

## Toolkit:

Good Leadership in  
Complex  
Environments



*Strengthening  
public sector  
leadership for  
New Zealand*

## Good leadership in complex environments

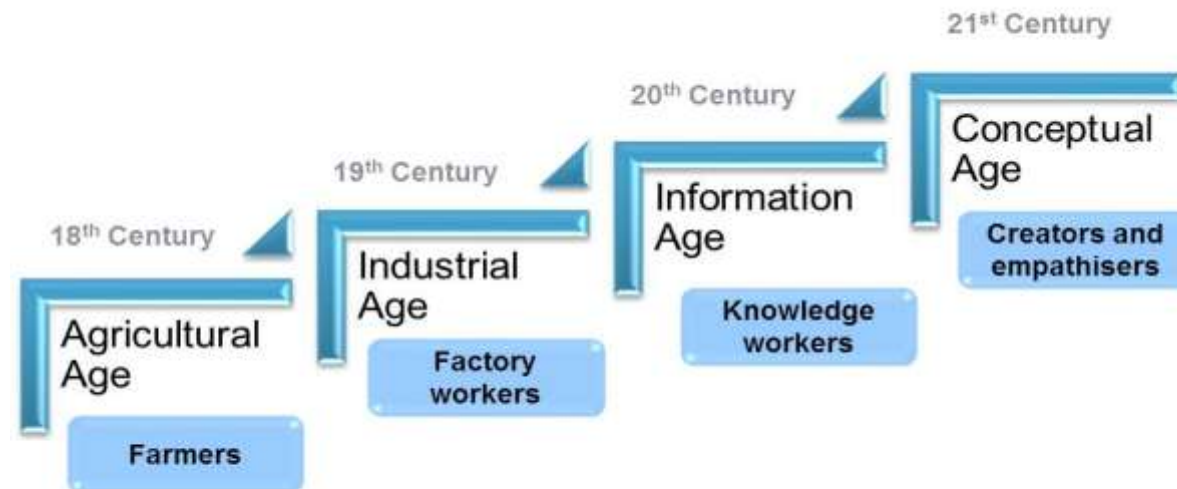
### What this resource is about

In the workplace, we are faced with changing technologies, economies, environments, and social structures. Greater affluence, technological progression and globalisation create collective momentum and nudge us into a new era.

(Pink, 2005).

Over time, technology has removed much of the transactional work, while globalisation and affluence have created much more complexity in our lives. Leaders must now use different skills and approaches to deal with complex issues while effectively growing their people and providing an environment for innovation and development.

In the public sector, leaders are being asked to work in new ways to deal with complex issues, the 'Wicked Problems'. This conceptual age needs leaders who lead differently from those of past ages and leaders who are aware of the danger of not adapting. While leaders may be motivated to adapt, the people who make up the organisation must be brought along in the process. Leadership in complex environments is a process—not an intervention. It is an on-going process.



Adapted from Pink 2005

## Complexity as the new normal

New Zealand sits in a global context that has changed swiftly and dramatically over the last century. Today, a range of complex global and local variables affect all aspects of our lives.

An increasingly common term used to describe this complexity is VUCA (Petrie, 2011).

**V**

### **Volatile**

- change happens rapidly and on a large scale

**U**

### **Uncertain**

- the future cannot be predicted with any precision

**C**

### **Complex**

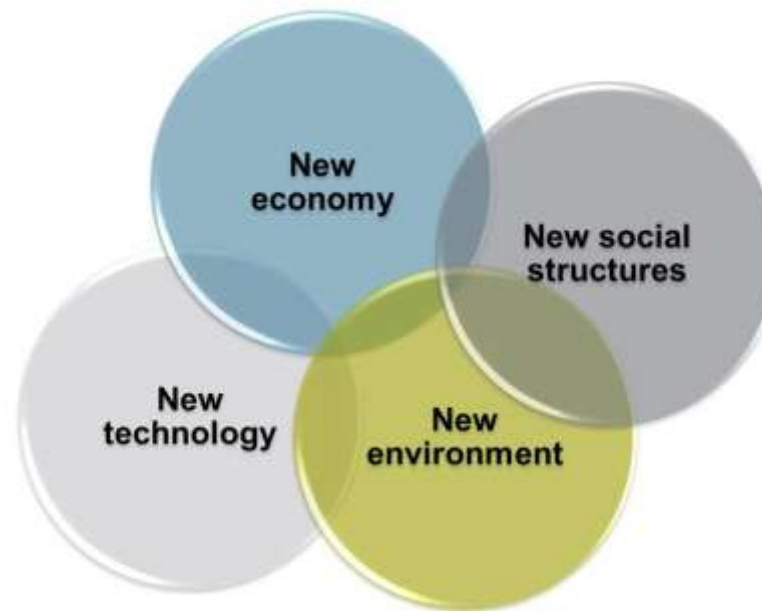
- challenges are complicated by many factors and there are few single causes or solutions

**A**

### **Ambiguous**

- there is little clarity on what events mean and what effect they may have

These are some of the variables that are shaping the New Zealand public sector:



In their working paper, *The Future State*, Gill et al (2010) describe some of the challenges and opportunities facing the public sector as follows:

- The geopolitical environment is becoming increasingly complicated and unstable, both regionally and internationally.
- Policy making is becoming internationalised, with domestic policy increasingly being shaped by international agreements.
- Technological developments are rapidly transforming what is possible, leading to expectations of faster response to demands.
- The population is becoming older and more culturally diverse.
- There are increased expectations for transparency in all aspects of our work.
- Changes are becoming less predictable.

An organisation is a complex system made up of multiple variables. The interdependencies of these variables mean that when a small change happens to one area of the system, it can have large affects elsewhere in the system.

## The 10 biggest drivers of internal complexity in the public sector

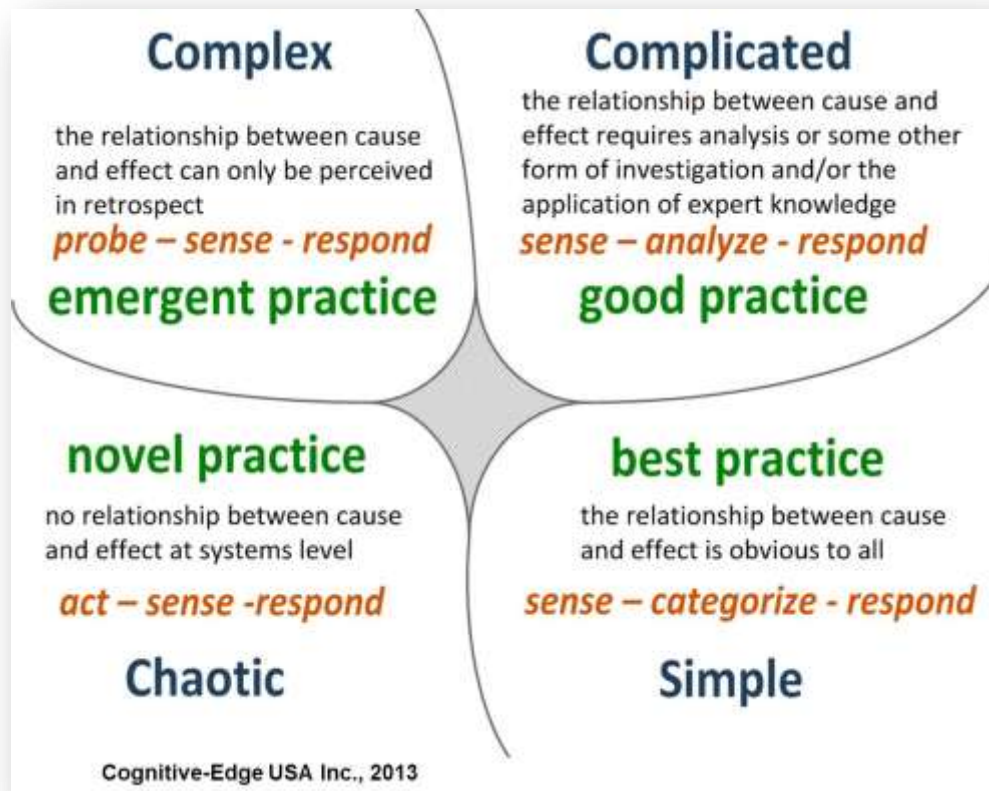


(Collinson, 2012)

## The Cynefin Framework

In response to the unprecedented current level of global change and uncertainty, a group of researchers led by David Snowden and Mary Boone developed the Cynefin (pronounced ku-nev-in) Framework. The Welsh word 'cynefin' means 'habitat' or 'place'. Basically, the term acknowledges that all human interactions are strongly influenced and frequently determined by our personal experiences (Snowden and Boone, 2007).

The Cynefin Framework proposes new approaches to communication, decision-making, policy-making and knowledge management in complex social environments. It suggests that four different environments exist, dealing with different types of problems that require different leadership styles.



In simpler terms, the four different environments described in the Cynefin Framework are as follows:



**The Simple** (or known) environment encompasses situations where cause and effect, as well as solutions and strategies, are known and at hand. In terms of adaptive leadership, this would include technical problems.

Like this traffic light, there is only one option for each signal, and we know what must be done in response to each light: there is only one correct solution to each signal.



**The Complicated** (knowable) environment encompasses causes and effects, solutions and strategies that are not readily at hand but can be acquired through research or consultation with an expert.

Like these traffic lights, there are many variables, but each one indicates a correct course of action to be taken.



**The Complex** environment is where cause and effect exists but is too complex or distributed to be knowable ahead of time. Patterns emerge in retrospect and do not necessarily persist.

Like this roundabout, there are multiple variables that are interdependent. There is no one right decision because all the choices depend on the choices of the other drivers at the time.



**The Chaotic** environment considers conditions in which the system is turbulent and no cause-and-effect relationship is discernible.

Like this traffic intersection, there are multiple variables and interdependencies without any pattern to follow or to make decisions on.



## Characteristics of a complex environment

- A complex environment involves large numbers of interacting elements.
- The interactions are non-linear, and minor changes can produce disproportionately major consequences.
- The environment is dynamic: the whole is greater than the sum of its parts, and solutions can't be imposed; rather, they arise from the circumstances. This is frequently referred to as 'emergence'.
- The environment has a history, and the past is integrated with the present; the elements evolve with one another and with the environment; and evolution is irreversible.
- Though a complex environment may, in retrospect, appear to be ordered and predictable, it is of no relevance to future situations because conditions and systems are constantly changing.
- Unlike in ordered environments (where the environment constrains the agents), or chaotic environments (where there are no constraints), in a complex environment the agents and the environment constrain one another, especially over time. This means that we cannot forecast or predict what will happen (Snowden and Boone, 2007).

While complexity can drive innovation and progress, often there comes a point when the complexity stifles rather than grows the environment. Simon Collinson, in his study of the British public service (2012), says that both the private and public sectors are impaired by harmful complexity. The negative side of complexity is shown in the diagram to the right. (Adapted from Collinson, 2012).

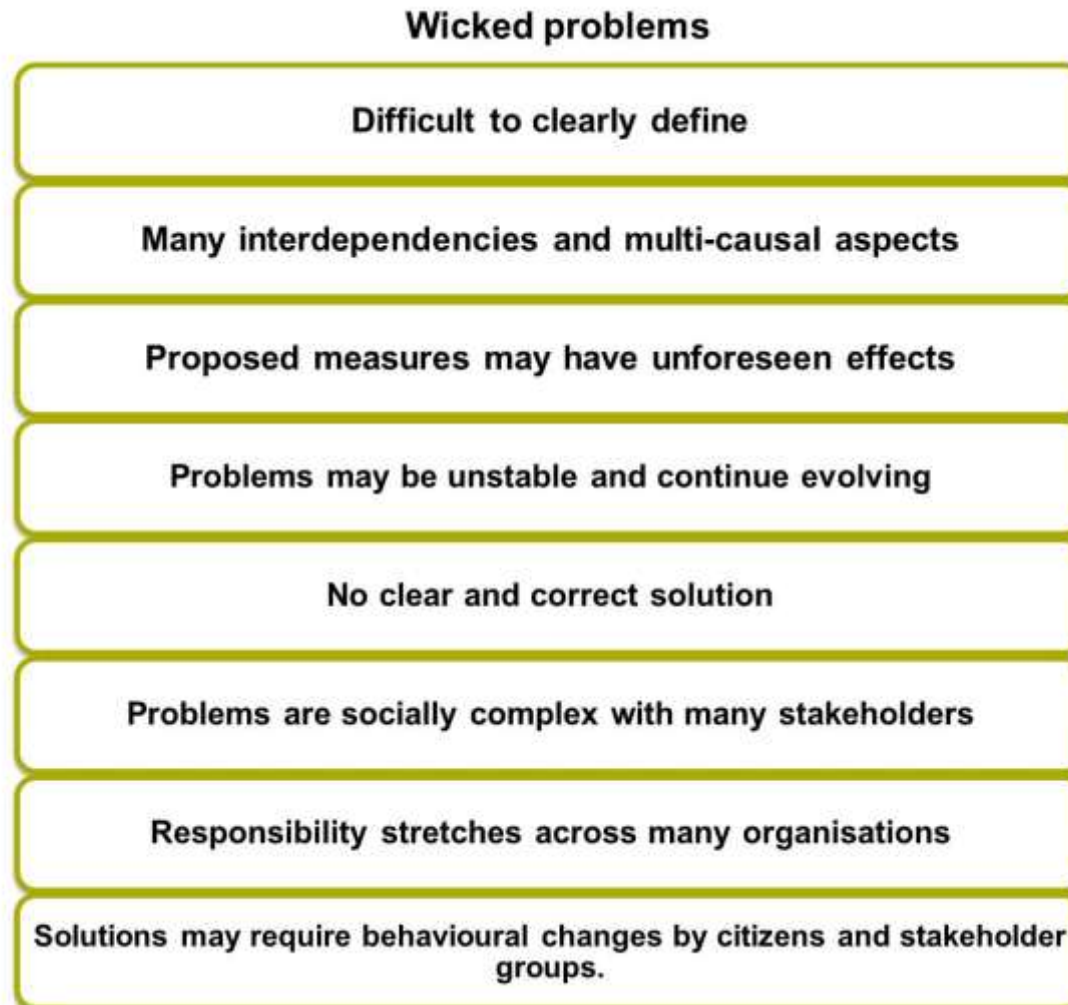
Small changes can have big effects in complex environments, and if policies are based on a linear, mechanistic approach rather than a negotiated and consultative approach, they can have unexpected and unwanted outcomes in such an environment.





## Wicked problems

Not only are organisations now more complex but they also face more complex issues. These complex issues are referred to as 'wicked problems' (Head and Alford, 2008). The Australian Public Service Commission (APSC, 2007, cited in Head and Alford, 2008) defined the following eight key features of wicked problems:



Because there are no single root causes of wicked problems, there are no single solutions for them either.

'You don't so much "solve" a wicked problem as you help stakeholders negotiate shared understanding and shared meaning about the problem and its possible solutions. The objective of the work is coherent action, not final solution'. (Conklin 2007: 5, cited in Head and Alford, 2008, page 9)

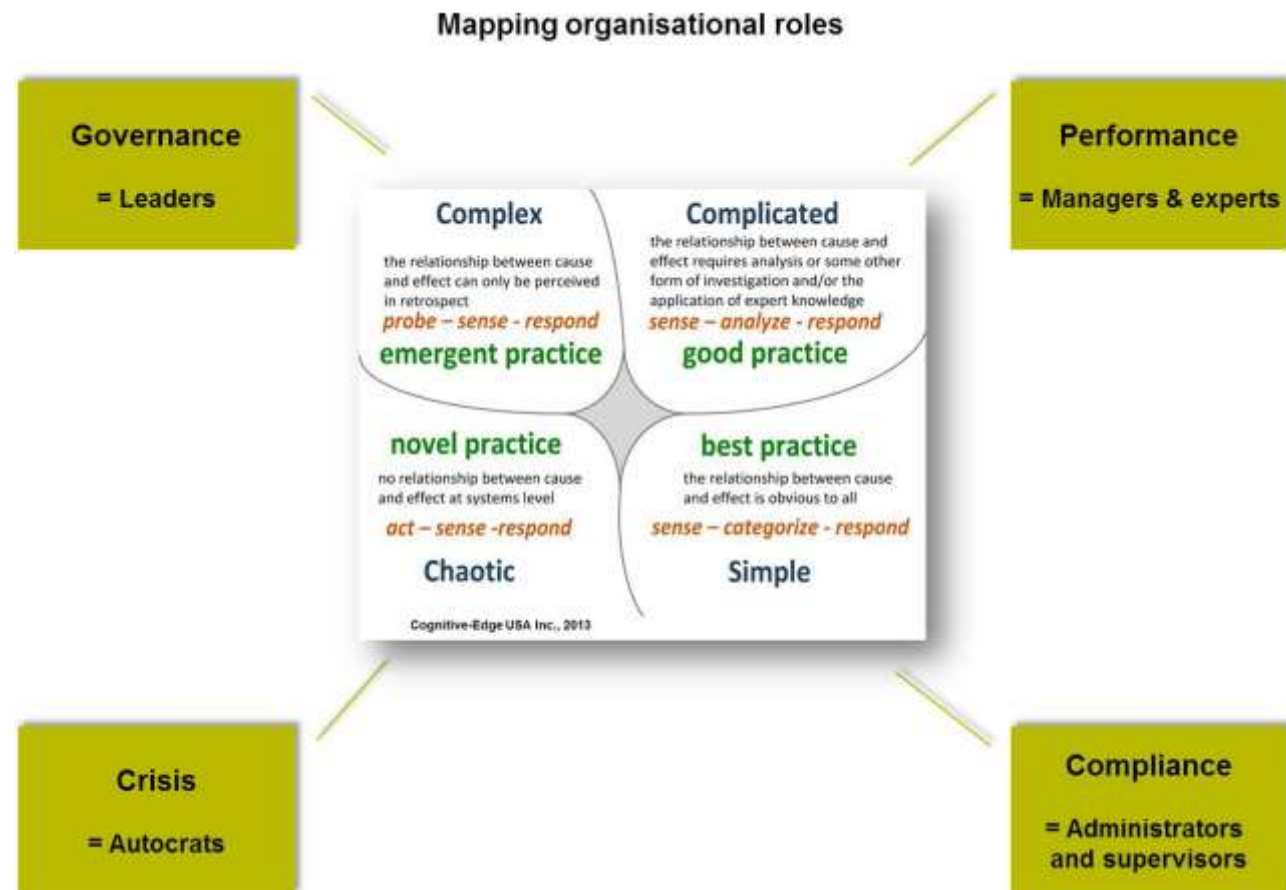
## Leadership roles for different contexts

In addition to recognising which Cynefin environment you are in, you also need to recognise the different leadership role that is required for each environment. The diagram below maps a role to each environment.

Simple and complicated environments deal with best and good practice respectively and only look at past and established solutions. For this reason, they can be dealt with by administrators, supervisors, managers and experts.

Complex environments need leaders rather than managers and experts because such environments require the emergent practices of probing, sensing and responding to the situation.

In a complex environment, even small changes can have a large effect. Probing and sensing allows the environment to be investigated sensitively to search for solutions rather than applying an already accepted solution.



This table describes each environment, the leaders role in that environment, the danger signals, and responses to those signals (Snowden and Boone, 2007).

Environment	The context's characteristics	The leader's job	Danger signals	Response to danger signals
<b>Simple</b>	<p>Repeating patterns and consistent events</p> <p>Clear cause and effect relationships evident to everyone; right answer exists</p> <p>Known knowns Fact-based management</p>	<p><b>Sense, categorise, respond</b></p> <p>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</p>	<p>Complacency and comfort</p> <p>Desire to make complex problems simple Entrenched thinking</p> <p>No challenge of received wisdom Overreliance on best practice if context shifts</p>	<p>Create communication channels to challenge orthodoxy</p> <p>Stay connected without micromanaging Don't assume things are simple</p> <p>Recognise both the value and the limitations of best practice</p>
<b>Complicated</b>	<p>Expert diagnosis required</p> <p>Cause and effect discoverable but not immediately apparent to everyone; more than one right answer possible</p> <p>Known unknowns Fact-based management</p>	<p><b>Sense, analyse, respond</b></p> <p>Create panels of experts</p> <p>Listen to conflicting advice</p>	<p>Experts over-confident in their own solutions or in the efficacy of past solutions</p> <p>Analysis paralysis Expert panels Viewpoints of non-experts excluded</p>	<p>Encourage external and internal stakeholders to challenge expert opinions to combat entrenched thinking</p> <p>Use experiments and games to force people to think outside the familiar</p>
<b>Complex</b>	<p>Flux and unpredictability</p> <p>No right answers; emergent instructive patterns</p> <p>Unknown unknowns</p> <p>Many competing ideas</p> <p>A need for creative and innovative approaches</p> <p>Pattern-based leadership</p>	<p><b>Probe, sense, respond</b></p> <p>Create environments and experiments that allow patterns to emerge</p> <p>Increase levels of interaction and communication</p> <p>Use methods that can help generate ideas: open up discussion (through large-group methods); set barriers; stimulate attractors; encourage dissent and diversity; and manage starting conditions and monitor for emergence</p>	<p>Temptation to fall back into habitual, command-and-control mode</p> <p>Temptation to look for facts rather than allowing patterns to emerge</p> <p>Desire for accelerated resolution of problems or exploitation of opportunities</p>	<p>Be patient and allow time for reflection</p> <p>Use approaches that encourage interaction so patterns can emerge</p>
<b>Chaotic</b>	<p>High turbulence</p> <p>No clear cause-and-effect relationships, so no point in looking for right answers Unknowables Many decisions to make and no time to think High tension Pattern-based leadership</p>	<p><b>Act, sense, respond</b></p> <p>Look for what works instead of right answers Take immediate action to re-establish order (command and control) Provide clear, direct communication</p>	<p>Applying a command-and-control approach longer than needed</p> <p>'Cult of the Leader'</p> <p>Missed opportunity for innovation Chaos unabated</p>	<p>Set up mechanisms (such as parallel teams) to take advantage of opportunities afforded by a chaotic environment</p> <p>Encourage advisers to challenge your point of view once the crisis has abated Work to shift the context from chaotic to complex</p>

## Leadership in the 21<sup>st</sup> century

Management author, Gary Hamel draws on the Internet as an example of a successful model of organisation for the 21<sup>st</sup> century. He suggests that the attributes displayed below are why the Internet is so 'adaptable, innovative and engaging' (Hamel, 2007). He believes that successful leaders in the 21<sup>st</sup> century will share attributes with the Internet because they contain enough flexibility and collaboration to create the innovation required.

### Gary Hamel's key features of management in the 21st century



## A new model for leadership: hero versus host

Some people who are recognised as leaders fit a 'hero' leadership style. That is:

- they have the answers—they know what to do
- people want to follow their plan
- since power can control high risk, they are at the top of the hierarchy.

However, the idea that all leaders have to fit this hero stereotype is a myth. In complex environments, the hero leader isn't going to be effective because of the level of control that a hero is used to holding.

Leadership in complex environments is less about improving performance and more about creating the right environments for performance to flourish. In his book *Four Tools to Lead Complex Environments* (2013), Norman Chorn explains that 'leaders cannot really control a complex organisation. Instead, they host it and facilitate the learning and adaptation that takes place within it.'

### **The host leader:**

- accepts that no one can be fully in control in a complex environment
- invites others to participate
- admits they don't always know the answers
- trusts other people's creativity
- stays connected and involved—they don't just let go and hope.

## Four factors for successful leadership in complex environments

Chorn (2013) believes that the following four key factors need to be in place for successful leadership to occur in complex environments. These factors provide consistent and explicit direction for the team. The team may not know the exact destination of their project, but these factors will provide some idea of the path they will follow and the project's parameters.

- |  |   |
|--|---|
| <b>1.</b><br><b>An identified purpose for the organisation</b> | Define the broad outcomes to be achieved (usually not financial) and define the purpose of the organisation.                    |
| <b>2.</b><br><b>Explicit organisational guiding principles</b> | Communicate the 'rules and boundaries' for the organisation.  |
| <b>3.</b><br><b>Established performance feedback processes</b> | Determine how the organisation is making progress towards achieving the purpose (beyond simple lag indicators, such as profit). |
| <b>4.</b><br><b>Accepted methods of responding to feedback</b> | Agree on the ways that leaders will respond to possible 'drift' away from the purpose and/or guiding principles.                |

Adapted from (Chorn 2013)

## Host leadership tools

Once Chorn's four key factors are in place, leaders can be guided by Snowden and Boone's framework (2007) to lead effectively in complex environments:

### **Open up the discussion**

Complex contexts require more interactive communication. Large-group discussions (for example, through strategic planning meetings, problem solving workshops, think tank sessions, vision and strategy retreats, change implementation meetings, corporate conferences) are efficient approaches to initiating democratic, interactive, multidirectional discussion sessions.

### **Set barriers**

Barriers limit or delineate behavior. Once leaders have set the barriers, the system will be able to self-regulate within defined boundaries.

### **Stimulate attractors**

Attractors are phenomena that arise when small stimuli and probes (whether from leaders or others) resonate with people. As attractors gain momentum, they provide structure and coherence.

### **Encourage dissent and diversity**

Dissent and formal debate are valuable communication assets in complex contexts because they encourage the emergence of well-forged patterns and ideas.

### **Manage starting conditions and monitor for emergence**

Because outcomes are unpredictable in a complex context, leaders need to focus on creating an environment that allows good things to emerge naturally rather than trying to bring about predetermined results and possibly missing unexpected opportunities. (adapted from Snowden & Boone, 2007)



## Leadership that breaks down vertical silos

In complex environments, agencies that work in isolation and do not have a good perspective of the wider issues—which includes issues possibly facing all associated departments, cannot be effective. To work in complex environments, a high level of information sharing and inter-agency communication is required. Agencies need to:

- discover the connections between departments
- discover and learn about the challenges
- discover the opportunities
- understand that it is impossible for everything to be centrally directed
- operate on a 'knowing enough' basis not on a 'need to know' basis.

Good leadership in a complex environment depends on breaking down hierarchies and empowering people at all levels. The following attributes are important in good leadership:



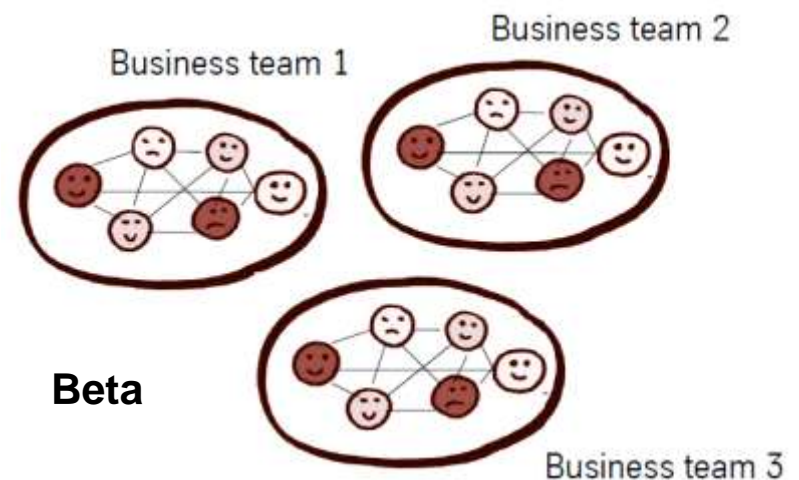
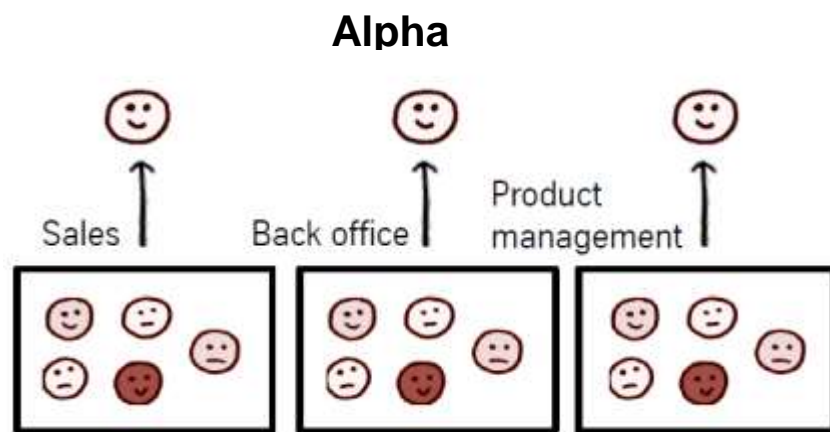
(Adapted from Petrie, 2011)

These leadership attributes can be grown and developed. You can learn more about developing skills in emotional intelligence, learning agility, resilience and how to influence without authority, from the associated toolkits on the LDC website.

## Leading organisations

### Two organisational styles

The BetaCodex Network (Pflaeging et al, 2012) suggest that two styles of organisation exist. The 'alpha' organisational style works well in a simple or even complicated environment because there are so many known variables. 'Beta' is best used in complex environments where there are multiple variables and the organisation operates as a self-organising system.



From Pflaeging, Vollmer, Hermann, and Carvalho. (2012)

### The six principles for complex environments

Pflaeging et al (2012) suggest that the following six principles need to be followed in complex environments:

#### 1. *Promote a results-based achievement culture*

Because results in the workplace are never one individual's achievement, don't manage individual performance. Instead manage team performance; celebrate results, 'The most adaptive and successful organisations focus on nurturing a culture that highlights the importance of "fun, while winning in the marketplace"'.

## **2. *Promote self-development and mastery***

People develop themselves, so rather than making professional development options mandatory for individuals at set times, make learning and development opportunities and resources available for people when they need it and want it.

## **3. *Cultivate clear principles***

Keep the work principles simple and clear. Agree on them and articulate them.

## **4. *Focus leadership on the system not on people***

Complex systems lend themselves to self-organisation. As a leader, work on improving the systems, not the people.

## **5. *Provide accurate information***

Complex environments need up-to-date, accurate information because the rate of change can be rapid. Make sure that information is accessible and clearly presented

## **6. *Make targets, measures and compensation 'relative'***

Because it is difficult to plan ahead in complex environments, performance can only be accurately measured by comparison, for example, to past performance targets, market value.

## Nine essential leadership attitudes

In *Nine Emerging and Connected Organizational and Leadership Principles* (1998), Brenda Zimmerman, Curt Lindberg and Paul Plsek also provide advice to leaders in complex environments with the following nine essential leadership attitudes:

1. **View your system through the lens of complexity.**
2. **Build a ‘good enough’ vision.** Provide minimum specifications, rather than trying to plan every little detail. It doesn’t have to be perfect as it will shift and change.
3. **When life is far from certain, lead with ‘clockware’ (processes and procedures) and ‘swarmware’ (organic and agile) in tandem.** Balance data and intuition, planning and acting, safety and risk—giving due honour to each.
4. **Tune your place to the edge.** Foster the ‘right’ degree of information flow, diversity and difference, connections inside and outside the organisation, power differential and anxiety.
5. **Uncover and work with paradox and tension.** Do not shy away from them as if they were unnatural.
6. **Go for multiple actions at the fringes, let direction arise.** You don’t have to be ‘sure’ before you proceed.
7. **Listen to the shadow system.** Realise that informal relationships, gossip, rumour and hallway conversations contribute significantly to people’s mental models and therefore their actions.
8. **Grow complex systems by chunking.** Allow complex systems to emerge out of the links among simple systems that work well and are capable of operating independently.
9. **Mix cooperation with competition.** It’s not one or the other.

These principles are interrelated and should not be seen as a checklist. You should be looking to operate in all areas at different times as needed. Remember that small changes can have a large impact in a complex system.

## Sources and recommended reading

- Bridgman, P. (2007). *Performance, Conformance and Good Governance in the Public Sector*. Retrieved 24 July 2013 from Cognitive-edge.com:  
[http://cognitive-edge.com/uploads/articles/55\\_KGC\\_April\\_risk\\_mgmnt.pdf](http://cognitive-edge.com/uploads/articles/55_KGC_April_risk_mgmnt.pdf)
- Chorn, N. (2013). *Four Tools to Lead Complex Environments*. Sydney: Future Builders Group.
- Collinson, S. (2012). *Public Sector Complexity Report: The True Cost of Complexity to the Taxpayer*. London: Simplicity Partnership LLP.
- Gill, D., Pride, S., Gilbert, H. (2010). *The Future State*. Wellington: Institute of Policy Studies.
- Hamel, G. (2007). *The Future of Management*. Boston: Harvard Business School Publishing.
- Head, B., Alford, J. (2008). 'Wicked problems: The implications for public management.' *Panel on Public Management in Practice* (pp. 1–26). Melbourne: International Research Society for Public Management.
- Petrie, N. (2011). *Future Trends in Leadership Development*. Greensboro: Center for Creative Leadership.
- Pflaeging, N., Vollmer, L., Hermann, S., Carvalho, V. (2012). *Organize for Complexity*. n.c.: BetaCodex Network.
- Pink, D. H. (2005). *A Whole New Mind*. New York: The Berkley Publishing Group.
- Snowden, D. F., Boone, M. E. (2007). 'A leader's framework for decision making'. *Harvard Business Review*, November. pp. 68–76.
- Zimmerman, D., Lindberg, C., Plsek, P. (1998). *Nine Emerging and Connected Organizational and Leadership Principles*. Dallas: VHA Inc.

