Lucid Facilitator's Guide to

VALUE STREAM MAPPING FOR KNOWLEDGE AND SERVICE WORK

A value stream map (VSM) makes it easy to visualize the full process used to design, produce, sell and deliver services that provide value to customers. In a VSM session, functional teams post their group's work and information flow so that everyone is able to see, understand and suggest improvements to the making of the product or service. The aim is for the work to flow better for customers and to make it easier for employees to complete the work profitably and safely.

There are many ways to build a Value Stream Map. This workshop approach is intended for knowledge and service work, where processes are more flexible and concrete measures less available.

Contents

Introduction.......2
The Process-at-a-Glance....... 4
Roles & Responsibilities 5
Workshop Preparation....... 6
Setting Up the Map 13
Workshop Agenda.......14
Leading the Workshop 15
Managing Time Across Sessions....... 21
Three Ways to Document Results....... 22
Resources for Achieving Meeting Mastery 23
About the Author.......24

INTRODUCTION

The purpose of a value stream map is to engage knowledgeable staff and stakeholders in visualizing the work and applying lean principles to a full product or service flow. Value stream mapping can identify ways to eliminate waste, outline technology projects, surface needed policy shifts or charter new breakthrough process redesigns and opportunities for automation.

This guide walks you through the creation of a **current state Value Stream Map** (VSM) and identification of both kaizen “quick win” changes and big change projects. A current state VSM shows the process as it works today, reviewing a recent experience or a specific case, not as it worked in the past nor how we might wish it to work in the future.

Stepping back from a VSM, people can see a workflow and often grasp its full scope for the first time. They discover workflow bottlenecks or disconnects, and transfers between groups that hinder progress. They can identify lost time, defects and the “churn” of rework. They may see opportunities to help people downstream of them or inform those upstream of their needs or timing. It is often best to map an actual recent case of service or knowledge work, such as the last product designed or the last service offering delivery.

Creating a Value Stream Map for knowledge and service work requires a different approach than the VSM work conducted in a manufacturing environment. Strict measurements of time, inventory, and quality usually aren’t automatically captured as metrics for knowledge and service work as they are in manufacturing, but they may be collected or estimated. Those aspects of value stream mapping are de-emphasized here.

A VSM for knowledge and service work focuses more closely on information flow. Does the information arrive and flow in a format that all groups can use, or are there wasteful translations happening from group to group? Is missing approval or incomplete information causing delays and rework? Are there points in the flow where lack of clear ownership or misunderstandings result in quality problems?

Expect to spend **3 to 6 weeks planning** the VSM workshop. The **workshop itself takes at least 4 hours** to complete, and **may extend over several days**. Afterwards, the group will plan a series of follow-up meetings and new projects to implement the recommendations made during the workshop.

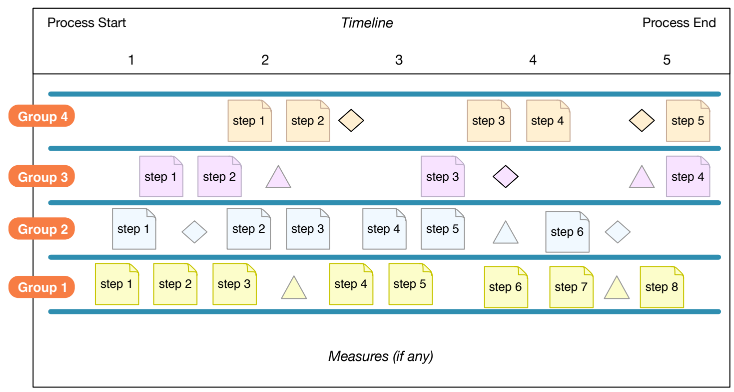
Groups that will find this guide useful include:

- Leaders interested in continuous improvement and lean operations redesign in mid-sized to large organizations
- Business units where multiple departments or functional groups weave their work together to deliver a product or service
- Those struggling to tame a variable or wasteful process and no one owns the whole of it
- Business units preparing the launch of a new product or service that will involve multiple departments or functional groups

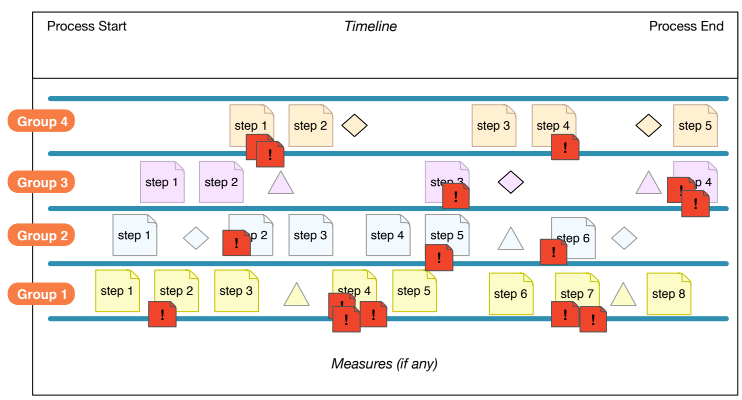
The Value Stream Mapping Workshop Process-at-a-Glance

1. Define the project charter and deliverables, then set up a blank map with swim lanes for each functional group involved in the process to be mapped. Mark a rough process timeline across the top.

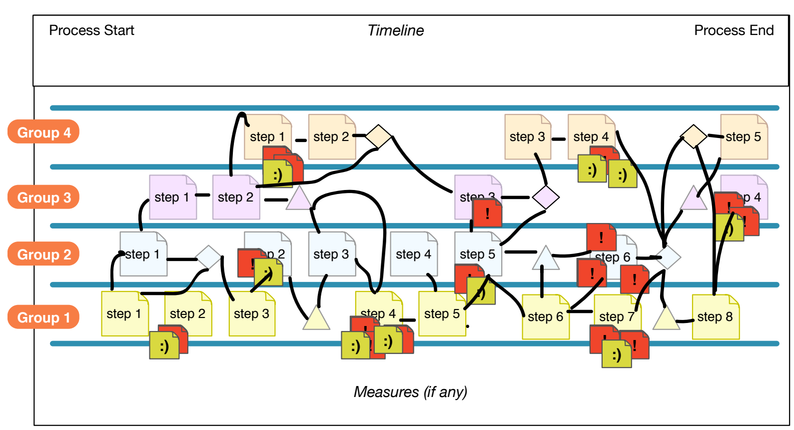
2. Functional groups populate the swim lanes with the tasks step 1, decisions, and work in process inventories they complete as part of the process. Each group uses a different color.



3. Group leaders explain the tasks in their lane. Participants write down perceived issues on a red sticky, and place these on the map.



4. Team leads and functional groups draw lines showing dependencies between tasks, decisions and inventory, and place green stickies with proposed solutions on the map. Participants agree on “bursts” or big changes needed, and prioritize kaizen quick wins, the green sticky notes.



Roles & Responsibilities

VSM Workshops involve the people who supervise and conduct the functional work, the subject matter experts who support it, and may also include customers and suppliers if warranted.

Facilitator

- Manages the workshop preparation, process, and dialogue
- Assists with workshop documentation

Executive Sponsor

- Authorizes the time, budget and organizational backing for the project
- Presents a "state of the business" or "burning platform" address to kick-off the workshop
- Resolves political disagreements in order to get the specific follow-up improvement actions completed by the owners

Champion

- Defines the workshop charter and participants, and secures the workshop location and supplies
- Manages initial communication and invitations to workshop participants
- Shows purpose and a passion for the project and communicates to participants throughout the project life
- Convenes governance follow-up meetings

Functional Leaders

Functional leaders may be assisted by knowledge workers, decision makers, and others from their group.

- Prepare and present level-setting presentations
- Populate and present VSM swim lanes
- Participate in the process critique and solution identification
- Take responsibility for completion of assigned follow-up activities

Facilitator's Assistant

- Manages workshop technology, room setup, and supplies
- Assists with workshop breakout sessions (if any) and documentation

WORKSHOP PREPARATION

Preparation begins with one or more meetings between the workshop facilitator, the champion, and the executive sponsor. Together, you'll define the workshop charter, get the participants organized, and make sure everything is ready for a successful workshop.

Pre-Workshop Initial Planning Meeting

The facilitator schedules and leads the pre-workshop meetings.

1. **Identify Problem to Solve**
2. **Review Project Charter Form**
3. **Quick Review of Value Stream Mapping Process by Facilitator** (if necessary)
4. **Closing**

For the first discussion, meet with the champion and executive sponsor to clarify the problem to solve. Typically the questions to answer are, “Why do a VSM?” and “Why Now?” If these problems are limited to a local work center, hold a [kaizen event meeting] rather than a full VSM.

Only operations issues are appropriate for a VSM meeting.

VSMs are NOT an appropriate way to solve complex issues related to strategy, leadership, policy, or culture.

Validate that the champion and sponsor are targeting an operational issue.

For example, a VSM for knowledge work can help identify problems that arise when different groups need to share information, highlighting opportunities to standardize the way information is stored and formatted.

Or, service organizations might use a VSM to find times when a customer is left waiting too long, and work to eliminate delays in the work process, a common example in hospital emergency rooms.

After clarifying the operations issue**, review the project charter form** (see details on the next page) and discuss the workshop purpose, scope, target date and time allocation for the event. A VSM requires cross-functional flow and collaboration, so it’s important that all functional leaders buy in to the need for a full VSM and attend.

Note: If the champion cannot get buy-in from key functional leaders, elevate the disagreement to the higher sponsor to resolve these commitment issues and consider delaying the workshop, or reducing the scope to those who agree. The coach or facilitator should never take the role of sponsor, as s/he will usually lack the line authority to implement kaizen quick wins or big changes.

Decide also if it make sense to collect task measures of job cycle times, total lead time through to completed result to a customer, wait times, and similar quality measures.

These measures aren’t often automatically collected for knowledge or service work, but if they will be useful here, decide that up front. These measures can also just be estimated within the process to give a qualitative sense of the room for improvement.

Creating the Workshop Charter

A value stream mapping workshop charter and planning sheet lays out the details the champion needs to think through for the workshop to succeed. **Download** [a blank Word version of the charter form](http://blog.lucidmeetings.com/hubfs/facilitator-guides/Blank%20Workshop%20Charter.doc) **here:**
http://blog.lucidmeetings.com/hubfs/facilitator-guides/Blank%20Workshop%20Charter.doc

The charter covers these details:

- **The need or problem statement**
- **Goals and deliverables**
- **What's "in scope" and "out of scope"**, getting specific about the process boundaries. A full VSM always begins with suppliers and ends with customers. A smaller segment is a "process map" not a VSM.
- **Identified team leads** for each function in the value stream flow
- **The participant list**, both for in-person and remote participants
- **The anticipated time needed** for each section of the work session
- **Supplies list** and/or online toolkit

Supplies for In-Person Workshops	Equipment for Remote Workshop
• One or more whiteboards with markers • Roll of banner, plotter or butcher block paper and narrow painter's tape for marking work streams • Post-it Notes: Multiple colors (6 - 8); along with the red "waste" post-its and green "ideas" post-its • Sharpies • Computer and projector for sharing presentations, taking notes • Timer • Snacks!!	• Video conferencing service (ideal) or conference calling • Collaborative visual mapping software (iObeya, IdeaFlip, Mural, or similar) • Lucid Meetings or similar for managing time, capturing notes, sharing presentations, and keeping the process on track

After reviewing the elements of the charter, the facilitator demonstrates a simplified version of the value stream mapping method to help everyone understand how to fill out post-it notes, and secure participant commitment. Use post-it notes to illustrate a simple process, such as one individual driving to work.

To close the meeting, ask for any final questions and confirm next steps.

Expected Next Steps after the Initial Planning Meeting

- The champion should commit to a due date for completing the workshop charter.
- The champion and facilitator should set the next meeting date.

Pre-Workshop Planning Meeting 2

1. Review and Refine Charter
2. Clarify Participants and Pre-Work
3. Discuss Concerns
4. Define Schedule
5. Closing

Once the champion defines the workshop charter, agenda, and participant list, **meet to review and refine the details**.

During the charter review, consider:

- Does the agenda reflect the charter's problem statement, the deliverables, and time constraints?
- Are all the key stakeholders on the participant list?
- Can the VSM workshop be completed effectively within time constraints? If not, you will need to extend to multiple sessions or reduce scope.

When you're happy with the charter, **clarify who needs to give level-setting presentations at the beginning of the workshop and what they need to cover**.

About Level-Setting Presentations

Level-setting presentations provide important background information about each functional group participating in the VSM workshop. The goal: provide enough context to prevent obvious questions later on. Presenters should plan to talk for no more than 15 minutes.

Level-setting presentations include:

- A brief explanation of what that function does; mission, charter, key projects/initiatives, etc., focusing on how they are players in the VSM process.
- Notes about key challenges and constraints impacting work on this value stream

Ask presenters to minimize the number of slides and avoid small fonts or tables that are "eye charts" on the screen. If tables and charts are required, provide those as separate handouts.

Once the participant list looks good, **surface and discuss any of the key players' doubts or misconceptions about what the VSM workshop will accomplish and the time and effort it will require to be successful**. They should be aware that both quick wins and big changes will be required, and big changes such as new technology could require funds and weeks or months to complete.

Then, **decide if the VSM should be broken into multiple 4-hour sections on different days for ease on peoples' schedules.** This also allows for data to be gathered or confirmed between sessions, for sub-groups to work on identifying solutions, and helps participants return fresh for day two.

Select multiple possible target dates that you can check against everyone's availability.

Expected Next Steps after Planning Meeting 2

- The champion should review the VSM charter with the key stakeholders before the workshop.
- Finalize agreement on a specific, recent knowledge work case or service offering that's to be the focus of the "current state" map.
- Identify an internal support person to help the facilitator with logistics such as hanging paper, making swim lanes, taking notes, managing the technical capabilities for on-line participants, and producing a final report if needed.
- Ask the sponsor to plan a "state of the business" or "burning platform" address to kick off the meeting. It should present the logic and data to the group on "why change?" at this time.
- The champion should send email to participants defining VSM pre-work, including creation of level-setting presentations.

Final Pre-Workshop Check-In

Meet briefly with the champion a few days before the workshop to check for any changes that would impact the workshop's success.

Look for changes in:

- The workshop charter
- Attendees
- Level-setting presentations
- Logistics
- Disruptive outside events

Identify possible breakout sessions.

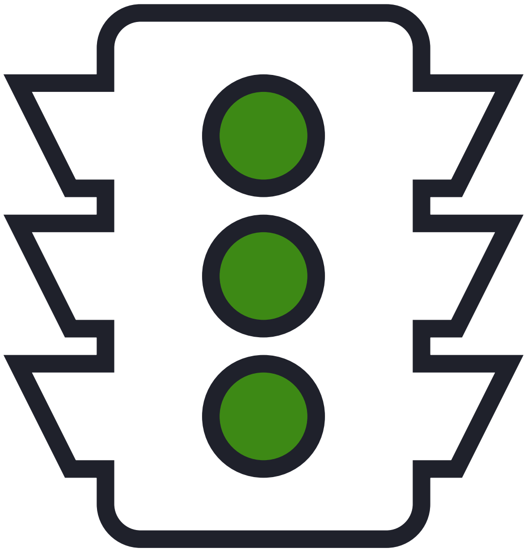
Are there obvious known problems with the current process? If you know there will be topics that require focused work, plan breakout teams to work these topics later in the workshop and anticipate the best assignment of key individuals to them. Similarly anticipate best team leads for potential break-out topics.

Finally, confirm that the organization still has the management capacity to support follow-up on the VSM action list.

Sometimes a new business challenge arises and the organization does not have enough ability to do the follow-up required for a successful VSM. In that case, delay the work session.

If everything looks good, ask the champion to distribute the final agenda to all participants.

You're ready to go!



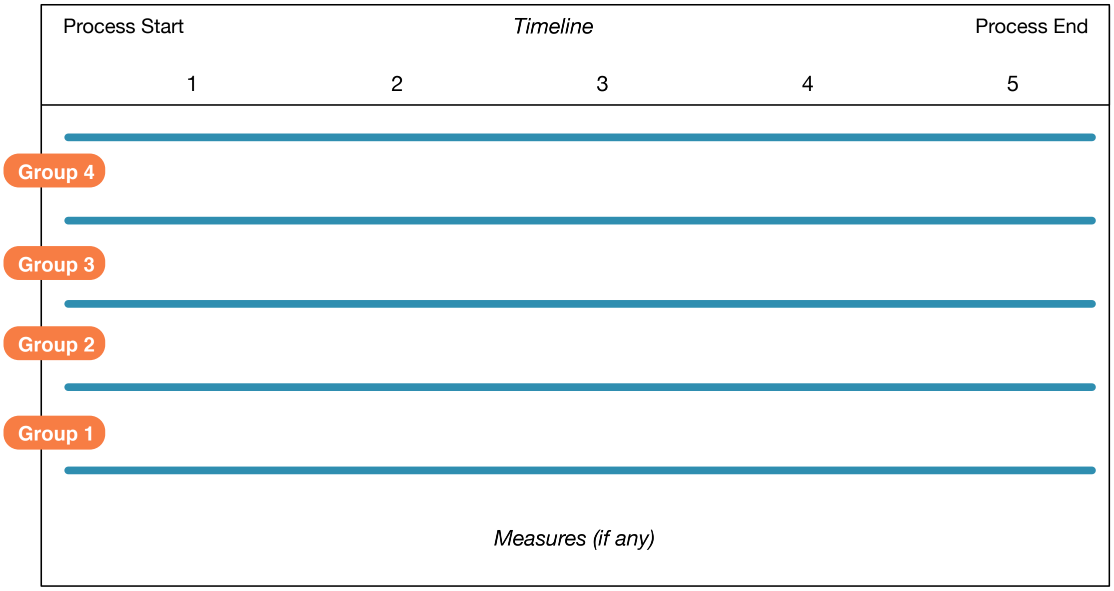
Setting Up the Map

The facilitator creates the map workspace. For face-to-face meetings, attach a large sheet of paper to a long blank wall and **use thin painter's tape to mark swim lanes for each functional group** participating in the mapping session. If you are meeting online, create the same layout using your visual mapping software.

Add time markers across the top either in days, months, quarters or years, as appropriate for the process.

Mark the swim lanes. The top lane is generally "management" or the "program" level; the last is "governance" meeting dates. Then, sequence the functional groups down the wall with those most connected (groups that work together often) on parallel lines.

During the workshop, participants will draw lines to show dependencies between groups. **Start with the group involved the earliest at the top, moving down to the latest involvement near the bottom** to keep these lines shorter and make the final map easier to read.



To save workshop time, functional leaders can pre-populate swim lanes in advance. Make sure to give each leader a preview and instruct them how detailed to be in the tasks they list. The work and decisions posted here should be at a "middle" level of detail, not general and not "in the weeds".

WORKSHOP AGENDA

This guide describes the entire workshop process. Depending on the scope of your workshop, it may take multiple sessions to complete the entire agenda.

1. **Welcome**
2. **Level-Setting Presentations**
3. **Populate/Confirm Swim Lanes**
4. **Present and Critique Swim Lanes**
5. **Identify Dependencies and Discuss Solutions**
6. **Present Dependencies, Solutions and Counter-Measures**
7. **Final Review: Identify Bursts and Prioritize Action List**
8. **Closing**

LEADING THE WORKSHOP

1 Welcome

When the workshop begins, the facilitator introduces the sponsor and champion. The sponsor presents the "burning platform" or need for change, and the champion adds to it if needed. They should take no more than 30 minutes including time for questions.

Once the purpose for the workshop is clear, take a moment for introductions. Ask each person to quickly state their name and the functional group or role they represent in the workshop and their part in the target VSM.

Then, preview the deliverables or goals and upcoming agenda (including breaks) and confirm or re-plan the day. On rare occasions the scope will need to change and this may warrant other participants joining the workshop.

2 Level-Setting Presentations

(If needed)

Functional leaders now present the level-setting information they prepared, giving participants a common understanding of the business background and information related to the VSM.

Keep all presentations on time by signaling the presenter when five minutes remain in any presentation. Following each presentation, take no more than 5 minutes to add any issues raised to a "parking lot". These issues will be incorporated in the later VSM discussions.

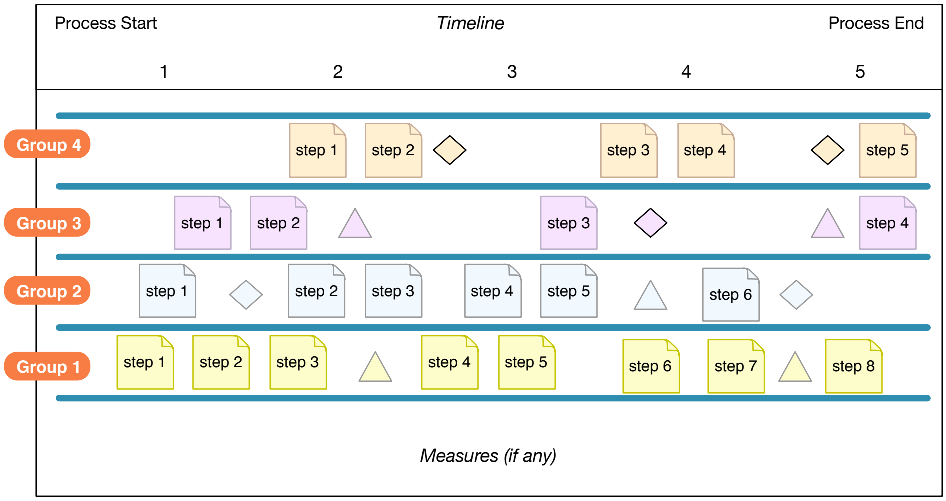
3 Populate/Confirm Swim Lanes

This is the beginning of the active work session.

If the swim lanes were not populated in advance, hand out the post-its and bold black markers to functional leads and demonstrate how to do so now. Emphasize the importance of clear penmanship.

The work and decisions added to the map should be at a "middle" level of detail, not general and not "in the weeds".

Even if some tasks were added before the workshop, give participants time now to review, revise, and complete their functional group's swim lane.

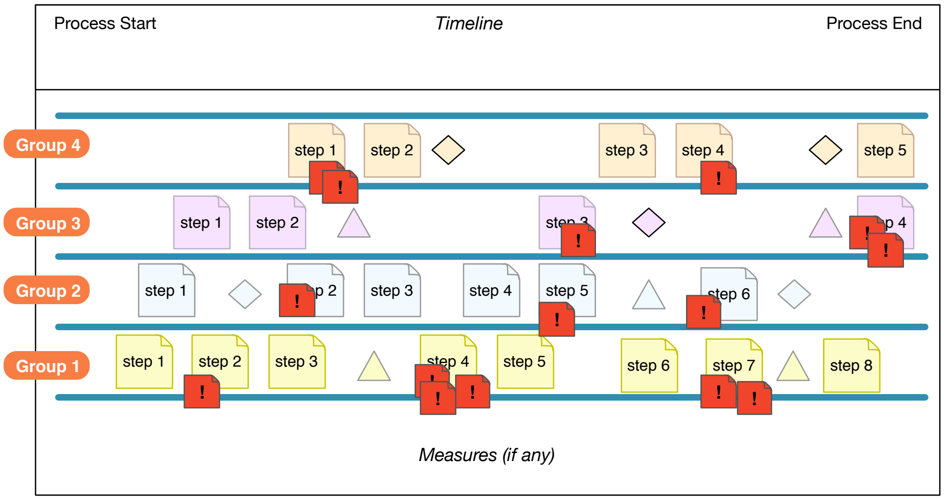


If a draft report is expected by higher management, the facilitator should identify a participant or junior facilitator to begin it while teams work to populate the swim lanes. This draft report is accumulated during each work session and reviewed with the team at the end. This report provides the backing information required for the sponsorship of the recommendations made by the VSM team.

4 Present and Critique Swim Lanes

When swim lanes are done, each functional team lead presents the tasks, decisions, and inventory post-it notes identified in their lane. The facilitator should stand near each presenter as they describe their flow. S/he may assist the functional leader by adding post-its, clarify wording, or moving post-its into a different time sequence.

All participants are empowered to place red post-it notes where they see problems, issues, mis-alignments with their function, waste or lost opportunities.



Identification and resolution of these issues is the purpose of the workshop. The facilitator must make sure participants do not hesitate to raise and post issues.

The team lead is not to defend any post-it. All discussion at this stage should be for seeking clarity only. If people become defensive or cut off others' critiques, the facilitator steps in to clarify that this finding of problems, waste and gaps is the goal. Participants may ask the team lead questions about a task or process they don't understand, and everyone may ask a participant questions about the problem added to a red sticky.

Beware solutions posing as questions!
Questions that start with “Have you tried…, Did you consider…, Why don’t you….” are often ways of skipping to a solutions discussion. Jumping to solution mode too quickly short-cuts the opportunity to get a full understanding of the current situation and leads to inferior solutions.

The facilitator must also observe body language and take action to resolve every distraction such as outside noise, participants multi-tasking, and cell phone calls in order to sustain the team’s focus on the work.

After all swim lanes have been presented and critiqued:

Take a Break

5 Identify Dependencies and Discuss Solutions

When all team leads have presented their swim lanes and been critiqued, a second work session begins.

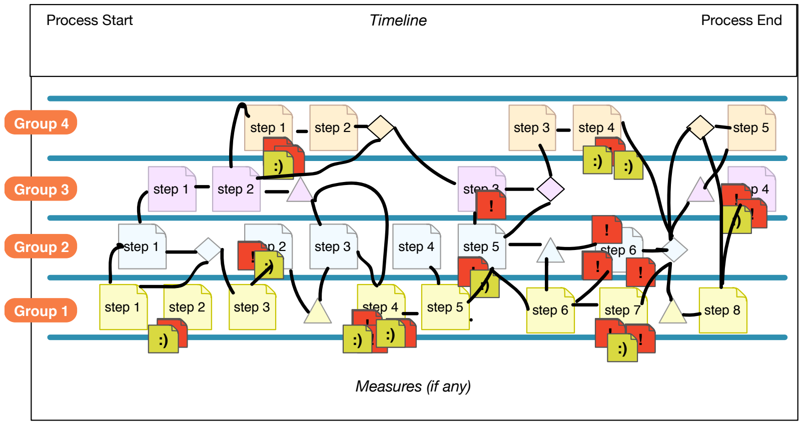
Each team works independently.

Team members draw black lines anywhere that communication or information transfer between groups happens in the process, including where rework occasions many back and forth contacts**.** As they do so, they should discuss typical places where rework occurs, places requiring a better understanding of customer requirements, or process areas in need of a follow-up kaizen event.

Teams can also use this time to discuss possible solutions or counter-measures to the issues on the map. Any solutions or counter-measures they come up with can be added to the map using green post-its.

6 Present Dependencies, Solutions, and Counter-Measures

Round two of the swim lane review commences with each functional team lead once again presenting his or her work flow. During the presentation, anyone - including the team lead - can use green post-its for adding possible solutions to the waste and problems identified earlier.



The lead also describes communication loops and realigns the timing of some work or decisions to suit other functional team's timing.

After all team leads have presented their revised swim lanes, the group should have a map showing how the process works across functional groups and begin a list of prioritized kaizen "quick win" improvements to make.

If time allows, take another break before moving to the final review. This will give everyone time to refresh and to contemplate the work completed thus far.

7 Final Review: Identify Bursts and Prioritize Action List

During the final review, call out anywhere "bursts", or big changes, are needed. These will be places there is lots of waste or churn of communications, indicating major issues that need to be addressed.

"Bursts" create big-change solutions. A problem-solving team(s) should be assigned to each burst following the workshop.

Next, prioritize the list of solutions and counter-measures. **Add each solution or counter-measure to be implemented to the action list**, with owners and timing clearly identified.

Then, estimate the potential results in terms of throughput, quality, and lead time savings if measures are available or have been estimated. Document these estimates in the report.

8 Closing

Finish the workshop strong by reviewing the results and confirming next steps.

- **Confirm action items and deliverables.**
  Review the items on the action list and check off the deliverables on the workshop plan.
- **Address the parking lot.**
  If issues remain on the parking lot and need to be worked in a future session, clarify them. Close out the initial parking lot list with assignments or elevation to higher responsible managers.
- **Assign bursts.**
  Identify team members and a leader or co-leaders for burst projects.
- **Decide: is a future state VSM justified?**
  Discuss the need for a second workshop to define a radically better future state process vision. If the group decides a future state VSM is not needed, they are saying that improving the current state is sufficient to meet the workshop purpose and scope.
- **Preview the follow-up meeting schedule and messages to communicate.**
  Clarify the date for the next follow-up meeting and discuss how the results of the workshop will be shared with functional groups. Then, if a closing presentation is needed for the sponsor(s), run through it prior to his or her arrival.
- **Plus/Delta**
  Complete a brief reflection at the end of the VSM on what worked well (pluses) and what should be changed for future workshops (deltas). Polling a sample of participants works well and saves time.

Immediately after the meeting

Send out the follow-up email to all involved VSM team members, which makes sure everyone gets their action items and a full report in their email.

Managing Time Across One or More Workshop Sessions

Manage the agenda and strive to stay on time, unless a conscious decision is made to deviate. If people go off the subject, briefly listen to detect if the point is pertinent, then, call time out if it's not. Ask the team to monitor the conversation themselves and post unrelated topics on the parking lot.

Depending on the scope of the process you're mapping, the agenda above may take several days to complete.

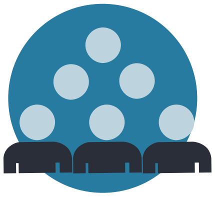
Following each half or full day agenda, the champion and facilitator (and perhaps the sponsor) should meet briefly to audit progress.

During every session, the facilitator should always be looking two to four hours ahead in the agenda to confirm the workshop timing, rate of progress, emerging issues and likely project breakouts.

Three Ways to Document Results

Using Paper, Whiteboads and Sticky Notes in Face-to-Face Meetings

Before the meeting, print blank A3 project forms and action sheets. Send electronic copies of them to the champion and team leaders for use in the meeting. Prepare the meeting space with a whiteboard, markers and sticky notes for:



1. Identifying actions and bursts.
2. Listing parking lot items and ideas to revisit later.
3. Brainstorming solutions and listing next steps.

Using an Online Co-Editing Document Application (Google Docs, Microsoft Word Online, etc.)

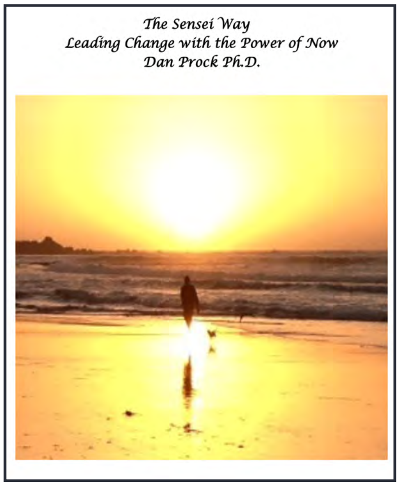
Before the meeting, create a new document that everyone in the group can access and edit together. Include a link to this document in your meeting invitation. Add the workshop name as the document title.

Using Lucid Meetings

Each template includes built-in space for documenting results.

- Add notes to each agenda item by clicking the "Add Notes" button.
- Tag notes to group related types of waste or mark parking lot items.
- Document solution ideas and the final experiments to be tried in notes.
- Add and assign Action Items to capture next steps.

RESOURCES FOR ACHIEVING MEETING MASTERY



By Dan Prock

Facilitating Value Stream Mapping for Knowledge Work and Service Organizations

The Sensei Way
http://www.senseiway.com/

More of Dan's work with Lucid Meetings
http://www.lucidmeetings.com/templates/designers/dan-prock

Books

Karen Martin and Mike Osterling
Value Stream Mapping: How to Visualize Work and Align Leadership for Organizational Transformation, McGraw-Hill Education (2013)

Mike Rother and John Shook
Learning to See: Value Stream Mapping to Add Value and Eliminate Muda
Lean Enterprise Institute (1999)

On the Web

Monthly meet-ups among lean practitioners are listed online.

The Lean Enterprise Institute
http://www.lean.org/

The Association for Manufacturing Excellence
http://www.ame.org/

The American Society for Quality
http://asq.org/

ABOUT THE AUTHOR

This template was designed by Dan Prock, President of Sensei Way L.L.C.

Dan Prock is a graduate engineer with a Masters and Ph.D. in psychology. He has been a lean enterprise facilitator, coach and "train the trainer" workshop leader for over 20 years.

Over that time, Dan led hundreds of kaizen events in factories and knowledge work areas including product design, quality assurance, software development, marketing, law, restaurants, and small shop operations.

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