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# Strategic OD and Complexity

## Facilitating Emergent Change

By Peter M. Dickens

Complex systems find their own form of order and coherence, often referred to in terms of self-organization and emergent change. What can strategic OD professionals do to create the systems and structures that facilitate emergent change? This article identifies seven key organization-specific factors that have been found to facilitate emergent change. These factors were initially identified through an extensive literature review, interviews with the CEOs of 15 healthcare organizations, and a think tank of subject matter experts. This resulted in the development of a validated Organizational Resilience Assessment survey (ORA) that can be used to assess the presence or absence of these factors in a specific organization, thus providing OD leaders with a framework for change.

### Self-Organization and Emergent Change

By now, most OD practitioners have at least a passing awareness of complexity science and several have become leading proponents of its application to organizational change. Much of this is to the credit of Margaret Wheatley (1994) and Olson and Eoyang (2001), among others, who introduced these ideas to the organization development world. Complexity helps us to see past the neat lines of an organization chart and see how the system actually operates: relational, often irrational, and regularly messy. Yet, for all their apparent disorder or chaos, there is in most organizations an innate movement towards coherence and order

that cannot be explained by traditional management theories that rely heavily on images of machine-like precision and detailed planning. Much of the movement to coherence comes from two seminal, complexity science concepts: self-organization and emergent change.

Self-organization is a characteristic of all social systems that operates whether we recognize it or not, and some would say it is the defining characteristic of complex, adaptive systems (Arena, 2009; Lichtenstein, 2000; Olson & Eoyang 2001; Zimmerman, Plsek & Lindberg, 1998). In every interaction people mutually adjust their behaviors in ways needed to cope with changing internal and external environmental demands (Capra, 1996; Waldrop, 1992). As a result, unplanned and unpredictable changes emerge out of these interactions. As Zimmerman (2010) states, what emerges is “the appearance of outcomes in the form of new structures, patterns, or processes that are unpredictable from the components that created them” (p. 17). Put another way, self-organization is a process whereby the coherence, resilience, and agility of a system spontaneously increases, without this increase being controlled by formal directive or an external system (Chiles, Meyer, & Hench, 2004, p. 500).

Unlike traditional, more mechanistic models of change that are often motivated by some form of external agent and driven from the top down, emergent change arises out of the unplanned interaction of agents within a system. Thus the nature of the change is not known a priori. In discussing

the work of Chris Langton, Waldrop (1992) proposed that, “instead of being designed from the top down, the way a human engineer would do it, living systems always seem to emerge from the bottom up, from a population of much simpler systems” (p. 278). Emergent properties are ones that “exist at one level of the organization that cannot be explained by understanding properties at other levels of the organization” (Lanham, 2009, p. 91).

It is important to recognize that conceptually, emergent change is neither

Schein (2004) suggests, culture is “how we get things done” in organizations, then what happens when OD brings new concepts and frameworks to the table? What if, instead of arguing for conformity, detailed planning, and a barrage of measurable outcomes, we advocated for the systems and processes that would unleash the power inherent in self-organization and emergent change? The system would find new ways of doing things that enhance its resilience and capacity for innovation.

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positive nor negative, it simply is. A riot is as much an example of self-organization and emergent change as was the gathering that heard Martin Luther King’s famous “I have a dream” speech. The change therefore needs some sort of anchoring or even ennobling concept to ensure that it is meaningful. It is my belief that positive emergent change, to borrow a phrase from Philip Rost, “Contributes to the mutual purposes of both leaders and followers who intend real change” (1993).

What is evident from my research is that there are specific systems, structures, and processes that facilitate positive emergent change, thus giving OD practitioners new language and approaches for reshaping organizational culture.

#### **Locating the Research**

As a practitioner/researcher, I have a natural bias toward understanding the practical implications of whatever I am studying. I have become extremely curious about the levers of change in an organization and their contribution to the strategic role that organization development leaders can take in shaping the culture of their organizations. If, as

Several years ago, I was asked to take on a role of Vice President of Organization Development at a large metropolitan hospital. This hospital had just gone through a forced merger, and the new CEO knew of my work with complexity. His gut, and apparently little else, told him that he needed to bring a radically new voice to the senior table and the Board. Out of that experience and subsequent consulting engagements, I began to surface some ideas about the levers of change that might facilitate emergent change and lead to enhanced organizational performance, resilience, and agility in times of rapid change. For example, it became clear that in the complex world of a hospital, it was impossible to imagine that the executive team could identify, let alone solve all of the problems.

I had a hospital client declare that they wanted to develop 1,001 leaders: the 1,000 representing the broad plurality of leadership, while the “1” represented the power of an individual to make a difference. With each incoming of participants in the leadership program I led, the CEO would say bluntly, “We have lots of problems in this place, big and small. I can’t possibly recognize them, let

alone solve them. Only you can and that’s why you are here. You have an opportunity, regardless of formal role, to step in and be a leader – and please know you have my full support.” It was heady stuff for nurses and porters who had never been given that kind of opportunity or support. As my old mentor, Dick Couto once said, “Any action, no matter how small, in pursuit of shared values and purpose is an act of leadership.” It takes courage to loosen the controls and give people the opportunity to lead. What mattered most was that they were all drawn toward a common focus on patient-centered care.

As many organizations have found, creating new structures to support collaboration were key. Health care has been notoriously defined by a medical model of leadership in which staff, no matter how qualified, deferred to the doctor for all key decisions. Over time, we have seen this give way to interdisciplinary teams that put the patient (and family) at the center of their deliberations.

After a highly collaborative process, the hospital in which I was a VP began to focus on a common vision—Together: Leadership in Healthcare Innovation. The whole organization took tremendous pride in setting benchmarks in terms of both clinical and operational innovation. There was an openness to experimentation and a culture that supported change. The process involved a working group that worked with me to facilitate a series of dialogues with staff, management physicians, the Board, and community partners, drawing from them language that could shape a “straw dog” or draft statement. The working group was cross-disciplinary and cross-functional. Once we had a draft, they then took that draft out to various stakeholder groups to measure their response and bring back suggestions. We went through three iterations before we were prepared to present the draft language to Senior Management and the Board, so by that time, anyone who wanted to had provided input. The draft was quickly ratified, and then transposed to large posters, at which point we had a formal “signing on” ceremony with the Board and all management, so that we

had two signature copies to hang at each of our sites. Additional copies were hung in every department. We then facilitated a department-by-department discussion of specific behaviors and accountabilities to which each department was prepared to commit, to demonstrate their alignment with the values and mission. Within a year, the values were an embed part of the recruiting and hiring process as well as individual performance development conversations.

The language of the vision, the mission, and the underlying values, as well as the process for their development, underscored three critical elements that became the seeds of my later research. The first is the importance of distributed leadership, in which staff throughout the organization had the opportunity to take on leadership roles in order to move the overall mission forward. While some were obviously in formal leadership roles, most were staff that saw an opportunity for change and stepped up to make that change happen. The role of senior leaders was not to control or manage the process, but to provide encouragement, support, and training. Over the course of four years, more than a thousand staff were involved in a six-week leadership development project, which involved classroom time, mentorship from senior leaders, and participation in project teams related to specific process and quality initiatives.

The second element was the incredible power of collaboration. This was supported through the leadership development process, but also through a variety of quality teams and other improvement initiatives. It became clear that there needed to be deliberate intent behind this, creating structures and systems that facilitated effective collaboration. As a result, cross-functional work teams became the norm as people found the value of a variety of perspectives in trying to find new ways of working on issues and opportunities.

The third element was the focus on innovation. Complex adaptive systems are constantly in a state described as far from equilibrium, which means that they need the capacity to rapidly and collectively

assess their immediate environment and then make appropriate adaptations and changes. One example of such innovation was the decision to have nurses in the post-operative area call patients within 24 hours of discharge. While initially questioned as simply adding to the workload, the nurses rapidly found they could assist patients quickly if they had not understood their discharge orders, and they received a steady stream of qualitative data that helped them improve their systems and process.

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### Research Methods

Prior to the development of the ORA Survey, I interviewed senior leaders in the Ontario healthcare sector. This included 13 hospital CEOs, a Deputy Assistant Minister in the Ministry of Health and Long-Term Care, and a senior researcher. There was broad consensus that the system is extremely complex and that the complexity is increased by the lack of clarity regarding the role of the Local Health Integration Networks (LHINs), Ontario's initial foray into some form of regional delivery model. Broadly speaking, the interviewees all pointed to the importance of several of the elements of the seven validated factors that emerged from the exploratory factor analysis, particular the importance of leadership engagement and organization-wide leadership development in order to provide the skills to engage in the sorts of collaborative behaviors indicated by the survey results. The feedback from the interviews aligned with the information drawn from the literature review and thus formed the initial constructs of interest for the survey.

### Development and Evaluation of the ORA Survey

The survey was developed following a careful analysis of the literature and the interviews, looking for common patterns and themes. From this analysis, seven initial constructs of interest were developed. A panel of individuals with some experience with emergent change was then asked to identify specific factors that they felt had facilitated the change.

From this feedback, two new constructs emerged as well as language that began to frame items within each construct. A draft of the survey was then circulated to the panel for further refinement. Once the draft had gone through two more iterations, an Ethics Review was completed at the study site. The site was selected because it consistently achieved strong financial, patient care, and staff satisfaction results.

The survey was conducted using Survey Monkey® and allowed for both quantitative and qualitative responses. 174 leaders and staff at the hospital responded to the survey, but 10 did not complete it, leaving N = 164. The survey group was intentionally limited to past participants in a formal leadership development program at the hospital, in the expectation that would increase the response rate. It did (response rate was 40%) but it also appears to have skewed the results, which were consistently above the mean. Since this was the first use of the survey, there was not a pool of data against which to assess the results, but since the intent was the validation of the survey rather than the formal assessment

of the hospital, the process served its purpose. Qualitative data, in the form of individual comments on each of the factors, was more balanced, but the overall tone of responses indicated affirmation of all seven factors.

The results were then loaded into SPSS®, a software package that facilitates an exploratory factor analysis. After careful analysis, five factors with 4–6 items in each factor indicated Cronbach’s Alpha over .700, which is indicative of their internal validity. Two more emerged with Alpha between .550 and .700, which indicated some level of validity but also indicated the need for further refinement. A second version of the survey was then prepared.

### The Seven Factors that Facilitate Emergent Change

The factors that I identified included:

1. **Executive Engagement:** The degree to which senior management demonstrates support for, and commitment to non-hierarchical approaches. The importance of commitment and support from senior leadership is almost counterintuitive when thinking in terms of CASs, where the emphasis tends to focus on a more distributed model of leadership (Marion & Uhl-Bien, 2007). My previous research at the study site hospital indicated the significance of senior-level support (Dickens, 2010). As one interviewee in that study said, “I know it sounds a bit silly, but it was almost as if we needed, or wanted, mom and dad’s permission to experiment.” Items in this factor include such elements as:
  - I feel like I know the senior leader as a person.
  - I regularly see our senior leader engaged in informal conversation with staff.
  - The executive team appears to genuinely respect each other.
  - The leadership team is very visible in our organization.
  - The senior leader is often seen in the organization.

It should be noted that some of the items in each factor were reverse

coded for analysis, meaning they were deliberately written in the negative.

2. **Safe-Fail Culture:** The degree to which the organization is perceived to be comfortable with making mistakes, learning, and moving on without fear of recrimination. The idea that organizations need to create safe spaces to foster innovation has been present since organizations began to talk about innovative cultures (Dombrowski et al. 2007). However, historically these safe spaces have been segregated and given terms like skunk works. Today, it would appear the pace of change facing every function of an organization rarely allows for the luxury of such separateness. Instead, organizations need to create and support safe holding spaces for experimentation (Heifetz, Grashow, & Linsky, 2009). Although the survey validated the importance of this, written feedback and the focus groups indicated that, although vital, it was not universal at the study site. It appears to be contingent on the level of trust between staff and management. Some of the items in this factor include:
  - People rarely spend time trying to place blame when things go wrong.
  - People feel comfortable proposing innovative ideas.
  - Our group looks for best practices from other groups and organizations.
3. **Collaborative Decision Processes:** The degree to which people throughout the organization have timely input into the decisions that affect the work they do. Holman, Devane, and Cady suggested that “what keeps [a] system whole over time is a commitment to collaborative meaning making” (2007, p. 12). The opportunities for such collaboration can be left to chance, but the strategic organization takes the lead in creating collaborative work structures. Tekell et al. described collaborative work systems arising from “a holistic design process that creates the framework for successfully

changing the organization to support collaboration and improve business results” (Holman et al., 2007, p. 440). These collaborative structures create the space within which people at all levels of the organization can engage in highly collaborative work. Some of the key items in this factor include:

- I have opportunities to have input into decisions that affect my work.
- I feel comfortable providing input into our group meetings.
- We regularly receive updates on our group’s performance.

4. **Collaborative Quality:** The degree to which decisions about quality measures and strategies are defined by the people doing the work, supported with the data they need to make decisions. In an extensive study on academic quality by Wergin (2003), he found that one factor differentiated high quality departments: Evaluation policies were flexible and decentralized. Each department defined what quality meant in their context and then were held accountable for meeting that standard. “The only institution-wide requirement was that departments include in their study an analysis of how they contribute to the mission of the institution” (Wergin, 2003, p. 35). Items in this factor include:
  - My group has direct input into the way we measure quality.
  - Quality standards are valued in our organization.
  - Our group adjusts our quality expectations on a regular basis.
  - I feel comfortable giving feedback on quality in my group.
  - Our group has regular opportunities to share learning with our peers in other groups.
  - There is a commitment to constructive feedback in our group.
5. **Intentional Learning Processes:** The degree to which there is both formal and informal support for both technical and relational skills and the willingness of the organization to learn as it goes. Learning and constant adaptation are central elements of a CAS’s capacity

to adapt and change (Olson & Eoyang, 2001; Wheatley, Zimmerman & Patton, 2007). My research is focused on the organizational factors that contribute to emergence, so the focus here is on system structures. From that perspective, the question becomes whether or not the agents of the system are intentionally aligned to teams and groups that will facilitate learning. Key items include:

- I have access to the learning resources I need.
- I have the opportunity to attend a range of courses and workshops.
- Our group regularly debriefs a project once completed.
- We get sufficient data on how our group is perceived in the organization.
- There are many formal learning opportunities in our organization.

**In one of my focus groups, a participant made an astute observation when asked which factors might be more important than others. She said, “It’s a bit like a chemical compound or a molecule. You can take a hydrogen atom away from H<sub>2</sub>O, and you still have something (hydrous oxide). It just isn’t water. The same is true for these factors, they are all part of an integrated whole, and you need to see them as a whole, and see the interplay between the factors, to really understand the change.”**

**6. Culture of Experimentation:** The degree to which people are willing to try new ideas and approaches, to listen to people who think differently than they do, and to welcome innovation. Central to this type of experimentation is having real-time access to meaningful data in order to constantly adapt and change. Like learning, feedback is a central concept in complexity theory. Complex systems are open systems with feedback loops that can enhance and stimulate positive emergence when there is a steady flow of real-time information so the agents within the system can adjust their

innovative efforts in order to increase effectiveness. Key items include:

- I feel safe telling the truth to my manager.
- You can try new things even if they don’t work the first time.
- Management rarely takes control of initiatives.

**7. Purposeful Orientation:** The degree to which people feel they have a common purpose and focus and share a passion for that purpose. This is the anchoring construct that gives emergent change its coherence. Wheatley suggests that, “we need to trust that something as simple as a clear core of values and vision, kept in motion by continuous dialogue, can lead to order” (1994, p. 147). This suggests a different way of thinking about an organization’s strategic framework or high-level

organizational commitments. Rather than seeing them as solely the organization’s “brand” (as important as that is), they can be the attractors or simple rules that elicit coherence in the system. See Craig Reynolds’ “boids” experiment to more fully understand this phenomenon (Described in Waldrop, 1992, p. 329). Some of the items in this factor include:

- My work serves a higher purpose.
- Our organization is adept at adjusting strategies in light of new external factors (regulatory bodies, government, public expectations, etc.).

- I regularly think about the mission and values of our organization.
- I seldom work on my own and don’t interact with others.

### **The Whole Really Is Greater Than the Sum of the Parts**

In one of my focus groups, a participant made an astute observation when asked which factors might be more important than others. She said, “It’s a bit like a chemical compound or a molecule. You can take a hydrogen atom away from H<sub>2</sub>O, and you still have something (hydrous oxide). It just isn’t water. The same is true for these factors, they are all part of an integrated whole, and you need to see them as a whole, and see the interplay between the factors, to really understand the change.”

As we probed this for examples, the group made it clear that the organization’s commitment to things like leadership development at all levels was essential to creating a collaborative culture. They also pointed out that helping staff learn how to use Lean Process Improvement Methodology supported the notion of collaborative quality and learning. Lean is a process borrowed initially from Toyota that trains teams to review processes with an eye toward maximizing value while reducing cost and waste. It succeeds when there is a high level of collaboration, constant access to “just in time” data, and a willingness to engage in rapid cycle quality improvement. Based on the participants’ comments, it is perhaps the interdependence of the factors that may be central to our understanding of the power of systems to embrace emergent change.

### **Conclusions**

For the first time, complexity science provides OD leaders with a compelling framework of systems, processes, and structures to create conditions in which self-organization and emergent change might thrive. This is not a linear, “if you do this it will work” model as much as it is a way of connecting ideas into a coherent whole from which a new form of order

can emerge. The availability of a validated survey instrument to assess the presence or absence of these factors provides OD leaders with a starting point in determining where they need to focus their efforts.

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