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Using complexity thinking as a frame for managing change and 'making' the future in organisations: A case study of a non-governmental HIV research organisation reaching for more innovative futures.

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1. Introduction and Context

Complexity thinking is a popular concept in management thinking. There is often a challenge to its practical applicability in the business of organisations dealing with an uncertain future and hyperchange environment.

The issue of HIV in Southern Africa is one such an environment where unprecedented challenges demands innovative and sustainable solutions. HEARD is a research organisation firmly planted in this environment, depending on its ability to produce innovative results, for it survival. This non-governmental research organisation focusing on the socio-economic aspects of public health, operates within a wider complex system of international donor organisations, researchers, policy networks, government and local communities.

This organisation has made a commitment to being a 'learning organisation' with members who "cultivate tolerance, foster open discussion, and think holistically and systemically." (Garvin, Edmondson & Gino. 2008:109). Over a period of six months the author engaged with the organisation in this context, which provided the base for the case study.

2. Purpose of this paper

This paper will investigate the possibility and relevance of using complexity thinking as a frame for managing change and creating innovative futures in organisations. Can practical interventions flow from using a complexity thinking frame? How will this contribute to the goals of the organisation?

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A case study is described detailing experience at one organisation in the non-governmental sector where complexity thinking has been used as a frame for change in the organisation. Firstly certain concepts of complexity thinking and related practices are introduced, and then discussed how these can be used as a frame for practical interventions in the organisation. Qualitative evidence of results achieved with the organisation are highlighted and related to complexity thinking and future studies.

3.   Complexity Thinking and relevance to Future Studies

It is well documented that we live in a world of constant change and uncertainty, characterised by increasing complexity. Somehow 'managing' this complexity and finding ways to influence the future in a world where causal links are less and less visible, remains a challenge for futurists and leaders in organisations.

"In the context of futures thinking for organisations, complexity theory provides an avenue for anticipating change possessing emergent properties." Aaron Smith argues that complexity and it's principles as a metaphor could provide a lens through which to observe activity in organisations. (Smith: 2005, 24, 27)

Eijnatten et al. quotes Waldrop stating that complex systems are characterised by a large number of independent agents interacting with each other, where systemic interactions can lead to spontaneous self-organisation and where learning takes place through feedback. (Eijnatten & Putnik: 2004: 418)

If we consider that complexity as a frame suggests evidence of social systems like organisations which can thrive on the edge of chaos, then the encouragement of emergent activities such as self-organised innovation and creativity can be advantageous to an organisation. (Smith: 2005, 27)

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Using complexity thinking as a metaphorical frame to view organisations within a changing environment can be a useful approach to engage with alternative futures of the organisation by engaging through innovative activities or interventions leading to self-organisation.

4. Concepts of Complexity Thinking

As would be expected from the volume of literature available on the subject, there are a great many ways of conceptualising social complexity and how it manifests in organisational settings. Therefore this paper will touch on a few concepts seen as important for the understanding of the case and how complexity was conceptualised as a frame of thinking for practical interventions in this particular organisation.

Systems thinking principles underpin complexity thinking

An organisation that uses systemic thinking understands that there is no inherent end to a system and no such thing as a complete theory. Handling complexity successfully is working in an intuitive domain which is not part of educational theories. Simply accepting the complexity is a major step toward developing an intuitive sense. To accept it means people in the organisation must recognize two things at a gut level: 1) that everything is interconnected, and 2) that they are never going to figure out that interconnectedness. (Senge, 2005:2). This principle is often referred to as the 'primacy of the whole'.

Connectivity informs self-organisation

The angle of connectivity indicates the viewing the organisation as a network that is an integral part of the infinite whole (the limitless universe). This is a quite broad statement, but when viewed in context of its opposition to the reductionist perception of organisation as an independent entity existing for its own purposes within boundaries, it creates distinction. Organisations that see themselves as such do not get overwhelmed by

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the complexity of the system but use it as a frame to view boundaries not as separating barriers, but as a means to connect.

It is in looking at connectivity and the potential this angle has to inform self-organisation that we see how this relates to a changing environment. Hoogewerf et. al indicate that "the emergence of exquisitely complex order from the interaction of a multiplicity of autonomous agents acting in the context of virtually complete freedom is only natural". Further, "as long as participants in a system see the world that way, they will as the saying goes 'think globally and act locally' thus eliminating the necessity of imposing the myriad artificial mechanisms of control so essential to the sustainability of the conventional organisation. In the [networking] organisation, all control is self-control informed by the principle of connectivity." (Hoogerwerf & Poorthuis, 2002: 383)

Using the holon as a metaphor to view the organisation

This refers to Wilber's work on holons and holonic capacity. "Holons are structures that are simultaneously autonomous and dependent." (van Eijnatten, 2004: 438). Wäfler describes holons not as sub-systems of a super-system, but entities that are wholes and parts at the same time. An individual is a holon, as well as a self-managing group, a department or a whole organisation. The exterior and the interior of a holon provide its holonic capacity. Regarding individuals, holonic capacity is somehow comparable with 'Persönlichkeitsförderlichkeit,' a concept of German Work Psychology as described by Ulrich. This reason for creating working conditions that allows the human's personality to develop. Such a development is displayed in knowledge and competencies, both thinking and in acting. This then relates to the individual's interior, i.e. the mind, as well as the exterior, i.e. the acting. (Wäfler, 2004:452)

Organic systems with the ability to learn

The idea of a learning organisation and the ability of the organisation to learn is not a new one. Particularly the idea of marrying the need for personal growth and organised

human relationships goes back far in history. The development of systems thinking in the fifties, particularly the development of socio-technical systems view of the organisation, helped to bring the idea of organisations as organisms in view. This is an important paradigm when it comes to the learning organisation as it is only when the organisation is viewed as alive, that it can be conceived as to be able to learn. (Peddler, Burgoyne & Boydell, 1991:2)

Snowden and Kurtz highlight the benefits of learning which can be had from inter-organisational networks, in essence becoming learning networks. These learning networks can be valuable yet intangible. They quote various authors on the value these networks have on speed of innovation diffusion and improved knowledge creation. These benefits improve the systemic functioning of the organisation as a complex entity, and all involve strong narrative elements. (Kurtz & Snowden: 2006. pg 123)

5. Case Study of HEARD

5.1. Questions or problem statement of the organisation

When engaging with the organisation using a complexity lens, the use of questions as an entry point becomes important, if not crucial. As an organisation which finds itself in a context where the HIV issue is seen as an intractable problem, the need for thinking differently and encouraging this on all levels of the system were deem to be important. The initial questions worked with as starting points for the engagement were:

How can we be more innovative in the way we engage in the system? How do we create a learning culture within HEARD and within the bigger Southern African HIV system? How do we become a learning organisation?

5.2. A complexity thinking frame to organisational change and learning: Practical interventions

The interaction with the organisation occurred over a period of six months consisting of a number of distinct interventions or sessions with different groupings of people ranging from individual sessions to various small group sessions.

Drawing on notions of action research and grounded theory, a naturalistic approach was taken to sense-making. Kurtz et al compares a naturalistic approach to sense-making with a more idealistic approach by contrasting how research and practice is intertwined in the naturalistic approach. (Kurtz & Snowden: 2006. pg 3) The interventions used, were used as research and opportunities to make sense, whereas all research and diagnosis were also used as interventions. Results, insights and reflections of the process were captured using a narrative style, using the notion that narrative is a mechanism of complex knowledge transfer and interpretation.

During the first phase of the work an inquiring approach was encouraged with participants. The first few interventions were focused on working with questions, individual questions and organisational questions. Through a process of 'finding the question' individual questions of the core group were distilled to a key question to engage with. This inspirational question provided an impetus for the core group to engage with the rest of the organisation at the beginning of the intervention period.

Working with questions or an enquiring approach helps participants to consciously engage with the organisation as a system and the complexity of the system. Engaging with the interconnectedness of the system and coming to the understanding that one can never figure out the interconnectedness of it. Balancing enquiry and advocacy equally in a research organisation driven by information, content and 'answers', is paramount to engaging more systemically. We found that it is particularly important

to encourage personal enquiry which serves as beginning point to start challenge established mental models.

The second phase of the work at the client organisation was focused on interventions where the organisation is seen as a network and the connection between parts of the network were strengthened consciously. Interventions included assignments to participants to connect with other parts of the system (where there are not strong connections) through mutual attractive projects and goals. Some work was done with small distinct teams in the organisation which saw themselves as 'under siege' and in competition or conflict with other teams and parts of the organisation. Through first strengthening the individual connections within the team through the strength based approach, then connecting individual parts of this team with individuals in other teams through shared goals and interests. This allowed for connections to be established between teams on shared personal goals, which were not always work related. This connectivity is the beginning of self-organisation.

The interaction with organisation naturally developed to take a more personal focus with individual work with different agents of the system. The third phase saw a lot of individual and small group coaching where individual enquiry was stimulated and encouraged. Individuals were encouraged to connect personal goals with organisational goals, and encourage to actively shape the organisation to link to their individual goals. As such the holonic characteristics of individuals were encouraged and consciously pointed out. Individuals found this very empowering to focus on how their dependency and connection with the organisation, also informs their power and autonimity.

Aspects of a learning organisation, such as team learning, working with mental models and personal mastery were also introduced in different teams in the organisation. We have worked with teams and individuals in assisting them to see the organisation as a living organism, and continually challenging them to learn to see the whole together while engaging in "learningful" conversations that balance inquiry

and advocacy. Senge introduces this concept and indicate that this helps people to expose their own thinking effectively and make that thinking open to the influence of others." (Senge. 2006: 8)

5.3. Summary of changes and perspectives after the intervention period

There has been evidence of improved relationships within the teams that we worked with. Improved relationships and communication between specific teams are noticeable. Employees that have been part of the process shared how they take more initiative in connecting with each other (strengthening the internal network), and proactive resolution of inevitable conflict in relationships. Seeing the organisation as a system within a bigger system where every part is interrelated has helped participants to engage with different parts of the system more confidently, knowing that each action has an impact. There has been evidence of researchers engaging with the bigger HIV system in a more proactive way, finding opportunities to strengthen the learning components of institutional assessments.

The value of challenging limiting beliefs and mental models about working with different people were expressed by some participants. This assists them to deal with inter-team relationships, and ultimately enhances the value of workplace diversity. A number of the teams which participated in the interventions introduced 'learningful' conversations in a formal way in the teams, as part of the weekly interaction. This contribute to constantly challenging mental models and individual beliefs about not only what individuals can do in the context of the team, but also what the organisation is capable of within the context of its environment.

We are also starting to see evidence of new creativity and innovation, manifesting itself in developed thinking at different levels about the opportunity to link personal and organisational learning to the organisational mission, new ways of thinking about managing stress and workloads, and the linking of relational strategies to problem-

solving. "There was success in terms of individuals expanding use of the learning process to interactions with HEARD's external collaborators and partners (e.g. for SADC 'partnership' negotiations;" (Quinlan, 2008:3)

Overall the impact of the interventions at the organisations has had a positive effect on the organisations questions of strengthening innovation for a sustainable future and creating a learning organisation, though it is clear that work on this is far from complete. The six months interaction with this organisation creates a starting point in changing perspectives in an organisation of this nature.

 "The (author) has started to help HEARD to substantiate its commitment to being a learning organisation." "There is a record or individuals' assessment of the process; the overall result being appreciation and positive change within HEARD." (Quinlan, 2003: 4) It is with this in mind that the author has been retained to continue the work for another period.

6. Conclusions and areas of further study

No firm conclusions can be made from this case as the research period provides only a brief 'snapshot' at it were to how complexity thinking can be used as a frame for creating innovative futures and managing change in an organisation. A number of concepts of complexity particularly relevant for the particular situation were highlighted. A brief look at the practical inventions with the organisation and the linkages with the concepts were attempted. Perspectives of changes achieved with the work at the organisation were briefly highlighted.

This paper aimed to document how complexity thinking can be used as a 'frame' for practical interventions supporting innovative futures at an organisation. This way of thinking and using complexity as a metaphor rather than theory proved to be effective for the organisation and the author. This field of study would benefit from more extensive

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research of a quantitive nautre on a larger number of organisations for more conclusive results.

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