

# 5 System Mapping Methods

## **FORCE FIELD MAPPING**

**WHAT** A simple but effective method for quickly identifying the forces for or against a change, and prioritizing actions that will have the greatest impact.

**WHEN** This method is especially helpful when the success of your initiative depends on certain people (e.g. doctors or people with diabetes) changing their behaviors. However, it's also effective at quickly capturing general forces that need to be addressed (such as limited availability of information on diabetes).

**WHO** This method is useful when the participants are familiar with the interests and concerns of those people who are influencing ultimate success of the work. In a diabetes example, this might include case workers, doctors, nurses, and patients who want to help other patients.

**DIFFICULTY: 1/5** 

**MATERIALS:** 

**Markers** 

(for the facilitator)

Stickies, if desired

Blank wall or Flipchart

**HOW** To do this, write the group's challenge at the top of a flip chart page. Then, create two columns below that, and label the columns Forces For and Forces Against.

Instructions to participants:

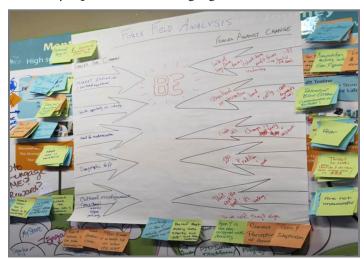
- 1. We're going to quickly generate as many items as we can under each of these two columns:
- 2. Under Forces For, we'll list all the factors that are contributing to make this change happen or that attract people to adopt a new behavior.
- 3. Under Forces Against, we'll list all the factors that are preventing the change from happening or people from adopting a new behavior.
- 4. [After they've populated each column]. Now let's identify the 3 strongest forces in the *Forces For* column (those that seem to exert the most influence) and then do the same in the *Forces Against* column.
- 5. Now let's look at each of the six strongest forces and, starting with the first force, we'll generate 3 specific strategies for strengthen or weaken the forces to change the force field. [Make sure that each strategy is as specific as possible.

**WHY** Benefits of Force Field Analysis:

- It's a fast way to get a full view of why things seem stuck or why a person isn't changing his or her behavior.
- Provides a starting analysis for developing and prioritizing actions that are likely to move thing forward.
- The results are specific and can be refined and tested with other stakeholders as you move forward.

**WHAT'S NEXT** We often use the results of a force field analysis to prototype some solutions or interventions. By testing those prototypes and seeing how they work (or don't work), we learn more about whether our force field analysis might be missing something important or is inaccurate in some other way, so we can refine it over time through testing.

The force field concept was first described by psychologist Kurt Lewin in a 1943 article titled "The Field at a Given Time."







# 5 System Mapping Methods

#### **KEY FACTORS MAPPING**

**WHAT** This is a simple but effective method for quickly identifying the factors that have the most influence on addressing a given challenge.

**WHEN** This method is especially helpful when things aren't moving forward and there seem to be underlying issues that hold things back. The process helps push a group to think harder about what's really holding back progress.

**WHO** A diverse group of stakeholders who care about solving the challenge, especially if they seem to bring diverging perspectives on how to do it.

**HOW** To do this, draw a 1-foot circle in the center of the large sheet of paper. Write the group's challenge in that circle. Then, draw another circle that's as large as possible on your paper, and another that's in between these two circles. [See example below. Note that this exercise can be done with or without post-its.]

#### **DIFFICULTY: 2/5**

#### **MATERIALS**

Medium Stickies (two colors)

Felt tip markers (one for each participant)

Large wall of paper or whitebard, 6x6'

#### Instructions to participants:

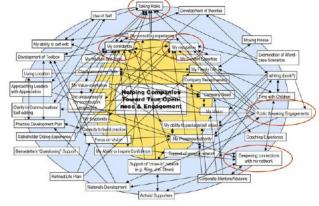
- 1. I've put our challenge in the center of this page. Do we all agree that this is what we're working on?
- 2. Now, in this middle circle, I want you to generate post-its for anything that will impact us addressing our challenge. These might be things that will help us achieve it or hold us back from that. Go!
- 3. [You might need to group post-its into themes where people have generated similar items. Do this next.
- 4. Now in the outer circle, I want you to put down anything that impacts the elements in the middle circle.
- 5. Now, as a group, let's start connecting any element that impacts another element. We'll draw a line between any two elements where one element seems to impact the other.

At this point, a few elements will start to emerge as the ones that are most influencing other elements (because they have the most lines connected to them). You can check with the group whether that seems accurate and then work on specific strategies for addressing these key factors.

#### **WHY** Benefits of Key Factors Analysis:

- It's a very fast way to identify the factors that seem to have the most impact, and might be powerful places to focus intervention strategies.
- It helps a group put everything on the table and view it all together as factors to consider.
- You can include any type of factor, including policies, practices, institutions, or political issues.

**WHAT'S NEXT** The key factors are often things that have been under the table or unaddressed, so it is helpful to help the group talk through why that factor is having such a big impact (usually a negative impact) on their ability to address the



challenge. Good facilitation can help them uncover some unstated assumptions, beliefs, biases, or political dynamics that have been holding back progress.





# 5 System Mapping Methods

#### **CONSTELLATION MAPPING**

**WHAT** This is a sophisticated method for building shared insight into the dynamics around a given challenge, identifying possible solution pathways, and engaging stakeholders in contributing resources to the solutions.

**WHEN** This method is especially helpful when you need people to thoroughly understand a complex challenge together, generate practical pathways to action, AND build genuine commitment to working together, all at the same time.

**WHO** This method works well for groups of up to 30 people working on issues that are complex and not well defined. Participants should represent a diversity of perspectives on the challenges and be able to commit resources to addressing the challenge.

### **DIFFICULTY: 3/5**

#### **MATERIALS:**

Hexagon-shaped notes from thinkingtools.net (red, blue, and green)

Sharpie markers (one for each participant)

### **HOW** Instructions to participants:

- 1. We're going to quickly generate as many items as we can related to this issue. There are three types: *Challenges* are problems related to the issue (write these on red notes), *Opportunities* are potentially positive outcomes of addressing the issue (write these on green), *Resources* are things you can leverage directly or indirectly to positively impact the issue (on blue).
- 2. Write one item per note—legibly!
- 3. Each item must somehow relate to the focus issue, each item must be specific (use concrete examples where possible), and each participant can create an unlimited number of items—the more, the better.

After people have written lots of items, tell them to generate two more items each and then post all of them on the wall. It's okay if they start to connect related items as they post, but they shouldn't go too deep yet.

After the participants have posted all their items, take a short break and then gather everyone near the wall. Make sure everyone can see the notes well and then invite them to start connecting elements. Read items aloud as you connect them together. (The hexagon-shaped notes fit neatly together into patterns.)

## **WHY** Benefits of Constellation Mapping:

- Each person's distinct perspective and information becomes part of the whole picture.
- Items often come together to produce insights that no individual participant would have seen.
- As people connect problems with resources and opportunities, the connections show possible "solution pathways" to address the problem multi-dimensionally.
- People begin to see the relationship among various elements and understand the dynamics of the problem.
- The process of connecting items that everyone generated builds shared understanding and commitment.

Resources Opportunities Challenges

Lack of Political will 4 meaningful Company Coffee Change Change Croup I Grants

Thiority of Solar Blo-buel Gevelopment Change Company Coffee Coff

**WHAT'S NEXT** Use the output to seed a storyboarding process, where the group creates possible stories about what's happening now and what the desired future looks like, and then uses storytelling to chart how this group might make that future happen.



# 5 System Mapping Methods

## **VALUE CHAIN ANALYSIS**

**WHAT** A method for uncovering disconnects or disincentives for delivering better outcomes across a value chain.

**WHEN** This method usually applies when a better product or service needs to be delivered to consumers, citizens, or institutions (e.g. healthier school food).

**WHO** This method is most effective when the participants represent the various "players" along the value chain, because we ultimately need to learn how to design things so that everyone gets a good deal.

**HOW** Start by writing a working goal at the top of the sheet of paper. Then use the extra-large post-its to identify key players along the value chain-these might include farmers, processors, distributors, importers, food service companies, schools, or other groups depending on your situation. Note that it's often most efficient to have a "scribe" to write contributions from the group on post-its. The post-its are more legible and the facilitator can summarize the discussion quickly for the notetaker.

#### **DIFFICULTY: 4/5**

#### **MATERIALS:**

**Medium Stickies** (green and yellow)

Extra-large Stickies from thinkingtools.net

Felt tip markers (one for each participant)

Long wall or paper

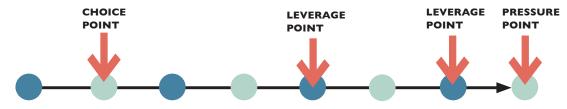
Instructions to participants:

- 1. Let's start with key players at the beginning of this value chain (e.g., with farmers). As we move toward our goal, what, if anything might be a barrier for these folks? [Capture these on yellow post-its.]
- 2. Now, what solutions, resources, or opportunities might help reduce these barriers (e.g., for farmers)?
- 3. [After the group has done these for each key player] Looking across the whole value chain, where do things seem to be most stuck?
- 4. Okay, so value chains work most effectively when there are clear "signals" from the demand side to the supply side. How well are those signals coming across here? How might we strengthen them?

### **WHY** Benefits of Value Chain Mapping:

- It's a very focused way to think about the value that each player involved in delivering better outcomes is receiving, and how to improve the value proposition for them.
- The results are specific and can be refined and tested with other stakeholders as you move forward.

**WHAT'S NEXT** Using the value chain map, we can identify the critical actors who represent key leverage points and whose current and desired experience we need to better understand in order to deliver a better solution, and then focus on how to make a better value proposition for them.



Input supplier Farmer Trader Processor Manufacturer Distributor Retailer Consumer

(SYSTEM: FOOD SUPPLY CHAIN)





# 5 System Mapping Methods

## **CAUSAL LOOP DIAGRAMMING**

**WHAT** A method for clarifying the dynamics among parts of a system to identify leverage points for change.

**WHEN** Especially helpful when the system is highly complex with many factors interacting to influence the outcomes from the overall system.

**WHO** Most effective when you have a group that represents the whole system that's being diagrammed and a facilitator who's experienced with causal loop diagramming.

**HOW** Start by writing a working goal at the top of the sheet of paper. Then ask the group to identify all the variables of the system that might be impacting how that system is working (note that the boundaries of what you consider the "system" might need to change during this exercise!

**DIFFICULTY: 5/5** 

**MATERIALS:** 

Medium Stickies
Arrow Stickies

Felt tip markers (one for each participant)

Long wall or paper OR Kumu.io software

Then draw arrows between any two variables that impact one another. If two variables move in the same direction, then label that arrow with a plus sign (+). If the two variables move in opposite directions, then label the arrow between them with a minus sign (-).

Once you've labeled the arrows, determine whether each loop is a reinforcing loop, where a change in one direction is compounded by more change, or a balancing loop, where a change in one direction is corrected or countered by change in the opposite direction. When the diagram seems complete, then talk through it like it's a story to test whether the map really captures what's going on in that system.

**WHY** Benefits of Causal Loop Diagramming:

• It's a strong method for exposing a group's assumptions about what's happening in a system and where to focus their efforts (or their learning and experimentation).

**WHAT'S NEXT** You can test the map with other stakeholders to see what might be missing or to test assumptions about relationships among variables on the map, and then refine it over time to create a more and more accurate picture of the system's dynamics.



