FLOW ENGINEERING

A Quick Start Guide

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IT REVOLUTION

INTRODUCING FLOW ENGINEERING

Based on the need to enable effective collective action, we've developed a series of mapping practices to help teams arrive at shared clarity that we call Flow Engineering. Flow Engineering embodies these activities as a structured set of visual mapping exercises that draw out insights and align the efforts of a group of collaborators. If you can host a board game, you can host these mapping exercises.

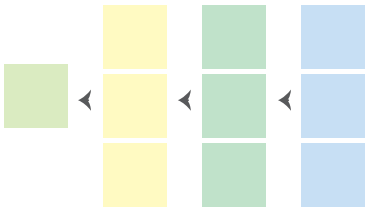
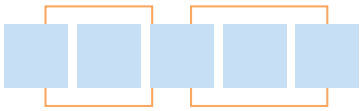
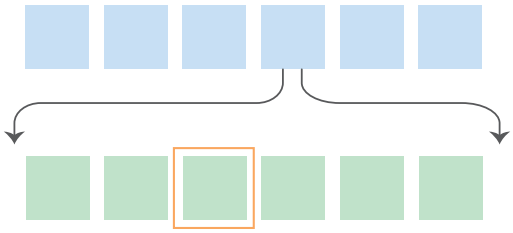
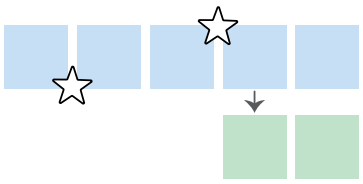
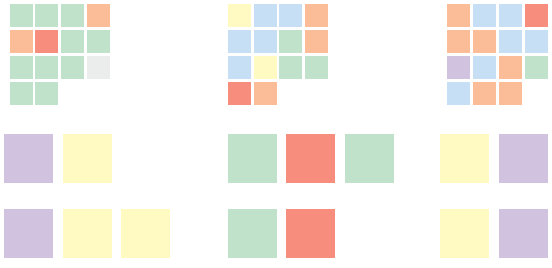
Flow Engineering builds upon mapping's benefits to go beyond engagement, alignment, and focus. It enables effective collective *action*.

- Flow Engineering allows us to identify value by connecting current state context to a clear target outcome.
- It connects that outcome to specific benefits for customers and stakeholders.
- It keeps that value present as a north star so contributors can make the best decisions about what will help boost and uncover value through their efforts.
- Flow Engineering allows us to build clarity by making it easy for contributors to connect the dots from efforts, activities, and improvements to the most critical focus for the organization. Based on a more complete and holistic view of the full system of work, everyone can grasp their place in improving the system.
- The minimal design enhances clarity by avoiding a lot of less valuable context and noise.
- Finally, Flow Engineering allows us to enable flow not only by uncovering the constraint most affecting the flow of work but also by building relationships, which unblock conversational and informational flow across stakeholders and contributors.

By aligning everyone to one target outcome, one stream, and one constraint, everyone can move forward together rather than against or away from each other. The concise format makes it easier for teams to step away from daily distractions and gain clarity, so they can come back to daily work with renewed energy, awareness, and focus.

THE FIVE KEY MAPS OF FLOW ENGINEERING

Five key Flow Engineering maps enable the three elements of action (value, clarity, and flow). These mapping exercises are designed to guide you through the essential steps to establishing team flow. They're adaptable and extendable to meet the unique needs of your team(s). And importantly, they are quick, clear, and easy to execute, allowing teams to remain agile and move at the speed of change.

Maps	Purpose	Simplified Diagram of Maps
Outcome Map	Discover and align on value	
Value Stream Map	Find and measure key constraints	
Dependency Map	Connect constraints to dependencies	
Future State Map	Design improved flow	
Flow Roadmap	Create and plot clear next steps	

HOW THE MAPS SUPPORT THE ELEMENTS OF ACTION

With the goal of fostering the three elements of action, the maps of Flow Engineering each specifically serve one of the three elements but also support the others as a secondary benefit (as shown in Table 4.2). As we introduce each map in later chapters, we'll share which practices they're based on and viable substitutes for each should you have an existing practice in place or a substitute you'd like to employ instead.

Map	Primary goal	Secondary benefits
Outcome Map	Assemble context and identify value	Provide clarity and alignment across multiple perspectives
Current State Value Stream Map	Clearly identify the most impactful constraint	Build clarity on current state workflow and performance
Dependency Map	Build clarity on causal factors	Build an artifact to share with external stakeholders
Future State Value Stream Map	Define improved flow	Identify valuable experiments and actions to improve flow
Flow Roadmap	Prioritize and plan flow improvements	Provide clarity on next steps and flow from today to future goals

Next, we'll go over how to get started, and show you how to facilitate your team's progress through value, clarity, and flow.

WHEN TO START FLOW ENGINEERING

If you find yourself in a large-scale enterprise environment, at any moment it's likely you're faced with at least one of the following circumstances:

- You need to cut costs, boost efficiency, or improve time to market.
- You're planning in the midst of or recovering from a reorg.
- Your calendar is being eaten up by meetings.
- You're acquiring or have been acquired.
- You need to onboard staff into a complicated workflow.
- You just need to figure out what's going on, where to focus, and what to do.

Each one of these is a great opportunity to map.

WHERE FLOW ENGINEERING HAPPENS

Mapping can take place in any room where your team can gather. If you're physcially located in the same place, find a room with a dry-erase board and some sticky notes.

While the energy, sense of connection, and tangibility of an in-person workshop can't be matched in a virtual space, virtual mapping does has many advantages:

- It's far easier for everyone to work at once.
- There's no facilitator blocking the board.
- Handwriting is never a problem.
- And, it's easier to start than booking a conference room with the ideal equipment.

With virtual mapping, you can easily export, share, preserve, and update the results. You can save a lot of time working across teams and sessions by using templates. Even if you have a fully colocated team, you might consider virtual mapping to capture all of those benefits along with the advantages of in-person activity.

FLOW ENGINEERING TOOLS AND TIMELINE

Any collaborative visual tool will work well for these maps in a virtual or hybrid environment. There are dozens of free tools that allow for real-time collaboration, and many offer anonymous voting and other powerful facilitation capabilities.

The important part is to build the maps collaboratively or at least get fast and varied feedback from everyone involved and affected. These days that means online, but this is all possible with a dry-erase board, paper, sticky notes, or almost anything you can write on together. For each map, you'll likely need two hours for an extremely skilled facilitator with prior experience or three hours for a new attempt.

WHO'S INVOLVED IN FLOW ENGINEERING

It's important to involve representation from at least the responsible and accountable parties within a given value stream. That means if design is part of the stream, someone from design should be present during mapping. That also means that leadership and those who are able to change the system, workflow, and team must be present and involved.

Once you identify your key bottlenecks, you can narrow the involved parties to those who are critical to those areas. In general, it's good to include as many voices and perspectives as possible, but we find that twelve people is the maximum manageable size.

Facilitators are essential for collaboration. They can alleviate participants' fears, encourage creativity, and create a safe space for sharing ideas. They have the ability to open up and expand discussions while also narrowing down and refining them.

Ideally, the facilitator has no skin in the game. They're neutral and supportive of the group's process. This helps move activity forward and keep it out of the weeds.

General Facilitator Rules of Engagement

✓	Facilitators talk as little as possible outside of guiding the mechanics of the process; they let the participants own most of the dialogue.
✓	Facilitators should caution any individual from talking too long; aim to stay within the duration of an elevator ride. In a larger group, a single sentence constraint can keep the effort moving.
✓	Promote a standard, non-disruptive interruption method (i.e., hand raise) to provide participants a way to voice their thoughts.
✓	Encourage participants to reach out to other participants who haven't spoken to ensure we hear from everyone.
✓	Keep participants comfortable with ranges and guesses; trust but verify with the group.
✓	Facilitators emphasize the need to stay focused on the time horizon in question. If we're looking at the current state, avoid talking about solutions or how things ought to be.

With all that said, you're ready to dive in. It's worth noting here that once you have completed the full Flow Engineering mapping sequence, you can remap maps individually depending on your need. Say, for example, your team still doesn't seem like it's aligned on a target outcome, you can revisit Outcome Mapping. Or, if you feel that maybe you're missing a dependency, you can go back to Dependency Mapping.

THE FIVE KEY MAPS

Five key Flow Engineering maps enable the three elements of action. These mapping exercises are designed to guide you through the essential steps to establishing team flow. They're adaptable and extendable to meet the unique needs of your team(s). And importantly, they are quick, clear, and easy to execute, allowing teams to remain agile and move at the speed of change.

OUTCOME MAPPING

Outcome Mapping is a collaborative workshop to help a group of stakeholders establish a clear target. Its goal is to focus on value while surfacing doubts, testing assumptions, and enabling the emergence of new insights. Outcome Mapping helps the team start to define a clear roadmap toward the value they seek by answering the following questions:

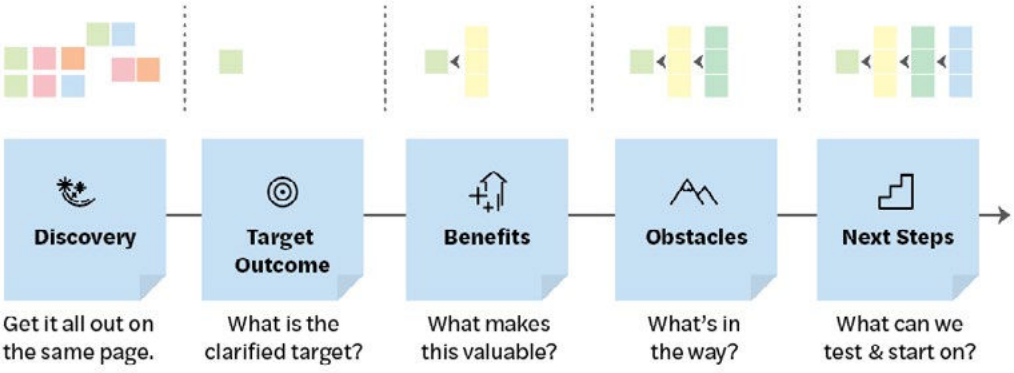
- **Does everyone clearly understand our target objective?**
- **If another issue disrupts our focus, is it clear how to prioritize?**

When you make your primary outcome clear, teams understand what's safe to ignore. This helps teams clarify what's in or out of scope, how much detail is needed, and, most importantly, how everyone can contribute to making the target outcome a reality.

There are five stages to Outcome Mapping:

1. **Outcome Discovery:** What is our target?
2. **Defining the Target Outcome:** What goal(s) do we want to achieve?
3. **Defining Benefits:** Why does this outcome matter?
4. **Defining Obstacles:** What could get in the way?
5. **Defining Next Steps:** How are we going to proceed?

It's possible to create an Outcome Map within a quick conversation to clarify, align, and drive action. A rough Outcome Map could be expanded into a more detailed map at a later date; it's a living document that over time individuals can (and will) edit, comment on, or vote on.



CURRENT STATE VALUE STREAM MAPPING

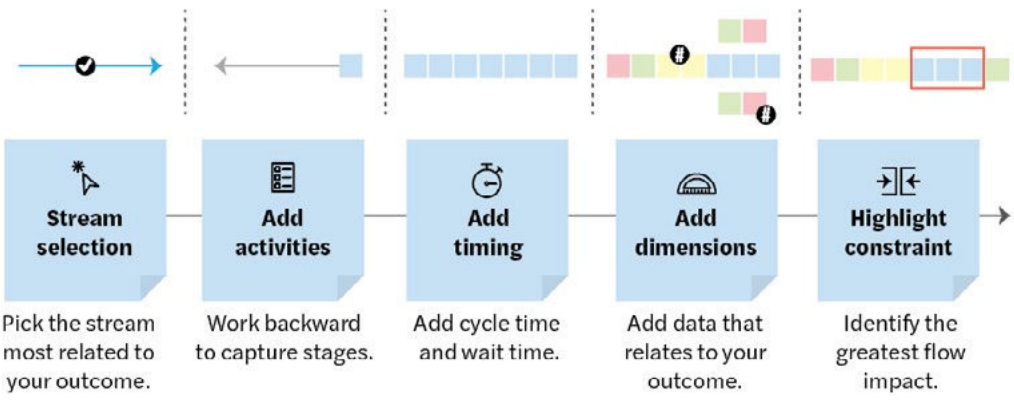
Our second stage of mapping, Current State Value Stream Mapping, helps teams find clarity. A value stream is just a pattern. Where this pattern appears, you can apply a consistent set of practices. Everything from hiring, customer onboarding, and support to roadmap definition, mergers and acquisitions, and quarterly planning can be treated as a value stream with either an internal or external customer. That means we can map, measure, and improve flow in all of these areas and more.

We identify a value stream by identifying the customer and working backward by asking, **"What do we do that allows a customer to receive value?"** Then we ask, **"What do we do before that?"** and so on, until we reach the inception of the workflow. With Value Stream Mapping, we can collectively build clarity on how value is created in a process so that information can be used to reduce waste.

There are five stages to Value Stream Mapping:

1. **Stream selection**
2. **Add activities**
3. **Add timing**
4. **Add other relevant data**
5. **Highlight constraint**

Through these stages, we gain a clear understanding of the workflow most relevant to the target outcome and where to focus for the greatest improvement.



DEPENDENCY MAPPING

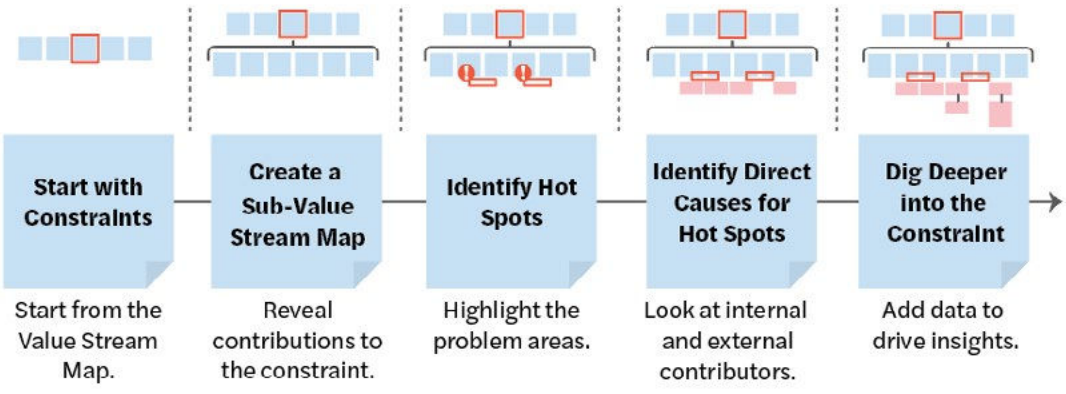
Dependency Mapping digs deeper into areas of the value stream that appear to be constraints in order to build clarity on the process and metrics of that part of the stream. It is specifically designed to improve the resolution on this critical constraint so we can identify precise remedies. It also gives us a chance to investigate the chain of dependencies that contribute to the critical constraint.

With Dependency Mapping, we aim to gather just enough information to reveal viable opportunities for improvement. We're not aiming to map every dependency across every stage of the value stream. Dependency Mapping avoids waste by mapping the wrong thing or seeking too much data. It challenges our assumptions about where problems lie by digging deeper into likely hot spots.

There are five stages to Dependency Mapping:

1. **Start with constraints.**
2. **Zoom in on a constraint by creating a sub-Value Stream Map.**
3. **Identify hot spots.**
4. **Identify direct causes for hot spots.**
5. **Dig deeper into the constraint.**

With these stages, we gain a clear understanding of the dependencies most impacting the constraint and which focal point within the dependencies will enable the most effective improvement.



FUTURE STATE VALUE STREAM MAPPING

Future State Mapping is a way of enabling better flow by visualizing a desired target state and identifying gaps between it and your current state. A Future State Map adopts the same format as a Value Stream Map with two differences:

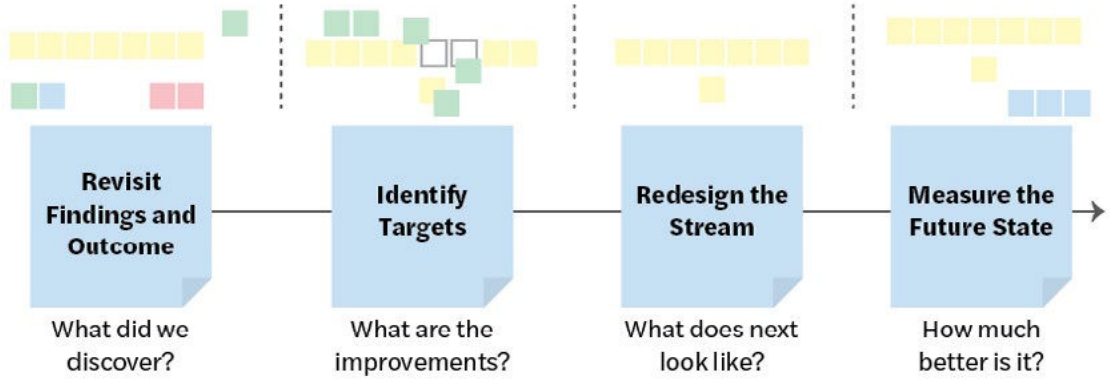
- **It depicts an intended future state for the value stream rather than the current state.**
- **It is annotated with the improvement opportunities required to get to that future state.**

Future State Mapping sets the target for improvement, particularly for enabling flow. We use it as a navigational aid to direct us from the current state of a stream to a desired future state. As with navigation, the bigger challenge is the incremental adjustment that is required along the way.

Future State Mapping happens in four stages:

1. **Review the target outcome and findings from previous maps.**
2. **Identify targets for improvement.**
3. **Redesign the stream.**
4. **Measure the future state.**

Future State Value Stream Mapping provides a shared resource to align improvement efforts and communicate with colleagues not present during mapping workshops.



FLOW ROADMAPPING

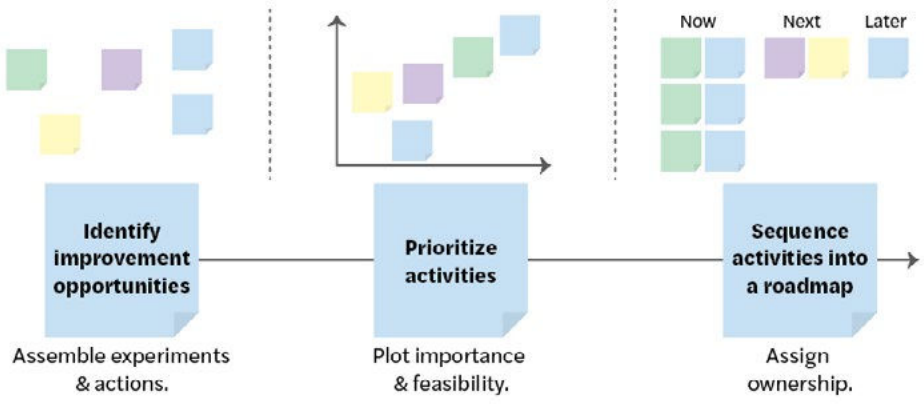
The Flow Roadmap focuses on visually planning improvements to enable flow across the value stream. Unlike a typecial roadmap, the Flow Roadmap does not describe what you will work on; it's a plan for improving *how* you work. Creativity and innovation are as important to workflow as they are to products. The Flow Roadmap is a plan for how to improve workflow.

Traditional roadmaps are useful communication and alignment tools to help inform groups and individuals about what they can expect in the future, but they don't talk about how the future will happen. This "how" is the gap that Flow Roadmaps fill. Flow Roadmaps plot actions, experiments, and mechanisms to improve the way you deliver your initiatives, features, and traditional roadmap items.

There are three stages to Flow Roadmapping:

1. **Identify improvement opportunities.**
2. **Prioritize each activity.**
3. **Sequence activities, ownership, and measures of progress into Now, Next, Later.**

The Flow Roadmap is a plan for a team to improve its capacity. By improving flow, we're improving delivery performance, allowing all of our work to be completed faster and at a higher quality. This approach allows for relatively quick prioritization and estimation,



and provides a shared vision that every individual contributor can use to navigate in the right direction.

CONCLUSION

Flow Engineering is about finding the fastest path to effective action. From within all possible goals, Outcome Mapping establishes which will have the greatest value. From within parts of their workflow, Value Stream Mapping and Dependency Mapping provide clarity on the one constraint that has the most impact. And from within all possible activities, Future State Mapping and Flow Roadmapping focus the team on what changes will unlock flow. This is a powerful way to achieve target outcomes and also prevents disengagement, disorientation, and distraction. Discover how to conduct each of these mapping techniques in the new book *Flow Engineering: From Value Stream Mapping to Effective Action*. Additional insights in the book include:

- Step-by-step instructions for each map.
- Tips and traps for each workshop.
- Facilitation and leadership guidance.
- The cybernetic origins of Flow Engineering.
- How to leverage the three elements of action in any situation.
- How to overcome the on-ramp, alignment, and buy-in gaps for any approach.
- How to align Flow Engineering with a mandate from leadership.
- How Flow Engineering can help you succeed with OKRs and other efforts.
- The Five core principles to guide Flow Engineering practices.
- Common wastes and mitigations to remember.
- Which metrics matter most.
- Implementing the flywheel of Flow Engineering.
- How to see, measure, and use governing and enabling constraints.
- How Flow Engineering helps overcome scaling challeneges and pains.
- How to use Flow Engineering to kickstart Value Stream Management.
- How to make mapping a core capability in your organization.
- A dozen case studies that walk you through applying Flow Engineering.
- And much more.

Learn more about *Flow Engineering*
and download more resources at: