


# BRAINSTORM

## WHAT

Basic participatory tool to generate new ideas and find solutions to problems. By doing this in a group you create a shared vision.

## WHEN TO USE

- **Stage(s):** Preparation & setup, prototyping, commercialisation & scale-up
- **Goal:** Engage stakeholders, Interrogate existing knowlegde, create new knowledge & ideas, think ahead & find solutions to address challenges/problems
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Appoint a facilitator before the brainstorm.
- Online: use tools like MIRO or Lucid spark. Offline: provide pens and post-its. Make sure everyone can see all ideas.
- Compose the group (5 to 7 participants) and make sure it is diverse
- Define the problem you want to solve & stress that there are no bad ideas, feasibility is not important
- Give people time to generate as much ideas as possible on their own
- Ask everyone to share their ideas
- Start a group discussion on the ideas but don't follow one train of thought for too long
- Only at the end: evaluate the ideas

# BRAINSTORM

## STRENGTHS

- Fun and informal method to gather a lot of new perspectives
- Increases support for the solution because everyone contributed
- You can leverage the full creativity potential of the group by building on each other's ideas
- Brainstorming can be complemented with lot's of techniques for specific situations

## WEAKNESSES

- Challenging to involve all participants also more introverted
- Be carefull not to stifle creative ideas that seem unrealistic
- Brainstorming in group means you can't follow your own train of thought and this might block your ideas


Source: Mind Tools Brainstorming - Creativity Techniques from MindTools.com

# TOMORROWS' HEADLINES

## WHAT

Brainstorming technique that combines individual thinking and group thinking. The goal is to stimulate foresight and be prepared for different possible outcomes.

## WHEN TO USE

- **Stage(s):** Preparation & setup
- **Goal:** Map & engage stakeholders/actors, create new knowledge & ideas, think ahead & find solutions to address challenges/problems
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Brainstorming tool that uses envisioning technique.
- Ask participants to close their eyes and envision the moment in which the product or service will be launched.
- Participants write fictional News paper articles, blog posts or ted talks about that moment.
- Ask questions like how will it be introduced to its potential users? what features will be highlighted?
- Stimulate provocative and creative writing.
- Like in a brainstorm, there are no bad ideas or articles - everyone writes his own article.
- Share your articles or ted talks with the group and look for common ground. What impact does this have on your project?

# TOMORROW'S HEADLINES

## STRENGTHS

- Helps to align on a common vision with the project team
- Working backwards helps to get a new perspective
- Fun and informal method to gather a lot of new perspectives
- Participants can follow their own train of thoughts when writing
- Brainstorming technique that involves the more introverted as well

## WEAKNESSES

- Ensure enough time for the group discussion afterwards
- Important to find common grounds in the different stories
- Powerfull technique for a very specific question


Source: Tomorrow's Narratives | Service Design Tools & Headlines from the Future  
SessionLab

# VISUALISATION TECHNIQUES

## WHAT

Make a visual representation of an idea, process or structure. Some tools stimulate convergent thinking, others divergent thinking.

## WHEN TO USE

- **Stage(s):** Can be used in any stage
- **Goal:** Interrogate existing knowledge, create new knowledge & ideas
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1-2 hrs 

## HOW TO USE

- **Mind Map:** Structures ideas in a way that provides overview and detail, stimulates divergent thinking
- **Venn diagram:** Draw partially overlapping circles, write similarities in the overlapping parts and what is unique in the parts belonging to one circle. Illustrates differences, similarities and relations. Provides an overview and Stimulates convergent thinking
- **Tree diagram:** Draw a tree, the roots represent the inputs and the leaves the outputs. Match roots and leaves to reflect the hierarchy or consequences of decisions. Stimulates convergent thinking
- **2by2 matrix:** Categorizes a system by two simple variables resulting in four clusters. Stimulates divergent thinking
- **Life cycle diagram:** Maps a process into phases (introduction, growth, maturity and decline). Stimulates convergent thinking and gives overview.

# VISUALISATION TECHNIQUES

## STRENGTHS

- Can be done alone or in group.
- Helps to clarify complex issues.
- Different visualisations possible so you can adapt this to your situation.
- Making a visual representation forces you to clear out ambiguity and come to the essence of an issue.

## WEAKNESSES

- Important to choose the right visualisation technique for the right purpose.
- Not a goal in itself but a way to understand a process or system.
- These tools are for you to explore ideas, systems or processes. They are not necessarily suited to communicate your ideas to others!

### References:


A Periodic Table of Visualization Methods ([visual-literacy.org](http://visual-literacy.org))  
Visualizations That Really Work ([hbr.org](http://hbr.org))  
Visual Reminders – MSP Guide

# FOCUS GROUP

## WHAT

A focus group is a technique for gathering qualitative data through a group interview. The aim is to generate a rich understanding of the participants knowledge, beliefs and experiences.

## WHEN TO USE

- **Stage(s):** Preparation & setup, prototyping, commercialisation & scale-up
- **Goal:** Engage stakeholders & interrogate existing knowledge
- **Type:** Participation & co-creation tool
- **Time & Effort:** 3 - 4 hrs 

## HOW TO USE

- Focus on a specific topic: identify the the problem/research question and the stakeholders that can provide insight to answer it.
- Group participants in groups of 8-10 people
- Create an environment in which people feel free to talk openly, some people may need to be encouraged
- Ask qualitative, open-ended questions (why? what? how?) or combine with a problem tree, scenario planning or iceberg tool to stimulate the group discussion.
- There needs to be a facilitator to keep the group focused on the topic at hand
- Summarize the discussion in a written report. Analyse the answers but also non-verbal communication and group dynamics

# FOCUS GROUP

## STRENGTHS

- Interactive environment and better flow of ideas than in individual interviews.
- This method can produce deeper insights on the participants' attitudes, ideas and preferences than other methods as it allows for direct observation of the participants' immediate reactions as well as more in-depth discussions on the research topic.

## WEAKNESSES

- Due to the small number of participants, the results are not representative for the target group.
- The individual characteristics of the participants can present challenges for the moderator/facilitator.

Source:  
ActionCatalogue - method




# SWOT

## WHAT

Strategic tool that provides insight in a projects' internal and external characteristics. Often used for long term strategic decisions and for identifying blind spots.

## WHEN TO USE

- **Stage(s):** Can be used in any stage
- **Goal:** Interrogate existing knowlegde, create new knowledge & ideas
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- A SWOT is a strategic tool that identifies:
- **Strengts** are internal aspects that are going well.
- **Weaknesses** are internal aspects going not so well
- **Opportunities** can be internal or external and help to overcome weaknesses building on strengts
- **Threats** can also be internal or external factors that inhibit change
- You can make one SWOT or split up the group and make several SWOTS that you discuss together
- Guide the discussion with the following questions:  
How can we use our strengths to valorise our opportunities? How can we use our strengths to neutralise threats? How can we deal with our weaknesses? What about the long term threats?
- End with Defining action points

# SWOT

## STRENGTHS

- Stimulates participants to all share their input.
- Participative way of strating a constructive learning process.
- Stimulates joint actions.
- Can be used at different levels of analysis.

## WEAKNESSES

- There is a risk of missing one or more important threats.
- It is not a one time exercise but should be repeated in different stages - it is a process more than a tool.
- It is a starting point for discussion but does deliver a competitive strategy an output.

### References:

SWOT Analysis – MSP Guide


What's swot in strategic analysis? - Pickton - 1998 - Strategic Change - Wiley Online Library

# SCENARIO PLANNING

## WHAT

Strategic tool that stimulates foresight and helps prepare for different possible outcomes by identifying critical uncertainties and understanding their potential impact.

## WHEN TO USE

- **Stage(s):** Preparation & setup, demonstration, commercialisation & scale-up
- **Goal:** Interrogate existing knowledge, create new knowledge & ideas, plan & implement/apply knowledge
- **Type:** participation and co-creation tool
- **Time & Effort :** 3 - 4 hrs if actor mapping and driving forces are available it can go faster. 

## HOW TO USE

- Strategic tool in which four scenarios for the future are identified & analysed.
- **Step 1:** Identify the issue at hand and explore it. Ideally you have already done an actor mapping.
- **Step 2:** Identify the driving forces, if available use the results of the driving forces tool.
- **Step 3:** Narrow down to 2 driving forces. Be very critical that these are the correct ones. These will be called the two critical uncertainties.
- **Step 4:** Map the two critical uncertainties in a 2 by 2 matrix so that you end up with 4 scenarios. For each scenario ask what happens and which interventions are needed. Write a story of +/- 500 words for each scenario.
- **Step 5:** Reflect on each scenario, discuss the implications on your innovation.
- The result is a shared framework for strategic thinking

# SCENARIO PLANNING

## STRENGTHS

- Stimulates foresight by envisioning a range of different future scenarios.
- Considers both internal and external factors.
- Considers the joint impact of different uncertain elements.
- Helps to make decisions under uncertainty.
- Can be used as a tool to evaluate investment proposals.

## WEAKNESSES

- Success depends on participants ability to overcome cognitive biases:
  - availability bias:** Focusing on what you already know.
  - Probability neglect:** over estimation of unlikely events
  - Stability bias:** assuming that the future will be like the past
  - Over-confidence:** tendency to choose only those scenarios you deem most likely
  - Social biases** that stifle a free and open debate

### References:

Scenario Planning – MSP Guide

Overcoming obstacles to effective scenario planning | McKinsey


Scenario Planning: A Tool for Strategic Thinking (mit.edu)

# FISH BOWL

## WHAT

Discussion facilitation tool. Combines an inner circle of experts and an outer circle of observers. Combines detailed discussion in a small group with involving and informing a larger group.

## WHEN TO USE

- **Stage(s):** Demonstration, commercialisation & scale-up
- **Goal:** Think ahead & find solutions to address challenges/problems, apply knowledge
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Use this tool to discuss a hot topic with the entire group in a dynamic way. Groups can range from 6 to 30 people.
- Introduce the topic and methodology to the group.
- Make a small circle with 6- 8 chairs and a second larger circle around the small one with the remaining chairs.
- A group of experts on the topic at hand take a seat in the inner circle and leave one chair open. The experts discuss the topic and the outer circle (observers) listen and observe in silence. They note down questions or remarks.
- Observers can move in and sit on the open chair if they want to contribute. They should rotate regularly.
- After +/- 1 hour discussion finish with a 30 min debrief where everyone can speak freely. Provide a document with key learnings.

# FISH BOWL

## STRENGTHS

- Allows an in depth expert discussion in a larger group setting.
- Brings transparency in the discussion at hand.
- Increases trust and understanding on complex issues.
- Stimulates a dynamic conversation.

## WEAKNESSES

- The experts must be open to discuss the topic in an open way and aim to make it understandable for the entire group.
- The observers must remain silent, if they want to contribute a lot it might mean that they are not listening to the inner circle any more.

Source

Fish Bowl – MSP Guide

Knowledge Sharing Tools and Methods Toolkit - Fish Bowl ([kstoolkit.org](http://kstoolkit.org))


Fishbowl Discussion - YouTube

# SABOTAGE

## WHAT

Co-creation tool to identify blind spots in your project plan by taking the perspective of a saboteur. Creates strong internal support for the final project plan.

## WHEN TO USE

- **Stage(s):** Prototyping stage
- **Goal:** Map & engage stakeholders/actors, interrogate existing knowledge
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Explain the prototype plan to your project team and ask them to write on a post-it one or two things that would make the plan fail. These can be internal or external events.
- Stimulate creative ideas and ensure people that they are not committed to their sabotage ideas.
- Categorize all the ideas into clusters as you see relevant.
- Distinguish between ideas that would be a nuisance and ideas that really make the plan fail.
- Next try to turn every sabotage idea into a success factor. What could you do to make sure the idea cannot fail the plan? How can you make your plan stronger?
- You can do this in pairs, try to work on someone else's sabotage ideas. You can also do this in group. Do not ask who wrote down which idea to stimulate free flow of thoughts.

# SABOTAGE

## STRENGTHS

- Stimulates divergent thinking: 'what did we miss?'
- Identifies all possible doubts and fears people did not feel like expressing.
- Identifies established patterns that you were not aware of but could have an impact on your project.
- Makes people laugh together.

## WEAKNESSES

- Some people might not feel comfortable 'sabotaging' their own plan or fear that this is not loyal to the team.
- Previously raised concerns that have not been addressed can pop up again. This can be the time to find new solutions to known issues. But do try to focus on obstacles that are not yet on your radar!

### References:

11f418\_c56ab3b5fc5c455091178ac894ab359d.pdf (wix.com) (go to Handbook for Participatory Action Research, Planning and Evaluation | Better Evaluation - page 100)

Chevalier, Jacques M. and Buckles, Daniel J. (2003) Handbook for participatory action research, planning and evaluation. SAS2 Dialogue, Ottawa.




# MULTI CRITERIA DECISION ANALYSIS

## WHAT

Decision making tool that allows comparing different options on multiple criteria.

## WHEN TO USE

- **Stage(s):** Can be used in any stage
- **Goal:** Interrogate existing knowledge, create new knowledge & ideas
- **Type:** participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Technique to assist in choosing between different options. You can use online tools or an excel sheet.
- Step 1: Identify the different options (columns).
- Step 2: Determine the criteria by which to evaluate all options (rows).
- Step 3: Score every option on all criteria. Make sure you are consistent by comparing scores per criterium.
- Step 4: Determine the value/weight of each criterium (first row)
- Step 5: Multiply the scores from step 3 and step 4 to obtain weighted scores, add them up to obtain one score per option.
- Look at the outcomes and assess if a small difference in weights would alter the outcome? can you combine certain options or even make new options? Don't simply take the winning outcome for granted but use this tool to understand the pro's and con's of different options.

# MULTI CRITERIA DECISION ANALYSIS

## STRENGTHS

- Stimulates coherent decision making.
- Makes the criteria to judge on explicit.
- Flexible tool, the criteria used are different for each situation.
- The criteria are best determined in group, the assessment and weight attribution can be done individually and added up later or in group - depending on group dynamics.

## WEAKNESSES

- Participants can score with the end result in mind instead of with an open mind.
- Important to make the reasons behind the reasons for a high or low score explicit to understand the decision making process. The same goes for the weights assigned to each criterion.

### References:

ActionCatalogue - <http://actioncatalogue.eu/method/7393>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/7612/1132618.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7612/1132618.pdf) available on teams


A Short Story about Multiple Criteria Decision Analysis (MCDA) - YouTube

# SYSTEMIC INNOVATION READINESS

## WHAT

Tool for monitoring a Systemic Innovation Process in a participatory way. Perfect for preparing scaling up of systemic solutions to complex problems. First, the tool stimulates the inclusion of as many relevant innovation dimensions as possible, which helps reaching systemic innovation. Second, the tool guides the assessment of readiness levels in the different innovation dimensions, which helps identifying obstacles to and strategies for scaling up.

## WHEN TO USE

- **Stage(s):** Prototyping, demonstration
- **Goal:** Interrogate existing knowledge, create new knowledge & ideas, think ahead & find solutions to address challenges/problem.
- **Type:** Systems thinking tool
- **Time & Effort:** 3 - 4 hrs 

## HOW TO USE

- Describe the problem you want to solve and the innovation you propose as a solution
- Determine which dimensions are relevant for your innovation - ask the question 'could this be an issue for scaling?'
- Make a Radar or spider graph with as many axes as you have identified dimensions and a 10 point scale.
- Determine the current readiness level for each selected dimension on a scale from 0-9
- We recommend to use a focus group to determine the current level and include outside experts. You need to corroborate your scores!
- Only when the previous level has fully been reached you can tick off that level
- Repeat the process after x months

# SYSTEMIC INNOVATION READINESS

## STRENGTHS

- Provides an all encompassing approach to evaluate your innovation's potential.
- Adaptable to your needs to keep it time efficient.
- Stimulates interaction within the project group and with outside experts.
- Strong visualisation tool.

## WEAKNESSES

- Risk of leaving out a dimension that later on turns out to be crucial.
- Requires a lot of knowlegde in different domains.
- Requires the use of other tools like focus groups to bring all the knowledgte together.
- Important to have the right actors involved (suggestion: make an actor map).

Inspired by:


Bruno, I., Donarelli, A., Marchetti, V., Panni, A. S., Covino, B. V., Lobo, G., & Molinari, F. (2020). Technology readiness revisited: A proposal for extending the scope of impact assessment of European public services. ACM International Conference Proceeding Series, 369–380. <https://doi.org/10.1145/3428502.3428552>  
Sartas, M., Schut, M., Proietti, C., Thiele, G., & Leeuwis, C. (2020). Scaling Readiness: Science and practice of an approach to enhance impact of research for development. Agricultural Systems, 183(August), 102874. <https://doi.org/10.1016/j.agsy.2020.102874>

# THEORY OF SYSTEM CHANGE

## WHAT

Systems thinking tool that aims to identify the preconditions that are needed to reach the desired change by breaking up the process into different time frames and determining the preconditions for change in each step.

## WHEN TO USE

- **Stage(s):** Demonstration, commercialisation & Scale-up
- **Goal:** Plan & implement/apply knowledge
- **Type:** Systems thinking tool
- **Time & effort:** 3 - 4 hrs 

## HOW TO USE

- Use this tool to build a collective theory of change. Causal loops and system maps are valuable inputs. Make a team of 2 tot 3 participants that are part of the core team.
- Start with agreeing on the timeframe of the exercise and draw a timeline. Then define the strategic final impact that the project wants to reach.
- We use iterative loops of backwards thinking, 'what preconditions are needed for these outcomes'?
- When you reach the middle reverse the order and start from the present forward. What are the inputs to the system? try to split them up per dimension of innovation readiness.
- During the process you might need to make assumptions or encounter strategic risks, list these in separate boxes below.
- The final model is tested by reading it from the beginning until the end.

# THEORY OF SYSTEM CHANGE

## STRENGTHS

- As a next step you can identify for each intermediate outcome indicators for success.
- The process can be repeated until you get a simple and concise narrative.
- Aligns team members on a complex plan for change.

## WEAKNESSES

- Biases will impact the project planning, make sure to note down all assumptions so that these are known and understood.
- Not suited for large teams, but you can do iterations with different team compositions.


Source:  
[systemicdesigntoolkit.org](http://systemicdesigntoolkit.org) - [available on teams](#)

# COLLABORATION MODEL

## WHAT

The collaboration model helps you to clarify your projects' what, why and how. It is an excellent preparation for the Business Model Canvas.

## WHEN TO USE

- **Stage(s):** all stages
- **Goal:** Plan & implement/apply knowledge
- **Type:** Systems thinking tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Use the template via the download link in the sources below.
- Centrally you have the Organisation's DNA, this is your vision. Next define your purpose, why are you doing this?
- In step 3 define the capacities you need, identify roles, skills and competencies and mention who will take what roles. Are there roles missing?
- In step 4 and 5 identify what you will do and how it will be done.
- In step 6 describe the value impact that the project is expected to create.
- In step 7 and 8 list the preconditions that are needed to make the project possible and estimate the resources and costs. How will the project be financed?
- In the final step define the criteria you will use to evaluate the success of the project.

# COLLABORATION MODEL

## STRENGTHS

- Socially creative tool.
- Can serve a first draft of the business model.
- Works best when used with the entire working group that already has a shared vision, if there are new members they will need more preparation time.
- Offers a model to discuss the team purpose.

## WEAKNESSES

- Is only suited for a small core team.
- It works well if the team has shared values, if this is not the case this needs to be dealt with first.
- It is only the first step towards a business model.

Source:  
systemicdesigntoolkit.org - [available on teams](#)




# PROBLEM TREE ANALYSIS

## WHAT

Visualisation technique that helps to fully understand a problem. By doing this in a group you create a shared understanding of the problem at hand.

## WHEN TO USE

- **Stage(s):** Preparation & setup, demonstration
- **Goal:** Think ahead & find solutions to address challenges/problems, plan & implement/apply knowledge
- **Type:** Systems thinking tool, participation and co-creation tool
- **Time & Effort :** 1 - 2 hrs 

## HOW TO USE

- Works best in groups of 6-8 people, make sure everyone can see the flip-over on which you draw a tree.
- Step 1: identify the issue, all participants need to see this as a pressing issue they are willing to work on. Write this in the trunk of the tree.
- Step 2: write down the causes of the issue on post-its and put them in the roots of the tree
- Step 3: write down the effects of the issue on post-its and put them in the branches of the tree
- Arrange the post-its in a cause and effect logic
- The goal is to generate a usefull discussion on the topics. provide time and space to capture all causes and effects.
- Once the tree is finished, debate the different causes and effects. which ones are most impactfull? can be resolved quickly? how are they evolving over time?

# PROBLEM TREE ANALYSIS

## STRENGTHS

- Provides a shared framework for understanding an issue.
- Differentiate between the problem and its causes.
- Breaks down a complex problem in manageable chunks while maintaining an overview.
- Identify connections between causes and effects, leading to possible win-win scenarios .

## WEAKNESSES

- Essential to have a good representation of different stakeholders in the group.
- Depending on the group it might be challenging for participants to share their ideas - in that case a facilitator is advised.
- Something can be a cause and effect at the same time, in that case make two post-its with the same item.

### References:

Problem Tree – MSP Guide

D8\_1\_Problem\_Tree\_Analysis.pdf (eawag.ch)

Planning tools: <https://odi.org/en/publications/planning-tools-problem-tree-analysis/>


Step 1: Identifying the focal issue with 'Problem Tree Analysis' technique - YouTube

# ACTOR MAPPING

## WHAT

Basic systems thinking tool that requires you to map all potentially relevant actors and their position in your project.

## WHEN TO USE

- **Stage(s):** Preparation & setup, commercialisation & scale-up
- **Goal:** Map & engage stakeholders/actors, Think ahead & find solutions to address challenges/problems
- **Type:** Systems thinking tool
- **Time & Effort:** 2 - 4 hrs 

## HOW TO USE

- Create a list of stakeholders who form part of the system.
- Determine relations between actors.
- Get to know the actors, what are their values, incentives, models and power.
- Determine relevance of actors: direct, indirect or system.
- Determine the influence or power of the actors.
- Determine which actors are aligned and which ones are opposed.
- Map them in quadrants based on their influence and alignment. You can use the template or make your own.
- Observe from the perspective of the actors involved.

# ACTOR MAPPING

## STRENGTHS

- Allows you to identify opportunities for alliances and detect potential conflicts.
- Useful to identify gaps.
- Helps to understand how adoption might take place.
- Understanding actors allows you to speak their language and thus optimize your communication.

## WEAKNESSES

- When aiming to change complex systems, typically many actors are involved making the exercise time intensive.
- Actors are not necessarily involved themselves, so assumptions are made on their values and incentives.

### Sources

[Actor mapping Canvas available on teams](#)


[Find the template on teams](#)

# COMPETITOR MAPPING

## WHAT

Strategic business tool that stimulates you to look outside your own company boundaries and compare yourself with other companies on a number of different dimensions

## WHEN TO USE

- **Stage(s):** Commercialisation & scale-up
- **Goal:** Create new knowledge and ideas
- **Type:** Systems thinking tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Decide on what dimensions you want to compare. There are numerous possible dimensions and subdimensions.
- Some examples: product features, target customers, pricing, marketing strategy, strengths, weaknesses, competitive advantage, customer reviews, quality, delivery service, after sales support, location, customer loyalty,...
- Make sure that you can in fact obtain data for every dimension that you choose. Some possible sources are: competitors newsletters, stores, social media platforms, products, trade journals, conferences, customer surveys.
- Make a matrix in which you list own company and your competitors and score them on each dimension.
- For dimensions that are not quantifiable make sure to leave room for open discussion - this will generate valuable input.

# COMPETITOR MAPPING

## STRENGTHS

- Helps you to understand you market segment
- Gives a holistic overview of you position in the market and allows details if you zoom in on product features for example
- Allows you to spot large differences with you competitors wich will give a clear view on your competitive strengths and weaknesses
- Helps to spot opportunities in the market

## WEAKNESSES

- Requires thorough preparation: gathering information on your competitors on the dimensions under comparison.
- You can only compare on dimensions that you have information on. You generally don't know the cost effectiveness of you competitors for example.

### References:

[https://www.mindtools.com/pages/article/newSTR\\_60.htm](https://www.mindtools.com/pages/article/newSTR_60.htm)


<https://www.contify.com/resources/blog/competitive-matrix/>

# FORCE FIELD ANALYSIS

## WHAT

Systems thinking tool that helps to identify and better understand the driving forces and blocking factors in developing a change process.

## WHEN TO USE

- **Stage(s):** Preparation & setup, demonstration
- **Goal:** Interrogate existing knowlegde, create new knowledge & ideas
- **Type:** Systems thinking tool
- **Time & Effort:** 3 - 4 hrs 

## HOW TO USE

- Tool that supports structured decision making.
- Take a flip-over and in the middle of it note down the desired change to discuss.
- Brainstorm in the group and note down on the left hand side all forces that would block the change from happening - these can be internal or external.
- Do the same for all forces that would support the change, note them on the right hand side.
- Score each force (1-5) and add up totals for and against.
- Use this as a starting point to discuss how to overcome blocking factors and strenghten driving forces.
- Works best in groups of 6-8 people, make sure everyone can see the flip-over

# FORCE FIELD ANALYSIS

## STRENGTHS

- Helps you understand the driving forces at play when implementing change.
- Attempts to quantify the current driving forces involved in a change process.
- Great starting point to understand a current situation and possible ways forward.
- A Swot analysis can be a great starting point.

## WEAKNESSES

- Don't use this tool when you need absolute certainty.
- For important decisions, we recommend to use a combination of tools.
- Don't focus on the numeric outcome but leave enough time for rich discussion to take place.

### References:

Force Field Analysis – MSP Guide

Force Field Analysis - Decision-Making Skills from MindTools.com

Force Field Analysis - YouTube



# CAUSAL LOOP DIAGRAMS

## WHAT

System dynamic tool to identify and map structures in a system by mapping feedback loops. Identifying this structure will help to understand the behaviour that follows.

## WHEN TO USE

- **Stage(s):** Can be used in any stage
- **Goal:** Interrogate existing knowledge, create new knowledge, think ahead & find solutions to address challenges
- **Type:** Systems thinking tool
- **Time & Effort:** 3 - 4 hrs



## HOW TO USE

- Determine the system/theme you want to map and the boundaries you will respect. Identify the variables in your system and the links between them, they can evolve in the same (S or +) or opposing (O or -) direction.
- **Reinforcing loops** compound change in one direction with even more change eg one nasty comment leads to nasty responses and a conflict arises.
- **Balancing loops** try to bring a system to a desired state and keep it here eg eating when hungry and stopping when you have had enough
- Both type of loops can be combined in one system and there can be a shift in dominance between the two loops.
- When mapped over time: reinforcing loops go up, balancing loops are cyclical until plateau is reached.
- Delays in the loop cause the resulting behaviour to come with a delay - very hard to predict the outcome in such a system

# CAUSAL LOOP DIAGRAMS

## STRENGTHS

- Offers a high level view of a system, first step in system dynamics.
- Can be expressed in behaviour over time graphs which offer a different way of looking at the same process.
- Forces you to clearly select a theme, time horizon, boundaries and aggregation level.
- Allows you to think about delays in the system.

## WEAKNESSES

- No distinction between stock variables and flow variables and thus the diagrams offer less detail than stock & flow diagrams.
- It helps determine the leverage points but not necessarily the direction in which to manipulate them to obtain the desired result.

Source:

The Systems Thinker – Video: Introduction to Causal Loops - The Systems Thinker

# SYSTEMS MAPPING

## WHAT

Systems thinking tool that visually represents the system you are working in with nodes and connection between nodes. Can be complemented with causal loop diagrams.

## WHEN TO USE

- **Stage(s):** Preparation & setup, prototyping, demonstration, commercialisation & scale-up
- **Goal:** Map & engage stakeholders/actors, interrogate existing knowledge, think ahead & find solutions to address challenges/problems
- **Type:** Systems thinking tool
- **Time & Effort:** 3 - 4 hrs



## HOW TO USE

- Pre-work: actor map & identify stages of the process under study.
- Brainstorm on key forces and patterns in the system. These can be social, economic, technological, environmental and are represented as nodes. Use different colour for different stages or actors.
- Determine the variables of every node, what is changing?
- Determine links between nodes and what is exchanged between them. Money, goods, information? Do nodes influence each other in a positive or negative way?
- Identify key nodes based on their connectedness.
- Framing: determine what the boundaries are of the system you want to zoom in on.
- Are there delays? feedback loops?

# SYSTEMS MAPPING

## STRENGTHS

- Modular tool that you can build upon gradually.
- Helps to think dynamically and understand the system.
- Powerfull visualisation tool.
- Allows to build a shared vision of the system, its challenges and opportunities.

## WEAKNESSES

- Requires some knowlegde on the concepts used.
- Experience with the tool is recommended.
- It is challenging to identify the correct links and relations between the nodes, some relations are indirect.

Source:


[Systems Mapping \(systemsinnovation.network\)](#), available on teams  
Systems Mapping - YouTube

# FUTURE SCENARIOS

## WHAT

Planning tool that uses envisioning technique that stimulates foresight and helps you prepare for different scenario's. For groups of 10-12 people.

## WHEN TO USE

- **Stage(s):** Preparation & setup, prototyping
- **Goal:** Map & engage stakeholders/actors, create new knowledge & ideas, think ahead & find solutions to address challenges/problems plan & implement/apply knowledge
- **Type:** Participation & co-creation tool
- **Time & Effort:** 1 - 2 hrs 

## HOW TO USE

- Describe the project and how you measure the success of your project. What are the success factors?
- Split up in two groups. each group imagines a different future: the best case and worst case scenario. Avoid extreme thinking and stay realistic.
- Each group describes the scenario based on the success factors and identifies the trends that support this version of the future - use a flip chart
- Bring the groups together and compare both versions of the future. use this as a starting point to describe the Likely future Scenario.
- Use the worst case scenario to identify possible threats and the the best case scenario to identify opportunities
- Determine what threats and opportunities are most important to focus on

# FUTURE SCENARIO'S

## STRENGTHS

- Clarifying the future helps to identify the necessary actions to reach that future.
- Helps to determine our impact in creating the future.
- Does not require much time.
- Seeing the future helps to plan it 'if we can see it, we can built it.

## WEAKNESSES

- Predicting the future is impossible, the tool only gives a possible version of the future.
- Based on the input of participants and not on actual data,so it is prone to participants' biases
- Beware not to come up with extremely unlikely scenario's

Source: 3 Tools for Futures Thinking & Foresight Development | emergent by design

# ICEBERG MODEL

## WHAT

Tool to better understand an existing situation. Stimulates a group to look beyond the observable facts to underlying patterns, structures and mental models.

## WHEN TO USE

■ **Stage(s):** Preparation & setup , prototyping

■ **Goal:** interrogating existing knowledge

■ **Type:** systems thinking

■ **Time & Effort:** 1 - 2 hrs



## HOW TO USE

■ Draw an iceberg on a flip chart. The tip of the iceberg (10%) represents the observable events. The remaining 90% is under water and invisible.

■ The first layer below the surface represents patterns, things that evolve over time, trends we observe.

■ The second layer represents the structure that sustains the trends and legitimate the causes.

■ The bottom layer are the Mental Models that drive our behaviour and typically maintain the existing structure or lead to change.

■ Try to identify the different layers of the iceberg in group. The goal is to see that the visible events are caused by underlying patterns, structures and models.

# ICEBERG MODEL

## STRENGTHS

- Triggers deeper analysis and reflection on observed events.
- Allows changing the root causes instead of the symptoms.
- Can be done in large or small groups.

## WEAKNESSES

- Not easy to apply to more complex issues with many different mental models.
- Does not offer an action plan or to do list as outcome of the exercise.

Source:

[Iceberg Model Explained \(systemsinnovation.io\)](https://www.systemsinnovation.io) available on teams  
Iceberg model - YouTube