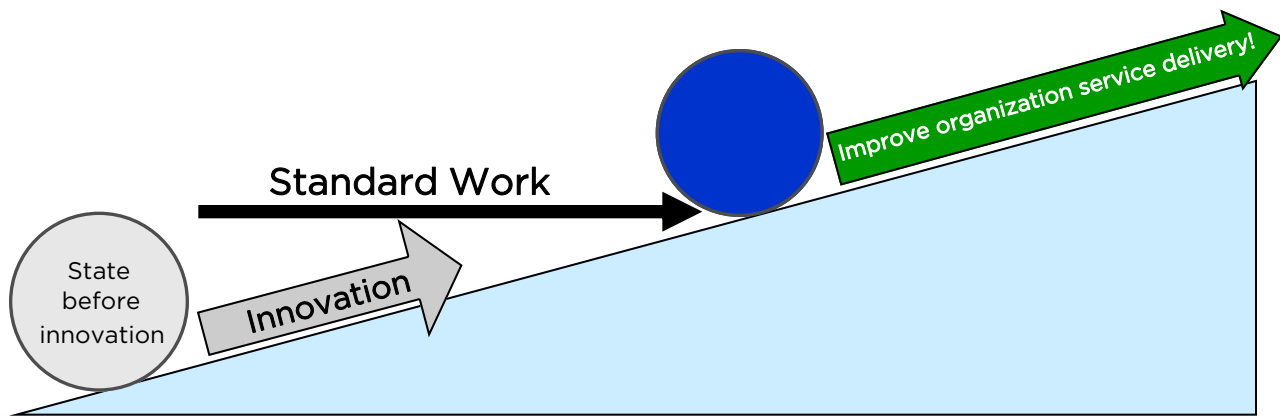




Overview:

Standard work is a simple written description of the safest, highest quality, and most efficient way known to perform a particular task (i.e. a checklist to lead someone through the task).

- The only acceptable way to do the process it describes
- Expected to be continually improved
- Includes the amount of time allotted to hand-off the task to the next step of the process
- Focuses on the employee, not the equipment or materials
- Reduces variation, increases consistency



How to Create “Standard Work”:

Define the extent of the task for which you are creating standard work:

- Standard work for key tasks in a multi-function process
- People doing the same job will use the same standard work
- The end point will be the starting point for the next task in the work sequence

Now that you have gathered the required information, you are ready to create standard work.



Example of Standard Work:

| Step | Step Description | Who? | Time to complete (mins) | Value add or non-value add? | Cumulative time |
|---------------------------------------|---|-----------------|-------------------------|-----------------------------|-----------------|
| 1 | Intake | Intake team | 5 | Value add | 5 |
| 2 | Wait in inbox for processing (two business days) | Processing team | 960 | Non-value add | 965 |
| 3 | Review app for completeness | App processor | 10 | Value add | 975 |
| 4 | Read application | App processor | 15 | Value add | 990 |
| 5 | Approve/deny application | App processor | 5 | Non-value add | 995 |
| 6 | Wait in inbox for permit print team (5 business days) | Printing team | 2400 | Non-value add | 3395 |
| 7 | Review permit info for completeness | Permit issuer | 10 | Non-value add | 3405 |
| 8 | Format permit on screen for printing | Permit issuer | 15 | Non-value add | 3420 |
| 9 | Print permit | Permit issuer | 2 | Value add | 3422 |
| 10 | Put permit in envelope | Permit issuer | 2 | Non-value add | 3424 |
| 11 | Mail permit to applicant/customer | Permit issuer | 1 | Non-value add | 3425 |
| Total time for process (in minutes) = | | | | | 3425 |
| Total time for process (in hours) = | | | | | 57 |

Helpful Hints:

Whenever developing a standard work document, it is important to search for best practices. Observing multiple people doing the same work is a good way to let everyone see how much variation there is from unit to unit and from person to person.

DO:

- Keep standard work simple
- Make it accessible
- Include all information on one, easy-to-read document
- Create one standard work document for each part of the process
- Always look for ways to improve the process

DON'T:

- Put standard work in a desk drawer
- Change processes without changing standard work
- Make standard work difficult to change
- Give up on standard work – it can be tough, but it's very important



Overview:

We often resist setting standard work because of the natural variation in our jobs; why add more by having no structure or routine? A checklist can maintain these routines and behavior, allowing us to be more proactive than reactive. Checklists can:

- Prevent errors and oversight
- Make priorities clearer
- Reduce variation and increase consistency

Undesirable Characteristics



Desirable Characteristics



Making a Checklist:

- Define a clear point at which the checklist is supposed to be used, unless the moment is obvious, like when a **warning light/icon goes on** or an **engine/hard drive fails**.
- With any new checklist created from scratch, you have to pick the type that makes the most sense for the situation.
- Keep it SIMPLE.

Two Types:

| <u>Do - Confirm</u> | <u>Read-Do</u> |
|---|---|
| <p>Team members perform their jobs from memory and experience; often <i>separately from the checklist</i>. After that point they <u>stop</u>.</p> <p>They then pause to confirm against the checklist that everything was done.</p> | <p>People carry out the tasks as they check them off - it's more like a recipe.</p> |



Example of a Daily/Weekly/Monthly/Yearly Checklist:

| DAILY | WEEKLY | MONTHLY | YEARLY |
|--|---|---|--|
| <p>A.M.</p> <p>[S] [M] [T] [W] [T] [F] [S] make bed [S] [M] [T] [W] [T] [F] [S] unload dishwasher [S] [M] [T] [W] [T] [F] [S] put in load of laundry [S] [M] [T] [W] [T] [F] [S] feed mel & coco [S] [M] [T] [W] [T] [F] [S] set slow cooker</p> <p>P.M.</p> <p>[S] [M] [T] [W] [T] [F] [S] check mail/get packages [S] [M] [T] [W] [T] [F] [S] move laundry to dryer [S] [M] [T] [W] [T] [F] [S] wash & dry diapers [S] [M] [T] [W] [T] [F] [S] feed mel & coco [S] [M] [T] [W] [T] [F] [S] put out trash [S] [M] [T] [W] [T] [F] [S] put ice packs in freezer [S] [M] [T] [W] [T] [F] [S] give jack a bath [S] [M] [T] [W] [T] [F] [S] brush jack's teeth [S] [M] [T] [W] [T] [F] [S] bedtime story [S] [M] [T] [W] [T] [F] [S] wash bottles [S] [M] [T] [W] [T] [F] [S] make jack's bottles [S] [M] [T] [W] [T] [F] [S] defrost/pack jack's food [S] [M] [T] [W] [T] [F] [S] pack lunches [S] [M] [T] [W] [T] [F] [S] prep slow cooker [S] [M] [T] [W] [T] [F] [S] wash & prep coffeepot [S] [M] [T] [W] [T] [F] [S] load & run dishwasher [S] [M] [T] [W] [T] [F] [S] clean kitchen sink [S] [M] [T] [W] [T] [F] [S] wipe kitchen counters [S] [M] [T] [W] [T] [F] [S] wipe kitchen table [S] [M] [T] [W] [T] [F] [S] tidy up clutter</p> | <p>SUNDAYS</p> <p>[] plan meals for week [] grocery shop [] clean out fridge & freezer</p> <p>MONDAYS</p> <p>[] wash lights & baby load [] clean windows & mirrors [] scoop litterbox [] water plants [] sweep & mop hard floors</p> <p>TUESDAYS</p> <p>[] wash sheets [] vacuum carpets [] tidy desk & sort through paperwork/mail</p> <p>WEDNESDAYS</p> <p>[] dust hard surfaces [] wash bottle rack & dish drying mat [] wash towels & bathmat [] clean bathroom (tubs, toilet, sinks)</p> <p>THURSDAYS</p> <p>[] wash darks & baby load [] scoop litterbox [] water plants [] vacuum carpets [] give mel a bath</p> | <p>1ST TO 10TH</p> <p>[] change a/c air filter [] check & replenish cleaning supply inventory [] dry cleaning [] tidy up dresser drawers [] steam clean carpets [] run disinfect cycle on washer & dishwasher</p> <p>11TH TO 20TH</p> <p>[] vaccuum sofa [] vaccuum air vents [] *deep* dusting: ceiling fans, baseboards, picture frames, switchplates... [] disinfect trash can [] refill air fresheners [] flip mattresses & wash duvet/blankets [] disinfect keyboards & remotes</p> <p>21ST TO 30TH</p> <p>[] descale coffeepot & clean toaster [] clean refrigerator shelves & crispser bins with vinegar water [] wipe kitchen cabinets & fridge doors [] clean microwave [] clean out pantry [] clean stove burners</p> | <p>JANUARY</p> <p>[] clean hard-to-reach places (behind fridge, oven, washer & dryer)</p> <p>FEBRUARY</p> <p>[] clean and organize personal files & tax information</p> <p>MARCH</p> <p>[] wash & store winter blankets, clothes & shoes</p> <p>APRIL</p> <p>[] clean medicine cabinets & under bathroom sinks, toss expired meds</p> <p>MAY</p> <p>[] launder curtains & shower curtains</p> <p>AUGUST</p> <p>[] organize kitchen cabinets & garage shelves</p> <p>SEPTEMBER</p> <p>[] defrost freezer, deep clean oven & stove</p> <p>OCTOBER</p> <p>[] collect unused clothes & other items for charity</p> |

Helpful Hints:

- Keep checklists simple, visible, accessible, and easy to read.
- 6S your time - what do you spend your time on? How can it be managed more effectively?
- Review completed checklists with your manager.
- Make the checklist dynamic and representative of what's needed.
- Always look for ways to modify it - what could be added, dropped, or modified?



Overview:

Poka yoke (pronounced “poh-kah yoh-keh”)

Poka yoke is a Japanese term meaning “mistake proofing.” It is anything that helps people avoid (yokeru) mistakes (poka). The goal is to prevent a mistake before it occurs so you don't have to deal with the after-effects of the mistake. Poka yoke should be considered as standard work is created. It can help standard work to be accepted and sustained.

Examples of Poka Yoke in our Every Day Lives



Height check at entrance of garages/bridges



Visual deposit guides for appropriate recycling



File cabinets allow only one drawer to open at a time to avoid tipping over

Mistakes

Computer spell-check functions

Simplicity - the Key to Successful Poka Yoke

A good poka yoke solution:

- Seems obvious in retrospect
- Makes you wonder why you didn't think of it
- Is often very clever

Benefits of Poka Yoke

- Reduced rework
- Reduced defects
- Reduced wastes
- Increased safety - prevents accidents before they happen
- Improved customer satisfaction
- Increased ROI
- Benefits are as varied as the poka yoke solutions themselves



Overview

Visual Management is a set of controls designed to create a transparent and waste-free environment. The three basic fundamentals of visual management are: 1) a signal is made; 2) a person detects that signal, and 3) appropriate action is taken. One of the primary uses of visual management is to create process control. Mechanisms that control the execution of a process are needed to create consistency. The three mechanisms of process control are: 1) knowing who does what, 2) knowing when to act, and 3) knowing how to deal with exceptions.

The potential benefits of visual management include:

- Showing productivity in real-time
- Providing transparency to the process
- Improving customer service
- Increasing flow in the process
- Lowering operational costs
- Promoting a safer workplace
- Empowering employees

Types of Visual Management Systems:

| | | | | | | | |
|--------------------------------|---|--|---|-------------------------------|----------------------|--|--|
| Data & Technology Improvements | Promote Government Transparency through making more data, visualizations, and goals available online; expand internal & external use of open data platforms | Was a metrics dashboard launched (yes/no)? # of internal/public involved in dashboard development # of visualizations produced for view # of people providing visualization feedback # of presentations given to public on data/info # of new datasets released to public in 2016 | Metrics Dashboard launched late Summer 2016 Public Presentations on Data @ 1/mo rate. 3 new datasets; 10 new visualizations by end of 2016 | Winter 2016 1x/mo 1x/mo | CINO ODM ODM | <div style="width: 100%; height: 10px; background-color: green;"></div> <div style="width: 100%; height: 10px; background-color: red;"></div> <div style="width: 100%; height: 10px; background-color: green;"></div> | |
| | | Passed/Not | Draft/advance an Open Data/Evidence-Based Decision Making policy with Mayor and Council | | ODM | <div style="width: 100%; height: 10px; background-color: green;"></div> | |
| | | # of trainings, attendees, and rating of trainings; track increased use of tools | Trainings for Internal Staff on how to use Open Data tools | 1x/mo | ODM | <div style="width: 100%; height: 10px; background-color: yellow;"></div> | |
| | Implement an online permitting system and streamline permitting processes | A3s for each permit/process # of internal/public involved in prototyping 40 permits by end of 2015 | Weekly meeting with CIO Develop prioritization based upon impact, cost, ease of implementation Streamline forms (Emmanuel); build forms (Stephanie, Ivan) Training of appropriate staff to utilize permitting system (T, Ivan) | 4 permits/processes per mo. | CINO | <div style="width: 100%; height: 10px; background-color: green;"></div> | |
| | Promote Government Service Delivery and Process Efficiency through allowing PDS CC use | Soft savings, revenue generated, value to customer # of internal/public involved in prototyping | 1/wk meeting with CIO regarding next steps Launch in Vital, then Licensing, then DIS | Recurring | ODM/IPC | <div style="width: 100%; height: 10px; background-color: green;"></div> | |
| | Coordinate with other Government entities to share work and also connect processes & efficiencies | # of processes enhanced through coordination | Establish quarterly meetings with the State Office of Digital Excellence to review action items Create a municipal convening function with support from the State and Rhode Island Foundation | Quarterly | ODM/CINO | <div style="width: 100%; height: 10px; background-color: yellow;"></div> | |
| | Engage youth in the tech industry; develop innovative and sustainable ideas through new technology and community-driven ideas and partnerships | Approx 40 ppl/mo 50% repeat attendees; high youth % -30% youth base; 60% repeat attendees Increase to 80 ppl/mo (as avg) # of ideas supplied # of ideas considered for implementation # of ideas implemented Success rate of ideas implemented | Monthly Code Night with the Mayor Hackathon to develop solutions to government and/or civic challenges with partners | Ongoing March 2016 (1/yr) | IC & ODM IC & ODM | <div style="width: 100%; height: 10px; background-color: green;"></div> <div style="width: 100%; height: 10px; background-color: red;"></div> <div style="width: 100%; height: 10px; background-color: yellow;"></div> | |
| | Connect backend systems to streamline processes and reduce rework | # of systems streamlined/connected (now: tobacco licenses) Soft and hard savings attributed to each connect Goal: 20% increased overall efficiency | Property Management Data Web completed Regular meetings between ODM, IPM, and IC to ensure tracking and completion of projects | | IPM & ODM | <div style="width: 100%; height: 10px; background-color: red;"></div> | |
| | Improve website architecture to allow for better utilization of online services and better access to needed information | Online customer feedback Reduction in site "jump offs" | Updated city website Startup in a Day (SEE ASSOCIATED TASK) | Jun-16 | CINO | <div style="width: 100%; height: 10px; background-color: green;"></div> | |

Production Boards

Kanban

Japanese term for "billboard;" creates pull in process flow to reduce lead times and inventory

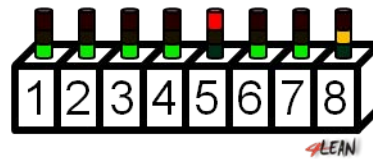




Andon: Japanese term for “lantern;” used to alert the team about issues or opportunities for change



Andon turns red when production stops.



How to create Visual Management Systems:

In order to create a visual management system, it is important to establish what information needs to be communicated. The order to follow is:

1. Define critical information
2. Create a signal
3. Select a desired medium (light, sound, etc.)
4. Define the appropriate action
5. Communicate actions

The type of visual management system to be used can vary depending on the organization. The three main types mentioned (Production Boards, Kanban, and Andon) are the three more popular options.

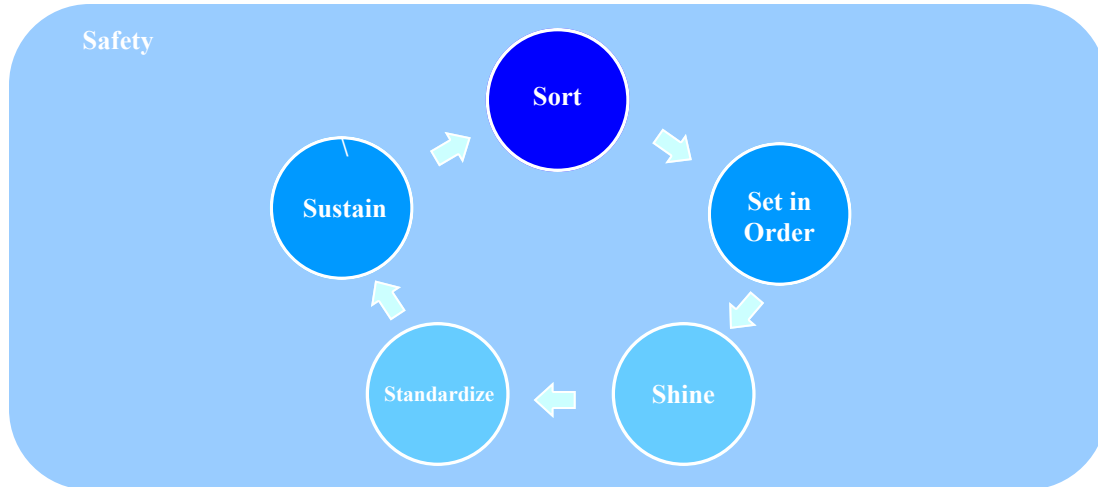
Helpful Hints:

- Be mindful of company culture when creating visual indicators – make sure to avoid offensive symbols or language.
- Implement reward systems – most employees are more inclined to follow the queues of a visual management system when rewards are occasionally given.
- Place signals where the information makes the most sense.
- Keep visual management current and do not over use indicators such as diagrams or pictures, checklists, videos, or signs. Each type has its own benefits and weaknesses – choose the one that makes the most sense for your workplace.



Overview:

6-S is a tool used to eliminate waste and improve a workspace. The six characteristics are: **sort, set in order, shine, standardize, sustain, and safety**. 6-S is a great introduction to process improvement techniques and uses its process to create and maintain clean, organized, safe, and efficient setting that enables the highest level of value-added performance. It achieves its ends by introducing organization and orderliness, eliminating unneeded materials and establishing self-discipline.



- Sort:** Separate the unnecessary from the necessary
Remove things not required for the process; add things that are missing
'Red tag' things (possibly needed; might be helpful to others; review — did you need that item two weeks later? If not, remove)
- Set in order:** Provide the needed tools at each workstation
Organize everything so it is convenient to complete the work
Standardize workstations where similar work is done
Centrally locate shared items so they are convenient for everyone who uses them
Label everything
- Shine:** Clean all work surfaces, including under and behind all equipment
Label and outline all locations
Repaint to make everything look new
Goal: Create a visual workplace
- Standardize:** Develop task sheet for each 6-S location
Assign owner to each of task sheet
Develop 6-S scoring method
- Sustain:** Allocate time at the end of each day or shift to Set in Order and Shine
Schedule monthly management audits to score 6-S by area and display results
Schedule 6-S activities for all areas
Schedule annual repeat of 6-S activities to show continuous improvement
- Safety:** Watch for safety issues and resolve them immediately (safety equipment operational; ergonomic issues)
Enter work orders for safety issues that cannot be resolved in the 6-S activity



Safety: Every “S” has a safety component. Identify hazard and remove it.

| Sort: What is needed versus not needed. | 1 | 2 | 3 | 4 | Comments |
|--|---|---|---|---|----------|
| Unneeded equipment, tools, furniture, etc. | | | | | |
| Unneeded items on walls, bulletin boards, etc. | | | | | |
| Items present in aisles, stairs, corners, etc. | | | | | |
| Unneeded inventory, supplies, materials, or junk | | | | | |
| What hazards exist? | | | | | |

| Set in Order: A place for everything | 1 | 2 | 3 | 4 | Comments |
|---|---|---|---|---|----------|
| Correct places for items are not obvious | | | | | |
| Aisle ways, workstations, etc. not identified | | | | | |
| Items are not put away after use | | | | | |
| Height and quantity limits are not obvious | | | | | |
| What hazards exist? | | | | | |

| Shine: Clean | 1 | 2 | 3 | 4 | Comments |
|---|---|---|---|---|----------|
| Shelves, floors, surfaces are not free of dust/dirt | | | | | |
| Paint is chipped, tiles broken/stained | | | | | |
| Equipment not kept clean and free of dirt/dust | | | | | |
| Cleaning materials not easily accessible | | | | | |
| What hazards exist? | | | | | |

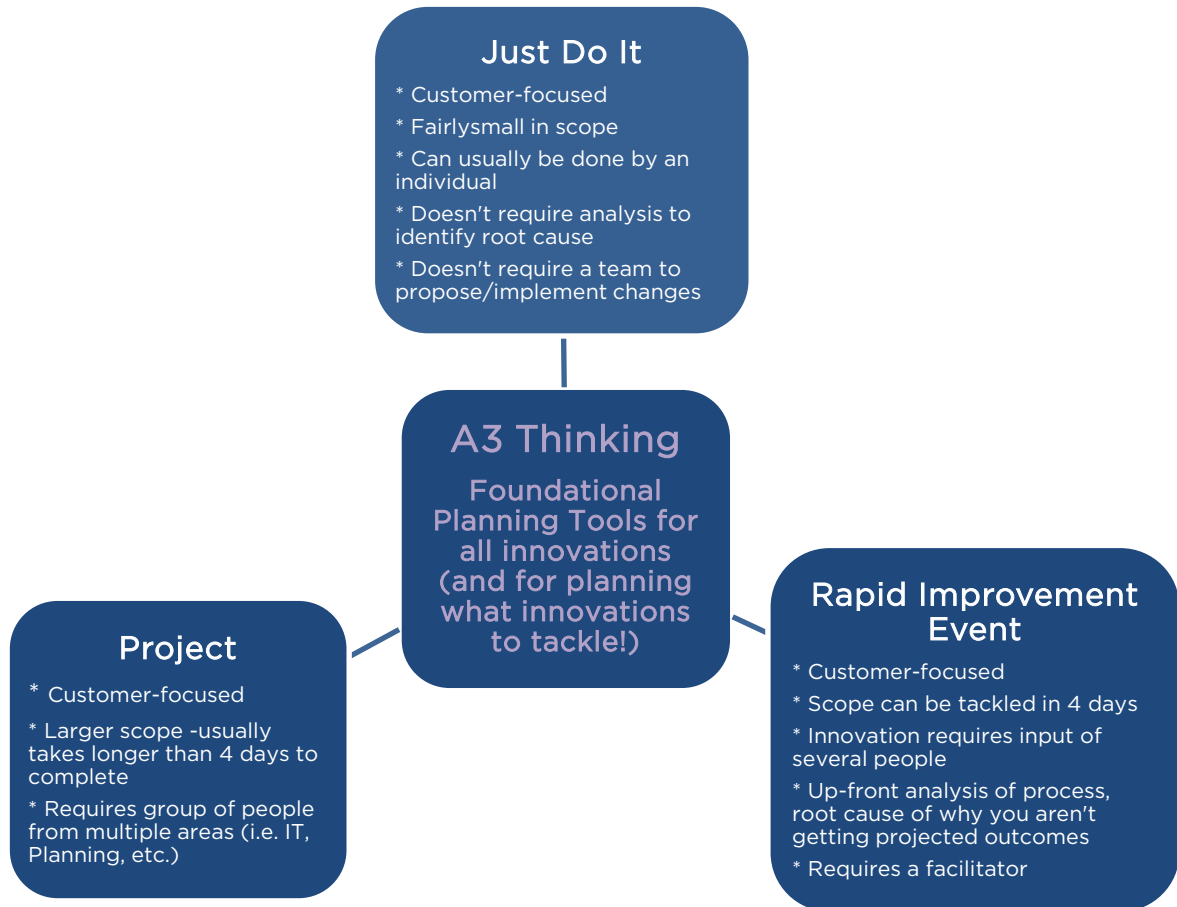
| Standardize | 1 | 2 | 3 | 4 | Comments |
|--|---|---|---|---|----------|
| Necessary information is not visible | | | | | |
| All standards are not known and visible | | | | | |
| Checklists don't exist for all maintenance | | | | | |
| All quantities and limits are not recognizable | | | | | |
| What hazards exist? | | | | | |

| Sustain: Stick to the rules | 1 | 2 | 3 | 4 | Comments |
|--|---|---|---|---|----------|
| How many people have not been 6-S trained | | | | | |
| How many times in the last week was 6-S not performed? | | | | | |
| Number of times supplies not neatly stored? | | | | | |
| Number of times daily 6-S inspections not performed? | | | | | |
| What hazards exist? | | | | | |



Overview:

A **Just Do It** (“JDI”) is a tool used to eliminate waste and improve value that’s delivered to your customers. A JDI is one of three primary tools for eliminating waste for continuous improvement in your organization and all three should be based on a planning tool called an “A3.” The three tools, or engines, for continuous improvement are:



Example JDIs

The following examples are meant to give you a flavor of what JDIs have looked like in the past. These are meant to help you jumpstart looking at your processes differently and are not meant to be the template or playbook by which future JDIs have to follow.

Service Delivery Team #1

- Customer requests for service seemed “a work of art” each time
- Created a bulleted list describing the process (“1-pager”)
- Communicated list to customers: website, customer emails, provided hard copies at counters

Service Delivery Team #2

- TANF interviews (Temporary Assistance for Needy Families)
- Reminder for TANF interviews included instructions for free childcare
- Reduced interview time (Soft \$ savings)



How to Plan and Implement a JDI



JDI Tips:

- Ensure your ideas are tied to metrics for your team, clearly define what will be better as a result of your JDI
- Ensure your ideas are focused on increasing the value you deliver to your customers, not just making your job easier for you
- Use the A3 to plan and implement your JDI
- Don't tie your JDI to other groups - for example, don't depend on technology to implement or tie your JDI to another internal team that needs to approve your improvement effort
- Be creative - update a form to make it easier, reduce a step or two in a process, make things easier for your customers in new and creative ways
- Work with your manager/supervisor to share the Innovation Report-Out document - this clarifies the benefits obtained through the JDI (and allows you to highlight success!)
- The A3 is very helpful in clarifying expectations with your management team about the scope and metrics for your JDI - use it to help guide your understanding of what you're going to do



Overview:

A **Rapid Improvement Event** (“RIE”) is a powerful way of implementing meaningful change. It is typically a four-day event with a report-out on Friday. A team of experts work together to improve a process. A trained RI facilitator assists the team and ensures they have developed and implemented solid improvements with sound performance metrics.

Characteristics of a RIE

- Results in a positive change of *action*, not a recommendation or plan
- Driven by the people who know the process best
- Team empowered by executive management to make change
- Open and transparent environment
- Multidisciplinary team of 7 to 9 people
- Focused on improving a particular process/metric
- Originates from a Value Stream Analysis
- Uses an A3 to guide problem solving and to document the RIE process and results

RIE Roles

- Team Members
- Team Lead
- Process Owner
- Executive Sponsor
- Consultant
- Facilitator
- Value Stream Owner
- Sensei

Preparing for the RIE

- With the Executive Sponsor and Process Owner, develop the RIE Charter
 - RIE Schedule
 - Description
 - Reason for Action
 - Metrics (do not underestimate the importance or difficulty of this)
 - Process Trigger
 - Process End
 - Team Members
 - Customers
- Schedule room
- Prepare supplies
 - Get some toys & food
- Don't underestimate RIE logistics
- Use the Preparation Checklists



What makes for a successful RIE?

- Having all metrics *before* the event
 - Baseline
 - Target
- Sticking to the process
- Finding opportunities to teach
- Staying with the team during the Waste Walk
- Splitting up the team if possible to accomplish more
- Using process mapping
- Taking lots of pictures
- Reviewing expectations on Day 3
- Including customers as consultants

Common mistakes for a RIE

- Not properly preparing for the event
- Not following the RIE process - taking shortcuts
- Insufficient data/metrics collection
- Not engaging team members' hearts, heads, and hands
- Not being action-based - allowing implementation to degrade to planning
- Not "raising the flag" early enough when major issues are encountered
- Not performing proper event follow-up

RIE Schedule - Day 1 - Current State

- Kickoff - support from Executive Management sets the tone for the week
- Lean 101
- Agenda
 - Review Agenda and Introductions
 - Team Rules and Expectations
 - A3 Introduction (and begin A3 presentation)
 - Reason for Action
 - Review Metrics
 - Map Current State

RIE Schedule - Day 2 - Future State

- Agenda
 - Review Day 1
 - Conduct Waste Walk
 - Review Waste Walk
 - Design Ideal State (be visual)
 - Design Target State
 - Create first draft of Standard Work
 - Design Rapid Experiments
 - Prepare for Debrief
 - Consult Consultants
- Debrief - Metrics, Accomplishments, Barriers, and Plans



RIE Schedule - Day 3 - Implement New Work

- Agenda
 - Review Day 2
 - Polish Rapid Experiments
 - Conduct Rapid Experiments
 - Design Production Board
 - Eliminate waste and increase customer value
 - Implement processes
 - Create standard work
 - Observe new processes and any change in metrics
 - Consult Consultants

RIE Schedule - Day 4 - Adjust and Fine-Tune

- Agenda
 - Review Day 3
 - Complete any lingering Rapid Experiments
 - Eliminate waste and increase customer value
 - Continue implementing new processes
 - Complete standard work
 - Consult consultants
 - Complete A3 presentation (don't underestimate this effort)
 - Practice A3 presentation

RIE Schedule - Day 5 - Celebrate

- Report out to Management using the A3
- Celebrate!

Post-RIE - Follow-Up

- Implement open items from the completion plan
- Schedule and conduct 30, 60, 90-day follow-up events
 - Transition control to the Process Owner
 - Process Owner should schedule and conduct the 60 & 90-day meetings
- Publicize event results
- Ensure visual management tools are being used
- Make sure the Process Owner has the Parking Lot items

Beyond the Read-Out

The read-out isn't the end - it's the beginning of the hardest phase: **EXECUTING** the improvements on a daily basis.

- Team members will face issues with those resistant to change
- Track results and post in unit to see progress
- Consider bringing the team back together to help resolve any issues
- Process Owner must own result