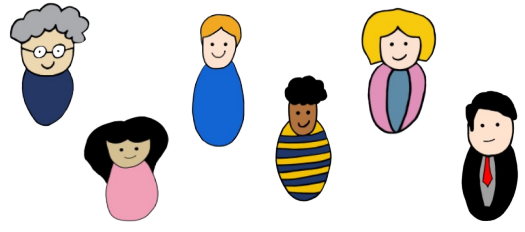


Influencing Change in Complex Adaptive Systems

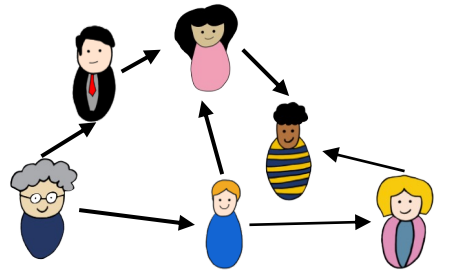
1 Characteristics of a CAS

Diverse Agents



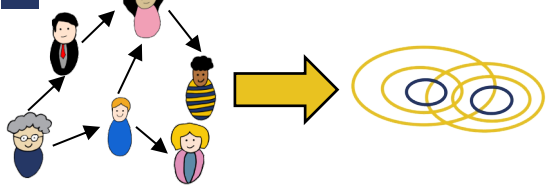
A complex adaptive system consists of numerous diverse agents and each agent makes decisions about how to behave. The key point is that those decisions will evolve over time.

2 Agent Interactions



Agents self-organize and interact with each other in non-linear ways and in accordance with simple rules. Agents learn and adapt their behaviour in response to these interactions.

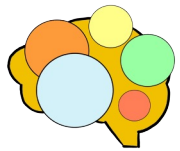
3 Emergence



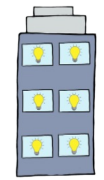
Agent interactions lead to emergence - novel and unplanned behaviour in the system. Emergence means that this behaviour is not derived solely from the behaviour of the individual agents. Instead, it develops as a result of the wider interactions of the agents. Emergent behaviour cannot be predicted in advance; it is only explainable in retrospect.

Viewing Change Through the Lens of Complexity

Enable Cognitive Diversity
Cognitively diverse groups learn faster and perform better in complex environments



Unlock Collective Insight
Unleash the genius of the organization to solve wicked problems



WHY
Change can't be controlled in complex adaptive systems; it can only be influenced!



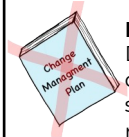
Future-Proof Organizations
Build organizations ready for change in the 21st Century

Unleash People Potential
Inspire people to believe in their ability to create change and encourage them to act on it



HOW

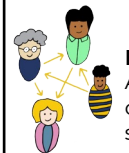
Leverage Lean-Agile Principles
Behaviour of the system is unpredictable, so it does little good to plan in detail



Lean Strategy
Don't try to plan out every detail; keep your change strategy lightweight and nimble



Good Enough Vision
Provide minimum specifications and a general sense of direction



Enable Autonomy
Allow individuals to self-organize and adapt to the strategy as time goes by

Communicate & Collaborate
When information is diverse and shared you get better answers to wicked problems



Visualize Work

Increase transparency, trust, and alignment in the change process by leveraging visual working techniques



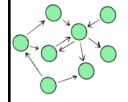
Co-Create Change

Harness the collective wisdom of the organization in designing the change

Create Feedback Loops
Use feedback loops to transfer the reaction of the system to continuously adapt the course of change



Experiment
In complex systems there are no right answers, but patterns emerge by conducting safe-to-fail experiments



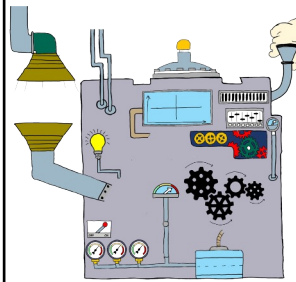
Observe
Let the system react to experiments and observe the results



Adapt
Adapt the change approach based on system feedback

WHAT

Shifting Our View of Organizations



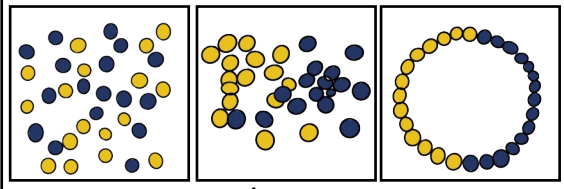
20th Century View
The organization is a machine and people are interchangeable cogs in the machine meant to be standardized and controlled

21st Century View
The organization is a living organism, and the creative potential of its people are its lifeblood



Attributes of a CAS

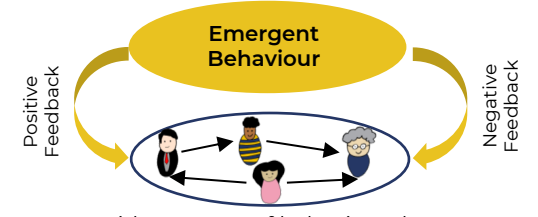
Adaptive & Self-Organizing



Time

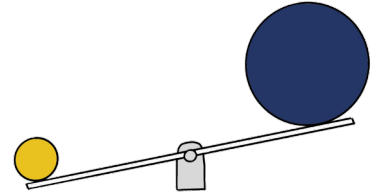
Complex adaptive systems are self-organizing and react and adapt to change. Order emerges over time as a result of agent interactions following simple rules. Crucially, the system changes on its own; order cannot be imposed.

Feedback Loops



System-wide patterns of behaviour that emerge as a result of agent interactions reinforce (positive feedback) or inhibit (negative feedback) the system's behaviour. Feedback loops are what make complex adaptive systems adaptive. Without feedback loops the system has no way of adapting to changing environments.

Non-Linear Behaviour



Seemingly small changes or interventions in the system can result in major swings in system behaviour, while large interventions may have little impact. Because of this non-linearity, the behaviour of a complex adaptive system is fundamentally unpredictable.