

CYNEFIN

WHAT IS CYNEFIN

Cynefin is the popular name for part of a wider methodology operating under the banner "Cognitive Edge". Cognitive Edge is a radically new approach to addressing situations and developing solutions based on complexity theory, network theory, knowledge management theory and narrative analysis. Developed by by David Snowden and Cynthia Kurtz when they were at the IBM's Institute of Knowledge Managementⁱ, Cognitive Edge has moved beyond methodology to become essentially a worldwide movement of consultants applying Snowden's ideasⁱⁱ.

Cynefin identifies four behaviours a situation can display; simple, complicated, complex, chaotic. This terminology is hardly new – the systems literature has used the first four for decades. However the behaviours and the properties that underpin these five states are not entirely drawn from systems theories or even theories of chaos and complexity. In addition they draw heavily on network theory, learning theories and 3rd generation knowledge management. Indeed Snowden argues that his approach is an alternative to systems approaches, although his conceptualisation of systems thinking is much narrower than that taken by this book.

According to the Cynefin model, every situation has elements comprise structures and that display behaviours that form a continuum between "order" and "chaos"ⁱⁱⁱ :

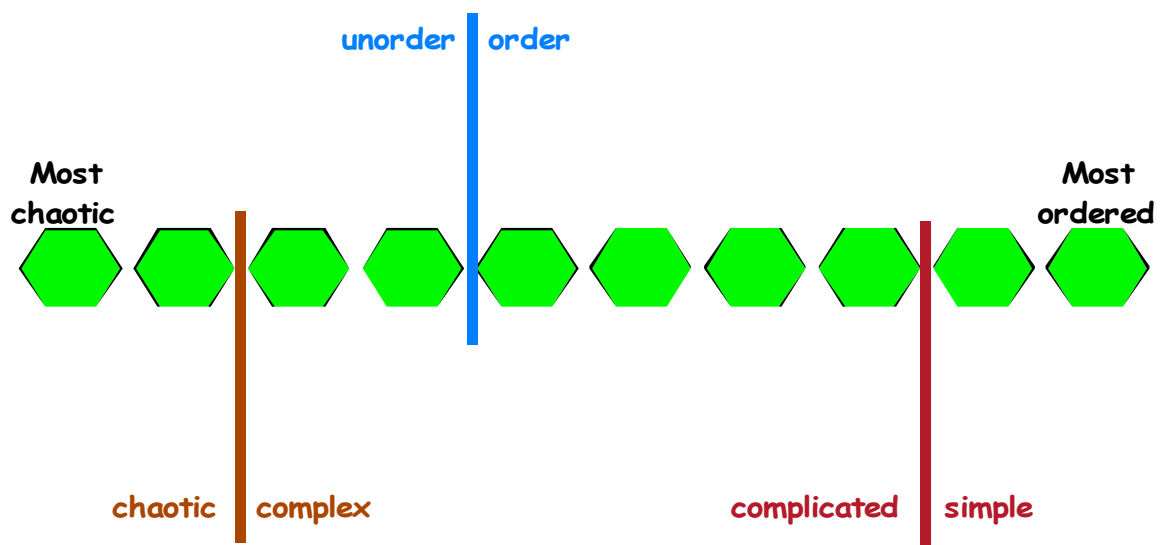


Diagram by Brian Donaldson (Donaldson Associates) and Shankar Sankaran (University of Technology Sydney, Australia)

However, in practice the apparent continuum hides four different structural relationships that Snowden draws primarily from network

theory.

Simple aspects of a situation have weak connections *between* elements but a strong link to a central control element. This is a classic command and control scenario.

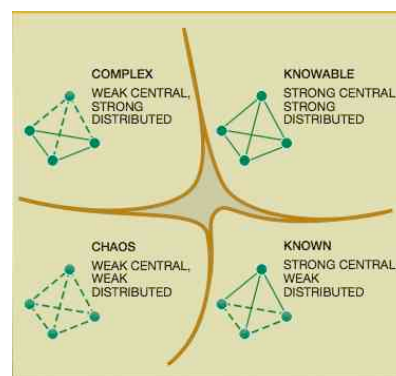
Complicated aspects of a situation have strong connections *between* elements, but each element is still has strong links to a central controlling element

Complex aspects of a situation have strong connections between elements but no central controlling element: a classic distributed network.

Chaotic aspects of a situation have weak connections *between* elements and also no centralizing organizing core

Thus two dimensions emerge, one about centrality (weak/strong) and one about connectivity (weak/strong)

Thus the framework is often displayed in this form :



From : The new dynamics of strategy: Sense-making in a complex and complicated world C. F. Kurtz D. J. Snowden

In many ways this is mainstream network theory with a twist. The problem with network analysis however, is the huge amount of information required to determine the nature of the network. In contrast, drawing on various systems and complexity theories, as well as their own research, Kurtz and Snowden claimed that each of the quadrants displayed certain relatively easily observable behaviours and "causal" relationships.

Simple aspects of a situation

The emphasis on centrality and the relative looseness between connections implies :

- Clarity of dynamics - anyone can see the things the way they are.

- Very simple linear patterns of cause and effect.
- Things are “known”. There is a known right answer within the current context (to use a complexity term a strong attractor).

The most appropriate way of managing simple aspects of a situation are :

1. Sense (ie collect sufficient data to identify the characteristics of this aspect of a situation)
2. Categorise (ie identify where these characteristics fit within known world)
3. Respond (ie pick the proven appropriate response to that category)

Thus “best practice” (ie context free application of methods from one situation to another) is the most effective, efficient and efficacious approach to managing such situations.

Complicated aspects of a situation

The influence of centrality is offset somewhat by the tightness between the elements implies :

- The situation is “knowable”; whilst the centre may not have all the answers, they are accessible via the strong network links between elements.
- Causality is non-linear; actions flow along the strong inter-relationships in recursive ways. Effects may be separated from causes in time and space.
- Expertise is important because knowledge of how to exploit the complicatedness is important. Indeed Snowden sometimes calls this the zone of the expert.

In management terms, influence and a degree of predictability is possible; whilst the centre may not “know” and thus control, it is able to exploit the strong networks to assess what the appropriate responses are.

Thus :

1. Sense (ie collect sufficient data to identify the characteristics of this aspect of a situation)
2. Analyse (ie get the networks to find out the information and use expertise to choose the most appropriate means of response)
3. Respond (ie pick the most appropriate response to that category)

Thus “good practice” (ie context modified application of methods from one situation to another) is the most effective, efficient and efficacious approach to managing such situations.

Complex aspects of a situation

There is no backstop of centrality, so the nature of the strong inter-relationships between elements implies :

- With no centralizing attractor, the specifics of individual relationships at a point in time determine the overall behaviour of that aspect of the situation.
- Behaviour is highly context dependent
- Behaviour is highly dependent on the starting conditions. Different starting conditions will result in different behaviours
- The nature of the inter-relationships can only be determined during or after the event; predictability is not possible.
- The key to understanding what might be going on is by observing patterns of behaviour over time.

In terms of seeking to handle such situations (manage is not really the appropriate term) it is wise to tread cautiously and to evaluate constantly. Kurtz and Boone suggest several strategies :

- Keep discussion open
- Set clear boundaries within which the elements can operate and self-organise (see chapter on HSD)
- Stimulate attractors to help improve centrality
- Encourage dissent and diversity – they improve the ability to spot patterns emerging
- Be very careful about starting conditions and monitor for emergence

Thus :

1. Probe. Kurtz and Snowden have this to say. "Decision making creates probes to make the patterns or potential patterns more visible before taking action. We can then sense those patterns and respond by stabilizing those patterns that we find desirable, by destabilizing those we do not want, and by seeding the space so that patterns we want are more likely to emerge. *Emergent* practice (ie practice in this situation emerges from experiments within this situation)".
2. Sense (ie collect sufficient data to identify the patterns of behaviour that could be attributable the probe)
3. Respond (ie on the basis of what seems to be the right thing to do to enhance the patterns that are deemed to be "good" and dampen down the patterns that are deemed to be "bad". Thus this domain is calls for emergent practice.

Chaotic aspects of a situation

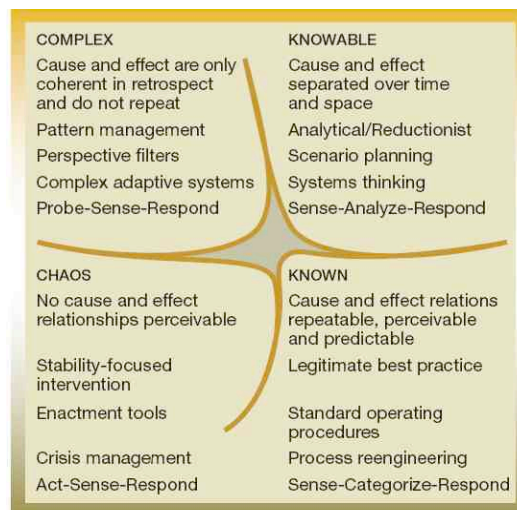
Weak bonds between elements and no centrality means that pretty much

anything can happen. There are no patterns and no ability to assess the consequences of any intervention.

Kurtz and Snowden suggest three strategies when confronted with chaotic aspects of a situation claim that the appropriate response to chaotic situations is essentially to assert a strong central attractor, hold your breath and see if it does any good and then make an appropriate response to that.

Thus :

1. Act (ie a strong response designed to shock that aspect of the situation back into some form of order, or at the very least triage to staunch the bleeding)
2. Sense
3. Respond



From : The new dynamics of strategy: Sense-making in a complex and complicated world C. F. Kurtz D. J. Snowden

| | THE CONTEXT'S CHARACTERISTICS | THE LEADER'S JOB | DANGER SIGNALS | RESPONSE TO DANGER SIGNALS |
|-------------|---|--|---|---|
| SIMPLE | <ul style="list-style-type: none"> Repeating patterns and consistent events Clear cause-and-effect relationships evident to everyone; right answer exists Known knowns Fact-based management | <ul style="list-style-type: none"> Sense, categorize, respond Ensure that proper processes are in place Delegate Use best practices Communicate in clear, direct ways Understand that extensive interactive communication may not be necessary | <ul style="list-style-type: none"> Complacency and comfort Desire to make complex problems simple Entrained thinking No challenge of received wisdom Overreliance on best practice if context shifts | <ul style="list-style-type: none"> Create communication channels to challenge orthodoxy Stay connected without micromanaging Don't assume things are simple Recognize both the value and the limitations of best practice |
| COMPLICATED | <ul style="list-style-type: none"> Expert diagnosis required Cause-and-effect relationships discoverable but not immediately apparent to everyone; more than one right answer possible Known unknowns Fact-based management | <ul style="list-style-type: none"> Sense, analyze, respond Create panels of experts Listen to conflicting advice | <ul style="list-style-type: none"> Experts overconfident in their own solutions or in the efficacy of past solutions Analysis paralysis Expert panels Viewpoints of nonexperts excluded | <ul style="list-style-type: none"> Encourage external and internal stakeholders to challenge expert opinions to combat entrained thinking Use experiments and games to force people to think outside the familiar |
| COMPLEX | <ul style="list-style-type: none"> Flux and unpredictability No right answers; emergent instructive patterns Unknown unknowns Many competing ideas A need for creative and innovative approaches Pattern-based leadership | <ul style="list-style-type: none"> Probe, sense, respond Create environments and experiments that allow patterns to emerge Increase levels of interaction and communication Use methods that can help generate ideas: Open up discussion (as through large group methods); set barriers; stimulate attractors; encourage dissent and diversity; and manage starting conditions and monitor for emergence | <ul style="list-style-type: none"> Temptation to fall back into habitual, command-and-control mode Temptation to look for facts rather than allowing patterns to emerge Desire for accelerated resolution of problems or exploitation of opportunities | <ul style="list-style-type: none"> Be patient and allow time for reflection Use approaches that encourage interaction so patterns can emerge |
| CHAOTIC | <ul style="list-style-type: none"> High turbulence No clear cause-and-effect relationships, so no point in looking for right answers Unknownables Many decisions to make and no time to think High tension Pattern-based leadership | <ul style="list-style-type: none"> Act, sense, respond Look for what works instead of seeking right answers Take immediate action to reestablish order (command and control) Provide clear, direct communication | <ul style="list-style-type: none"> Applying a command-and-control approach longer than needed "Cult of the leader" Missed opportunity for innovation Chaos unabated | <ul style="list-style-type: none"> Set up mechanisms (such as parallel teams) to take advantage of opportunities afforded by a chaotic environment Encourage advisers to challenge your point of view once the crisis has abated Work to shift the context from chaotic to complex |

From HBR Nov 2007. A Leader's Framework for Decision Making. Snowden and Boon

Working at the Boundaries

A Cynefin based exploration often starts with a workshop where participants allocate different aspects of the situation in question to different quadrants. This is usually done using Post-Its or sticky notes.

Participants are often encouraged to identify those items that lie close to the boundary between one category or another. There is a reason for this. Managing complex aspects of a situation is resource intensive, complicated aspects somewhat less so, and simple aspects are the cheapest of all. This if it is possible to "nudge" something that lies close

to, say, a complex aspect of a situation into being merely complicated then this is probably more efficient, effective and efficacious than trying to manage it as a complex aspect. So to “nudge” something from the complex to the complicated domain you should seek some means of strengthening the centrality of the situation – an “attractor” of some kind. To nudge something from the complicated to the simple requires loosening the inter-dependence of the relevant elements of that situation. However, as Kurtz and Snowden argue these things can only really be achieved at or close to the boundaries.

Avoid complacency about simple aspects of a situation

One of the intriguing aspects of the Cynefin quaternary is that “chaos” and “simple” are next to each other. Closer inspection will reveal why. The removal or collapse of the attractor, the central authority, in a simple situation will tip the situation, not into complicated or even complex zones but into chaos. Building the necessary strong inter-relationships between elements that characterize the complicated and complex zones cannot be achieved overnight and is often strongly discouraged in purposefully simple systems. In the absence of those interdependencies, a simple situation has only one direction to go .. into chaos. Indeed, one of Kurtz and Snowden’s strategies for getting out of chaos is essentially the artificial creation of a simple situation.

Ontology and epistemology

So far Cynefin has been described as an essentially simple ontological tool; in its own terms a process of sensing, categorizing different aspects of “real life” behaviour and responding accordingly. However, Cynefin in practice has a strong epistemological orientation. The critical point about the Cynefin framework is not that “real life” necessarily behaves according to the four domains, but these frameworks provide us with the best way of explaining behavior. However, there are certain circumstances where we see things differently from our colleagues.

This can be expressed in two ways in the Cynefin model.

One is probably best highlighted by an example. During a workshop focused on resolving issues of rural elder care the same aspect of the situation was placed in both the complex and the complicated zone. The aspect had been placed there by different people. When looking at the map of Post-It’s one person turned to the another and said “*That’s* why we are disagreeing with each other over how to handle this issue. You see it as complex and I see it as complicated. Let’s talk about that”. In other words, part of the problem they were experiencing was that they were imagining that aspect from two different understandings of what is going on. And this, in part, explained why they were having difficulty

resolving or managing the situation; "oh so you were managing it as if it were complicated and I was managing it as if it were complex - no wonder we were clashing over strategies." And yes they were able to come up with a means of resolving the issue from both perspectives.

The second way this is displayed, Kurtz and Snowden call "the fifth domain" – the domain of disorder.

Take a look at the quaternary diagrams and you will notice a grey area in the middle. Kurtz and Snowden call this a domain of disorder. This domain is critical to understanding conflict among decision makers looking at the same situation from different points of view.

Often in a group using the Cynefin framework, people agree on what the extremes of the four domains mean in the context they are considering, but disagree on more subtle differences near the centre of the space. As a result, individuals compete to interpret the central space on the basis of their preference for action. Those most comfortable with stable order seek to create or enforce rules; experts seek to conduct research and accumulate data; politicians seek to increase the number and range of their contacts; and finally, the dictators, eager to take advantage of a chaotic situation, seek absolute control. *The stronger the importance of the issue, the more people seem to pull it towards the domain where they feel most empowered by their individual capabilities and perspectives.*

People working with Cynefin have found that the reduction in size of the domain of disorder as a consensual act of collaboration among decision makers is a significant step toward the achievement of consensus as to the nature of the situation and the most appropriate response.
