The Strategy Unit.

Midlands DSU Network
Decision Support Centre

Embracing Uncertainty

A guide to support strategic decision making in health and social care

Introduction

Strategic decision makers in health and social care are faced with the challenge of how to allocate scarce resources in order to improve the health and wellbeing of the people they serve.

In making these decisions they will have to balance competing priorities, there may not be one right answer, and there are often uncertainties about the future.

In addition to this we are increasingly understanding the complexity of people's lives, and in order to truly improve the health and wellbeing of the population a joined up approach is required.

It is in this context that we believe Decision Support Units can add value. Through the use of clear thinking and applied analysis to improve decision making and implementation.

This brief guide sets out our proposition on how to improve the quality of decisions made, and in doing so provides some tools and techniques for decision makers to use.

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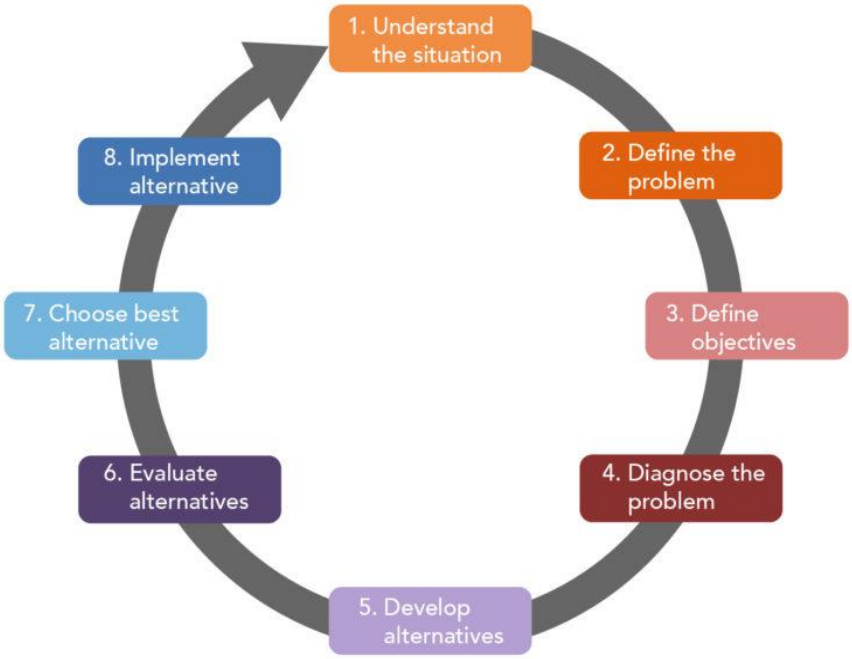
SECTION

Why focus on decision making?

Decision making is a process

Much has been written about good decision making. The focus is often a process of: identifying the problem, understanding the problem, setting objectives, evaluating alternatives, choosing the best option and finally implementation and evaluation. With the use of analysis and evidence underpinning throughout.

"The difference between leaders who make good decisions and those who make bad ones is striking. The former recognise that all decisions are processes, and they explicitly design and manage them as such. The latter persevere in the fantasy that decisions are events they alone control"
Garvin and Roberto, Harvard Business Review (2001)



The Rational Decision Making Model
https://courses.lumenlearning.com/wmopen-organizationalbehavior/chapter/making-decisions-in-different-organizations/

Decision quality

There has also been a recent focus on decision quality, whereby decisions are judged not on their outcome but instead on how they were made.

Carl Spetzler and colleagues highlight six elements of a high quality decision, illustrated on the right.

They argue that focusing on each element in turn (starting with frame and moving clockwise) and involving the right people at the right time can ensure decisions made are of a high quality.

For a 5 minute introduction to decision quality watch Carl Spetzler explain it here: https://www.youtube.com/watch?v=vL6uiALEdkk.

https://sdg.com/thought-leadership/decision-quality-defined/

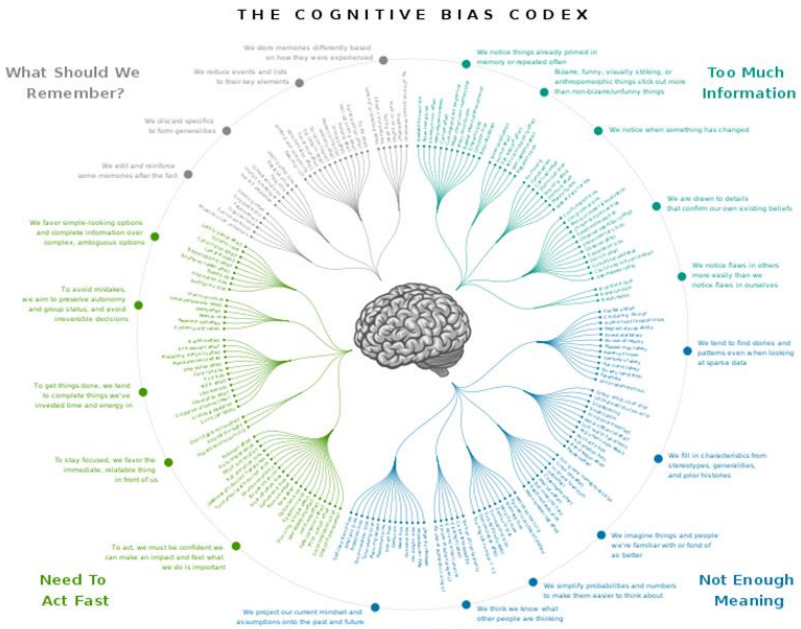
Following the process is more difficult than we think

Strategic decision making rarely takes place in a stable environment where all the variables and potential outcomes are known. In reality there are a number of constraints in play.

These constraints may be operational, meaning that people lack the time to engage properly in the decision making process or lack the resources to act.

Organisational politics can mean that people are focused on advocating for their preferred option rather than taking an attitude of inquiry exploring alternative options.

Even our own brains can be working against us! We filter information through our own worldview, which means our decisions can be subject to biases and cognitive limitations (see work by Kahneman, Gigerenzer and Klein for more on the psychology of decision making).



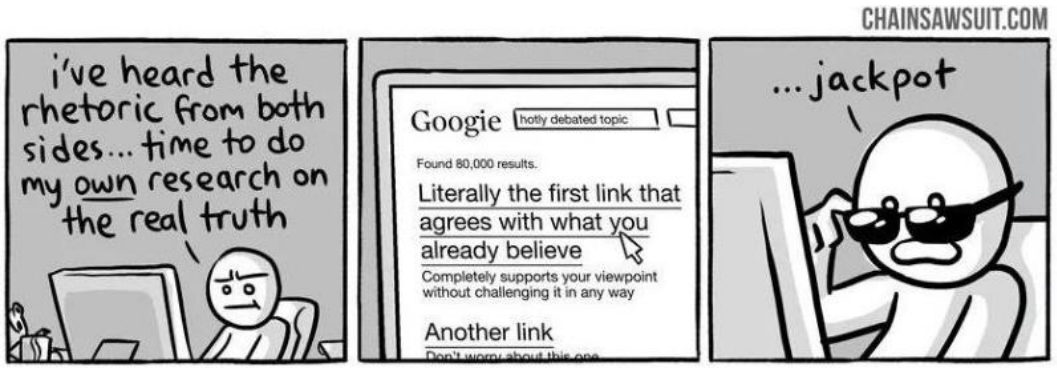
https://commons.wikimedia.org/wiki/File:Cognitive_bias_codex_en.svg

So, where do we start?

Strategic decision making is hard, in the public sector we have to balance competing priorities with limited resources, there is also increasing public and political scrutiny.

When faced with uncertainty, and working under pressure, our brains work hard to simplify the problem, in order to make it easier to process. In doing this we are using 'heuristics' or rules of thumb. The effectiveness of these heuristics in conditions of uncertainty is subject to much debate (see Kahneman and Gigerenzer). In some cases these heuristics can be effective and reduce effort, such as if your house is burning you know you need to get out. In others they can lead to errors in decision making, just because something has worked in the past doesn't necessarily mean it will work again.

Our proposition is that although the 'ideal' decision making process is difficult to achieve, decision making can be improved through a better understanding of the situation and adapting your approach accordingly. Ensuring you have the right frame!



http://www.stephendale.com/2018/07/29/heuristics-and-biases-the-science-of-decision-making/

SECTION

Framing your decision – how to solve the right problem

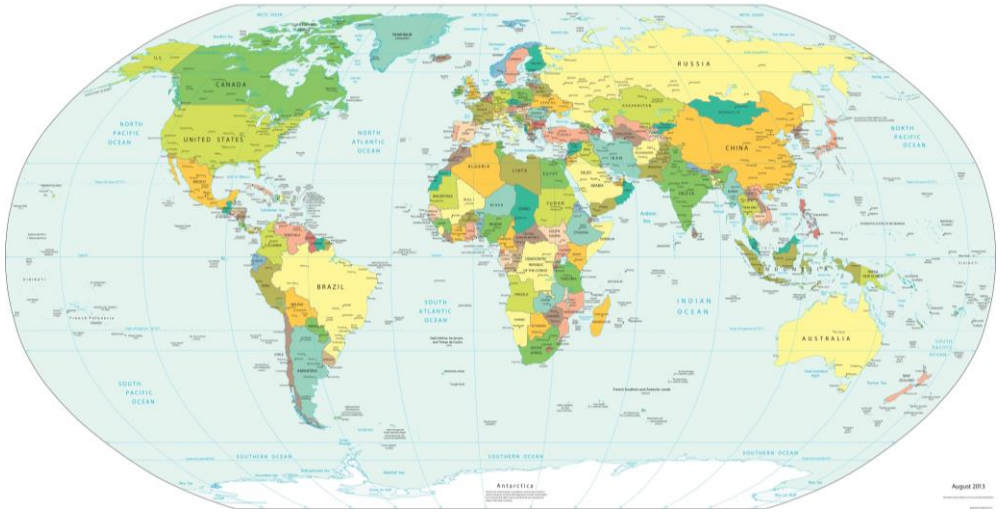
Setting the scene

The types of decisions that this document is trying to address are not simple.

We're thinking about decisions that will impact people's lives, we're thinking about how to invest resources for the greatest benefit, we're thinking about how to work together across health and social care, we're trying to understand the potential impact of service changes and how we do the best for the people we serve.

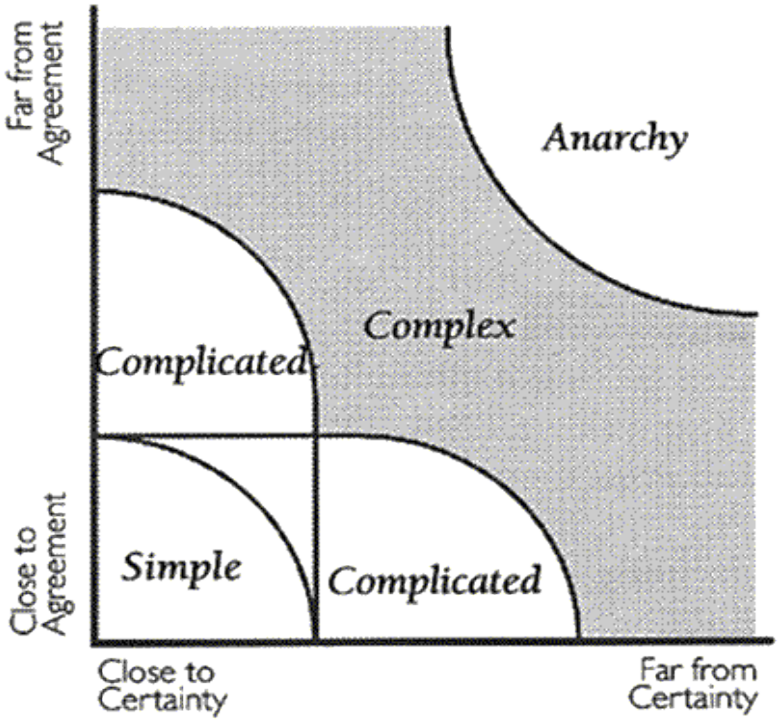
Decision Support Units are designed to support the strategic, the unusual, the high investment ten year plan type of decisions, where uncertainty is high and solutions might take some searching for. In these decisions there are a number of interdependencies, across teams, organisations and services.

In order to approach these decisions effectively, decision makers need to first understand where they are on the map. Not every decision should be approached in the same way, it is essential for decision makers to develop situational awareness.

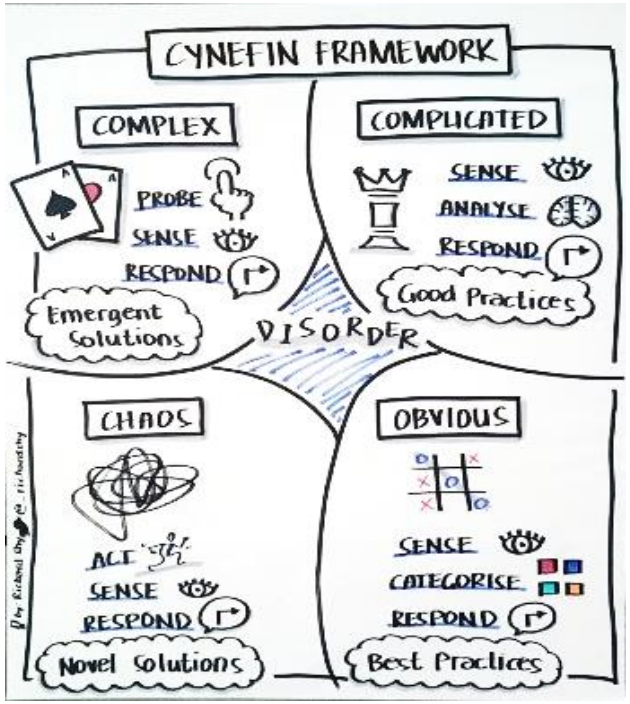


Understanding the type of decision

There are two commonly used frameworks for understanding the type of decision to be made. The Stacey Matrix (left) and the Cynefin Framework (right). Both use the understanding of cause and effect relationships to position a problem or decision in a particular section. More detail is provided on each model in the following slides.

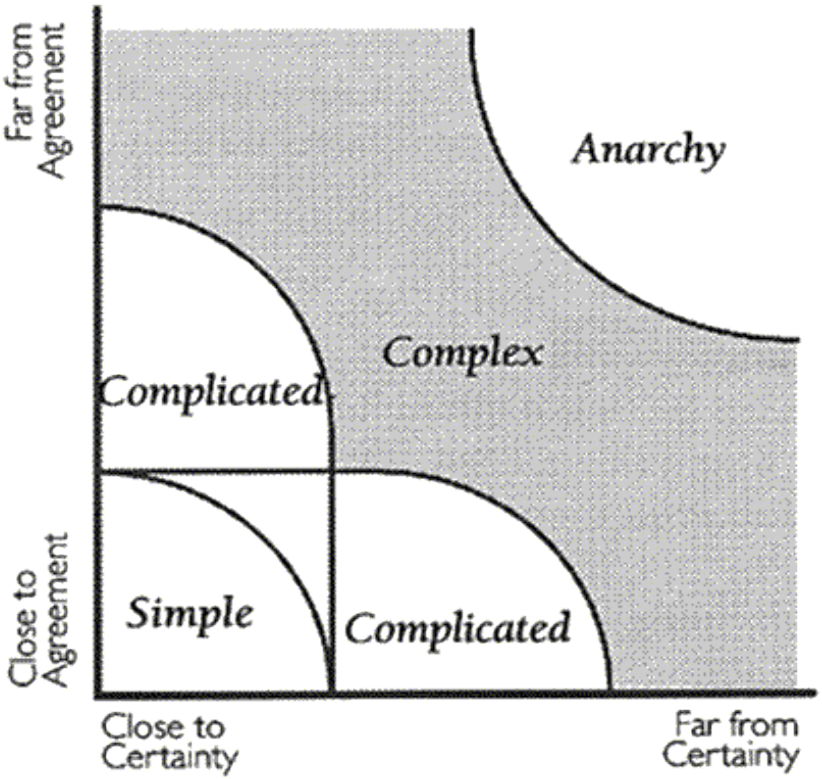


https://www.gp-training.net/training/communication_skills/consultation/equipoise/complexity/stacey.htm



https://a2i2.deakin.edu.au/2017/11/02/complexity/

The Stacey Matrix



https://www.qp-training.net/training/communication_skills/consultation/equipoise/complexity/stacey.htm

The Stacey Matrix uses the level of agreement and degree of certainty around a problem to identify the appropriate actions to take in addressing the issue. Most management literature has focused on decision making in the simple and complicated domains.

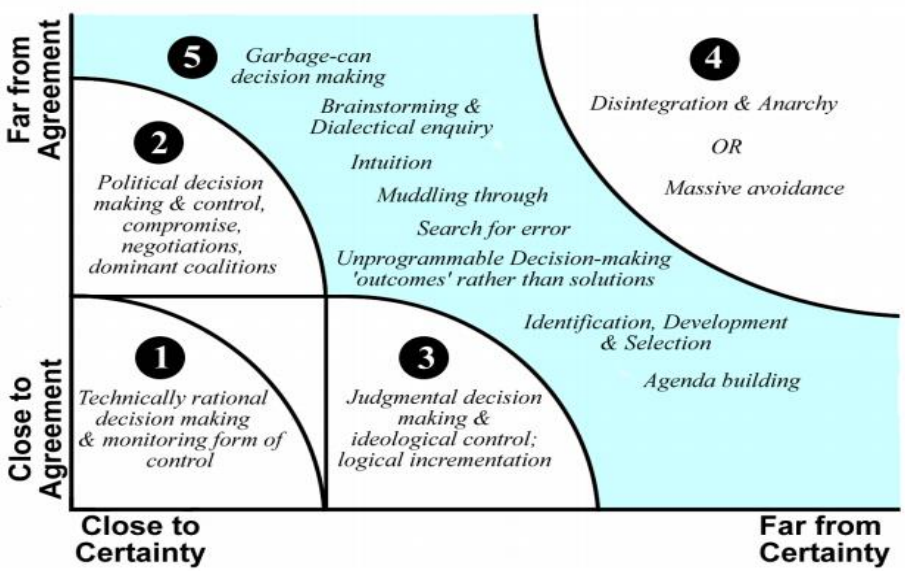
Certainty

Problems that are close to certainty are those where clear cause and effect linkages can be determined, such as when a very similar problem has been addressed in the past. Those far from certainty are situations which are unique or new to decision makers, therefore the cause and effect linkages are not clear.

Agreement

The vertical axis measures the level of agreement between the decision making group on the problem identified, and apparent causes and effects.

The Stacey Matrix – simple and complicated



http://plnlegacy.foundationccc.org/sites/default/files/asks/16-Complexity%20Theory%20-%20The%20Stacey%20Matrix.pdf

1) Technical rational decision making

In this region we gather data from the past and use it to predict the future. The goal is to replicate what works well and improve efficiency and effectiveness.

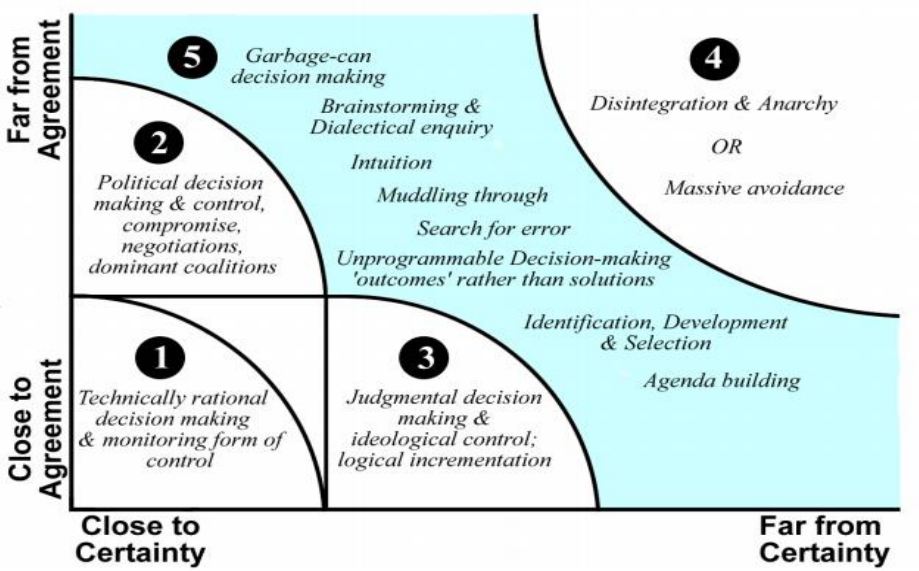
2) Political decision making

In this region there is a high degree of certainty about how outcomes are created but high levels of disagreement about which outcomes are desirable. Coalition building, negotiation and compromise need to be used to determine a course of action.

3) Judgemental decision making

In this region there is a high level of agreement in relation to the desired outcomes, but not much certainty around the cause and effect linkages. In this region the goal is to head towards the desired future state but recognise that specific paths may change.

The Stacey Matrix – chaos and complexity



http://plnlegacy.foundationccc.org/sites/default/files/asks/16-Complexity%20Theory%20-%20The%20Stacey%20Matrix.pdf

4) Anarchy / Chaos

Situations where there are high levels of uncertainty and disagreement often result in anarchy. This is a region that should be avoided as much as possible.

5) Complexity zone

Between complicated and chaos is the zone of complexity. In this zone traditional management approaches are not very effective. It is an area creativity, innovation and developing new ways of working. People often struggle with the lack of prediction and techniques that seem 'soft' when working in this area. However, a diversity of approaches is needed to deal with a diversity of contexts.

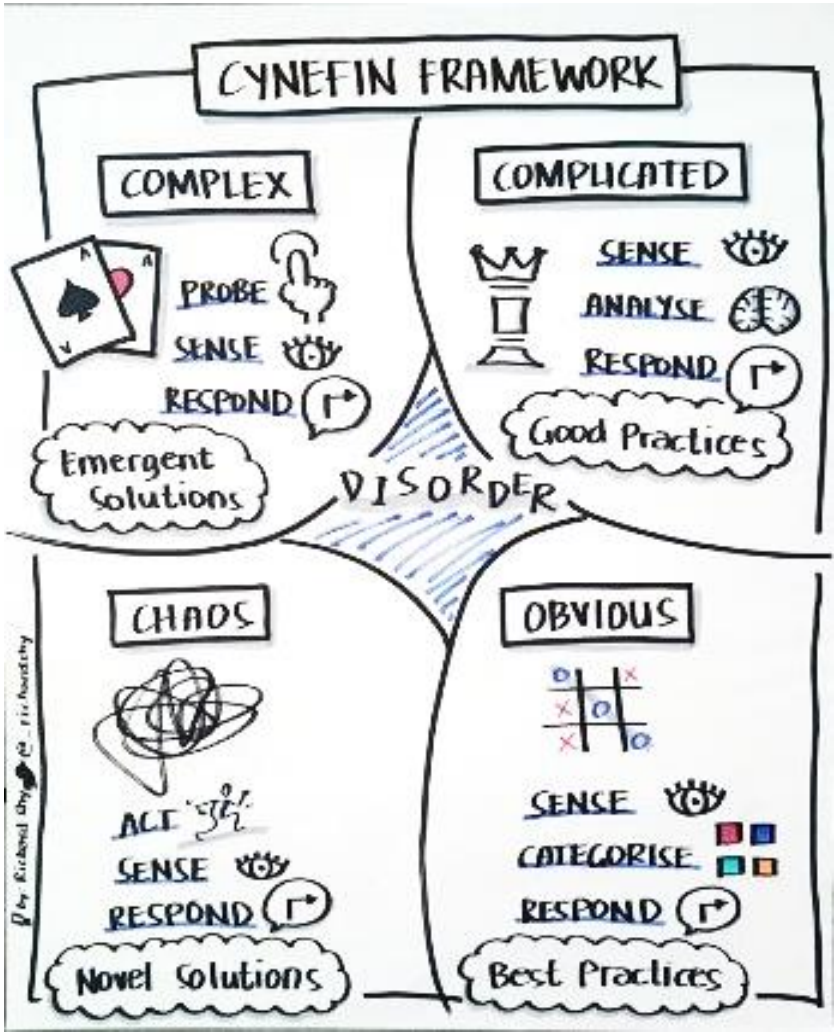
The Cynefin Framework - clear

The Cynefin Framework sorts problems into one of five contexts as defined by the nature of the relationship between cause and effect. The framework requires decision makers to identify the appropriate context and address the problem accordingly.

1) Clear / Obvious

Simple or obvious problems are those that are stable and have clear cause and effect relationships that are easily identifiable by everyone. Properly assessed these problems require straightforward management and monitoring, adhering to best practice, decisions can easily be delegated.

Issues are often incorrectly categorised here because of oversimplification. Also issues can easily slip into chaos due to rigid thinking or complacency.



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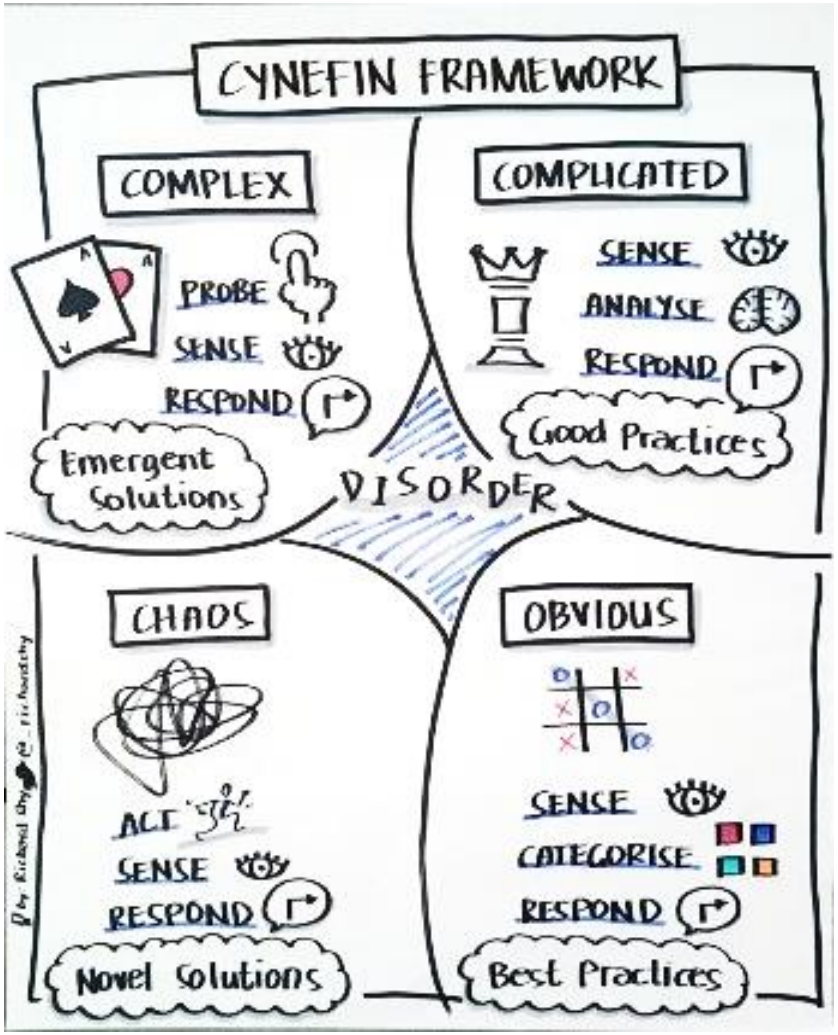
The Cynefin Framework - complicated

2) Complicated

Unlike simple problems those that are complicated may have multiple right answers, and though there is a clear relationship between cause and effect it is not apparent to everyone.

In a complicated context decision makers must sense, analyse and respond. This will often require the support of 'experts'.

The danger here is that the experts dominate discussions and are unwilling to listen to innovative suggestions. To get around this decision makers must listen to experts while also seeking thoughts and suggestions from others. Working in unfamiliar environments can help teams to approach decision making more creatively e.g. F1 teams working in hospitals!



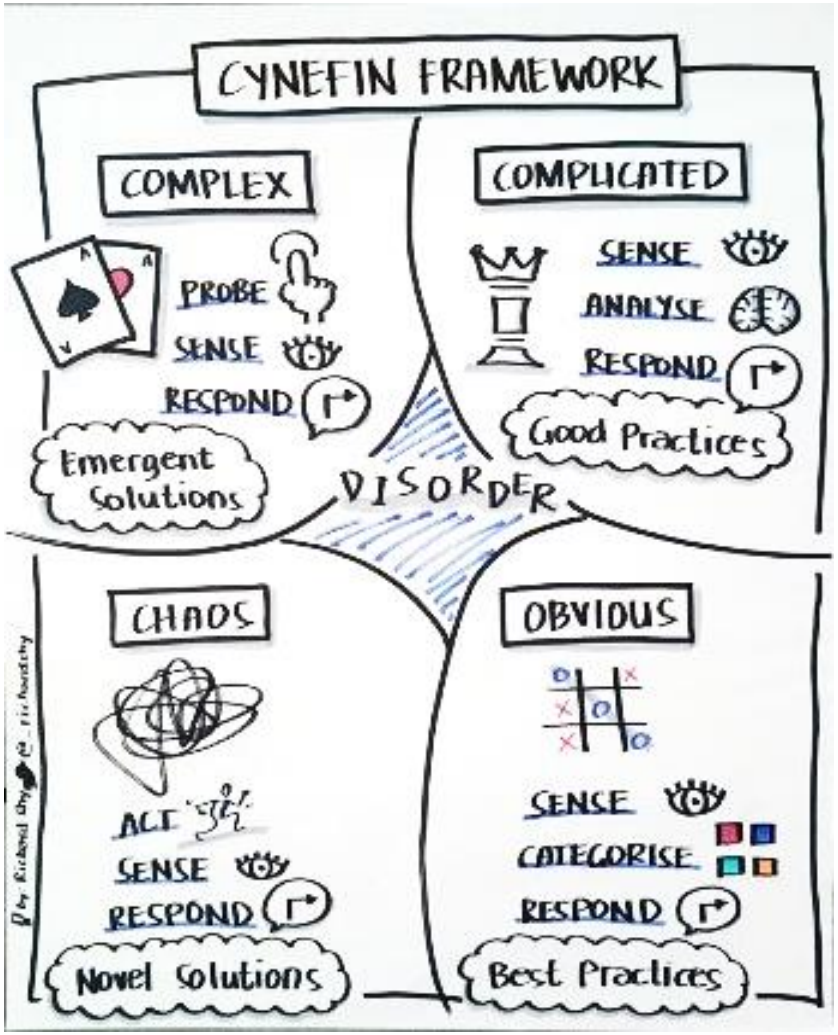
https://a2i2.deakin.edu.au/2017/11/02/complexity/

The Cynefin Framework - complex

3) Complex

Complex situations are in constant flux, this is the realm of ‘unknown unknowns’. Most decisions in organisations are complex because major change introduces unpredictability.

Decision makers must probe, sense and then respond waiting for the path to reveal itself. It requires an experimental approach and the danger is that individuals find it difficult to tolerate failure and seek to impose command and control.



https://a2i2.deakin.edu.au/2017/11/02/complexity/

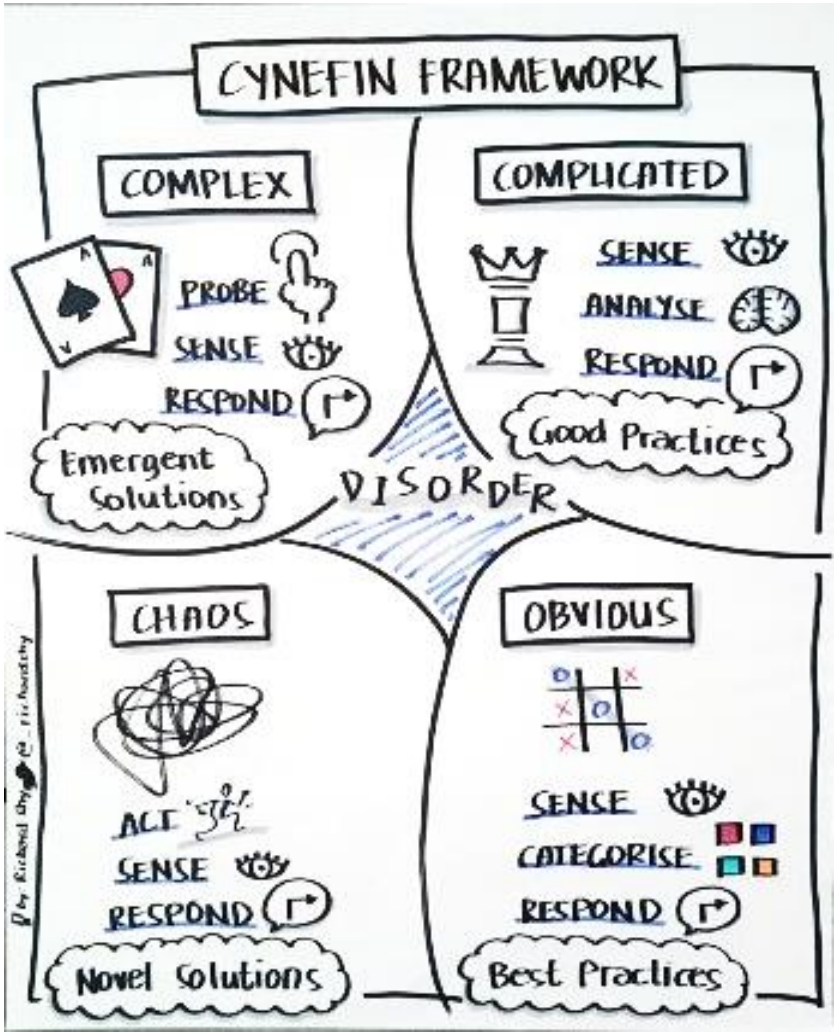
The Cynefin Framework – chaos and disorder

4) Chaos

In chaos there is no time to search for the right answer. Relationships between cause and effect are impossible to determine because they shift constantly. In chaos decision makers must act decisively to establish order and then work to move the situation to one of complexity. Once order has been established decision makers can work on identifying emerging patterns to prevent future crises.

5) Disorder

The fifth domain, disorder, is where you start before you know which of the other four domains the problem falls into. It has been described as the domain of problems one hasn't thought about. The primary objective here is to gather more information to move the problem into one of the other domains and address it.



https://a2i2.deakin.edu.au/2017/11/02/complexity/

Example situations

SIMPLE *Following a Recipe*	**COMPLICATED** *Sending a Rocket to the Moon*	**COMPLEX** *Raising a Child*	**CHAOTIC** *"Pinning the Tail On The Donkey"*
			
The recipe is essential	Rigid protocols or formulas are necessary	Protocols rarely help; launch experiments to see what works	Rigid protocols may be counter-productive or misdirect responses
Recipes are tested to assure easy replication of success	Sending one rocket increases assurance of future success; key elements are identical	Raising one child provides experience but no assurance of future success	Experience may help or hinder finding what works to diagnose & abate the crisis
No particular expertise is required (cooking skill can improve the success rate)	High levels of expertise in a variety of fields are necessary for success	Expertise can contribute but is neither necessary nor sufficient to assure success	Rapid action & improvising skills, plus unleashing a network of local on-the-ground know-how can help
Recipes produce standardized, predictable results every time	Rockets are similar and there is a high degree of outcome predictability	Every child is a unique individual with unpredictable "outcomes"	As unknowables recede, novel patterns may emerge

Source: Professors Ralph Stacey and Brenda Zimmerman (York University)

Decision Support Units can add value in complicated and complex situations

COMPLICATED

Problems and questions can be defined

Causation knowable and effects repeatable

Quality improvement and good practice

Design optimum model, codify, roll out and manage

Knowledge concentrated: domain of experts

e.g. Management of acute conditions; Waiting list recovery planning; Determining the optimal configuration of specialist services; Reducing hospital activity at the End of Life

COMPLEX

Hard to define questions and problems; no optimal 'solution'

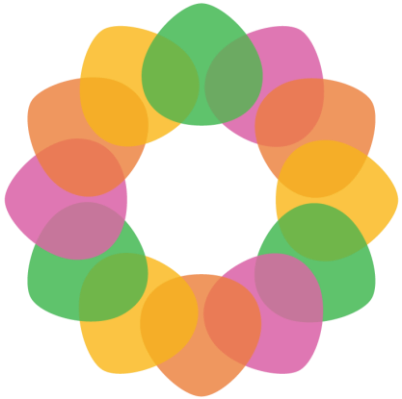
Causal relationships not known and maybe unknowable

Fitness, adaption, incrementalism and ongoing discovery

Knowledge distributed: not the domain of experts

e.g. Management of chronic conditions; Mitigating the impact of social isolation on health and wellbeing; Reducing obesity in 0-11 year olds; Redesigning the workforce

SECTION



Tools of the trade – how to approach different situations

Tools for Complicated situations

Complicated decisions involve examining cause and effect relationships to determine the right thing to do, however the challenge for decision makers in these situations is that there are often multiple right answers.

The use of expertise and analysis are essential when looking at complicated problems. However, it is important that experts don't become too entrained in their thinking and dominate discussions, and also for decision makers not to succumb to 'analysis paralysis'.

Reaching decisions in the complicated domain can often take a lot of time, and there is always a trade-off between finding the right answer and simply making a decision.

Principles:
Sense – Analyse – Respond

Skills:
Analysis
Expert advice
Negotiation
Examination of cause and effect relationships
Creative thinking
Appreciation of different points of view

Tools for Complicated situations

Task		Tools
SENSE	*What's going on?*	***Problem trees***: Problem trees help identify and understand the causes and effects of a problem. They encourage the user to work through in a logical way mapping interdependencies. They can be used in conjunction with ***Five Whys*** if the root cause(s) are difficult to identify. ***Quantitative analysis***: Using mathematical and/or statistical modelling to understand the situation at hand. ***Qualitative analysis***: Using non-numerical data (gathered through interviews, focus groups, observations etc) to understand the social reality of individuals, teams and organisations. ***Evidence signposts:*** Which distil policy, guidance, local evidence, research and stakeholder perspectives to help gain insights into the key questions.
ANALYSE	*What could we do?*	***Expert working groups***: Gathering an 'expert' working group to make sense of the data gathered and consider next steps is key to generating alternative options and considering all possible solutions. Discussions should be facilitated in a way that enables all opinions to be heard and creates space for creative thinking. ***Logic models***: Once some possible solutions have been identified logic models can be developed to map the theory of change and identify any gaps in thinking.
	Are we on the right track?	***Red Teaming***: Originating in the military, red teaming involves an independent team critically appraising proposed solutions. This supports the delivery team by identifying any gaps in their thinking or by highlighting data that may have been previously overlooked. ***Thinking hats*****:** Similar to red teaming, DeBono's Six Thinking Hats is a tool that encourages a team to look at the problem or proposed solutions from a series of different points of view. This technique is aimed at challenging assumptions and biases.
	What's the best way forward?	***Multi-criteria decision analysis***: MCA techniques can be used to identify a single most preferred option, to rank options, to short-list a limited number of options for subsequent detailed appraisal, or simply to distinguish acceptable from unacceptable possibilities ***Pre-mortem / Before Action Review***: The pre-mortem technique enables a team to identify all the reasons that a project or solution may fail in advance of the event occurring. The technique forces participants to use 'prospective hindsight' which has been shown to reduce overconfidence and more accurately predict potential risks. ***Evidence Analysis:*** Analysis of effectiveness and implementation evidence to generate actionable insights to inform decision making.
RESPOND	*How do we make it work?*	***PDSA cycles***: Plan, Do, Study, Act is a tool for testing small scale changes, each iteration of the cycle helps to refine the proposal ironing out any issues. When ideas don't work it is also a learning tool as the process is well documented. PDSA cycles were championed by W. Edwards Deming during his work in post war Japan. ***After Action Reviews and Retrospect's***: After Action Reviews (AAR) can be used as part of a PDSA cycle, they bring together a team to discuss what has happened in an open and honest way. Usually in the format: What went well? What didn't go so well? What could we have done differently? A retrospect is similar but asks more detailed questions. Other facilitation methods for AAR include Fishbowls and Knowledge Café's ***Formative evaluation***: Evaluation examines the actual implementation and impacts of a policy to assess whether the anticipated effects, costs and benefits were in fact realised. Formative evaluation takes place as the project progresses with early findings being fed back to enable the project team to adjust as they go.
	What have we achieved?	***Summative evaluation*****:** Evaluation examines the actual implementation and impacts of a policy to assess whether the anticipated effects, costs and benefits were in fact realised. Summative evaluation takes place at the conclusion of the project and findings are used to inform future decision making.

Tools for Complex situations

Decision making in complexity is hard! Complex systems are characterised by many moving parts with a high level of interconnectedness. The outcome of a change in the system cannot always be predicted.

These types of decision are not easy, the outcomes observed will be the product of multiple factors interacting in emergent ways, past decisions will impact the future. Linear notions of cause and effect do not apply.

Complex problems may have elements of simple or complicated in them – so approaching those sections as such can be helpful – just make sure to keep an eye on the bigger picture.

Principles:
Probe – sense – respond

Skills:
Ability to work with ambiguity
Creativity
Trust
Collaboration
Experimentation and learning
Acknowledgement and appreciation of Diversity
Distributed leadership

Tools for Complex situations

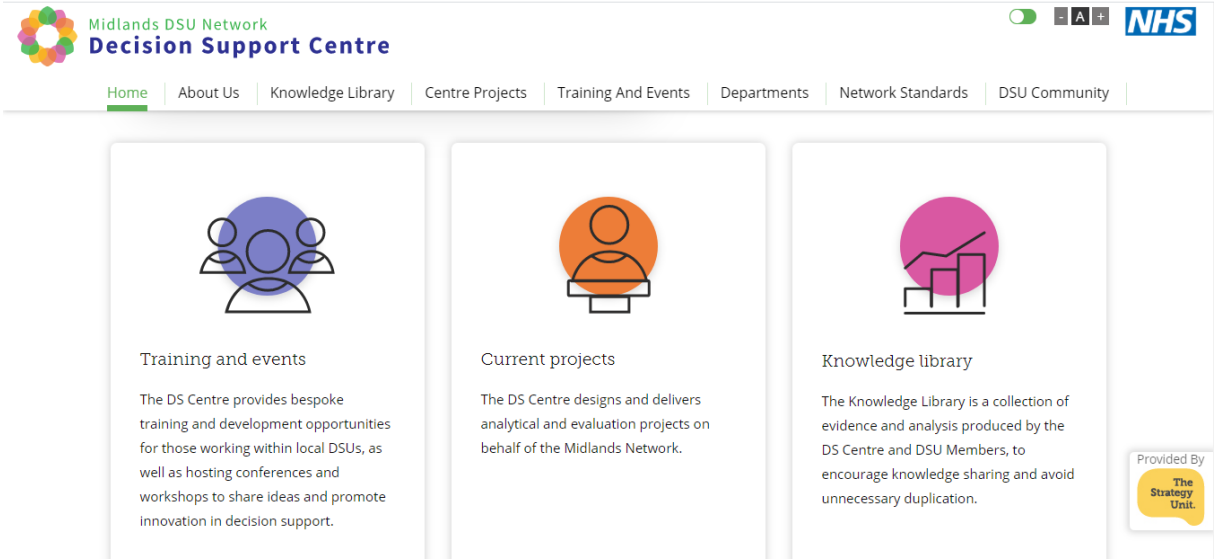
Task		Tools
PROBE	*What's going on?*	***Stakeholder analysis***: Complex situations cannot be solved by one team or one organisation, they require a collaborative approach. Therefore stakeholder analysis is a key first step to understand who should be involved and the extent of the system being examined. ***Quantitative analysis***: Using mathematical and/or statistical modelling to understand the situation at hand. ***Qualitative analysis***: Using non-numerical data (gathered through interviews, focus groups, observations etc) to understand the social reality of individuals, teams and organisations. ***Evidence signposts:*** Which distil policy, guidance, local evidence, research and stakeholder perspectives to help gain insights into the problem.
SENSE	*Why is that happening?*	***Experienced based co-design***: This method draws on the experience of service users and staff rather than focusing on outcomes it aims to understand what life is like for them and what their experience of interacting with services has been. The traditional approach involves recording interviews with service users and staff and then using those in collaborative planning meetings to determine next steps. ***Facilitated discussion*:** Once data has been collected it is important to gather a range of perspectives on the situation at hand to support the interpretation of the problem. These meetings or workshops should focus on ensuring every voice is heard and avoiding groupthink. Facilitation techniques such as Liberating Structures can support with this.
RESPOND	*What's the best way forward?*	***Citizens Assemblies***: Citizens Assemblies invite a representative cohort of the population to discuss the best way forward for a particular issue. They involve presentation of the information at hand and structured facilitation of groups to ensure all views are heard before asking the group to make a decision. ***Scenarios*:** Enable exploration of alternative futures and the factors that may drive change in the wider contextual environment. Especially valuable in a context where there is a good deal of uncertainty and/or conflict about the future. A valuable engagement tool – it can help to counteract bias, change mental models and build social capital. ***Evidence review:*** To explore effectiveness of proposed intervention including benefit, harm and potential unintended consequences
	How do we make it work?	***Communities of practice:*** Bring together a group of people working on similar issues to share learning and offer advice and guidance. They are particularly useful in emergent fields. ***Experimentation:*** This involves creating an environment where experimentation and learning can occur. Where failure is not seen as a negative and learning is actively captured through data collection and reflection. Rapid failure and course correction is encouraged, as is the transparent sharing of challenges and failures with others. ***PDSA Cycles*** are a form of experimentation. ***Evidence scan***: To understand existing implementation evidence and knowledge, potentially incorporating stakeholder interviews as a source.
	What have we achieved?	***Reflective cycles***: Support the capturing of learning through the reflections of those involved. There are a number of different models that emphasise different elements of the reflective process including: Gibbs, Kolb, ERA, Driscoll, Rolfe and others. ***Peer review***: Involves the sharing of learning through observation and developmental feedback between peers.

SECTION

How the Decision Support Centre can support you

How the DSC can support you

- We can help you to understand the context for your decision and approaches required when working in complicated and complex environments
- We can offer training and development in the use of tools to support problem structuring and decision making
- We can carry out analysis to help you frame your problem
- We are curating a collection of tools and frameworks to support decision making in complicated and complex situations



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