools
  - Capture existing best practices
  - MORE TIME!

Value Stream

- **Value Stream**: All ESSENTIAL actions or steps to bring a service/product through the main process steps from beginning to end.
  - Includes people, info, materials, supplies
  - Includes time to complete each action/step and the Wait Time between the steps

- **Value Stream Map**: A diagram that shows all process steps of the Value Stream.
  - Includes Value-Added (VA) and Non-Value Added (NVA)

The Meaning of "Value-Added"

Everything that we do should be questioned for **Value**.

When considering an activity or process, ask yourselves:

- IS THIS VALUE-ADDED AS PERCEIVED BY OUR CUSTOMER (anyone downstream in a process)?

- WOULD THE CUSTOMER BE WILLING TO PAY FOR IT <u>AND</u> WOULD IT MEET THEIR EXPECTATIONS?

ASK THEM!

Downstream users include those internal, within our organization, and external, including system partners and customers

Non-Value: The 8 Forms of Waste

1. **Mistakes/Reworks**
2. **Excess Inventory** (material, time, info)
3. **Transporting (Unnecessary Transport of Materials)**
4. **Motion (Unnecessary Movement of People)**
5. **Waiting**
6. **Processing (Excess Process Steps)**
7. **Overproducing (Services/Goods do not meet the Needs of the Customer)**
8. **Failure to Utilize the Time and/or Staff Talents Effectively**

When and Where

- Visual Learning: Ah-ha moments
  - Captures all steps and inputs/outputs
  - Makes the Invisible- Visible
- Improve and/or redesign
  - Identify Value Added activities (VA)
  - Identify/eliminate Non-Value Added activities (NVA) e.g. The 8 Forms of Waste
  - Identify variances and create Standard Work
  - Simplify
- Forms the backbone of the Kaizen Event
- Can be done anytime & anywhere

Typical to see 70-80% of time in a process as NVA

Uses

- Both internal and external processes
- Include system partners
- Examples:
  - Ordering lab supplies and reagents
  - Preparing/shipping kits
  - Kit requests
  - Central accession & delivery
  - Forms (collection forms)
  - Internal/external training programs, including materials, brochures
  - On-boarding/off-boarding employees
  - Data entry

Creating a Value Stream Map

Materials

- White easel paper- adhesive backing
- Tape
- Colored markers
- Pen
- Calculator
- Colored self- sticking notes
- Camera

People

- Facilitator- your Lean Champion Teaches/Coaches/Mentors Removes Roadblocks

- Process Owners- those directly involved in the process. For a process that involves multiple groups or sections, use 1-2 reps per group.

A TEAM EXERCISE

Creating a Value Stream Map

Creating a Value Stream Map

- Write the names of each Process Owner (individual or groups/sections) along the left hand side. Include all those involved in the process.

- Determine your units of time. Keep consistent...
  min vs. hours

TIP
If looking at process for data entry or completing forms– use minutes or seconds.

Creating a Value Stream Map

- Process sequence moves Left to Right. Begin with the first step and map each step sequentially.

- Using individual self-sticking notes, write a description for each step in the process. Include the <u>amount of time</u> it takes to perform that step. Use one note per step.

- Place each note on the easel paper, next to the individual/group responsible for that process step.

TIP

Use color coding to represent specific inputs (materials/information) used in the process.

Pink= electronic (email, scheduling, electronic forms)

Blue= paper/hardcopy, materials/supplies (forms, checklists)

Green= personal exchange (in-person, on the phone)

Creating The value stream map

- Draw ➡ between each step and add the amount of Wait Time.

- Is there Standard Work? (Does everyone do each step exactly the same way?) If not, then capture the variances.
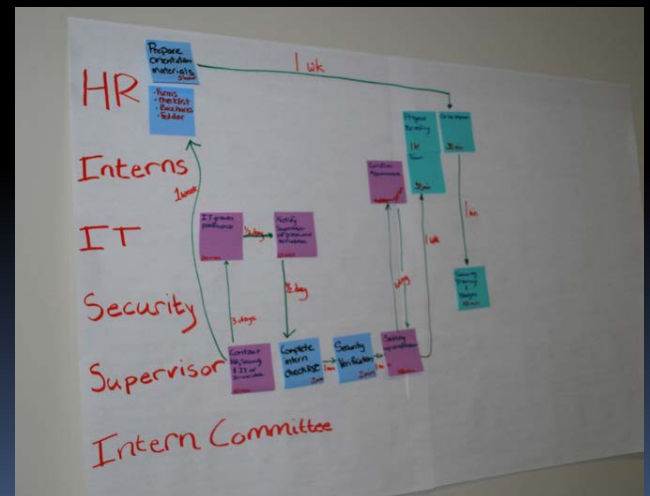
TIP
Use relative spacing between process steps to depict time intervals.

Creating a Value Stream Map

- Identify VA and NVA
- Calculate Total Cycle Time
  - Sum all VA
  - Sum all NVA

VA + NVA = Total Cycle Time
(Total Lead Time)

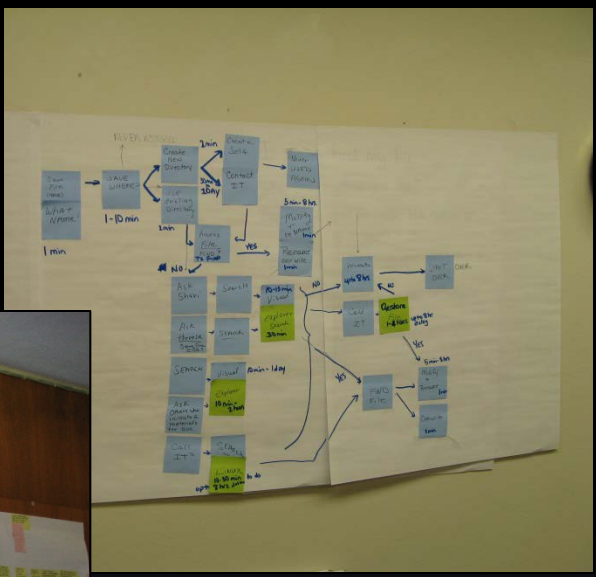The Value Stream Map depicts your Current State.

TIP 🟢 🔴
Use color-coding to identify VA/NVA

Examples

VSM Process Re/Design

- Eliminate NVA steps
- Identify Other Opportunities:
  - Can a step be eliminated?
  - Can a step be automated?
  - Can steps be done in parallel rather than sequentially?
  - Where are there bottlenecks? Where is the process slowed or stalled? Does batching occur?
  - Does the process need to be completely redesigned?
- Apply Lean Tools:
  - Standard Work
  - Visual Workplace
  - Kanban

VSM Process Re/Design

- Make List of Opportunities for Improvement (OFIs)
- Create your new FUTURE STATE process (VSM)
- Calculate new Total Cycle Time

Current State

Future State

Current
VA=496 min
NVA=1680 min
Total= 2176 min

Future
Total= 509 min

77% Reduction

Moving to the Future State

- Use OFIs to Create an Action Plan (WWW)
- Who is going to do What and When
  - Include regular follow-ups/status on progress
  - Incorporate Visual Workplace & Kanban
    - Templates, Checklists, Signs, Policies, Charts
    - In/Out boxes, electronic signals
  - Ensure Standard Work
    - SOP
    - Training for All
- Present to Management
- Celebrate Success
  - Internally:
    - wallboard in common areas
    - staff meetings
  - Externally:
    - social media
    - newsletters, articles, conferences

Other Mapping Tools
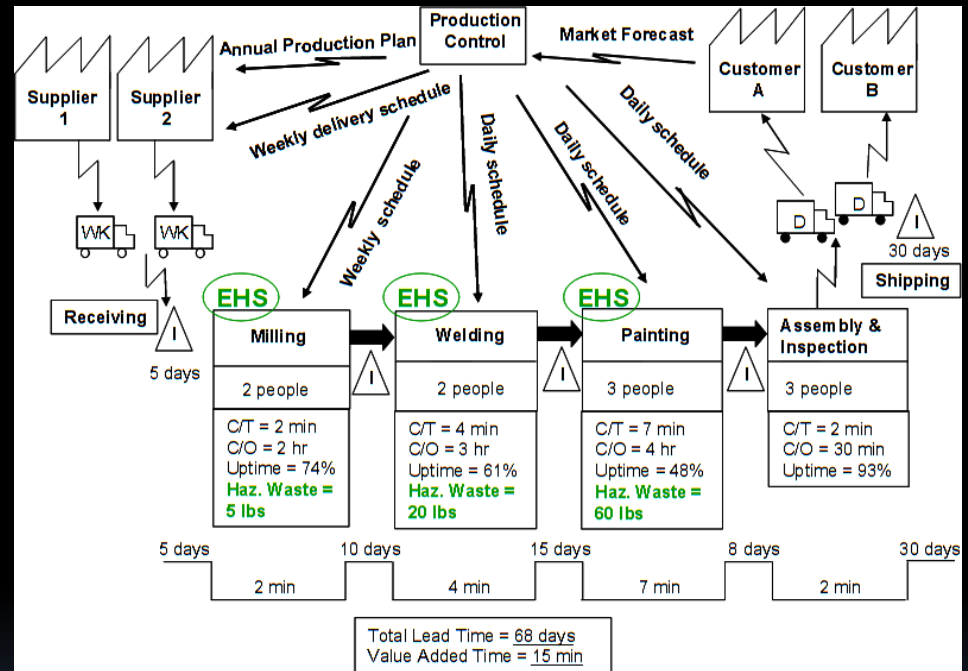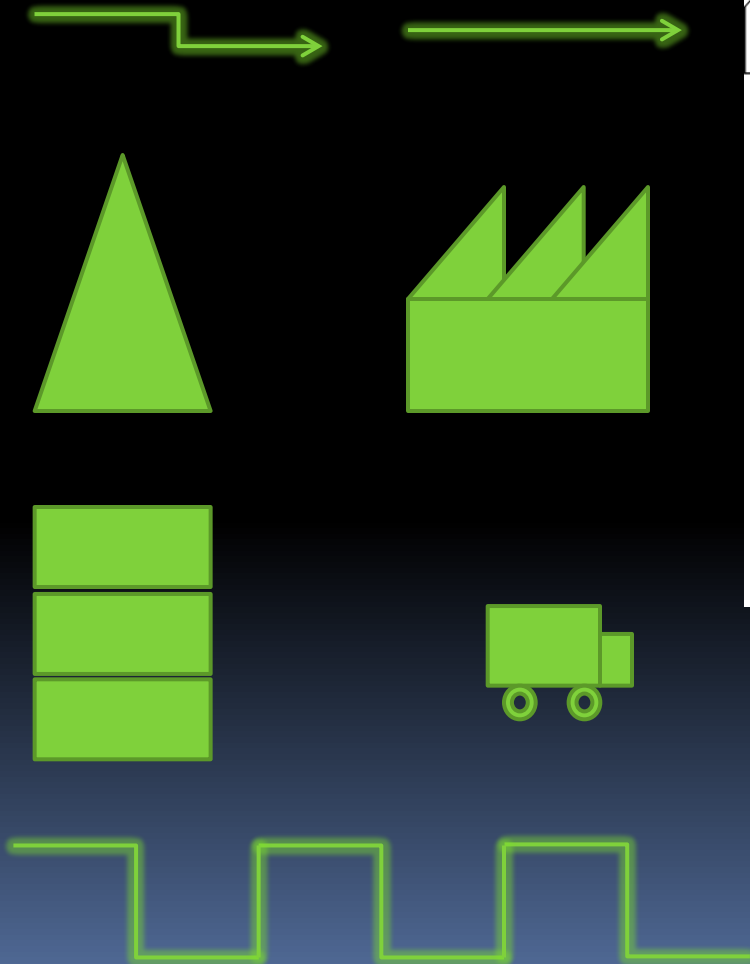
Source: http://en.wikipedia.org/wiki/Value_stream_mapping

TIP
Focus on the process, NOT symbols. AGREE upon visual cues that are easy to remember and understand FOR ALL.

Creating & Supporting Change

Common Areas, Meeting Room, Break Areas:
Stock VSM Supplies
Post VS Mapping Quickguide
Make Available- Resources/Books

Leadership Support/Expectations
Visibility
Open-door Policy
Early Wins

Lean Training & Champions
On-Boarding New Staff
Workgroups
System Partners