Brighton Systems and Complex Systems Toolkit Framework

DEFINING THE SYSTEM

Elements, Communication, Relationships

Describe the separate elements and how they are inter-related.

What type of boundaries exist and how permeable are they?

Use visual methods

What kind of situation or problem is it?
Is the situation simple, complicated, complex or chaotic? (Snowden and Boone, 2007: 73)

Simple	Complicated	Complex	Chaos
Predictable	Analyse to predict	Unpredictable changes	Unstable change
Clear cause and effect	Hidden cause and effect	Changing interactions	No cause and effect
Use known facts	Discover and use facts	Identify and use patterns	Crisis short term interventions

CONSIDERING ACTION AND INTERVENTION (developed from Meadow's articles)

Radical 'Public Value' Approach

A. Resources and their use
Inputs and their use and flows in the system
Identify any blocks in system flows
Build stocks and reserves as buffers
Develop resources (including staff development)
Analyse workflow and work process [see Seddon's (2008)work on demand failure]

B. Identify types of change
Feedback that reinforces itself, often exponentially
Feedback that has implicit or explicit controls on it
Unmanaged change versus managed change

C. Use of Information
Information about the system, its analysis, and 'active ' or 'passive' communication back into the system

D. Setting the rules
Explicit rules and their effects
Implicit rules and their effects
Subversion of rules- effect of
Deciding to change the rules

E. Empowering Self Organisation
Understanding the power of self organisation, its functional and dysfunctional effects
How can we empower the best aspects of self-organisation?

F. Directions and Purpose
The ability to generate shared goals, aims and objectives as powerful tools of change - the link with values and cultures

G. Radical Change
Building core and primary values that enable a critical sense of the priority issues that need action

Traditional Management Approach

ACTION CONSIDERATION CHECKLIST

A. Resources and their use

- Stability and quality of inputs (staff, resources, etc.) – can this be managed better?

- Human resource issues: team work, staff development, training etc.

- Quantity of inputs relative to the use of inputs (workflow).

- Are changes needed in managing inputs and their use through the system?

- Use of buffers (reserves of money, staff or other inputs) to protect from system shocks?

B. Identify types of change

- Is there adequate management of information to know when the system is in distress or not functioning correctly?

- What about the use of emergency 'crisis intervention'/flexible resources (buffers) that can step in and adapt if things start to go wrong?

- Check the appropriate use of risk planning management and planning with regard to the above.

- Can controls be built into the system that will pick up if negative events are occurring? (i.e.: rapidly spreading sickness or erroneous beliefs and myths in the workplace etc.)

- Can you check and/or slow the growth of such behaviour and ideas being reinforced and spreading?

- Any signs of the system moving into chaos (highly unstable) or places where this is happening?

- Can the chaos be checked?

- Are there any examples where allowing some degree of chaos/instability might be a creative/good thing?

C. Use of Information

- What quantitative information do you have about the system?

- Do you trust it?

- What information would you like more of or less of?

- Are there currently any key changes in the core statistical information that is required?

- Could the repackaging of statistical information and its use help to change the management of the system?

- What does the current range of indicators tell you about the health of the overall system?

- Is a system dysfunctional because it has the wrong information?

- Are there any places in the system where you can correct information, provide different information or target it differently?

- Can you use information to make the people in the system more accountable in some way?

D. The Rules

- Is there anywhere in the system where you want to change the rules to create incentives, punishments or constraints?

- Are any of the current rules dysfunctional?

E. Empowering Self Organisation

- Are there bits of the system where people are already 'working around' dysfunctions (non functioning parts of the system) in a creative way?

- How can positive aspects of self organisation be further encouraged without closing down creativity and pushing a part of the system back into dysfunction?

- How can self organisation be facilitated and managed?

- Can you identify any implicit rules that empower and facilitate self organisation in a helpful way, can this be captured and disseminated as good practice?

- What are the values and culture inherent in self organising parts of the system and are these ethical and acceptable?

F. Directions and Purpose

- Do you need to clarify or redefine the goals of the system, or parts of the system, and work with team/s to develop stronger goals and purpose?

G. Radical Change

- Do you need to work on the fundamental values, culture and beliefs of the whole system, or parts of the system, and if so how can this best be done?

- Should you highlight anomalies and failures in the old paradigm?

- Is this a work of major transformation?

Key References

Meadows, D. (1999) *Leverage Points: Places to Intervene in a System*. Hartland: The Sustainability Institute. http://www.sustainabilityinstitute.org/pubs/Leverage_Points.pdf

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Seddon, J. (2008) *Systems Thinking in the Public Sector*. Axminster: Triarchy Press

Snowden, D. & Boone, M (2007) A Leader's Framework for Decision Making. *Harvard Business Review*. Nov 2007 69-77 www.hbr.org