



There may be zombies:
A Field Guide to Strategic Foresight

by _____

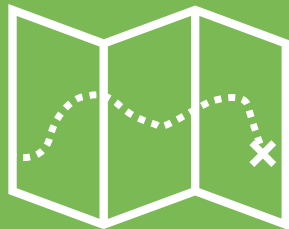


Welcome to CoLab's Strategic Foresight Field Guide.

This Field Guide is designed to support new-to-foresight practitioners in incorporating future thinking and foresight into everyday projects. This playbook is the second publication from Alberta CoLab and serves as a complement to 'Follow the Rabbit: A Field Guide to Systemic Design'. Please refer to the Field Guide to Systemic Design for more information on systems and design thinking, as well as practical tips and tools for planning and holding a workshop.

There are many ways to understand and approach the future. The approaches we would like to share with you have been used and adapted by CoLab. This guide will equip you with a broad suite of tools and key considerations to think through for putting foresight into action.

You will get the most out of this field guide if you approach it with a foresight mindset – exploratory, lateral in thinking, and asking 'what if'. Think of this field guide as an early stop on your foresight journey: it's not the end of your learning – it's a jumping off point.



How to use this Field Guide

As an intrepid explorer of the future, you understand there are multiple potential paths forward. This Field Guide allows you to choose your adventure, jumping forward and backward to the sections that help you the most, and lead to your desired future.

Zombies: a cautionary tale

Shortly after the millennium, Zombie Watchers without Borders predicted that a zombie-like virus would take hold in North America before the middle of the century. By 2030, the RAGE Virus had jumped from animals to humans and was spreading at an accelerated pace.

The decades leading up to the outbreak saw continually decreasing government funding to public health and infectious disease research, limiting the ability of health professionals and institutions to contain disease outbreaks. At the same time, glacial melt introduced never-before-seen microbes into the environment. Most significantly, a rapidly accelerating homesteading social movement saw thousands moving into off-grid lifestyles. The result was an increase in improper waste disposal, unfinished burial practices, and manufactured products made from human bodies (e.g., brain cuisine – motivated by the desire to eat local and let no part of the animal go to waste).

Initially the symptoms of the RAGE were disregarded as small rabies spikes, mad cow disease in rural settings, and drug overdoses in big cities. Once the infected began to resist traditional treatment, quarantine, and weapon-laded attacks, the virus was properly identified as a zombie outbreak.

Alberta was unprepared and ill-equipped to respond to the disaster. Only eight days after the initial carrier was identified north of the 49th parallel, the hoard had grown large enough to overpower Canadian Forces.

Alberta's surviving population has since moved north, hopeful that the cold will limit zombies' speed and ease of movement. Northern living has raised other issues, like food security and conflict over increasingly scarce resources. And so, the war against the RAGE and its zombies continues...

If only we had seen it coming....





Why Zombies?



Military trainers at the U.S. Department of Defense have used a zombie apocalypse scenario to teach planning and preparedness. Of course, the Pentagon does not actually believe in the likelihood of zombies! The zombie apocalypse scenario unlocks students' creative responses, which they can apply to other complex problems like a disease outbreak or terrorist attack. Thinking through zombie preparedness helps students practice the mental agility required to prepare for the unknown. In this way, zombies have become a tongue-in-cheek symbol in foresight. They have also become CoLab's unofficial mascot because, well, like zombies, you can't keep us down!

Zombies represent an unexpected and unlikely event for humanity. Stories and art about the potential of a zombie apocalypse are ways of emotionally preparing for a new world full of uncertainty and risk.

Zombies are the perfect tool for exploring apocalyptic fears. There are things that are really scary out there in this world that are a lot scarier than zombies, but we don't talk about them.

Max Brooks, author of World War Z, and the Zombie Survival Guide: Recorded Attacks

Good zombie fiction isn't only about zombies. They are stories about people, how they respond, and their race to adapt to an unforeseen future.

Like other elements in the future, zombies may or may not be coming for you. If they do, they won't come quickly – probably not faster than you can move. But when they do, they'll come as an untiring horde! There are signals we can watch for... at first, there will be isolated reports of disease and strange occurrences. Many will laugh them off. But soon the trend of rabies breakouts will become the driving force of a zombie horde!

Thankfully, zombies are slow, stupid, and can be easily destroyed...*if* we can anticipate them. The team we assemble to navigate the future can help. Read on to see who we need and what tools are available for us to consider and prepare for the future.

Contents

How to Use this Field Guide.....	1
The Set Up	5
Tagging your Team	12
The Journey	18
Building Blocks (for longer-term survival).....	19
The Question	22
Horizon Scanning.....	23
Identifying Trends.....	26
Trend Analysis	27
Mapping Trends.....	29
Identifying Critical Uncertainties	29
Scenarios.....	30
Methods	32



The Set Up

“The future is already here – it’s just not evenly distributed.”

William Gibson, The Economist, 2003

The future begins here....

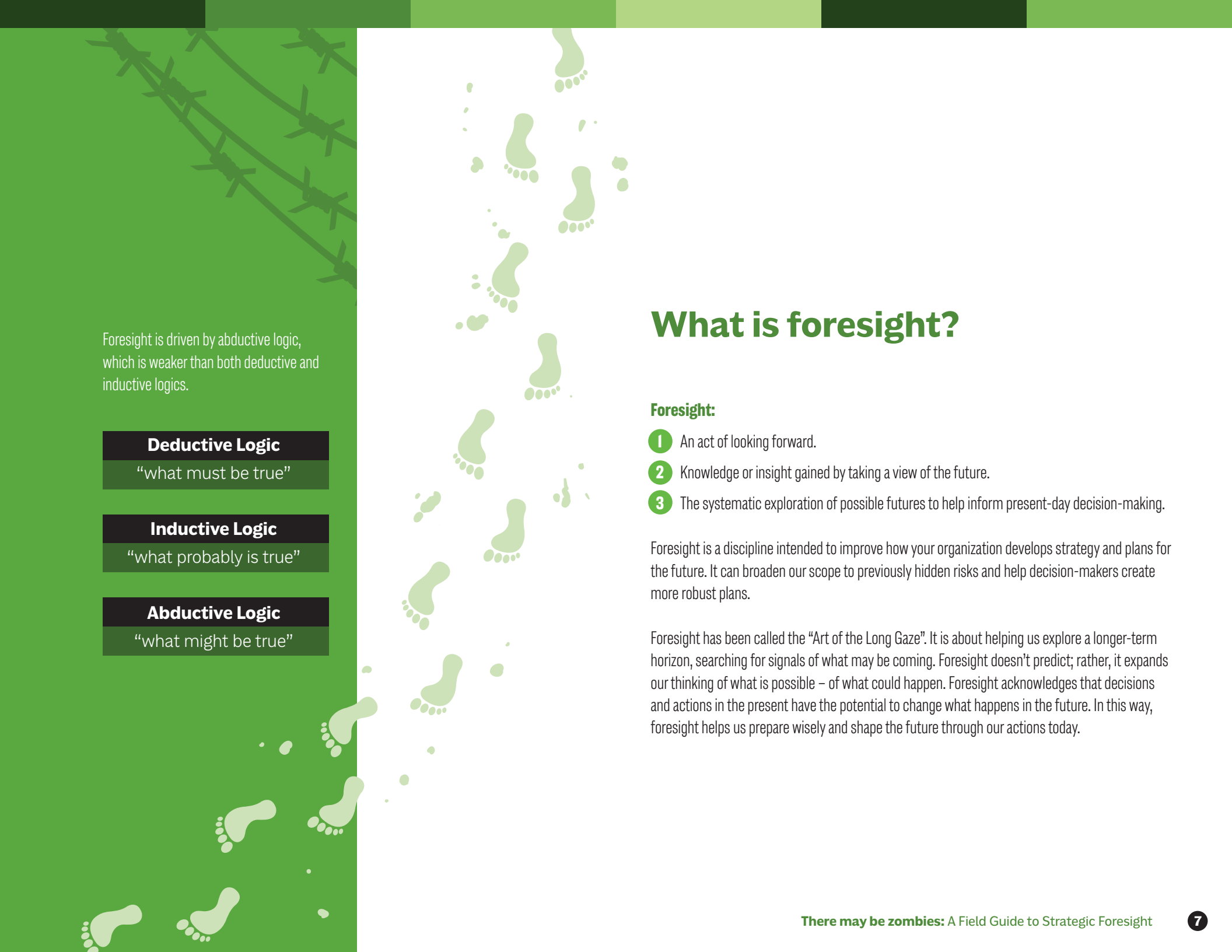
Foresight started in a number of different hubs.



Foresight first emerged following World War II as a method for military planning. The U.S. Air Force tried to imagine what its opponents might do and prepared alternative strategies. In the 1960s, Herman Khan, who had been part of the Air Force effort, started “telling stories” about how nuclear war might emerge and play out. Highly influenced by screenwriting and Hollywood, these stories were named “scenarios” – a theatrical term for a film or play script.

As an analyst at the Rand Corporation, Khan refined scenarios as a tool for far-sighted business planning. He became America’s top futurist, predicting the inevitability of growth and prosperity.

Scenarios reached a new dimension in the early 1970s with the work of Pierre Wack, a planner in the London offices of Royal Dutch Shell. Pierre and his colleagues in Group Planning were looking for events that might affect the price of oil, which could be severely disruptive given that prices had been more or less steady since World War II. Wack tried to make people feel those events – those shocks – using crafted scenarios.



Foresight is driven by abductive logic, which is weaker than both deductive and inductive logics.

Deductive Logic

“what must be true”

Inductive Logic

“what probably is true”

Abductive Logic

“what might be true”

What is foresight?

Foresight:

- 1 An act of looking forward.
- 2 Knowledge or insight gained by taking a view of the future.
- 3 The systematic exploration of possible futures to help inform present-day decision-making.

Foresight is a discipline intended to improve how your organization develops strategy and plans for the future. It can broaden our scope to previously hidden risks and help decision-makers create more robust plans.

Foresight has been called the “Art of the Long Gaze”. It is about helping us explore a longer-term horizon, searching for signals of what may be coming. Foresight doesn’t predict; rather, it expands our thinking of what is possible – of what could happen. Foresight acknowledges that decisions and actions in the present have the potential to change what happens in the future. In this way, foresight helps us prepare wisely and shape the future through our actions today.

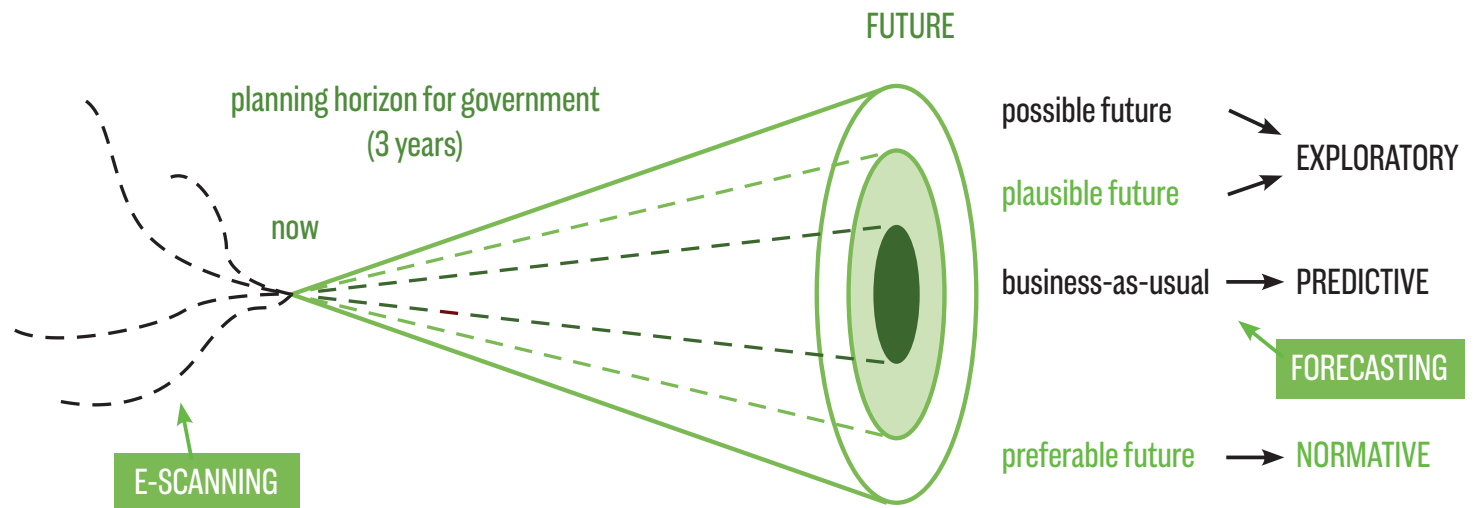
Not to be confused with...

1. Forecasting:

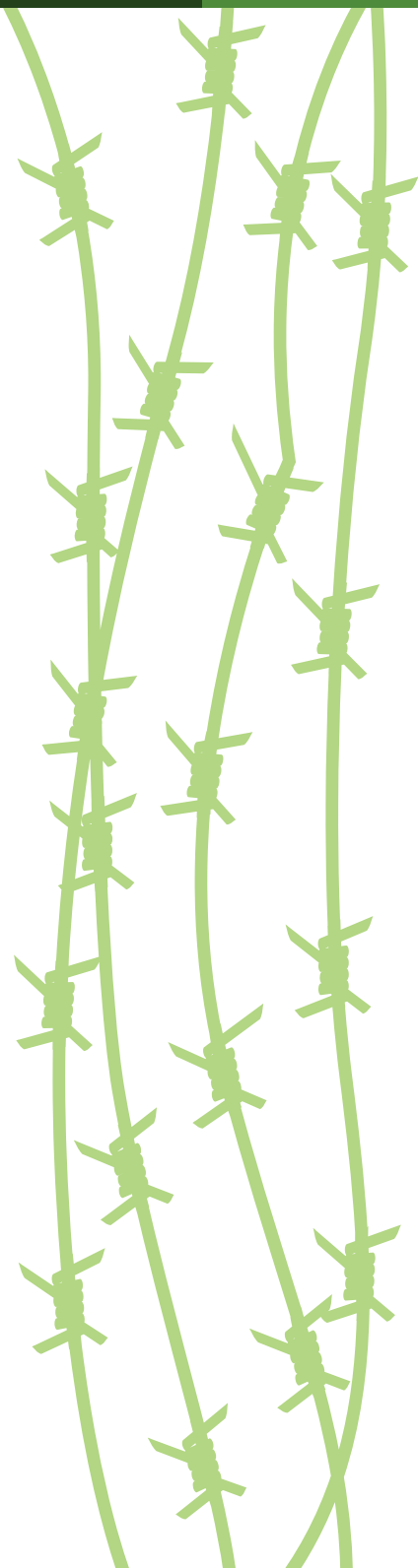
Forecasting tries to estimate what will happen, focusing on past and current information to predict future situations. It tends to assume that past trends will continue to be solid indicators of what is most likely to happen in the future.

2. E-Scanning:

In government, environmental scanning (or 'e-scanning') is traditionally done as a way of confirming previous predictions of what we thought happened. E-scanning usually focuses on sources that explain what has already occurred.



Foresight casts a larger net to capture qualitative data and explore how the future might evolve.



Why use foresight?

Foresight can help organizations better adapt to a rapidly changing world. In forward-looking organizations, foresight provides a powerful context for policy development, strategic planning, decision-making and even audit and evaluation. It has a longer timeframe (up to 40 years) that organizations can use to better anticipate and prepare for change and disruption, instead of just reacting to yesterday's problems. Foresight can also support innovation by exploring how problems might evolve, improving effectiveness and reducing unintended consequences. The objective of foresight is not to predict the future, but to prepare strategies that are robust across a range of plausible futures.



The challenges facing foresight

To be done well, foresight projects must overcome a couple of challenges.

- 1 People may see foresight as 'crystal balling.'**
Foresight relies on a weaker logic than forecasting, and can be very creative. If rigour is not demonstrated, the results may be viewed as "zombie fiction".
- 2 People may see foresight as "interesting, but so what?"**
Interesting stories and reports about possible futures may be read once, even discussed, and then left on a shelf. Readers may be left asking: *what's the connection to today?*

There are a number of ways foresight futurists can address these challenges:

Demonstrate rigour:

Action	How does this help address the challenges?
Draw on a variety of sources: academic reports, industry reports, government reports, think tank papers, traditional media, social media, blogs, conference reports, thought leaders, expert interviews.	By drawing on a variety of sources, there is a greater likelihood of capturing both weak signals as well as important established trends.
Reference your sources.	By providing the references to your sources, you can demonstrate the range and quality of sources used, as well as illustrate to your readers that these emerging trends are based in research and not imagined by the author.
Volume is power. Communicate the number of sources and experts consulted.	Drawing on a large number of sources and experts is one way to demonstrate that your project represents a range of ideas and thinking from across a larger system (or organization). It also helps to demonstrate the level of buy-in your project may receive across the organization, that is, if a number of internal experts have already had a hand in its creation.
Use a diverse core team to draw on a variety of perspectives.	Similar to the reasons above, a diversity of thought is one approach to minimizing biases in your work.
Validate trends and implications by consulting leaders in the organization: ask them what is plausible, and whether your stories are internally consistent.	By asking for feedback early on in your project, you prevent the final product being rejected as 'implausible' or factually-inconsistent.
Start with 'Business-As-Usual' projections and explore core assumptions. A BAU helps provide a credible anchor for readers.	By asking "for the BAU to be true, what must also exist?" we can surface the unspoken thoughts we have about how things will or will not evolve. These are not facts, they are only our assumptions, and it is important to challenge these. The BAU, which can also be considered the common view for the future, can be used as an anchor, by which to measure the amount of change that would result from emerging trends.

Make your projects actionable:

Action	Reason
Consult leaders in your organization for project ideas.	Asking leaders “what keeps you up at night” will help you to target important issues.
Attach your foresight work to a live project in your organization. At the institutional level, that means connecting it to corporate or executive planning.	Being attached to a live project means your work will have a clear connection to relevant issues at the organization.
Target bringing results and recommendations to leaders in your organization.	By keeping a particular audience and their timeline in mind, it becomes possible to tailor the work to their needs and help them address important problems.
Choose foresight products and communicate your findings in a way that is familiar and in a language they understand.	By ‘meeting people where they are’ in terms of language and format, there is a better chance of your audience understanding, internalizing, and making use of the information you’re sharing.
Take your foresight work beyond exploring the future, into developing the strategic implications.	By interpreting the strategic implications that result from your foresight findings, you are answering the ‘so what’ question and guiding your reader towards developing recommendations and solutions.
Use your foresight products as a facilitation tool, or thought starter, in other meetings.	Using foresight products as inputs into meetings prolongs their life, inspiring new ideas and work as a result.





Tagging your team

Team, Assemble!

What's the first step to prepare for the zombie apocalypse? Launching your task force!

Often the issues being tackled in foresight projects are complex, requiring a different approach than well-framed problems. That's because complex problems defy conventional approaches to problem solving and are beyond the capacity of any one organization or sector to respond to effectively.

In conquering complexity, one of our most basic needs is to challenge our individual or organizational frame of reference so that we may see a situation in a different way and uncover new insights.

Collaboration can help us go against our own grain and see biases in our thinking. A motley crew can increase your resources and expertise, helping you build buy-in across different areas of your organization.

The feedback and ensuing dialogue among group members allow ideas to sharpen faster and evolve into collaborative intelligence.





Be aware of biases!

Biases are “hard wired” inclinations or aversions by which people make judgements or take decisions when faced with complex problems or incomplete information.

Confirmation bias: The tendency to search for or interpret information in a way that confirms one's preconceptions or to engage in behaviour that elicits outcomes that confirm pre-existing beliefs.

Gender bias: When problems and perspectives are implicitly investigated in research that predominantly affect men, although the findings are generalized to cover all people. Many research projects are based on norms oriented to men, against which women are then “measured”. In these cases, the different realities of women's lives can only be depicted as large deviations from the norm.

Opposition bias: A tendency to exaggerate the degree of opposition between the parties as well as a tendency to make a false dichotomy between options.

Cultural bias: Cultural bias is the phenomenon of interpreting and judging phenomena by standards inherent to one's own culture.

Bandwagon effect: The tendency to do (or believe) things because many other people do (or believe) the same. Related to groupthink, crowd psychology, herd behaviour, and manias.

Anchoring: The tendency to allow one's thinking to be swayed by an “anchor”, which may or may not be a fair marker. Anchoring is popularly recognized in negotiation strategy, where a high or low strategic pre-bid is made (the marker) in order to sway the perception of what is actually a fair offer.

Recency effect: The tendency to weigh recent events more than events further in the past.

Situational bias: Where current conditions frame what people see and how they interpret events. In a depression, for example, it is difficult to see any source of upturn. In boom times, it is hard to see the crash.

Personal validation fallacy or “Barnum Effect” – who coined the show biz philosophy: “have a little something in it for everyone.” The Barnum Effect is the bias of astrological forecasts, where statements are vague enough to allow everyone to see personal validity in them.

Seeing patterns in chance events: As humans, we are often uncomfortable with random causes and therefore bend over backwards to find pattern in the data or attribute meaning to chance events – for example, ascribing economic reason to small market moves that are merely random.



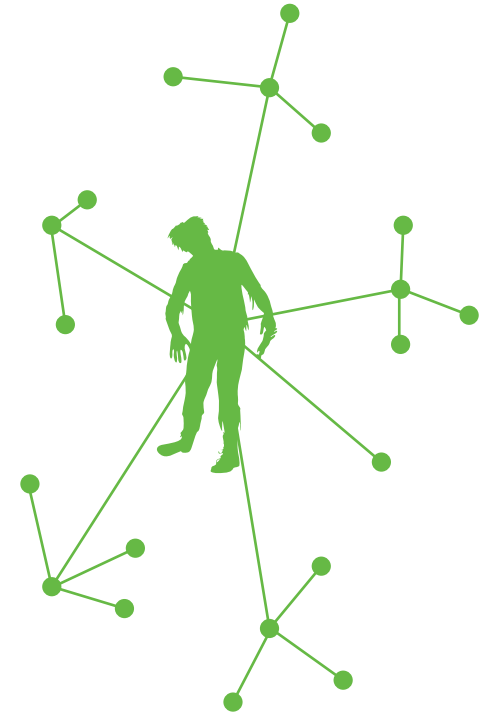
Using a foresight mindset

Foresight requires us to recognize that the future is not predetermined. It is critical for foresight professionals to acknowledge and embrace this uncertainty.

A foresight mindset is exploratory, makes lateral leaps in thinking, and asks 'what if'.

Additionally, foresight requires that we use systems thinking and consider how different parts interact to form a whole, and how the whole interacts with its wider context.

The best approach to foresight also overlaps with the mindset required for Systemic Design, as seen below.



Systems Thinking involves:



Zooming in: see the moving parts



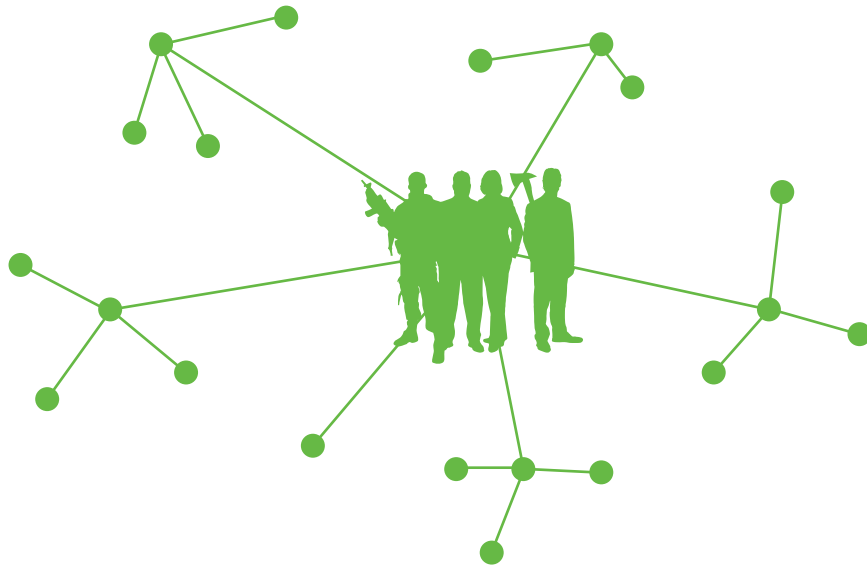
Zooming out: see connections and flows



Looking at the in-between spaces



Looking for patterns



Recruiting a team:

Note that while your project will be shaped by a core team, there will be many others who participate in one-time events or other less frequent project touch-points.

Consider the strengths within your broader community, so that you may strategically draw on your group's network.

Reflection:

- How will your foresight team draw on and coordinate with existing scanning, forecast, and risk management work?
- Who are the experts on this topic?
- Who could be potential barriers to this project?
- Who are the creative thinkers in your organization?

Characteristic	Value	Mindset
Inquiring	Learning	Curious; observant; asks rather than assumes
Open	Growth	Defers judgement; seeks different experiences and perspectives; willing to change one's mind
Integrative	Accommodation	Avoids binary trade-offs; seeks win-win solutions; utilises tension between worldviews creatively
Collaborative	Teamwork	Listens actively; builds on others' ideas; grows social cohesion; builds shared ownership and accountability
Centred	Mindfulness	Reflective self-awareness; views challenges in a larger context; mediates tensions between extremes

The Journey

*"It is not the strongest of the species that survives,
nor the most intelligent, but rather the one most
responsive to change."*

Charles Darwin



Not all roads lead to zombies... or scenarios

Building blocks for foresight projects

Each of the following could be a foresight product.

Establish the baseline/status quo and planning assumptions

- Outsource a model or baseline scenario
- Use a small team to identify the planning assumptions: ask “for our expected future or baseline to take place, what are we assuming to be true?”

Horizon scan

- Outsource scanning and trend projections
- Use a small team to scan for signals of change independently
- Draw on expert knowledge to complete a horizon scan within a workshop format

Trend identification

- Outsource trend projections
- A small team collaborates on trend identification
- Draw on a community of creative and divergent thinkers to identify trends within a workshop format

Identify critical uncertainties

- Content experts can participate in an online survey to identify top critical uncertainties
- Content experts can complete exercises for identifying critical uncertainties within a workshop format

Create tangible artifacts and experiences

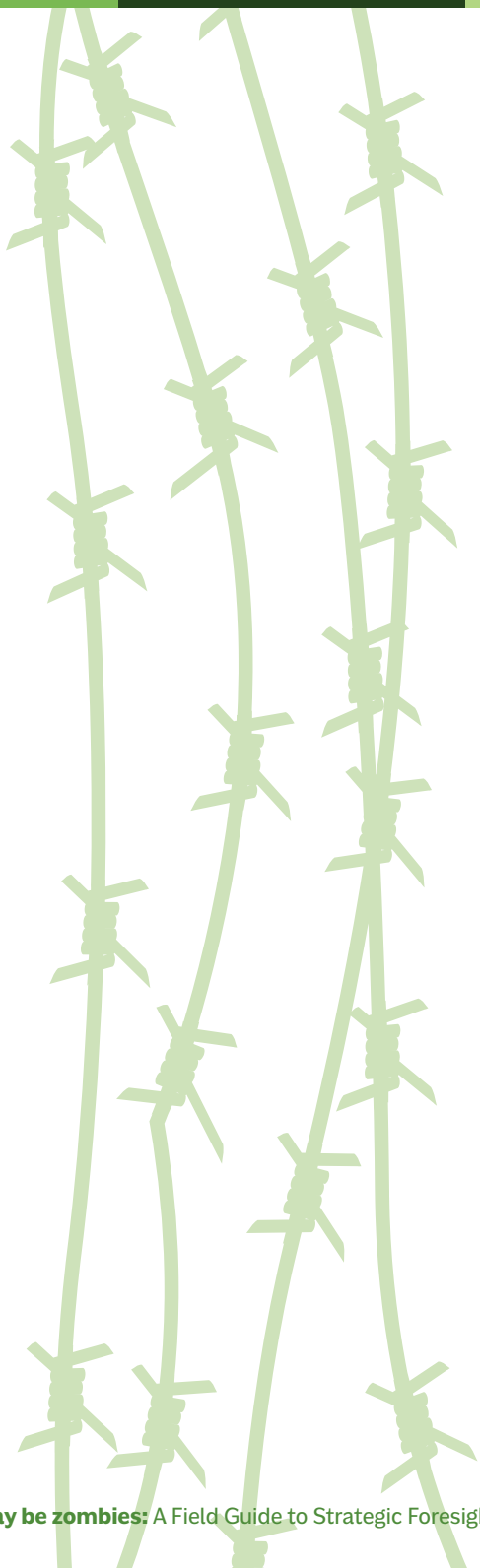
- Outsource capacity or draw on a small team to create relevant artifacts from the future (such as prototype development, and communications material).
- Hold a gallery showing.
- Set design a room from the future
- Host a foresight game that will demonstrate change over time – such as the energy transition game
- Create an interactive web page
- Perform stakeholder vignettes, role play

Create scenarios

- Develop scenario outlines
- One writer takes the information from collaboratively designed scenario outlines to draft full narratives

Depending on the need you want to address within your organization, it may be sufficient to end your project with the identification of critical uncertainties, or the outline of scenarios rather than a full narrative.





Putting scenarios to use

It can be interesting to read scenarios and imagine what the future may hold. However, the real value of any foresight work is in the extent to which it informs decisions and actions in the present.

Below are six applications that, either individually or in combination, can help bring future insights into the present:

Build partnerships

Foresight products can be used to facilitate discussions with other organizations around cross-cutting issues, mutual aims, and potential areas for collaboration.

Stress-test current strategies

Scenarios can be used to test how different strategies would perform under alternative conditions, similar to sending a test plane into inclement weather within a wind tunnel. In this way, it is possible to identify and address the potential weaknesses or failure points of specific strategies, so as to improve their robustness against future uncertainty.

Develop hedging strategies

Scenarios can help develop new strategies or contingencies that prepare for the emergence of unlikely yet disruptive developments. While certain scenarios may seem unlikely, none is impossible. Building on the opportunities and challenges presented by different scenarios can help improve adaptability to change.

Be a trailblazer

Foresight products can help uncover currently unknown needs or weak developments that have the potential to radically transform the industry. These insights can help organizations brainstorm and experiment with innovative ideas, to gain first-mover advantage and stay ahead of the competition.



Establish a vision

Foresight products can help kick-start a discussion around the changes different stakeholders would like to see. It is possible to create a normative scenario by taking elements that different people like best from existing scenarios and then exploring what would need to be true for this vision to happen.

Establish an early warning system

Foresight products can help identify key events or developments that organizations can monitor to gauge which way the operating environment is headed. This monitoring can help organizations adjust course or better prepare for change.

The Question

The focus question of your foresight project serves as a north star throughout the process. It will help work as a lens through which you can decide whether signals are relevant and trends truly significant.

Consider:

What keeps executives up at night?
What are you trying to accomplish?
What are you trying to avoid?
Is a strategic opportunity unfolding?
How many years into the future do you need to consider?



There are two approaches you may take when drafting a question. Each depends on the outcome you hope to achieve with the project. ▶

Exploratory vs normative

Exploratory methods begin from the present, and see where events and trends might take us

- Exploratory methods take an open-minded approach to the future, with no set outcome in mind.
- Exploratory asks “what if?”

“What if zombies arrive in Alberta?”

Normative methods begin from the future, asking what trends and events could take us to our desired state

- Normative methods start with a preliminary view of a possible (often desirable) future or set of futures that are of particular interest. They then work backwards to see if and how these futures might or might not grow out of the present.
- Normative asks “how might we?”

“How might we survive a zombie apocalypse?”

Horizon scanning

Horizon scanning is the systematic exploration of indicators of change. Just like looking over the horizon before charting your path, scanning is one of the preliminary steps in a full-fledged foresight project.

Organizations are good at focusing on developments that are highly probable and viewed as having a high impact on plans and operations. You could consider these, the 'known knowns'. Foresight complements this work well by expanding our future-casting net to include the 'known unknowns' and 'unknown unknowns' – things that have yet to surface and that are blind spots for planners.

A **Black Swan** is an event that could not be predicted in advance.

Wild Cards are events that have been identified, if not actually predicted. They are high impact, low probability events. They may be physical (meteorite impact), or social events (fall of the Berlin Wall). Wild cards generally alter the fundamentals, and create new trajectories.

Wild cards may be preceded by a weak signal. Igor Ansoff, Hiltunen (2007) defines weak signals as “warnings (external or internal), events and developments that are still too incomplete to permit an accurate estimation of their impact and/or to determine their complete responses”.

Also, please highlight the first mention here of “weak signal” in the same bold green you have done for black swan and wild cards.

Known Knowns

(predetermined forces)

Control of disease outbreaks with zombie-like symptoms

Known Unknowns

(uncertainties)

Growing anti-microbial resistance – decrease in ability to treat early stage zombie symptoms

Unknown Knowns

(biases)

Diminishing of taboo surrounding eating brains

Unknown Unknowns

(black swans, wild cards)

Biological warfare- leading to zombie-like infections

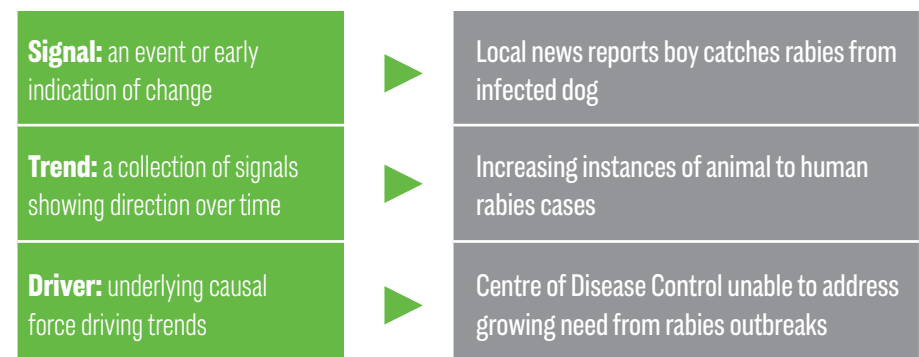


Most foresight horizon scans aim to capture a wide range of weak signals in an effort to ensure that what may one day emerge as significant issues are not overlooked.

Horizon Scanning is not about making predictions but about exploring new, innovative ideas, as well as persistent challenges and trends today.

This is done by scanning a diversity of sources for weak signals. Potential sources include: thought leaders, conference proceedings, academic papers, thought leader blogs, government reports, media, and industry research.

Weak signal	Advanced indicator
A social media hub created around recording sightings of the undead.	Existence of zombies documented by the World Health Organization
A University offers zombie preparedness courses.	Statistics Canada records increasing number of reanimated dead bodies





Horizon scanning is best done with a Systems Thinking mindset.

This means to look at a system as a whole rather than in isolation, and to consider the interactions between various elements. STEEP analysis is a useful framework to apply in scanning work that considers the Social, Technological, Economic, Ecological/Environmental, and Political domains. Taking this approach ensures that the scan incorporates views of a challenge from a systems-perspective.

Things to consider when scanning...

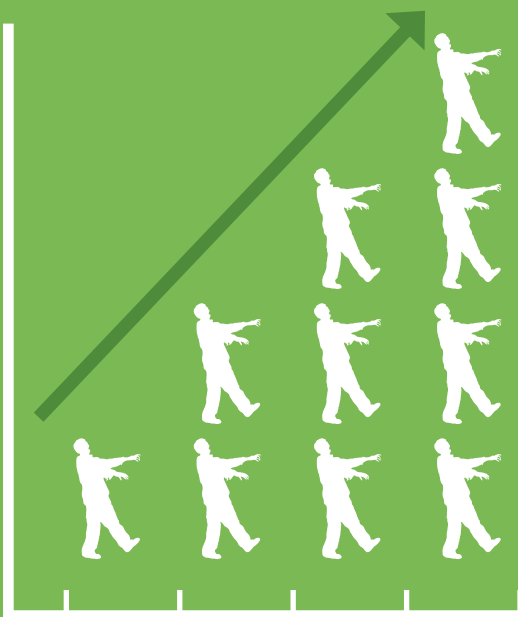
- What's changed or changing?
- What are the incremental improvements, disruptive innovations?
- Refer to poll data and consider perception shaping events.
- Track not just issue supporters but detractors and nay-sayers, too. They are often ones to spot anomalies, paradoxes, contradictions, disparities, and inconsistencies that could turn out to be threats or new opportunities.
- Be aware of any potential biases in the information scan.

Identifying Trends

Trend: A collection of events that show change over time. Trends also indicate directionality.

Your project may benefit from producing a trend report, also known as a trend deck. We recommend choosing the most significant trends that have resulted from the scanning process and limiting your report to a maximum of 25 trends. This is for your reader's benefit.

This stage of your project will require that you review the collected signals and identify themes and patterns that indicate a direction of change.



Naming your trends

A good title for a trend indicates the direction of change, is clear, and is specific.

For example:

Unclear	Clearer
Rabies cases	Increasing instances of rabies in Alberta
Dead bodies back to life	Instances of dead bodies reanimating rises globally
Zombie sightings	Growing number of zombies across Alberta

Consider:

The information shared in 20 trends or more can be very difficult for a reader to hold in their mind. Including too many trends means you may risk losing readers' attention and making your report less memorable - and less impactful!

Which emerging trends are significant and will influence events? You may not immediately see any influence from some forces, but don't rush to discard them.



Consider your reader when formatting your trend report - help readers with a format and language that they can easily understand.

Include a clear and concise trend title, a one-sentence description, and a short paragraph for further context. Don't forget to include your sources for reference! Why? **Because....rigour rocks!**



Trend Analysis

Trend analysis involves identifying underlying drivers of change, and measuring the potential impact, certainty, and velocity of this change. The trend analysis is an important time to expand your task force and seek feedback and advice from content experts. You can use different methods such as surveys, sliding scales, interviews, and informal discussions to record feedback on the potential impact, likelihood, and expected timeline for a trend to fully manifest and impact your organization.



Drivers analysis

Sometimes called drivers of change, **drivers** are major forces or trends that will shape the future environment within which an organization needs to operate. High level drivers include issues such as major cultural icons encouraging brain cuisine, a decrease in funding for health research, deregulation of agribusiness waste, and an increase in military spending.

Consider:

- What level of impact could each trend have on the system?
- What level of certainty do experts hold that this trend will, or will not, develop?
- How quickly is this trend expected to develop and at what point in time could it begin to impact the system?
- What forces might be considered counter trends, or blockers to the set of trends you identified?
- What forces or trends are enablers, or could potentially amplify a trend that you have identified?
- How do the trends you've identified interact with each other?
- What are the trends or driving forces which may be hubs of influence in the system?



These questions will prepare you to identify the influence and implications of the trends in your report. The implications section of your report will answer the question “so what?”

Mapping trends

Mapping trends can both display content and give context to complex topics. Maps are increasingly used to visualize and analyze data, and help users build deeper understanding, faster. Visual maps can also uncover hidden trends, clusters of influence, and knowledge gaps.

Systems thinking encourages us to look at the connections between trends and consider how they might influence each other. One way to see these connections between trends is to map them, and create a visual of the system.

Some examples include:

Influence Diagram

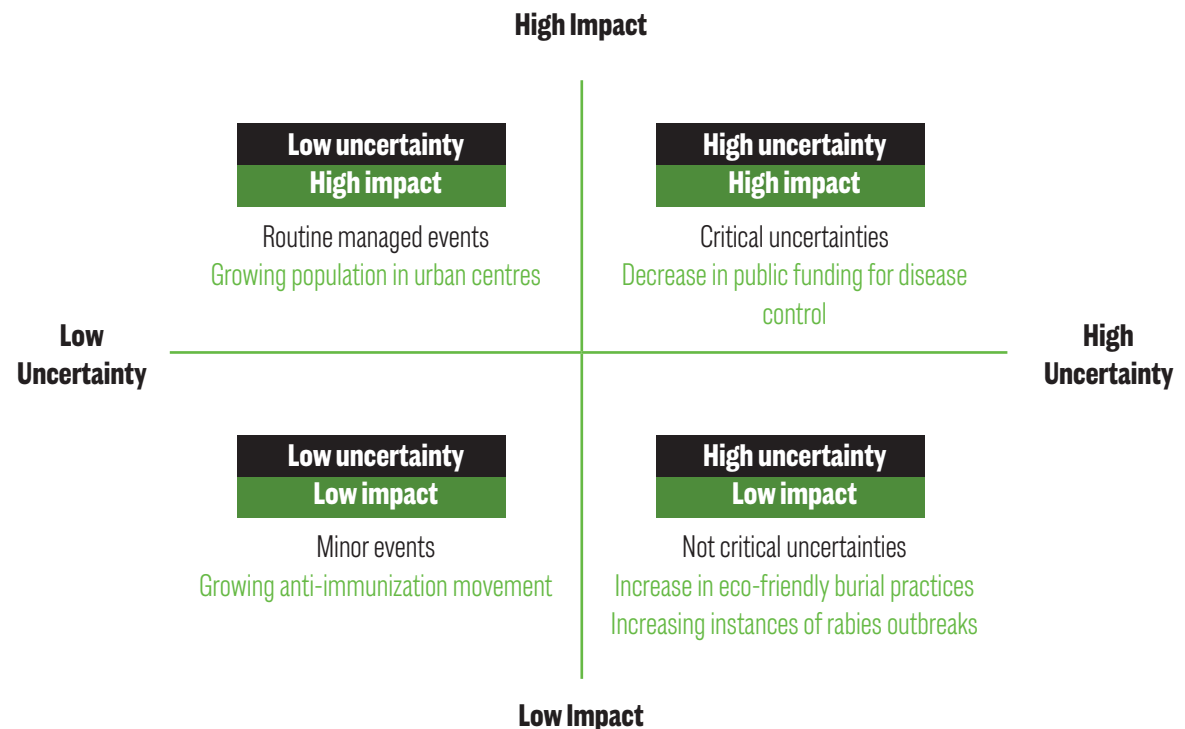
Trend Radar

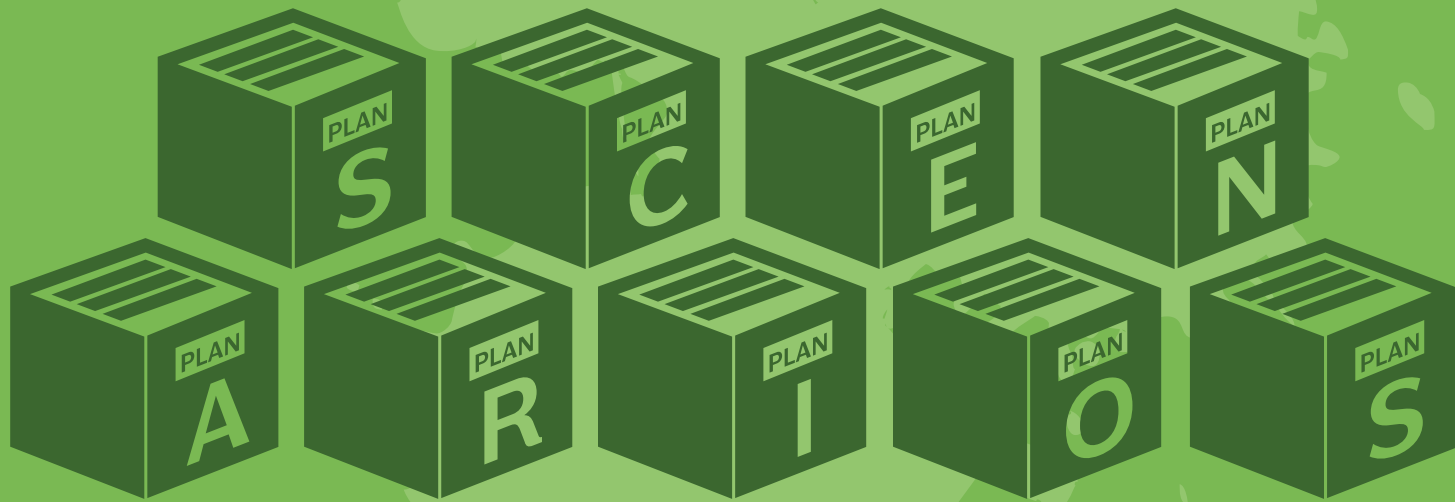
Impact - Certainty Matrix

Identifying critical uncertainties

Critical uncertainties are trends or drivers that have a high potential impact and a high level of uncertainty. These are key areas of future uncertainty for the system, and they serve an important function of challenging assumptions about what is anticipated to unfold. These critical uncertainties reveal potential threats and opportunities that we may consider for effective strategic planning.

The critical uncertainties will form the scaffolding for what you want to explore in different potential scenarios for the future.





Scenarios

Scenarios are stories that help people wrap their brains around complex situations that we may face in the future by giving the future rich texture and making it more tangible.

Scenario building is an art, not a science. Good scenarios are both plausible and surprising; they have the power to surface and challenge a reader's assumptions and take the leap of imagination into an alternate reality.

Scenarios often come as a suite or a set. Together they present a series of possibilities that help users explore "what if" considerations that might emerge from a disruption or shocks in economy, technology, population, human behaviour, and so forth.

To this end, scenarios are structured as follows:

Scenario overview: Describes the future in terms of key elements and the critical developments that have impacted the baseline scenario.

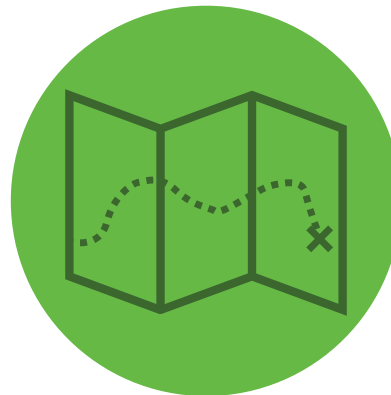
Pathways: A narrative outlining the potential events and developments that may have led to this future. Pathways are not predictions. Rather, they are intended to help participants create roadmaps for how such a future could possibly unfold. Pathways generally explore the linkages across identified drivers of change.

Implications: A narrative describing the broader potential impacts for Alberta and the province as a result of potential external shocks and changes in context

Signposts: Milestone markers between a given future and the present day that aid visualization by breaking up the path to the future into manageable blocks of time. They can help to gauge the extent to which a particular scenario has materialized, and can be events, thresholds or trends and patterns.

Consider:

- Don't say what an organization will do, leave it open for participants to explore.
- Avoid creating apocalyptic and utopian scenarios. In reality, the future will be a mix of the two.
- Give your scenarios vivid and memorable names. For example: The Wild West, Defenders of the Galaxy, Dawn of the Dead, Catch me if you Can.
- Avoid creating a set of more than four scenarios - it is difficult for readers to hold so many variables in focus.





METHODS

METHODS

There is no right number, sequence, or type of methods one should use in a foresight project. You should tailor your set and arrangement of methods to meet the specific objectives of the project and to the resources and capabilities that are available. Method selection is also influenced by the source of knowledge one wants to leverage.

The **futures diamond** is one way to think about the different types of knowledge that can be used and generated in a foresight project. Each type of knowledge adds value in a different way.

The futures diamond can help you think through what types of knowledge would be most useful to you at different stages of a project. Also, it can help you select a variety of methods from across the four types of knowledge – diversity adds rigour and insight!

We have overlaid CoLab's strategic foresight and systemic design toolkit on the futures diamond, by colour-coding tools according to the Look-Generate-Frame-Adapt (Loofragenata) cycle. This is to help you get a sense of the purpose a tool can serve, the sources of knowledge each tool relies on, and the potential synergies between strategic foresight and systemic design methods.

For more information on the Futures Diamond, see work by Rafael Popper at <https://rafaelpopper.wordpress.com/>.

- **Creativity-based methods** require a mixture of original and imaginative thinking, often provided by technology “gurus”. These methods rely on the inventiveness and ingenuity of very skilled individuals and/or the inspiration that emerges from people involved in brainstorming or wild card sessions.
- **Interaction-based methods** rely on the participation and sharing of diverse groups of experts and non-experts. Experts gain insights from being challenged to articulate with other experts and with the views of non-expert stakeholders. These methods also add legitimacy, which many decision-making processes derive in part from engagement and participatory activities, not just reliance on evidence and experts (that can be used selectively).
- **Evidence-based methods** rely heavily on information, data, and indicators. They attempt to explain a particular phenomenon with the support of reliable documentation and analysis. These activities are particularly helpful for understanding the legacy system and current state. They are fundamental tools for impact assessment and scanning activities. These methods can also be employed to stimulate creativity (sometimes by challenging received wisdom). Evidence-based information is also useful to encourage interaction and gain feedback from participants.
- **Expertise-based methods** rely on the skill and knowledge of individuals with privileged access to information or accumulated knowledge. These methods are frequently used to support top-down decisions, provide advice, and make recommendations. Examples include expert panels, Delphi, road mapping, relevance trees, and logic charts.





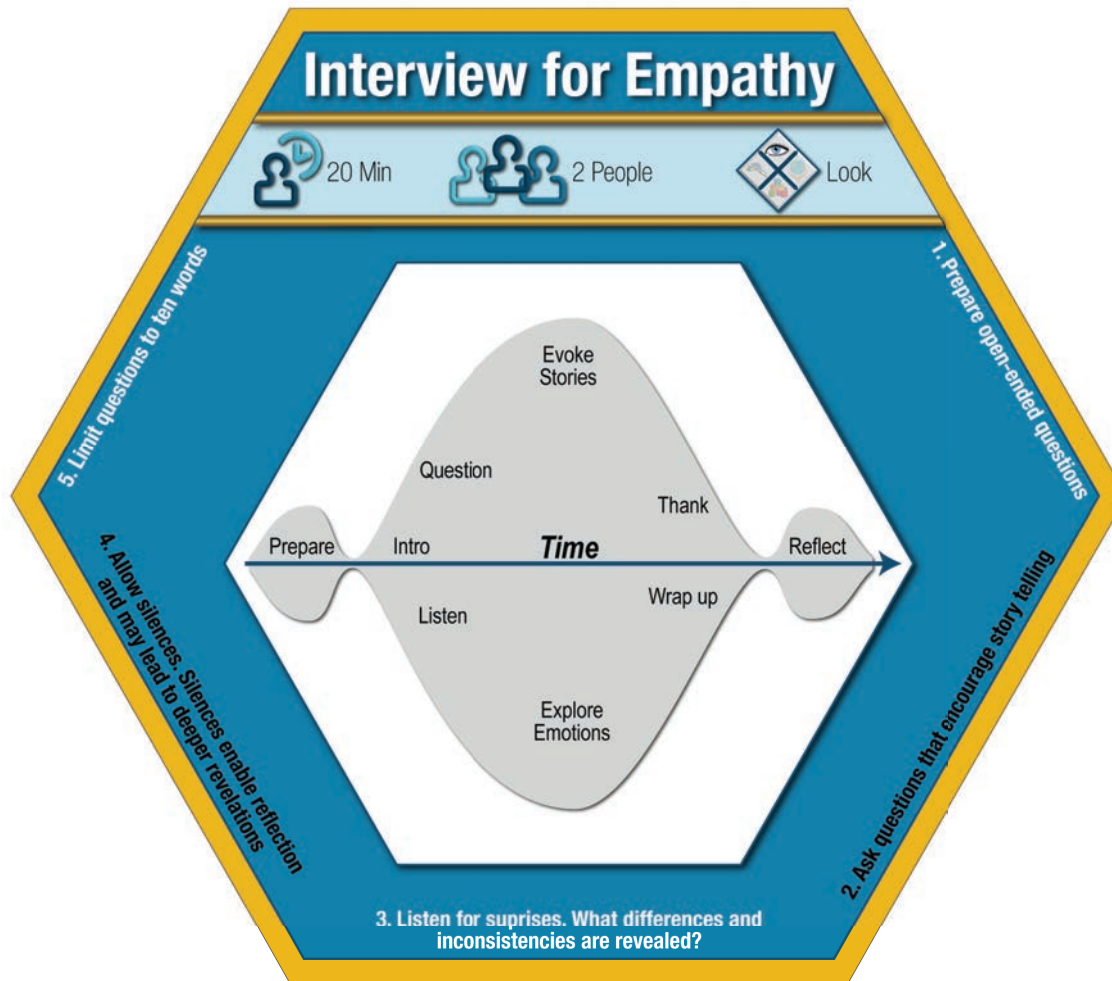
LOOK

Scan the environment and organization for
information and experience.

METHODS

Interview for Empathy • Empathy Map • Keep Asking Why
Ethnographic Research • Future Wheel • Horizon Scanning
Relevance Tree • Horizons • Critical Uncertainties
Cross-Impact Analysis • Cone of Plausibility • Delphi

METHODS



Purpose:

- A quick guide to performing an interview to inform design research. Rather than assume what someone wants, why not ask them?
- Builds rapport. Enables a person to tell stories that illuminate hopes and fears.

Pros:

- Low overhead way to appreciate diverse perspectives on an issue.
- Elicits stories, which are rich in insight.

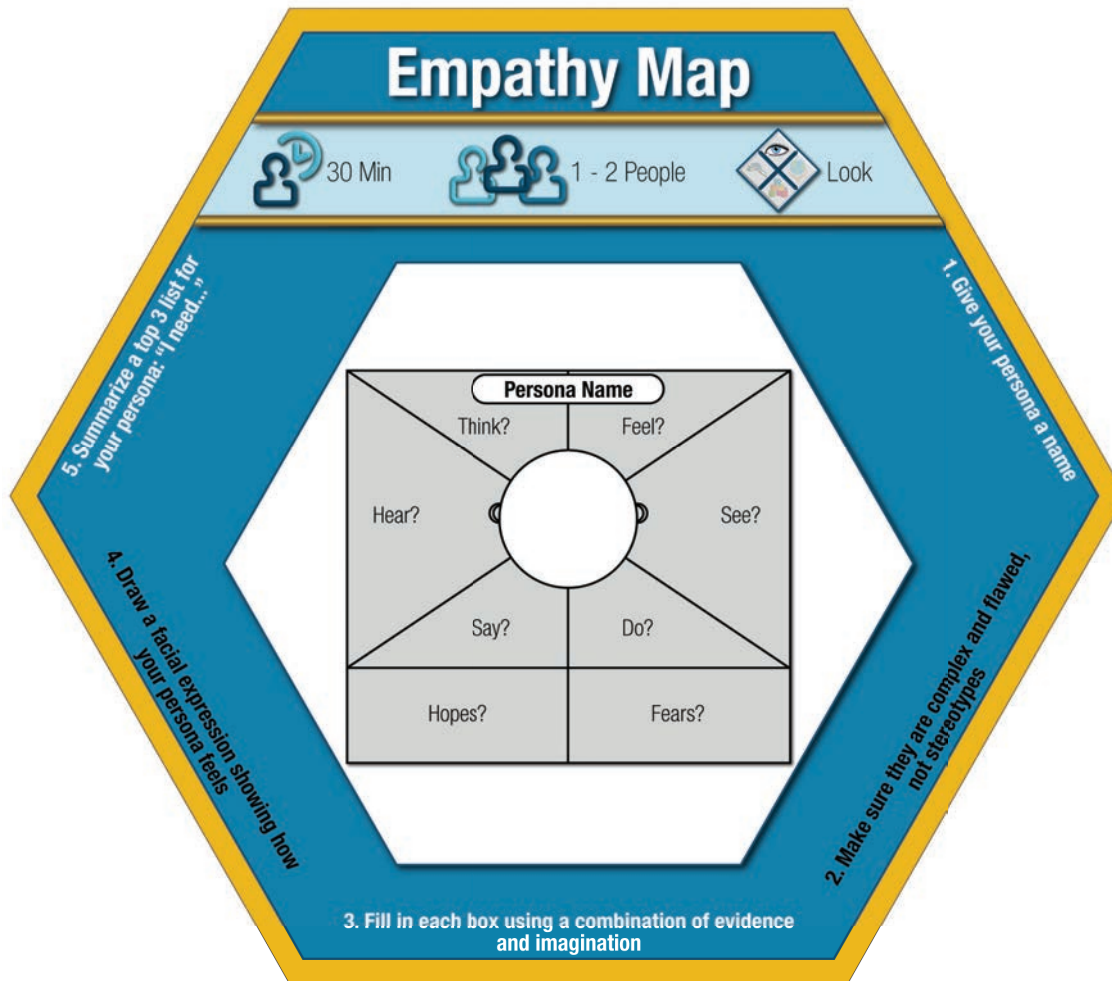
Cons:

- Will not produce statistically significant results. Sample sizes are low and questions access qualitative data.

Considerations:

- People will not always be able to articulate what they do. Be wary of drawing strong conclusions unless you have also observed their behaviour.
- Interview in a time and place convenient to the interviewee.
- You already know your own opinion. If the interviewee asks you questions, try to redirect the question back to them.
- Thank the participant for their time.
- Get together as soon as possible following the interview to reflect.

METHODS



Purpose:

- Provides a way to visualize a person's perspective in order to better empathize with them by capturing what they think and feel, say and do, hear and see, as well as their hopes and fears...in their own words.

Pros:

- Provides a holistic picture of a particular perspective.
- Gives voice to perspectives that may not be able to participate in ideation workshops.

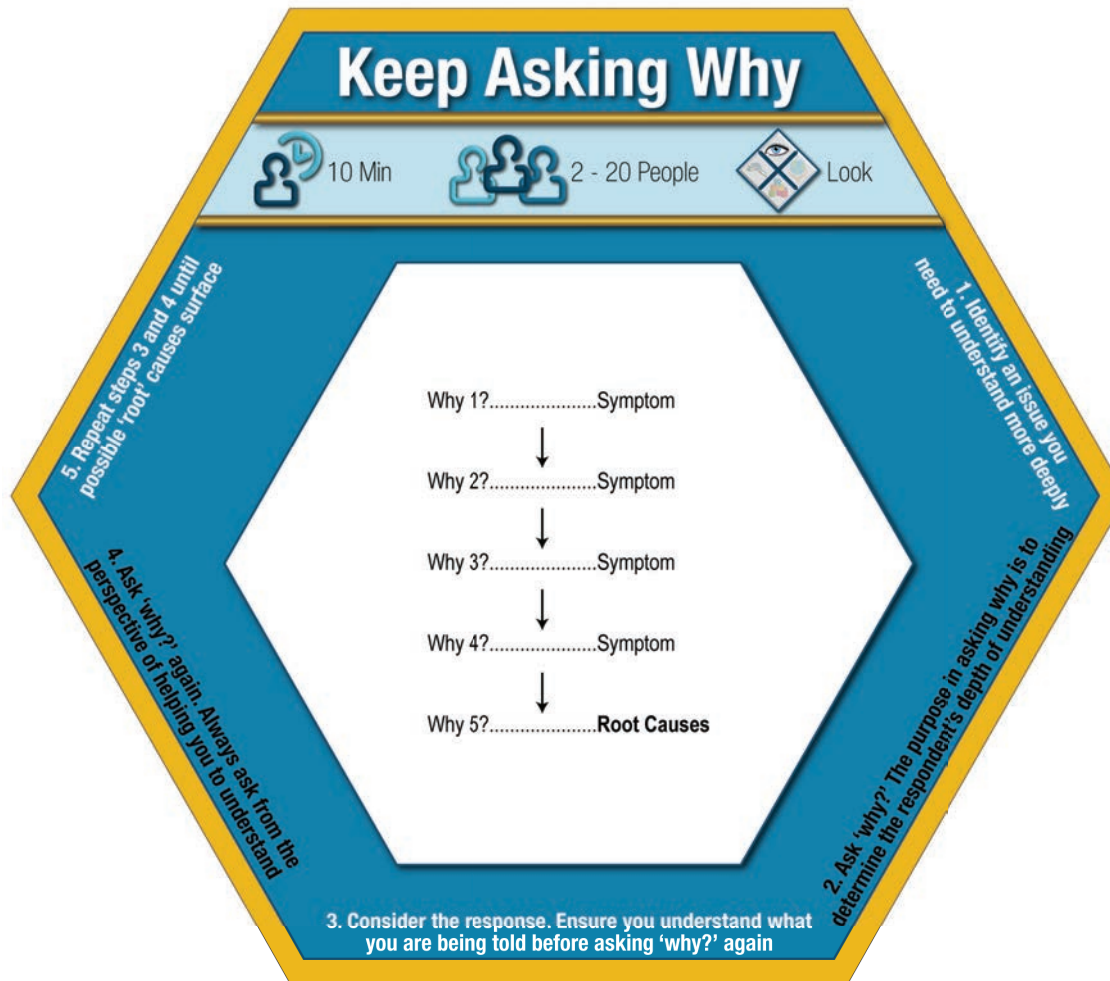
Cons:

- Without prior ethnographic research, the personas may simply reinforce assumptions and stereotypes.
- Some groups struggle with the imagination gap between what people say in interviews and their actual actions, aspirations and fears.

Considerations:

- Once you have created the empathy maps, make sure you use them. One way to do this is to create a gallery.
- Consider having participants perform Dotmocracy to vote on statements in the empathy map gallery that are authentic and revealing.

METHODS



Purpose:

- Also known as the 'ladder of inference', helps construct a dialogue that interrogates the logic of a position, providing you the means to deconstruct group perceptions and surface underlying assumptions and issues.

Pros:

- Helps surface assumptions.
- Useful at any stage of a process.
- Helps avoid group think.

Cons:

- Less useful when participants lack a detailed knowledge of the particular issue or problem.

Considerations:

- Look out for rungs on the ladder that people tend to skip. Is there an assumption being made? Is only part of the evidence selected?

METHODS



Purpose:

- A way to gather external user perspectives.

Pros:

- Can expedite process by offering more efficient means of engaging with end users.

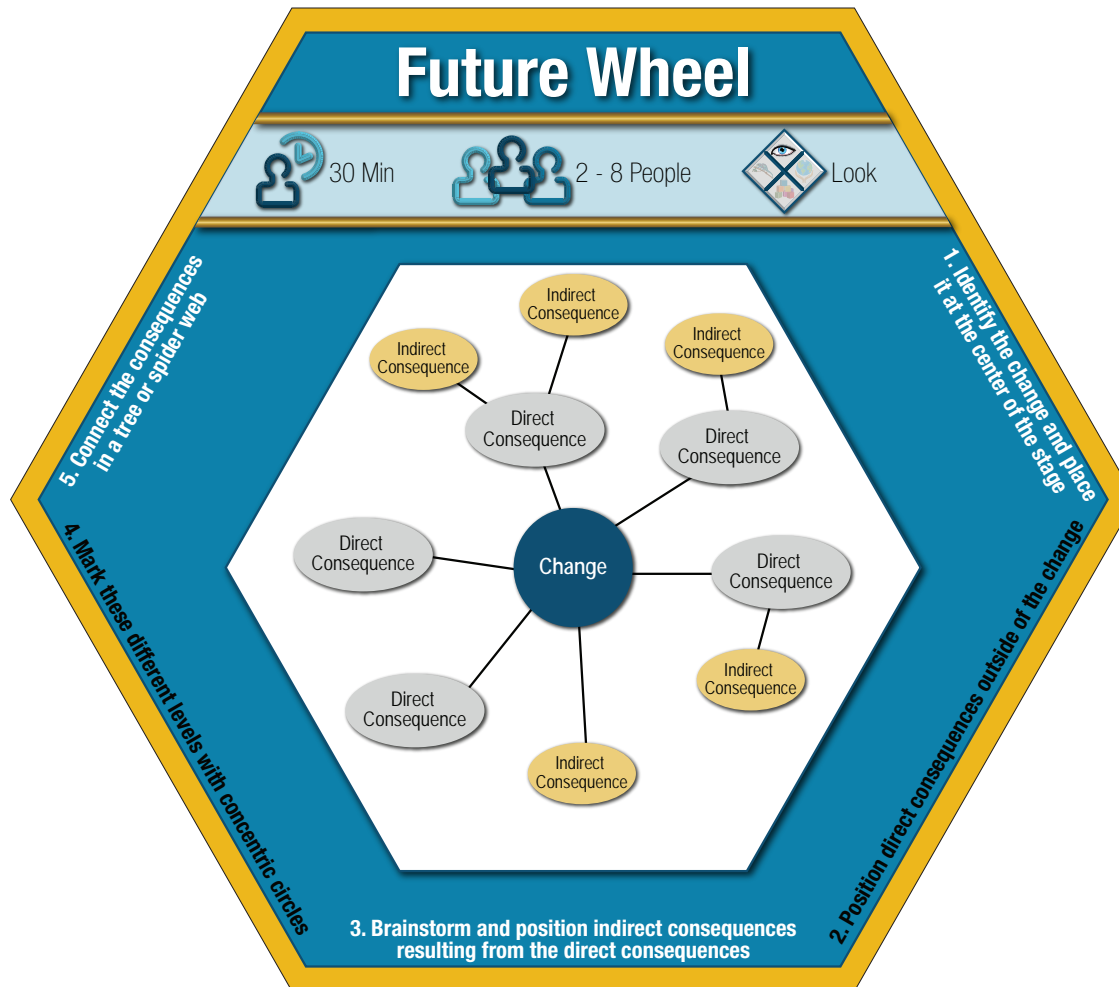
Cons:

- Feedback gathered can mislead the design process if information is not collected accurately or objectively.
- Depending on the issue explored, it may be difficult to identify whom the appropriate end users are, or whom the priority end users are.

Considerations:

- Check your own worldview at the door.
- Build rapport and make the person feel comfortable.
- Talk as little as possible. Use active listening to generate follow-up questions that explore the interviewee's experiences and needs.
- It's ok to ask questions you think you know the answer to. Make the interviewee feel like the expert – you be the curious novice.
- Maintain eye contact and convey your interest in the interviewee's responses.

METHODS



Purpose:

- To identify potential implications of an event throughout a system.

Pros:

- A structured way to brainstorm the direct and indirect consequences of an event, decision, or trend in the future.
- Creates a visual map that lays out implications of a situation.

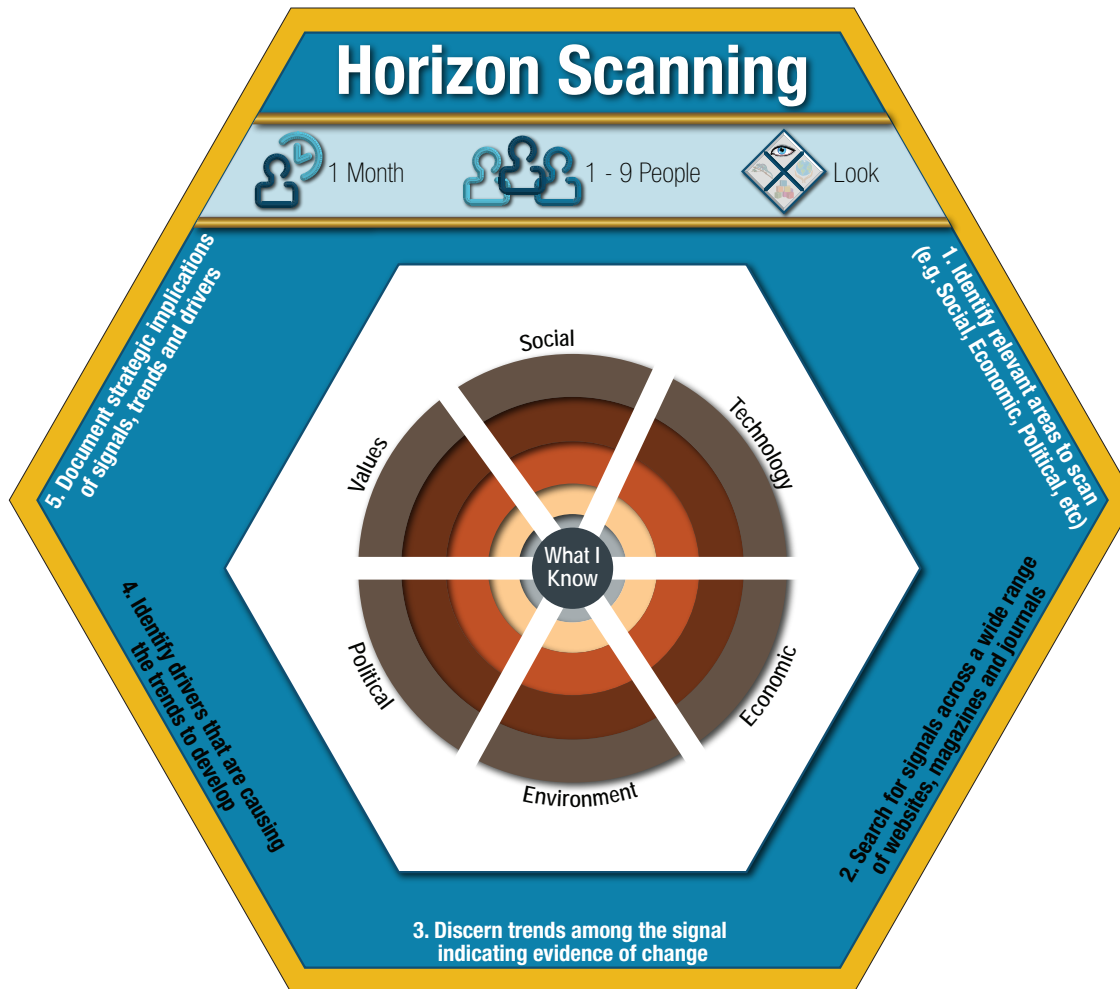
Cons:

- Is based on speculative thinking.

Considerations:

- Consider what the implications might be throughout the STEEP categories (Social, Technological, Environmental, Economic, Political).
- Follow the rules of brainstorming: delay judgment while coming up with ideas.

METHODS



Purpose:

- To identify emerging trends by researching and identifying current patterns.

Pros:

- Scanning casts a wider net than 'searching' which focuses in on a known topic.

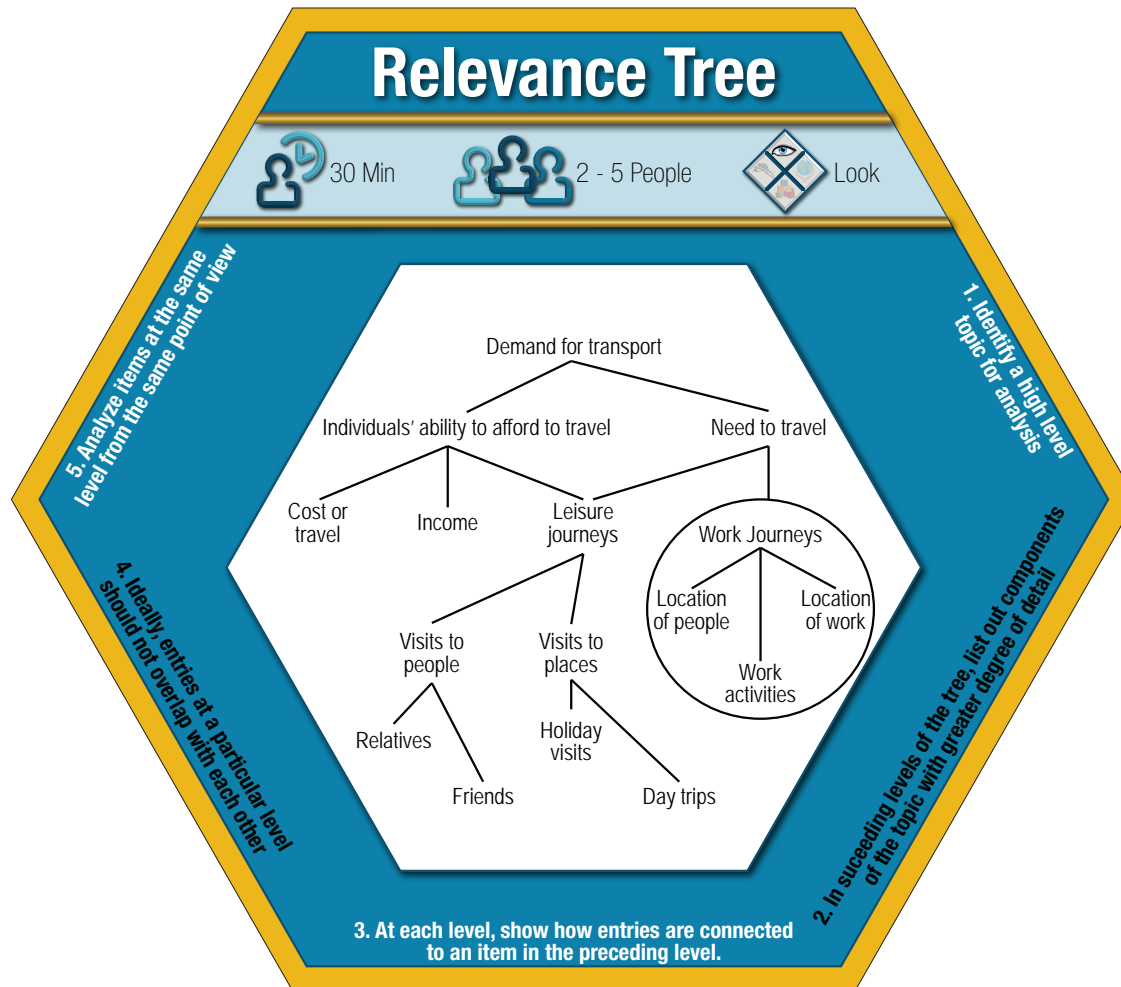
Cons:

- A horizon scan on its own is not a useful product, and must also be paired with sense-making exercises.

Considerations:

- Plan how your team will record and house the collection of scanned signals.
- Consider in advance what information you will need to record for each signal: title, description, source information, date etc.

METHODS



Purpose:

- To subdivide a broad topic into increasingly smaller subtopics in order to show all possible paths.
- To help organize information in a relevant and useful way in order to help solve a problem or stimulate a new way of thinking.

Pros:

- Involves mapping options to obtain an overall view of possible solutions.
- A helpful prompt to provoke creative thinking.
- Provides an illustrated understanding of the relationships among items throughout a system.

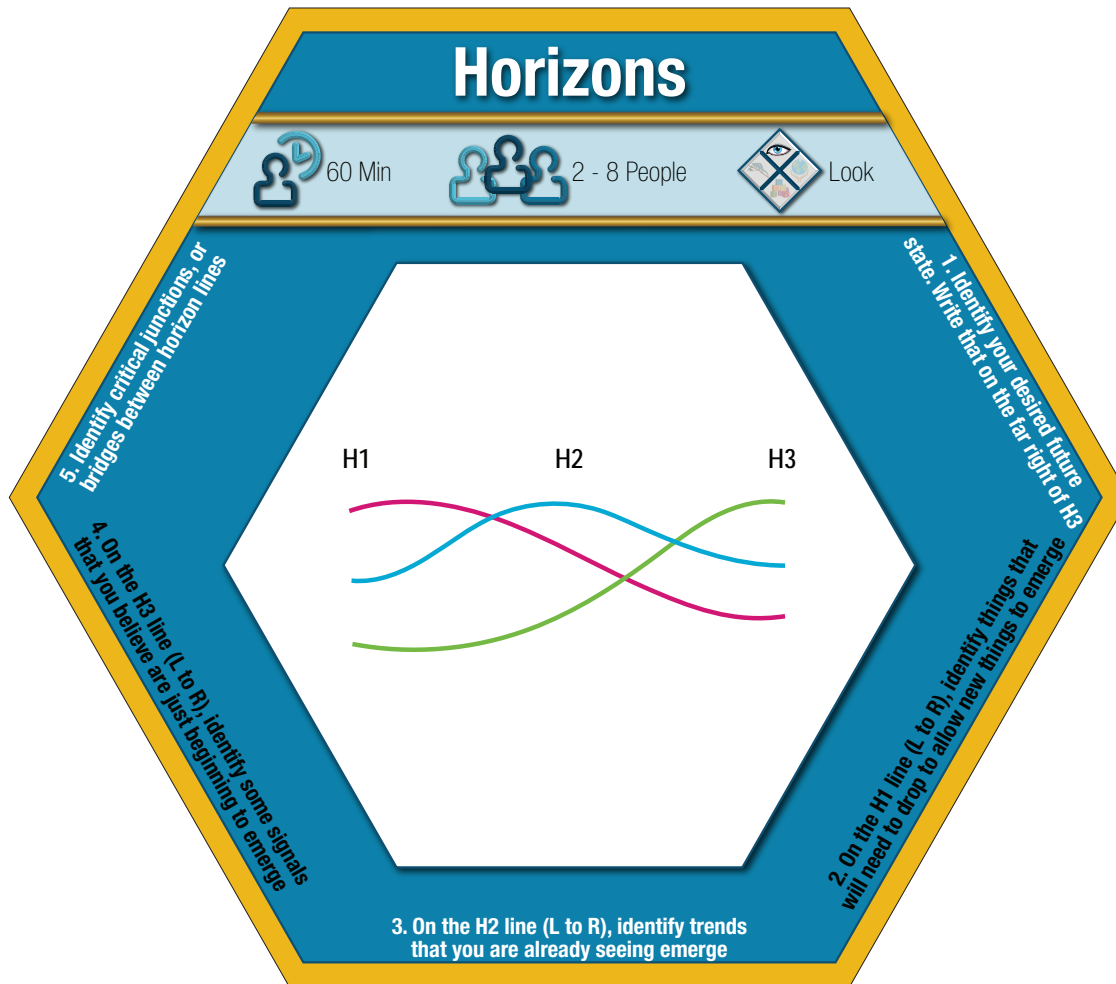
Cons:

- Participants require a fair amount of knowledge about a topic in order to successfully create a relevance tree.

Considerations:

- Seek feedback from others and include many different points of view in order to create the most comprehensive relevance tree.
- The relevance tree may be updated as you uncover new information through scanning or other research.

METHODS



Purpose:

- Provides a framework for having strategic conversations about the future.
- Stretches group thinking to consider how the future might turn out, the potential of the present moment, and encourages a richer appreciation of the present.
- To feed a conversation about a portfolio approach to strategy and innovation.

Pros:

- The framework allows all three perspectives to be given a voice in the conversation.
- A map of the landscape can then be used for further analysis, in order to answer the 'so what?' question.

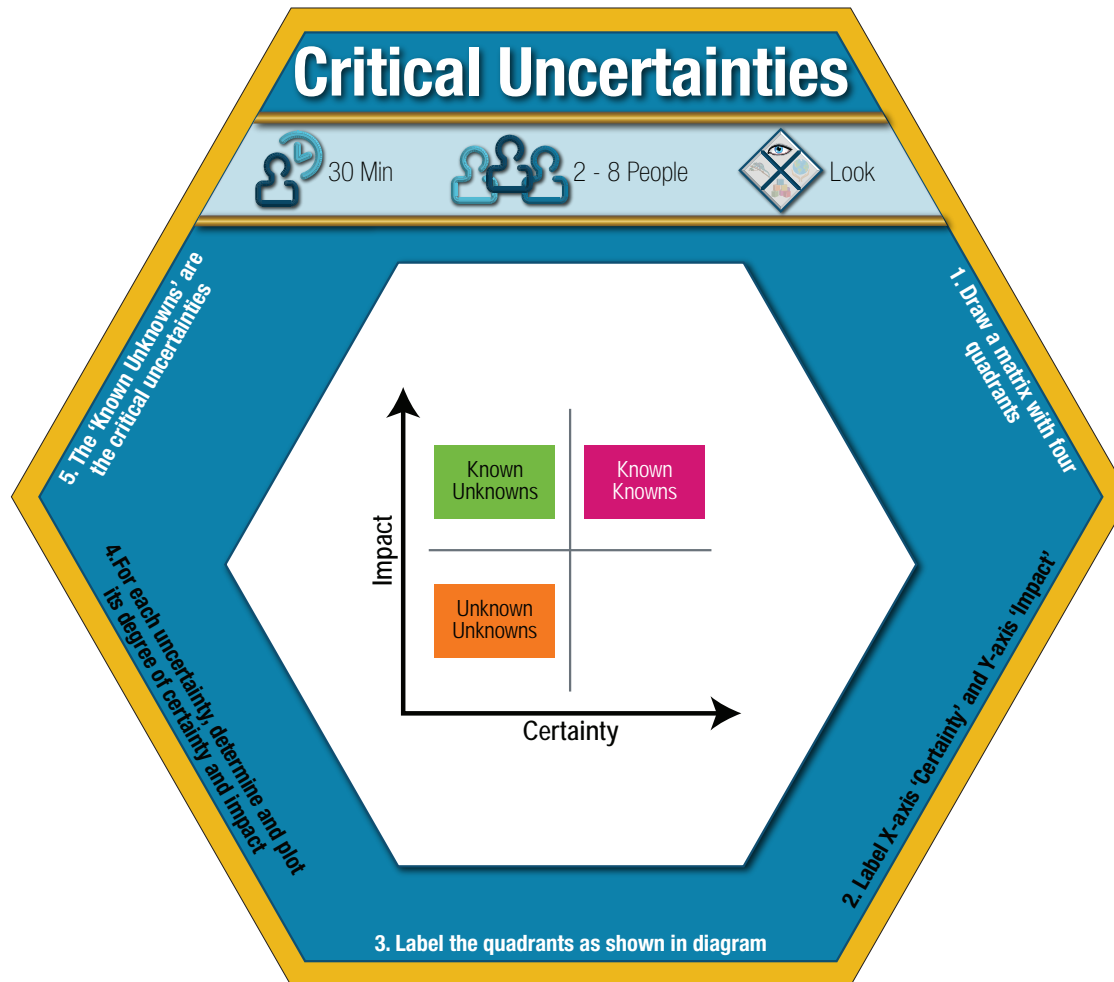
Cons:

- Participants may mistakenly interpret the three horizons as temporal indicators.

Considerations:

- Remind participants that the three horizons represent phases rather than distinct moments in time which can be predicted.

METHODS



Purpose:

- To identify system variables which are potentially highly impactful, however, the certainty of their occurrence is unknown.
- To reduce the complexity of scenario planning.

Pros:

- Can identify items which perhaps were previously not considered.

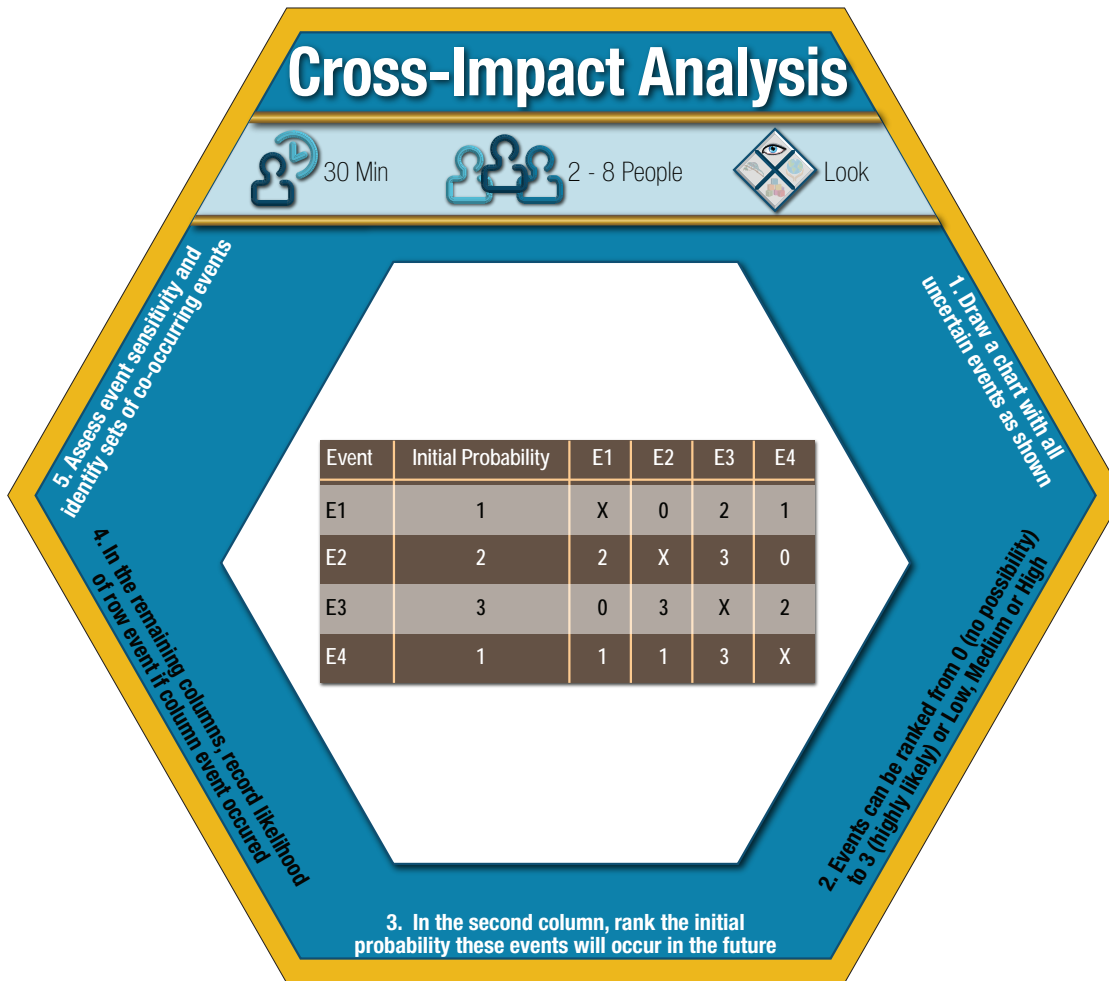
Cons:

- There is the potential that these items will not come to fruition, which can make it difficult to justify planning for them.

Considerations:

- Keep a systems thinking approach to choosing critical uncertainties.

METHODS



Purpose:

- To determine the relationship between variables. These relationships are then categorized as positive or negative to each other.

Pros:

- Helps participants take a systems perspective to the collection of trends since we can see that trends or variables do not occur in a vacuum and the surrounding environment can significantly influence the probability of certain events to occur.
- The matrix provides a visual of the cross-impact analysis which allows participants to easily identify the highest and lowest variables.

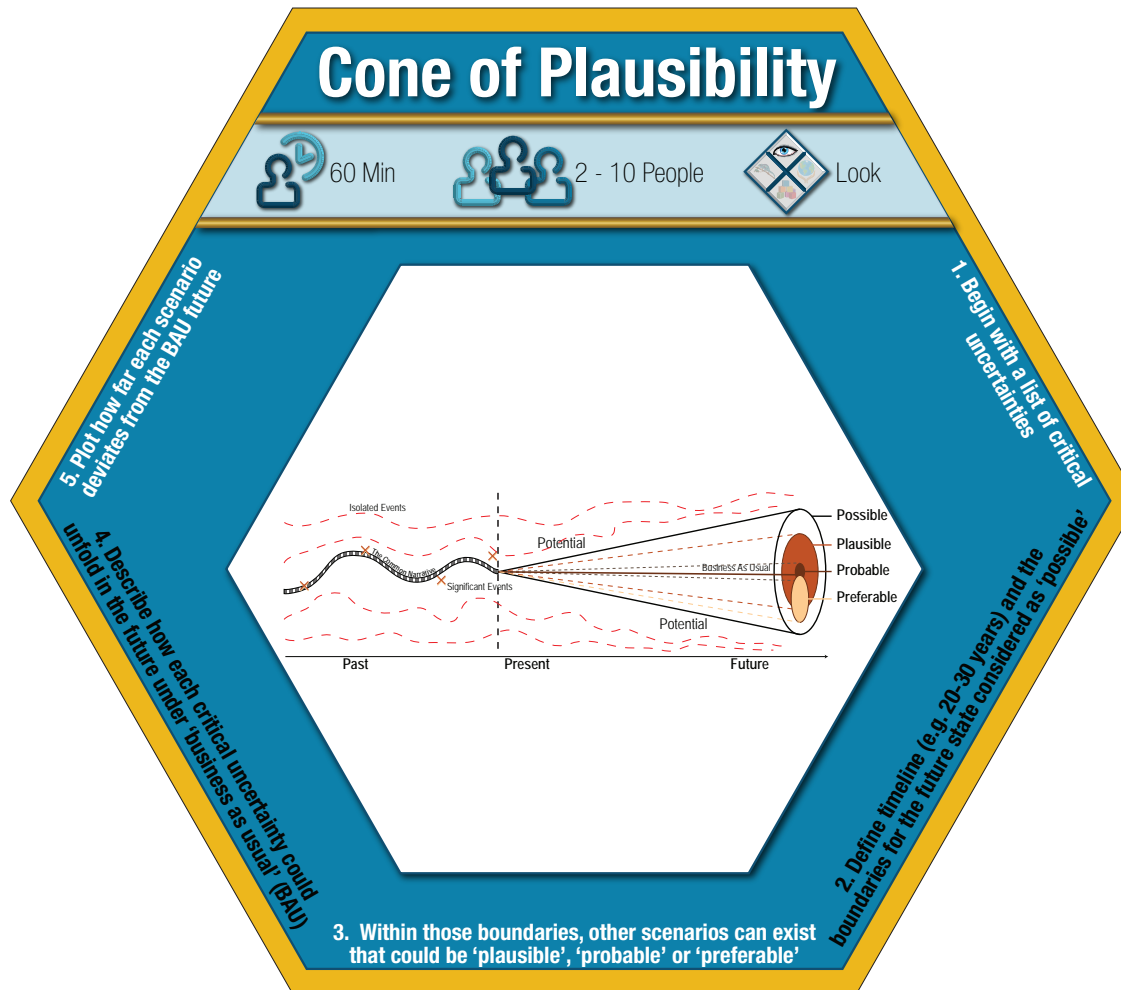
Cons:

- Participants must have knowledge of the subject in order to identify the relationships.
- Cross-impact analysis output are only as accurate as the initial set of probabilities being provided.
- Time-consuming and can be a tiring exercise for participants.

Considerations:

- Consider the number of trends, events, or variables being analyzed – ideally the set should range from 10 – 25, but not less or more.
- The number of people in the room – plan in advance a method for facilitating the answers from a large group of people (6 or more).

METHODS



Purpose:

- To identify a set of futures that might reasonably occur.

Pros:

- Unlike the 2x2 matrix, the cone of plausibility allows for a number of variables to be included in the scenarios. This can create more complex scenarios which properly represent a system.
- Unlike other frameworks for scenario development, the cone of plausibility includes a Business-as-Usual scenario or an 'expected future'.

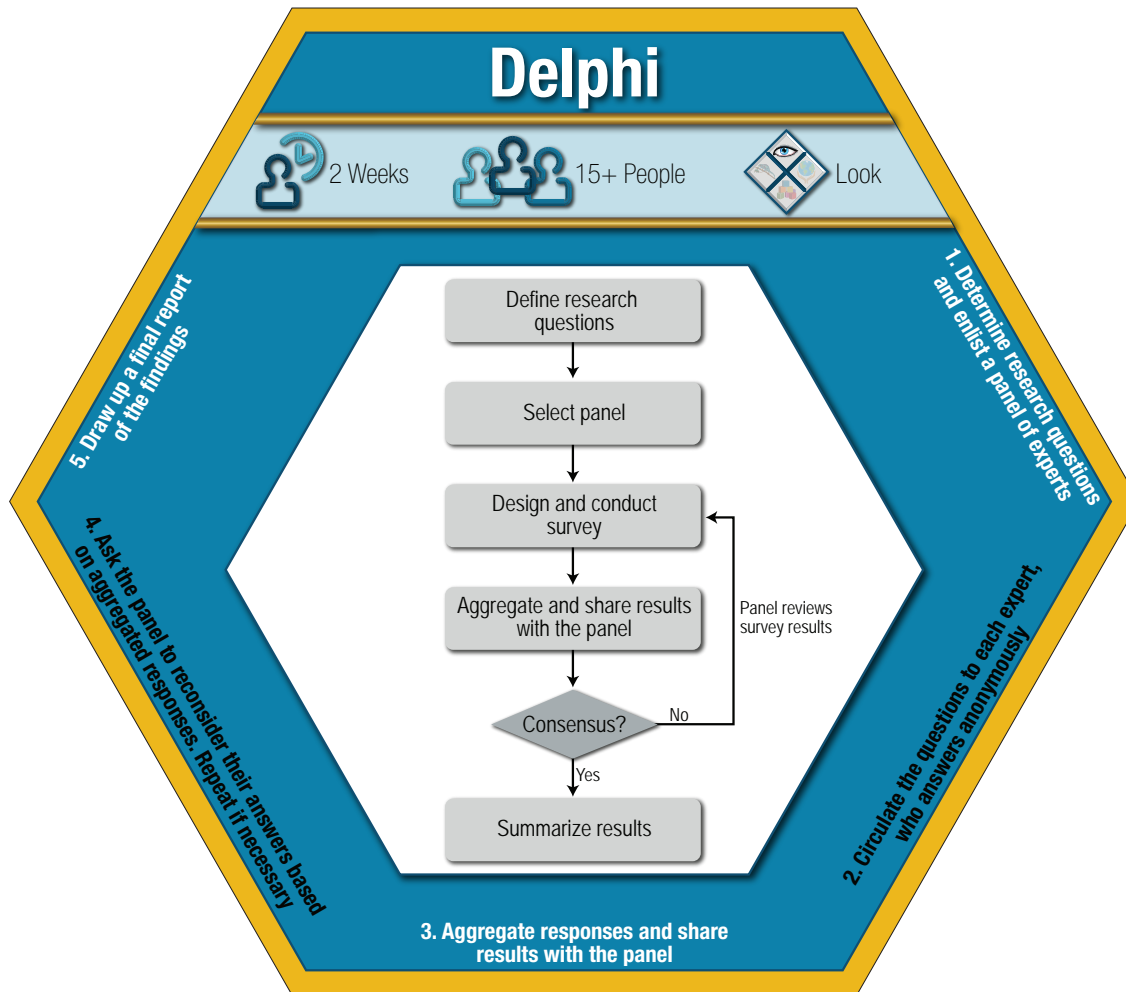
Cons:

- It is a more advanced method to use.

Considerations:

- Does your framing question require that you consider a number of variables throughout a system (such as 3 - 6?) or would 2 be sufficient?
- Begin with identifying the Business-as-Usual scenario.

METHODS



Purpose:

- To collect expert opinions, and develop a ranked list of critical variables through (+/-) 3 rounds of a survey.

Pros:

- A Delphi can draw on a large number of people, including bringing in expert and external perspectives.
- This method can help avoid strong personalities dominating conversation.
- There is a flexible time commitment for participants to provide feedback and allows the opportunity for reflection.

Cons:

- Surveys tend to have low participation rates, three rounds can be time intensive, you may not reach consensus.



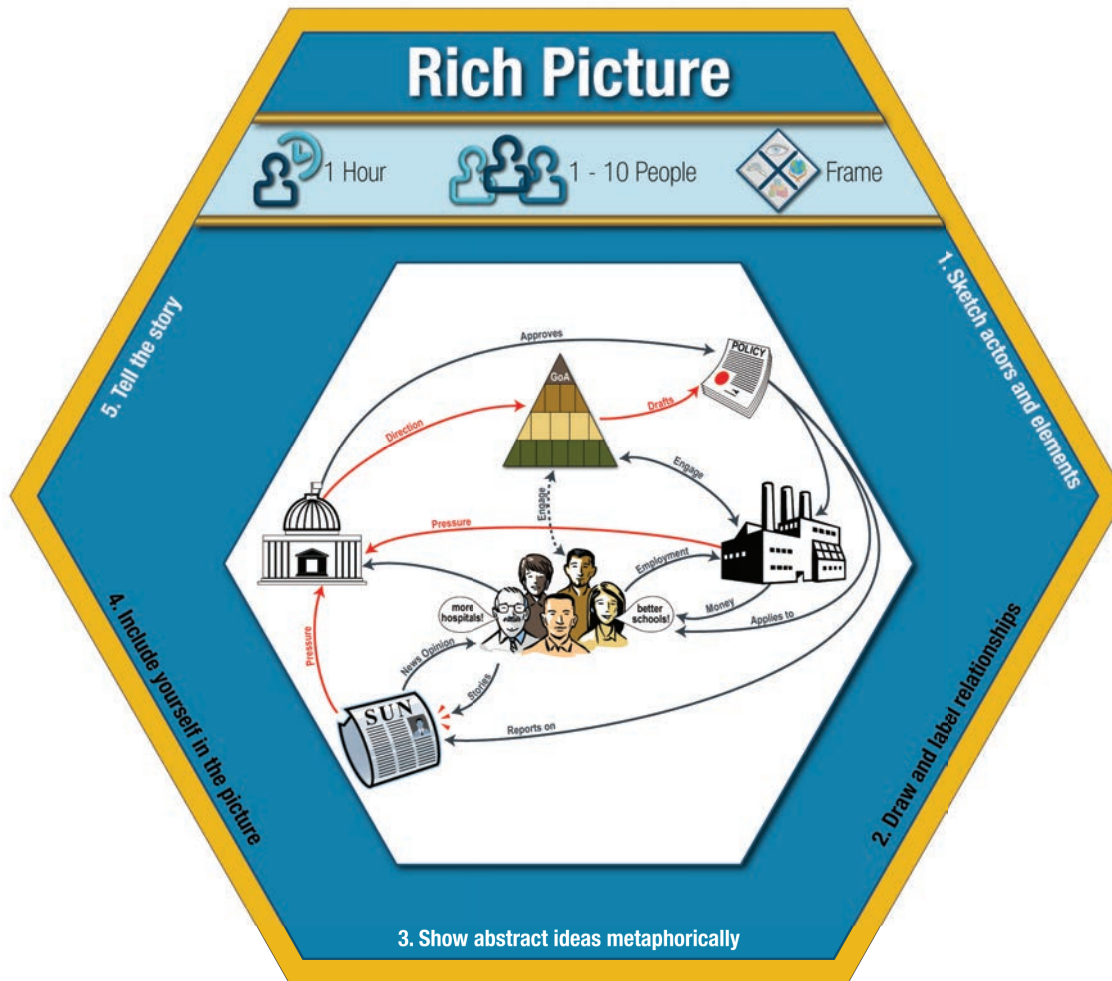
FRAME

Build a shared map of challenges and actions.

METHODS

**Rich Pictures • Systems Map • Iceberg Diagram
Causal Loop Diagram • Concept Map • Six Thinking Hats
Speed Dating • Affinity Diagram • Card Sort • World Café
Back-Casting • Heat Map • Influence Map
Trend Radar • Scenario Matrix**

METHODS



Purpose:

- An unstructured way of mapping a system. Groups use visual thinking to show important actors, elements, and relationships.

Pros:

- Very intuitive – you do not need a technical background to participate.
- Highly robust – there are not many ways this activity can go wrong.

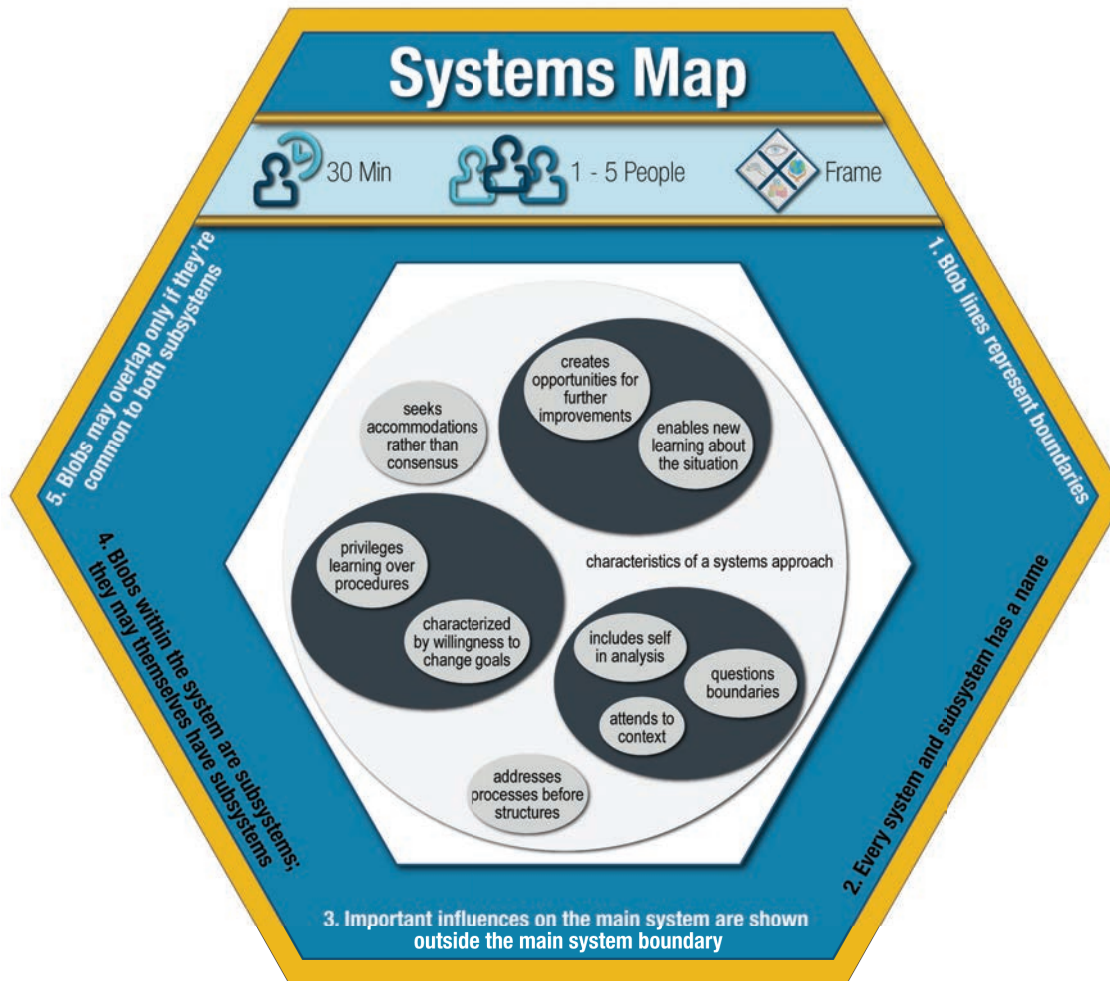
Cons:

- Some people are reluctant to draw pictures.
- The end product will be meaningful to participants but may seem messy, complex, and amateur to outsiders.

Considerations:

- Visualize multiple perspectives and include intangibles, like emotion and culture, not just formal structures.
- Words and thought bubbles are ok, but avoid whole sentences.
- Participants tend to focus on the components – remind them to label relationships and think of the structure of interdependencies.
- When finished, title and date the rich picture for record keeping.

METHODS



Purpose:

- Communicates nesting relationships between systems and subsystems, as well as affinities between closely related components.

Pros:

- A simple way to show relationships between elements at different levels.
- Easy to interpret.
- Good for showing nesting relationships between multiple levels of a system and its environment.

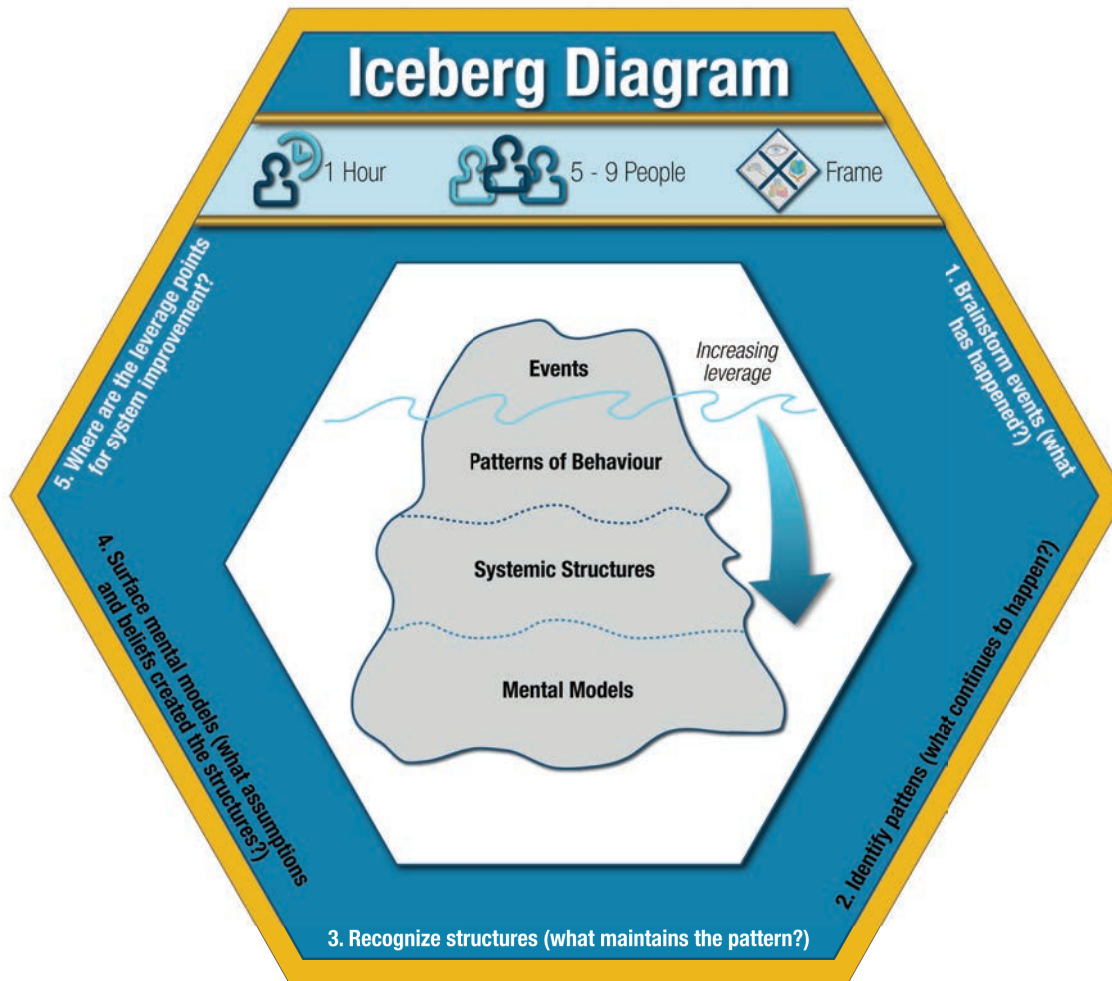
Cons:

- Relationships are only implied by proximity, rather than drawn directly.
- The map is static – it does not show how the system behaves over time.

Considerations:

- Works best when the groups brainstorm and structure the list of components before drawing.
- The diagram can comfortably represent systems with 10-20 components. If you have more, you can create multiple system maps for major subsystems.
- Write the label first, then draw the oval, to ensure the words fit.
- Write on magnetic shapes or post-its so you can move around the shapes.

METHODS



Purpose:

- Enables a group to drill beneath the surface to appreciate underlying structures and mental models that perpetuate the system. Enables groups to see leverage points for transforming system dynamics.

Pros:

- Adds depth to the discussion.
- Empowers groups to consider choosing alternative mindsets and structures.

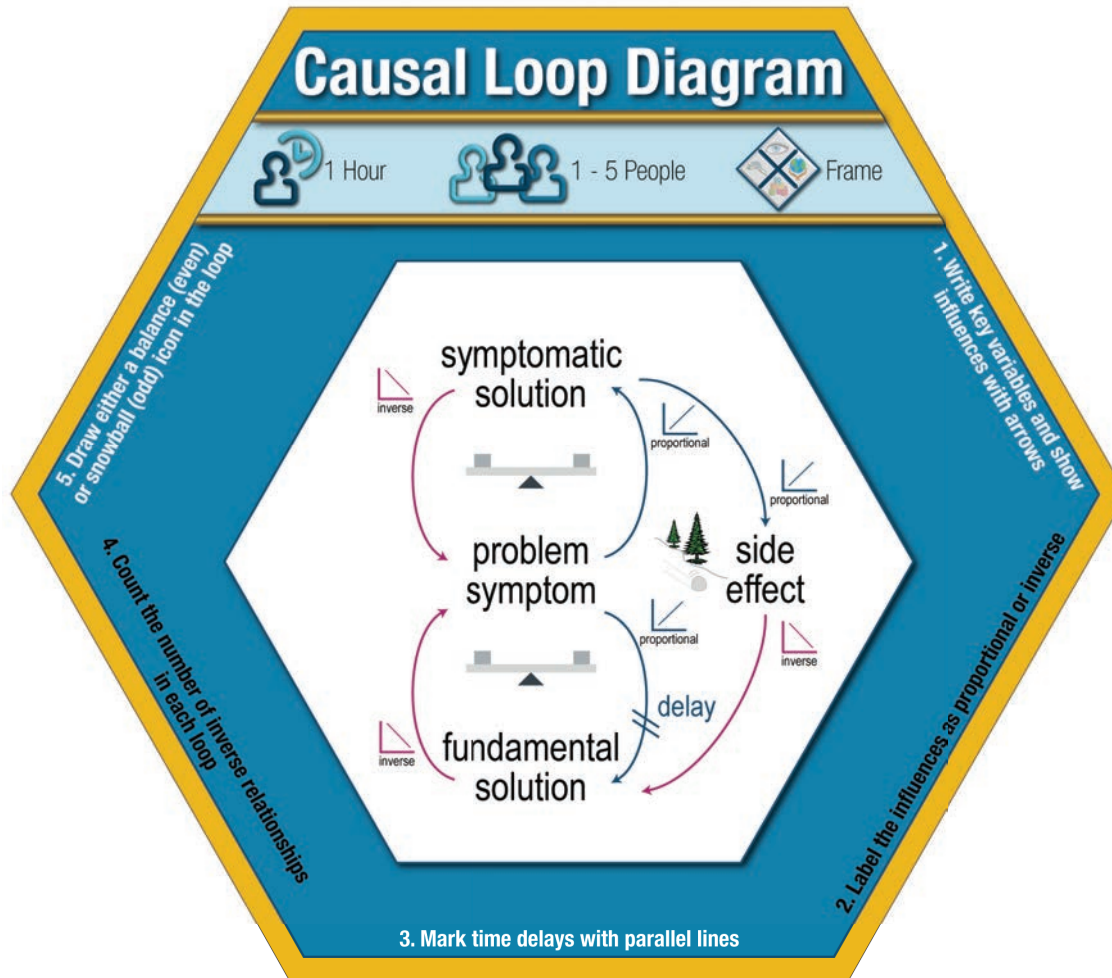
Cons:

- Groups tend to become negative during brainstorming – if this is the last activity the session may end on a low note.
- Diagrams may need to be simplified for presentation purposes.

Considerations:

- Groups will not always stick to the brainstorming category: if a suggestion fits better under a different category, move it there.
- To also show influences, consider drawing arrows that connect the layers.
- If the group is being overly negative, ask them: what are some good features of the current system? Who benefits?
- Keep asking why to drill deeper.

METHODS



Purpose:

- Enables groups to visualize the systemic structures underpinning the patterns of actions and events we observe.
- Helps identify leverage points where interventions will be effective and efficient.

Pros:

- Gives insight into systemic structures perpetuating current patterns.
- Shows not just how the system works, but where to intervene to transform the system's dynamics.

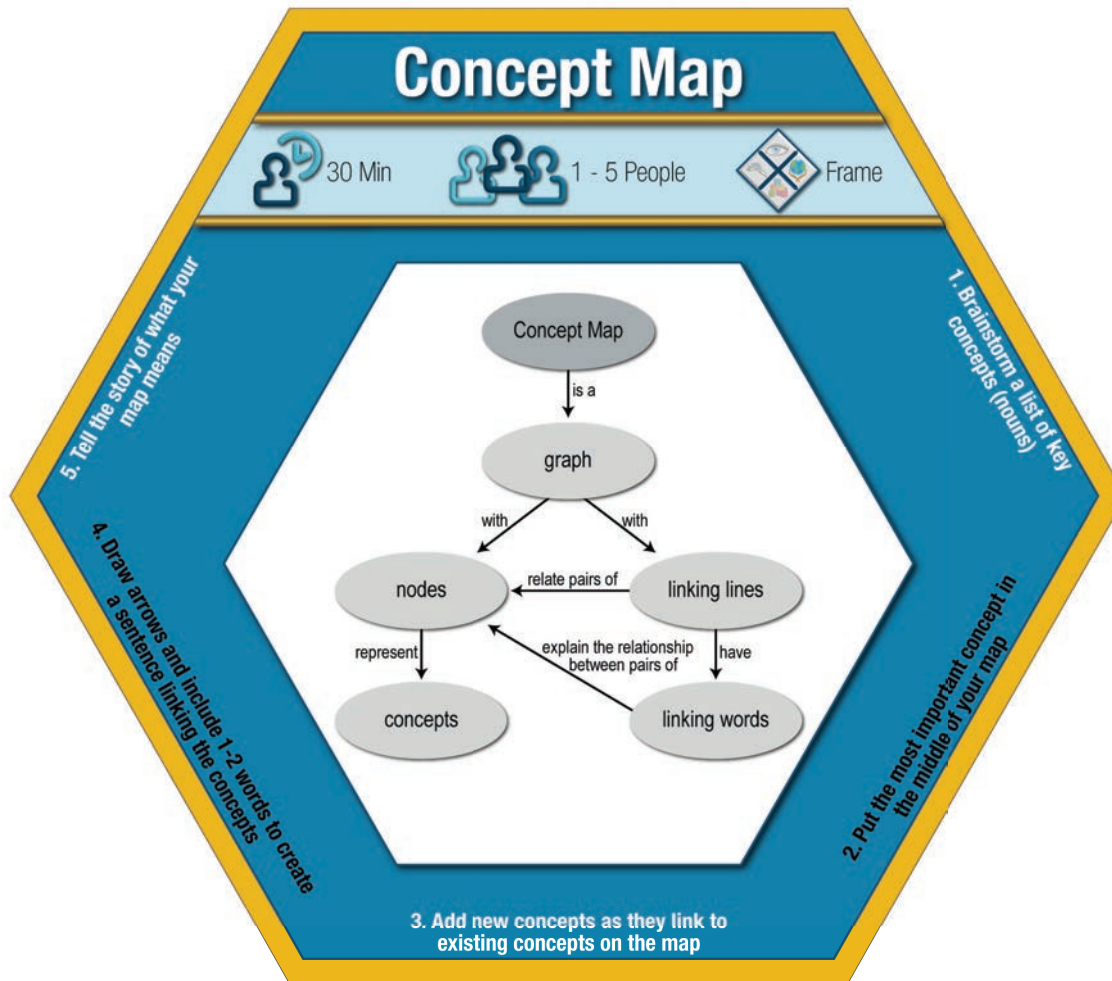
Cons:

- Not intuitive. Works best with those with a working knowledge of systems thinking or requires pre-education.
- Dynamic, but not adaptive: does not show how systems adapt and evolve.

Considerations:

- Due to its technical nature, facilitators should only use this method if they have personal experience creating these diagrams.
- Encourage groups to not just map the system, but to explore the implications. Where are the leverage points? How would you change the feedback loops to create a more desirable pattern?

METHODS



Purpose:

- Provides an intuitive way to represent a system. Use it to show complex relationships between parts of a system in an easily readable way.

Pros:

- Shows complexity in an intuitive way.
- Because each node-link-node connection forms a sentence, even people who did not create the map can make sense of it.

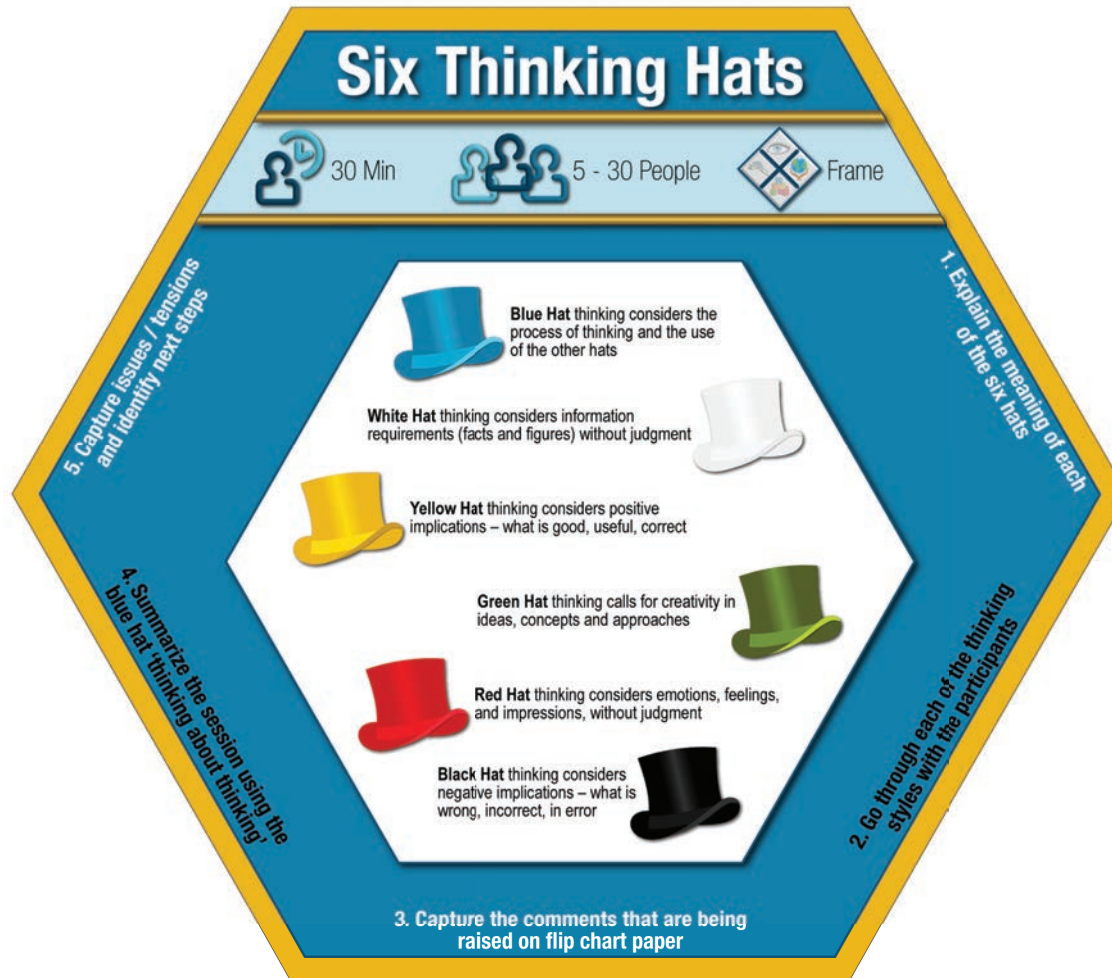
Cons:

- Shows relationships, but not dynamics.
- Becomes less readable with size – they work best with about 10 to 15 nodes unless significant effort is put into information design.

Considerations:

- If you brainstorm the concepts onto post-it notes, you can move the nodes around while creating the map.

METHODS



Purpose:

- Pioneered by Edward de Bono, a facilitative technique that allows individuals to “step-outside” themselves and think using a different mind-frame.

Pros:

- Allows facilitators to avoid or overcome group think.
- Allows people to share with less risk.
- Generates understanding that there are multiple perspectives on an issue.
- Can improve communication and decision-making.

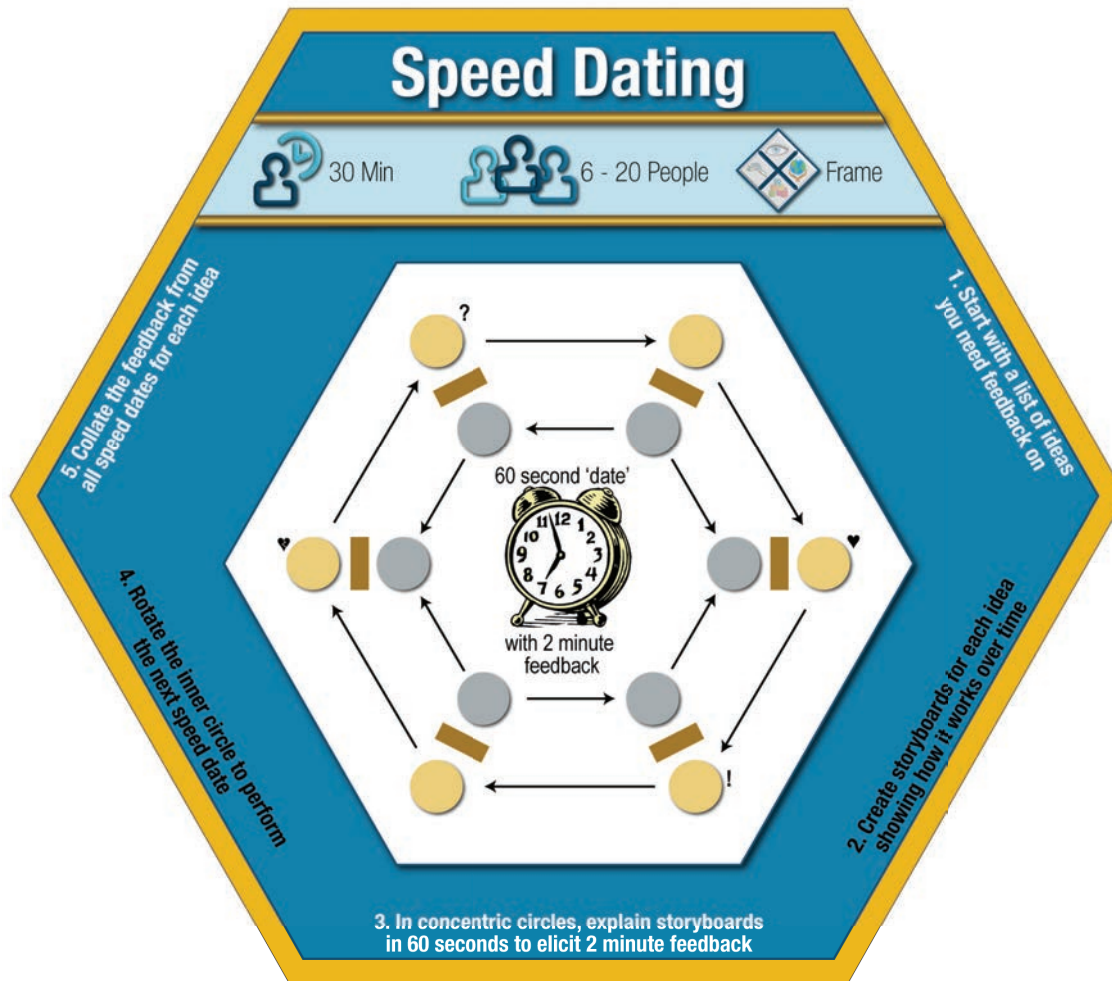
Cons:

- Depending on the thinking generated, further work may be needed to synthesize the diverse perspectives and/or address particular tensions between world-views.

Considerations:

- Use when a change in thinking is needed to move a group forward. This requires a facilitator to exercise his/her judgment about when the group has reached this point.

METHODS



Purpose:

- To rapidly “speed date” design opportunities with potential users. Its power lies in exposing people to future design ideas, allowing for structured engagements across scenarios.

Pros:

- Uncovers risk factors across a series of related enactments.
- Focuses efforts on understanding user needs before spending time and effort on costly prototyping and design.
- Allows for broader perspectives to emerge by allowing to test experiences.

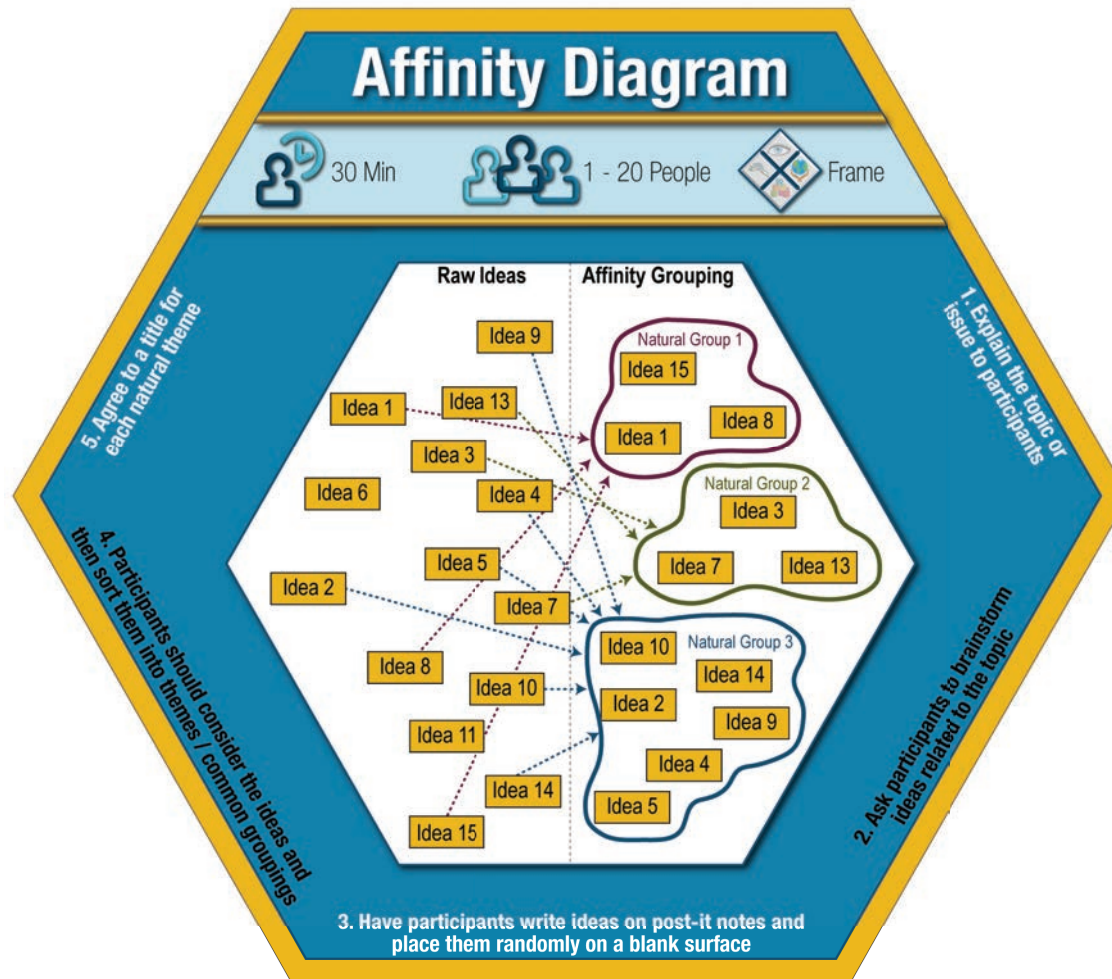
Cons:

- Focusing on need validation and user enactment may push work in unexpected directions.
- Quick and effective at exploring concepts, but does not allow for deep analysis – may require more work to establish root causes.
- May be too simplistic based on group dynamics.

Considerations:

- Regardless of group size, speed dating should take no more than 30 minutes to acquire a number of diverse insights.

METHODS



Purpose:

- Supports participants to organize ideas into coherent groups in order to better understand their relationships.
- Useful for organizing potentially large numbers of ideas into natural themes.

Pros:

- Simple and cost effective tool for soliciting ideas from a group and obtaining consensus of how to structure information.
- Results can sharpen the focus of an issue exploration.

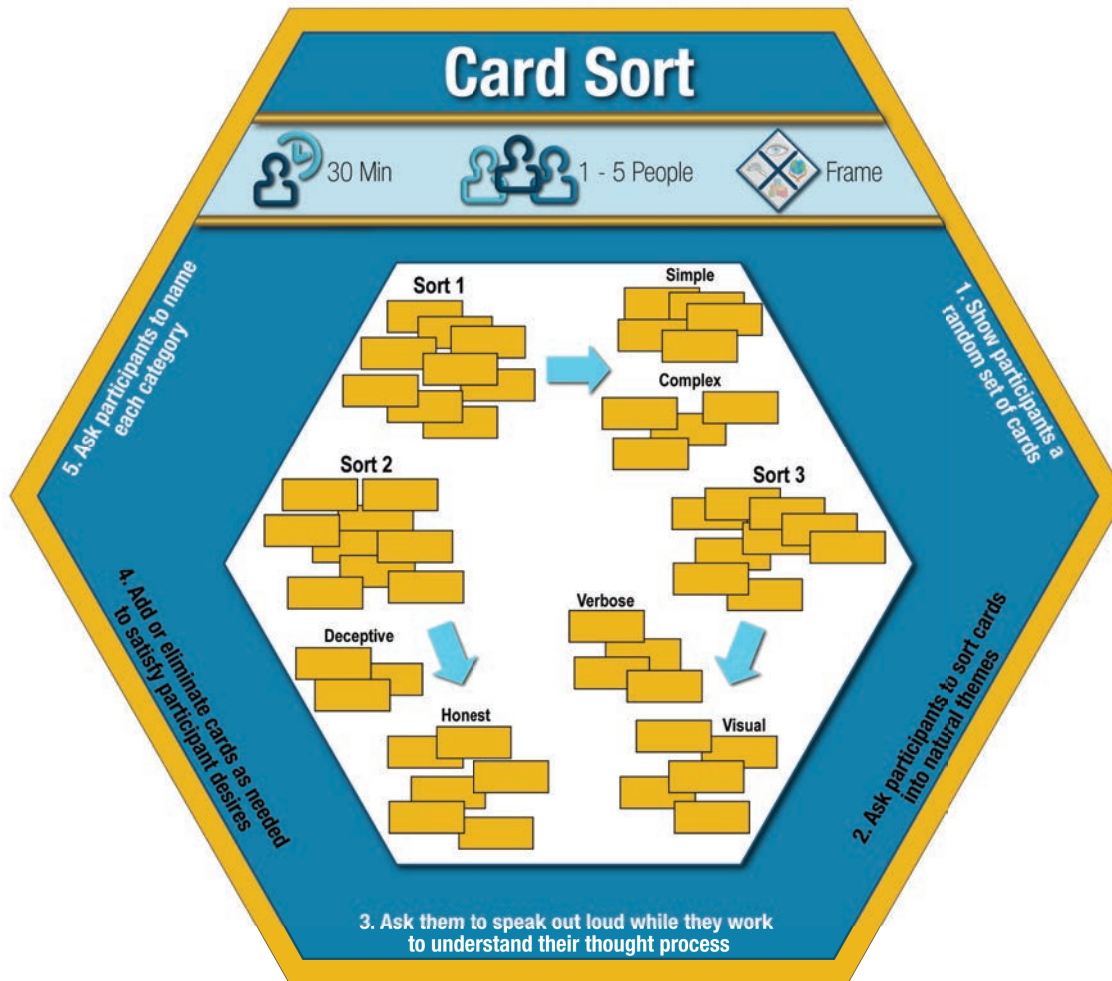
Cons:

- Depending on the subject matter, finding agreed-upon affinities between topic areas may be difficult.

Considerations:

- People typically create groupings that are too large for useful analysis. Facilitators can help by working with one or two volunteers during a break to group the brainstormed ideas.
- Give each grouping a name to support discussion.
- Consider using Dotmocracy to vote on groupings or ideas within them to gauge priority.

METHODS



Purpose:

- To explore how participants group items into categories and relate concepts to one another.
- Can reveal important information about user preferences, biases, etc.
- Provides facilitators with a tool that invites participatory action.

Pros:

- Helps understand users' expectations and understanding.
- Effective way to deal with a large number of concepts.
- A natural and unthreatening process.
- Observing users can result in research insights and provide a fertile source of questions and conversations about the problem domain being studied and, of course, users themselves.

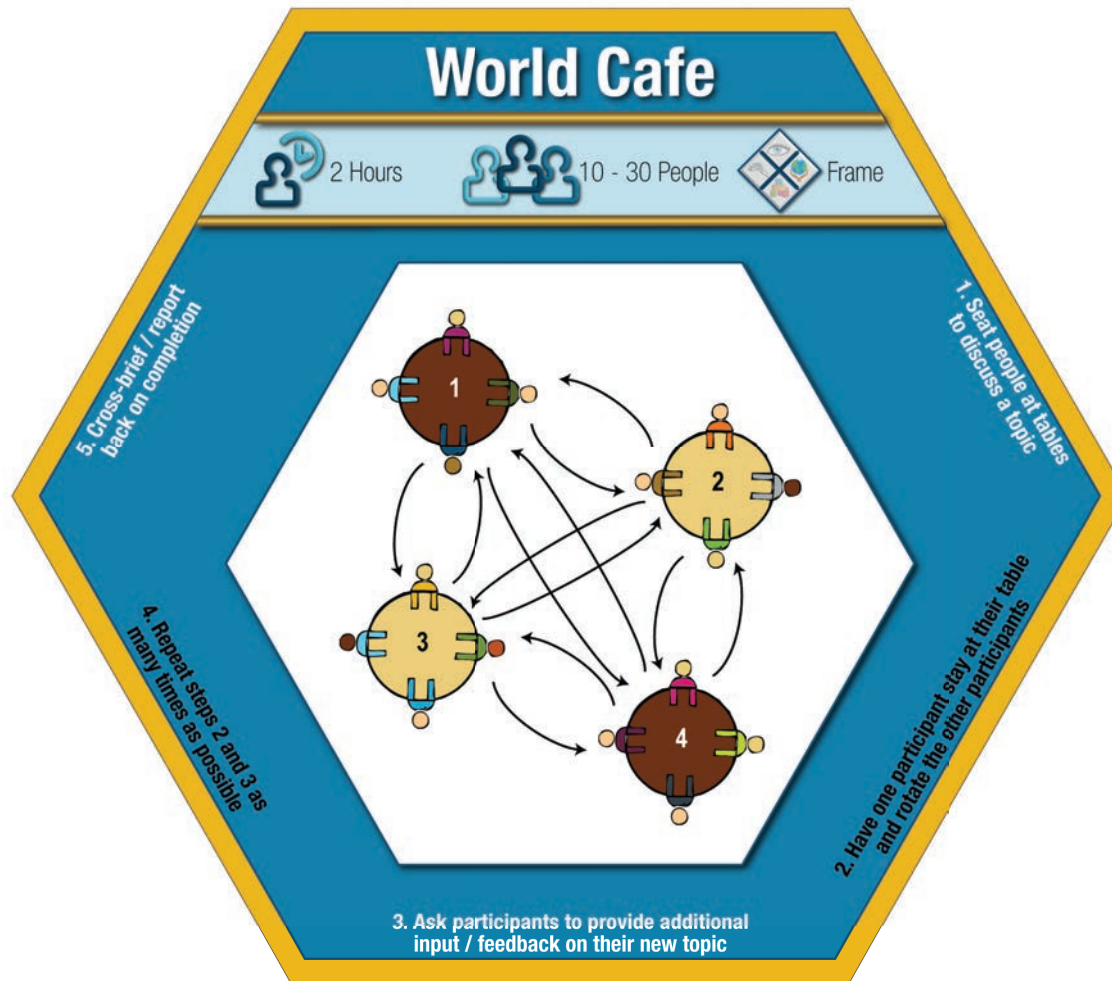
Cons:

- Depending on the subject, finding agreed upon affinities between-topic areas may be difficult.

Considerations:

- Provide participants with an estimate of how long the sort will take to help them gauge the required time and effort.

METHODS



Purpose:

- To facilitate open and intimate discussions and link ideas with a larger group to create collective intelligence.
- Participants are encouraged to doodle, draw, and write so that when people change tables, they can see what previous participants have expressed.
- To share experiences, stories, results.
- Can be useful for problem solving and planning activities.

Pros:

- Engaging conversational process that supports using different mediums.
- Can collect many ideas in a relatively short amount of time.

Cons:

- Success can be dependent on who is present and their level of participation.
- Table conversations can be dominated by strong personalities.

Considerations:

- Ensure each table has a table cloth or large sheets of paper for everyone to write on and use at the same time.
- Deciphering thoughts written or drawn at each table may be difficult. Table hosts may need facilitation support.

METHODS



Purpose:

- To identify the steps or requirements which must occur to arrive at a desired future state.

Pros:

- Builds a shared vision within a group.
- Can help clarify steps towards a shared desired state.

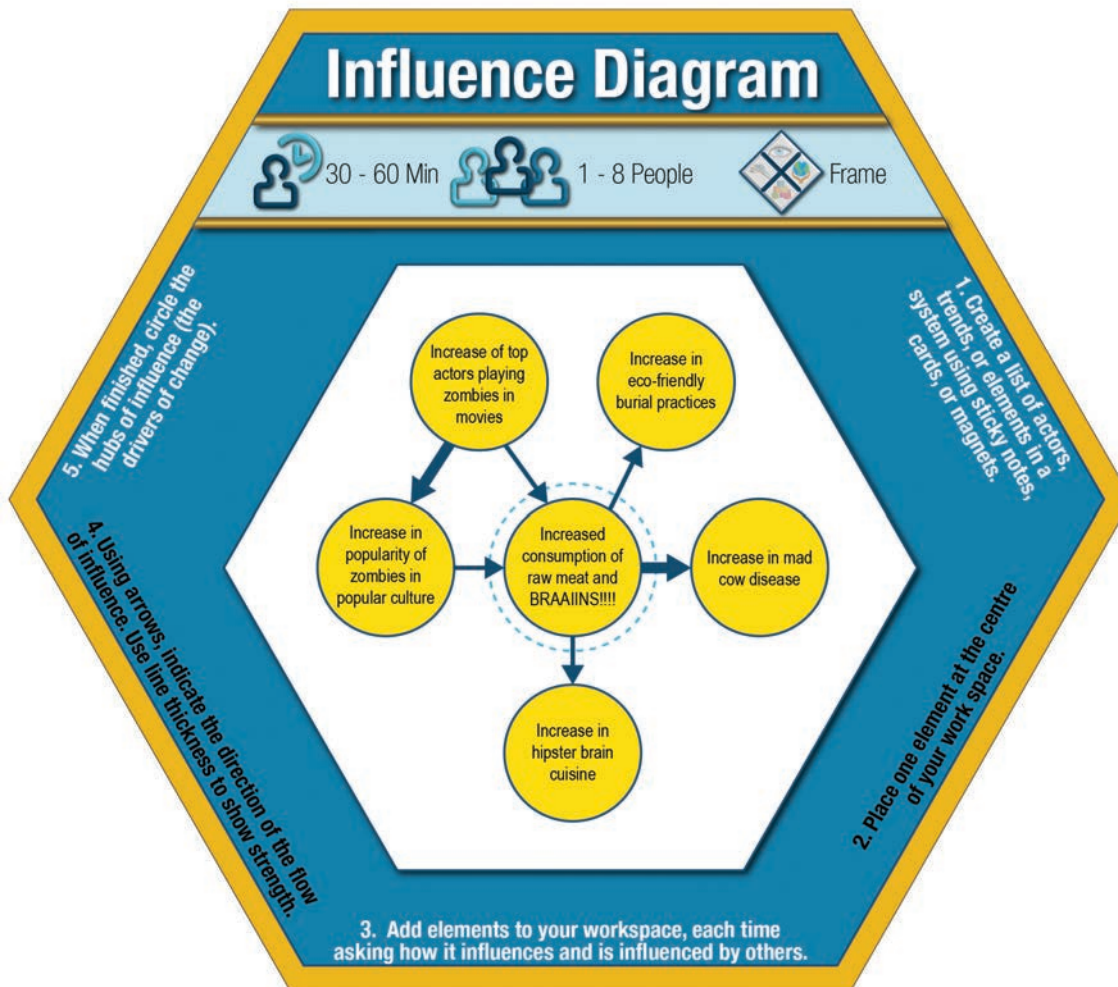
Cons:

- The group must take the time to reach agreement on the desired future, as well as debate when in time identified milestones should occur.

Considerations:

- Back-casting is used for reaching a desired state, not in predicting or understanding potential futures.
- To identify a desired future state, ask participants to describe a world in which the problems and issues identified have been solved.

METHODS



Purpose:

To identify relationships between actors or nodes within a system, and the distribution of influence.

Pros:

- Identifies the relationships between elements within a system, and highlights hubs of influence and system drivers.
- Visual representation of influence.
- It can help identify where to make potential changes within a system.
- Intuitive.
- Collaborative.
- Visual exercise.
- Easily recognize hubs of influence (those that are highly influential, and highly influenced) within a system.

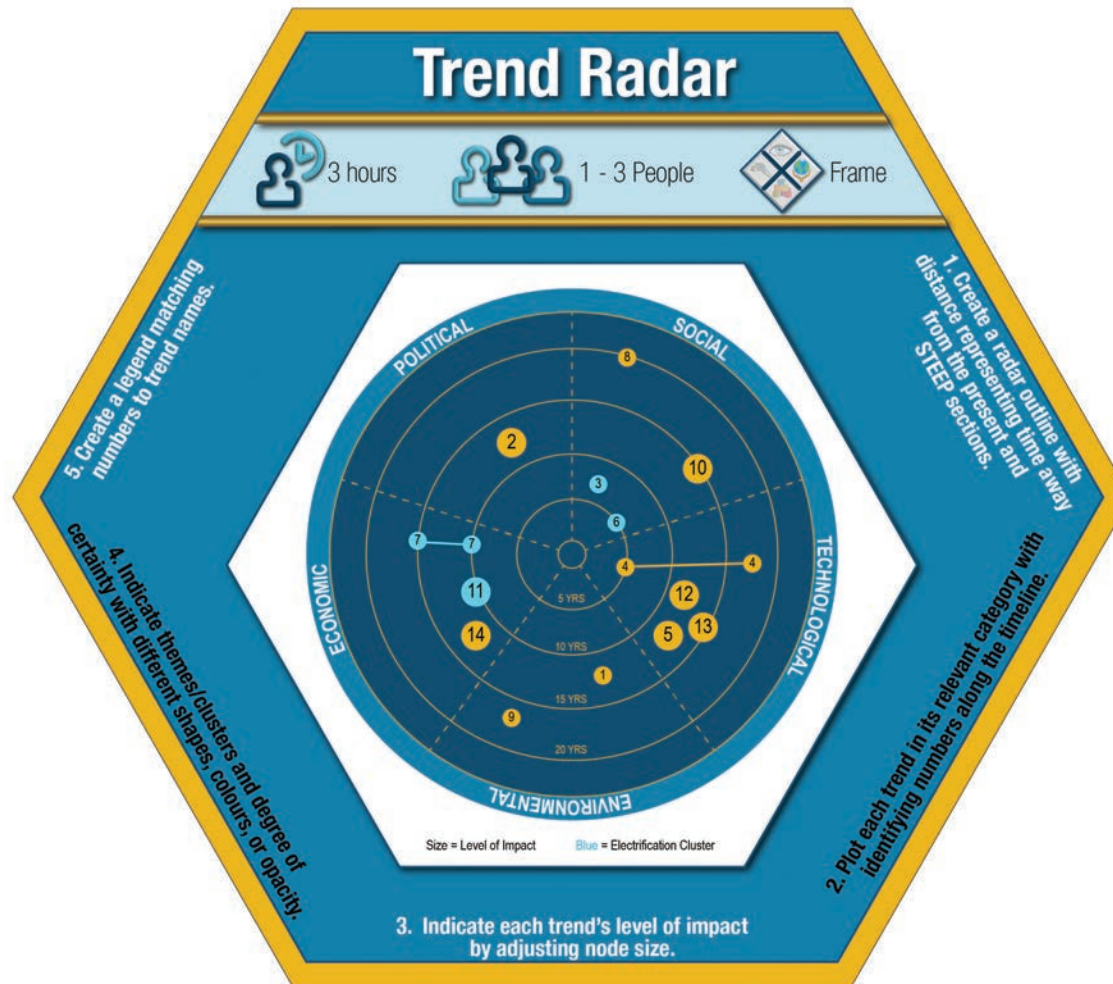
Cons:

- Not a clear communications tool for those not part of creating it.
- Not exact, open to interpretation.

Considerations:

- Indicate the strength of the influence by increasing the width of a line.
- If influence flows both ways between two items, indicate this with two separate lines, since the flow of influence may not be evenly distributed.
- Consider this tool useful for when scanning, it may be necessary to conduct a deeper dive into the nodes or elements for a more exact understanding of the system.
- What are the hubs of influence, the major drivers (those with the most arrows reaching away from them.)
- What are the feedback loops in this system?
- The conversation had while collaborating on an influence map is more valuable than the visual product.

METHODS



Purpose:

- To illustrate when in time trends or events are expected to take place.

Pros:

- An easy visual representation to communicate a large amount of information.
- Can highlight clusters of related trends.
- Can easily visualize when highly impactful events may take place.

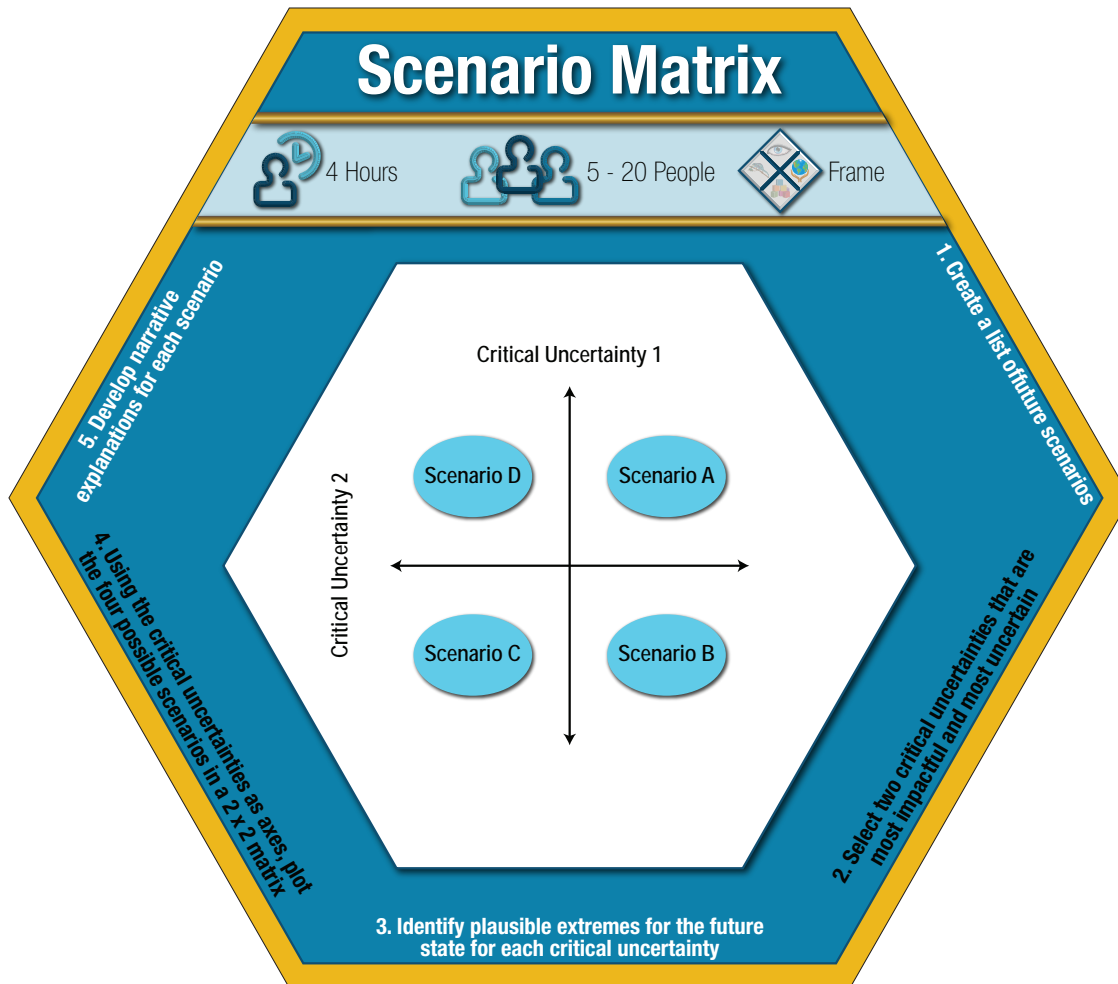
Cons:

- A very intensive process of trend analysis is required in order to populate a trend radar.

Considerations:

- Use of the trend radar: as a facilitation tool to spark the conversation 'so what?' and 'what should we be planning for now which has otherwise been left out?'

METHODS



Purpose:

- To represent four distinctly different scenarios.

Pros:

- Simple format, easy to communicate, and creates highly divergent worlds.

Cons:

- It is possible to miss out on a truly systemic perspective by limiting the scenarios to only two variables.

Considerations:

- Select two critical uncertainties from different STEEP categories.



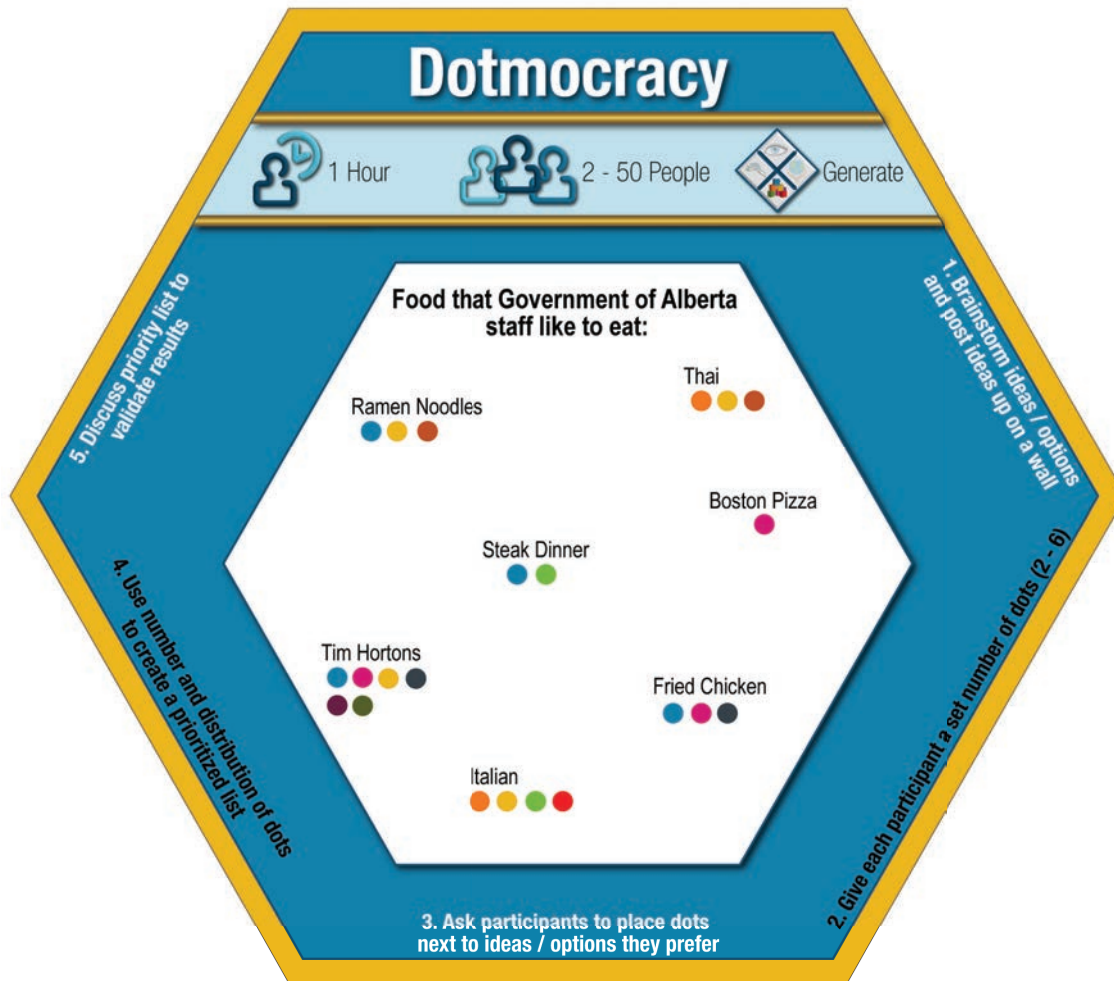
GENERATE

Create and enact prototypes to improve the situation.

METHODS

Dotmocracy • Participatory Prototyping

METHODS



Purpose:

- A simple and quick method for groups to set priorities among many options.

Pros:

- A quick tool to take the temperature of a room or determine if everyone is on the same page.
- Fun activity, good visuals, and limits discussion while collecting input from the whole group.

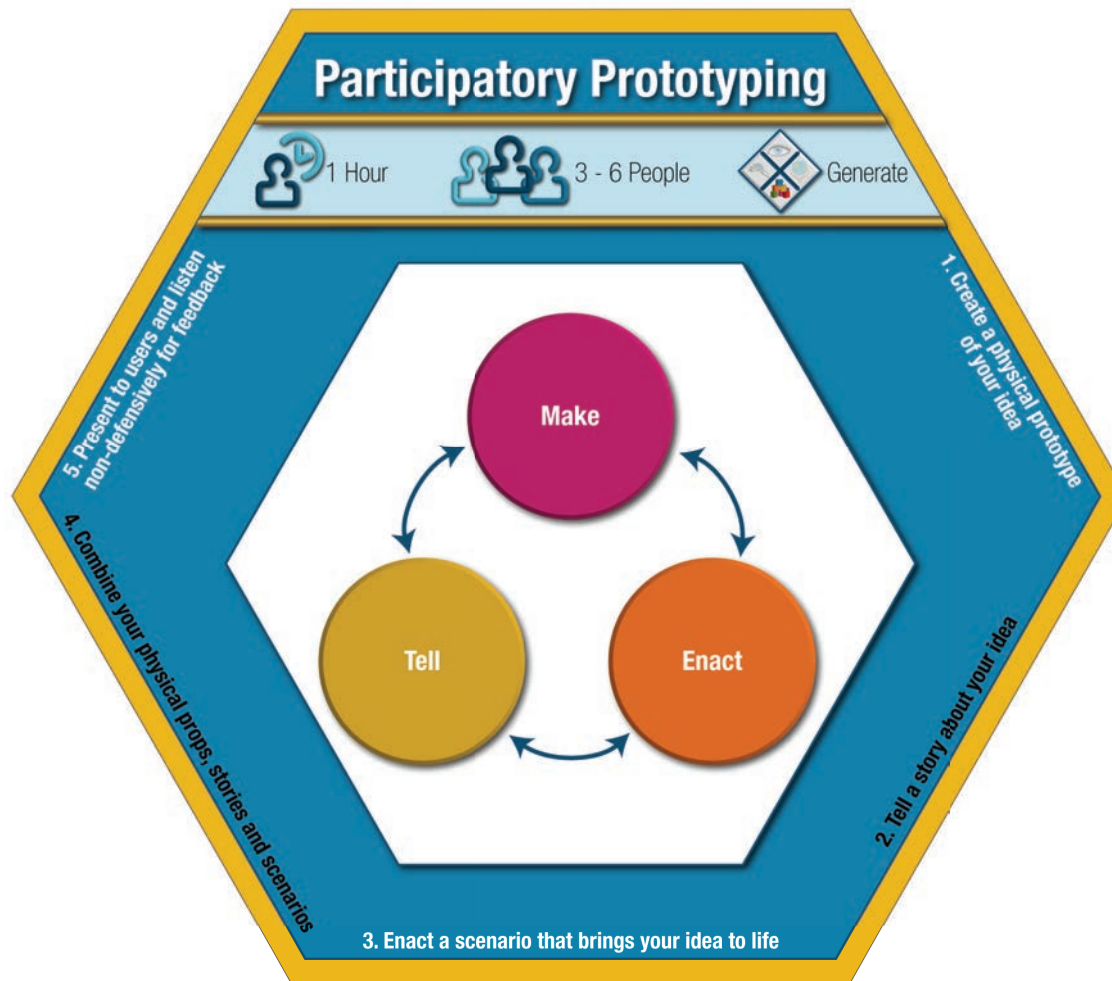
Cons:

- Can limit creativity and idea diversity.
- May give confusing or false results (particularly if individuals use all their dots for one option rather than considering multiple options).
- May create bias if individuals go along with where others placed dots before them.

Considerations:

- Be clear about what participants are voting on and the objective of the voting.
- If using different coloured dots, clarify whether the different colours signify anything.

METHODS



Purpose:

- Enables you to make your ideas tangible. Gets people beyond talking towards creating and doing.
- Allows you to put your ideas in front of users early and often, providing rapid feedback and iteration to innovate.

Pros:

- Combines the power of making, enacting, and telling to make the abstract real.
- Enables testing early and failing often to succeed quicker.

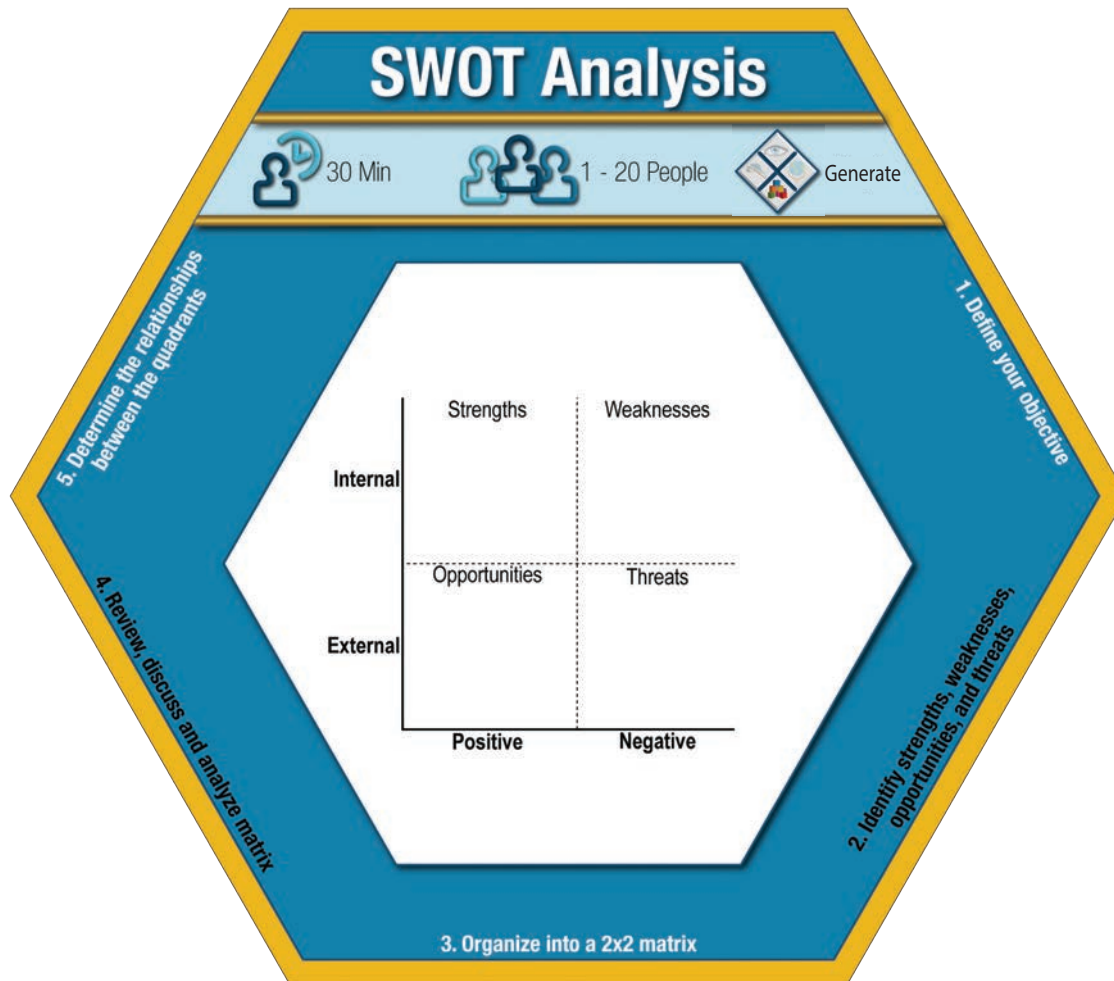
Cons:

- A prototype is not based on statistically significant sampling.

Considerations:

- Participants may be unfamiliar with physical making and uncomfortable with role playing in a work environment. Facilitators must create a safe environment for this activity to work.
- Ensure people do not get trapped into justifying their design decisions. Instead, ask users questions like: What would you do instead? Is that important to you? Why?

METHODS



Purpose:

- A structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or organization. SWOT Analysis can be used to 'kick off' strategy formulation or used in a more sophisticated way as a serious strategy tool.

Pros:

- SWOT does not require technical knowledge or skills.
- Correlations can be made between internal factors (strengths/weaknesses) and external (opportunities/threats) to develop actions that are mutually reinforcing.

Cons:

- Usually reflects the current state and may justify a business-as-usual approach over new possibilities.

Considerations:

- When developing a SWOT, there can be a tendency for oversimplification or the use of ambiguous language. Using multiple perspectives can help improve the quality of analysis by adding clarity and insights, as can being precise about language.
- Looking across SWOT categories can generate additional insights. For example, do your strengths open up any opportunities? Might you create opportunities by addressing your weaknesses?
- Classification of strengths and weaknesses can be arbitrary. The value of the exercise is in identifying these factors and exploring what they mean for the organization.



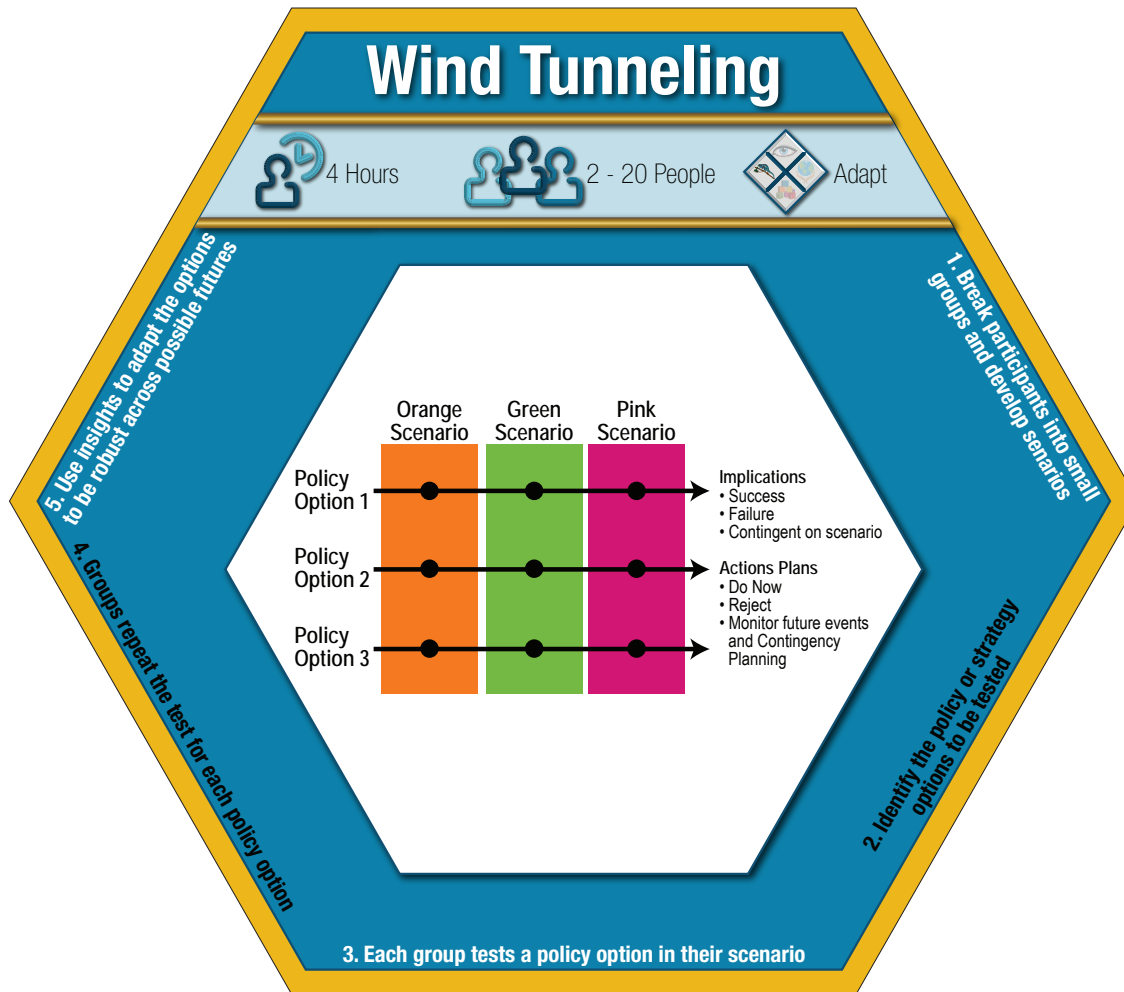
ADAPT

Evaluate and reflect on action to learn and iterate.

METHODS

Wind Tunneling • Reflection on Action Space

METHODS



Purpose:

- To test the robustness of options.

Pros:

- Participants can consider a set of options in comparison to a set of potential futures or conditions.
- Scenarios can be based on research, providing important information on the proposed options.

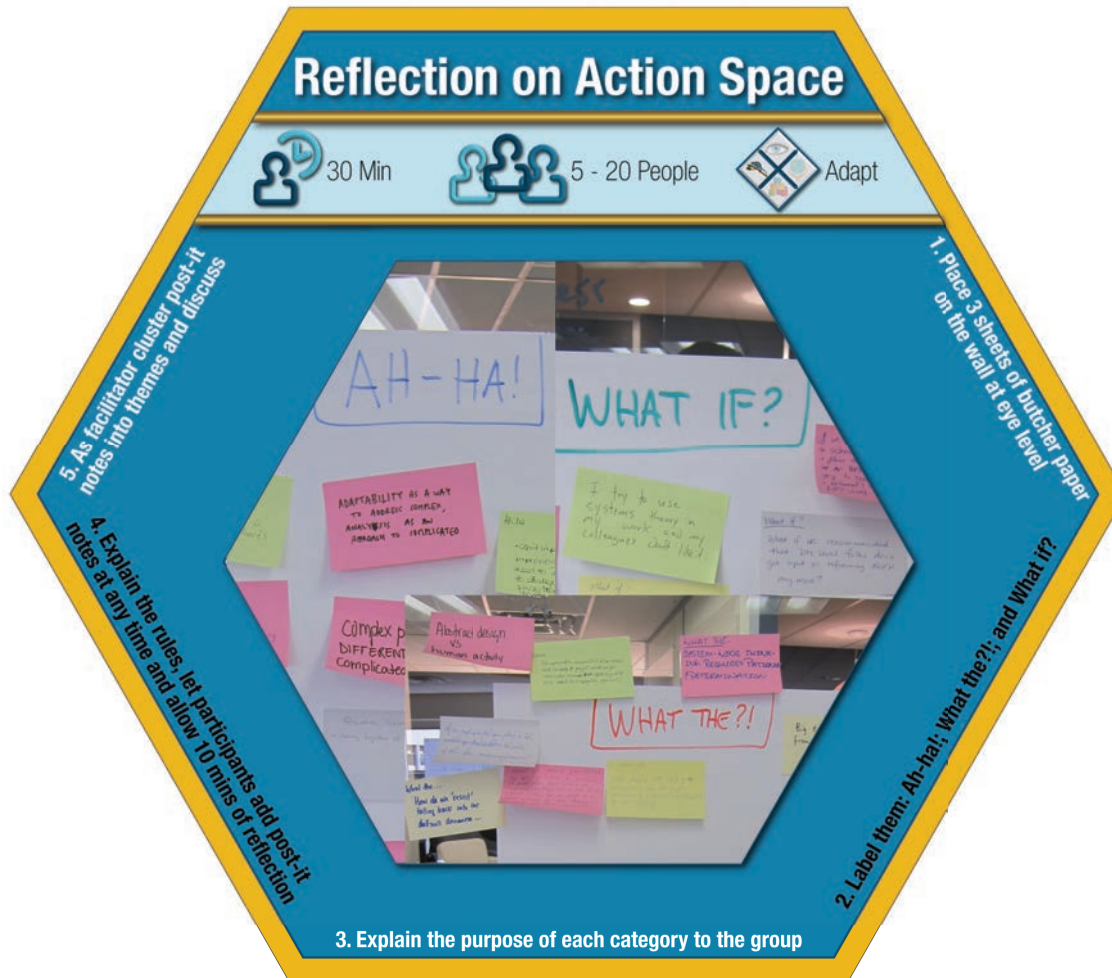
Cons:

- Can require participants hold a lot of information in their minds at one time.
- Participants must be familiarized with the scenario elements before completing wind tunneling.

Considerations:

- Remind participants to consider how the external environment is acting upon the option. This is different from considering whether 'we would want this' in this situation.
- Consider dividing groups by scenario. This way participants may consider all the options within one scenario, rather than switching between worlds. This is an easier approach for participants.

METHODS



Purpose:

- To gather real time feedback during a workshop. Allows facilitators to engage issues that might otherwise be ignored and adapt as required.

Pros:

- Builds group cohesion.
- Creates a habit of regular reflection and continuous improvement.

Cons:

- Can be counterproductive if frustrations are expressed, but not addressed.
- Can be time consuming if the group dives into a contentious issue.

Considerations:

- Ask participants to reflect at the end of the day, but leave discussion for the following morning. This allows people to add thoughts they have overnight. Also, participants may be tired at the end of the day and discussing the next morning provides a useful re-cap.
- Once participants are used to the method, encourage them to help organize feedback and lead discussion.
- Feedback can usually be grouped in relation to process and content.
- Both are useful to capture and discuss.

Contacts

CoLab is a team, a way of working, and a space within the Government of Alberta. One of CoLab's aims is to help nurture and support communities of practice around systemic design, strategic foresight, and strategy.

Keren Perla

Director, Alberta CoLab
E: keren.perla@gov.ab.ca
T: 780-422-3498

CoLab

11th Floor, 108 Street Building
9942 – 108 Street
Edmonton, Alberta
T5K 2J5 Canada

To explore any of the concepts presented in this document in more depth, visit the CoLab's website for a range of theoretical resources, practical tools, upcoming events, and learning opportunities. Check it out!

colab.alberta.ca

#CoLabAB



