

Excerpts from: *Complexity, Management and the Dynamics of Change: Challenges for Practice* E.McMillan 2007.

Managing without control

A world without control is a world in chaos –or is it? Chaos in the scientific sense is not as disorderly as one might expect. There is order even when there is apparent chaos. This is created by complex structures and patterning. These may be irregular patterns of behaviour but they share recognizable similarities. Further when a phenomenon is undergoing a transition then it will appear to be chaotic and disorderly. The reality is, however, that it is undergoing a renewal process and apparent chaos is a vital part of that process. The natural living world was once thought to be disorderly primarily because of its non linear and unpredictable nature, but it is now recognized that it is inherently ordered, though not in accordance with traditional notions of order. These notions have major implications for the way we view change and our understanding of order and disorder. We can no longer look in horror at the natural world and its apparent chaos as a justification for our controlling activities.

The short example which follows concerns the Park Service in the USA and their management of Yellowstone National Park. It is a classic example of what can happen when we impose human notions of control and our need for a stable state of affairs upon the natural order of things.

Case study vignette

‘For more than a century, the Park Service had maintained equilibrium in the forest by quickly extinguishing fires, denying the natural rhythm of fire and re-growth whereby forests cleanse and renew themselves.

In theory, the Park Service allowed fires to burn if they did not threaten people at campsites or hotels. In fact, because fires can so easily get out of control (and always attract bad press), they were extinguished as quickly as possible.

As a result, a thicker-than-normal layer of deadfall and debris had built up on the forest floor. The 1988 lightning strikes created multiple fires. A prolonged drought during the preceding months and ill-timed winds then conspired to incinerate the forest with intensity and velocity that are rarely witnessed in North America. The conflagration destroyed large trees and charred the living components of topsoil that would otherwise have survived.....’

(Pascale 2000: 20)

As a consequence of their desire to control the forest, and its fires, the Park Service’s actions eradicated approximately 25% of Yellowstone’s forests. As Pascale and his co-authors point out, what applies to the living world of the forests can also apply to the business world. The use of control in order to achieve stability can unwittingly lead to disaster.

Managers must learn to work with disorder and not against it. Like captains of a ship in a storm they must learn to ride the waves, to flow with the ocean currents and the winds that blow – and to use them to come safely into port. The ship’s captain that tries to control the elements and resist their force would surely be deemed incapable or even mad – so why do managers try to sail their ‘ships’ in such a fashion?

Complexity in Practice: Doing Things Differently

- Doing things differently: definitions and transforming Japanese companies
- Managing without control: Semco and Oticon
- Using the butterfly effect, strange attractors, the edge of chaos: 3M, BPX and other companies
- SENCORP and fractal management
- Using self organizing principles and self organizing leadership: Dupont, Visa, John Deere and other companies
- Complex adaptive organizations: St Luke's, Sears, W.L. Gore and others

The butterfly effect

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It is important to remember that the butterfly effect is also called sensitive dependence on initial conditions. This means that how events unfold is very dependent on the initial or starting conditions – and these are different for everyone and every set of circumstances. What will work well in one organization or in one industry cannot be precisely replicated in another organization or in another part of the same industry, as each will have different initial or starting conditions. Each organization is unique with its own history and culture. Every individual, every team, every department will respond in its own unique way. The differences may be slight or they may be substantial. So rolling out a standard, 'one size fits all' change programme across an organization is no guarantee that it will be effective. In reality, the responses to the programme will vary from one individual to another and from one area to another and the results may prove to be quite unexpected. Such an approach could be courting disengagement and even disaster! Many traditional approaches to organizational change based on linear notions of predictability assume that the same methods and approaches will work effectively in most situations and produce similar results. Knowledge of the butterfly effect explains why this is not so and why so many well thought out company wide change programmes fail.

On the other hand, understanding how the butterfly effect phenomenon works can enable energetic new managers to create important changes in an organization. They are able to do this because their activities cause reverberations across the dynamic web of the organization. Thus it is perfectly possible for one person to affect the life of an organization. Further, that person does not have to be in a position of formal authority or leadership, but if they are, then they have the potential to make a huge impact over time.

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A complexity perspective on organizational change focuses on process and dynamics and acknowledges the uncertainty, unpredictability and the paradoxical nature of life in today's organizations. A manager considering change from a complexity standpoint will realize that it is pointless to attempt to control all the key variables in a given situation and will instead focus on what it is possible to know and understand. Critically, he or she will need to reflect at length on how they may best engage with the human dynamics of the organization and all their many intricacies and nuances.

The edge of chaos

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Organisms as complex adaptive systems that live on the edge of chaos are able to self organize and adapt effectively to changes in their environment in such a way as to improve their survival chances. They are able to 'dance' between the extremes of stability and instability and dip into each of these in order to experiment and exploit their existing circumstances. This means that an organization that wants to exist at the edge of chaos needs to provide an environment that is flexible and able to respond to advantageous learning and experimentation. An environment that is able to react effectively to relevant changes in its external landscape. It must also provide strong frameworks to ensure that there is not too much novelty and surprise. These frameworks, for example, could include strongly shared organizational values, necessary legal or financial procedures, clear decision making and accountability processes, and sensible human resource systems.

Rosabeth Moss Kanter in her book *When Giants Learn to Dance* (1990) describes two organizations in the 1980s which needed to dramatically change if they were to survive. The two companies were Apple Computers and Kodak. Kodak was a very large, traditional, hierarchical and long standing organization which was inflexible and unresponsive to changes in its environment and short on genuine innovation. Apple was a very different kind of company. It was very new, very confident, and highly creative but it lacked a clear organizational structure and as a result its decision making was poor and accountability was very unclear. Thus Kodak was too stable whereas Apple was too chaotic. Both were in danger of going out of business. As Kanter points out, an approach was needed that brought together the best aspects of both types of organization.

In other words, both companies needed to move closer to the edge of chaos. Kodak needed to reduce bureaucracy and encourage creativity and innovation and Apple needed to put in place and use strong but flexible frameworks.

When Ricardo Semler took over Semco, the family firm, he found a company that was operating close to equilibrium and in danger of going out of business. Semler completely reorganized the old traditional, multilayered, structure by reducing it to three levels of management and restricting the size of all operational units to less than two hundred people. Further, he also changed the physical nature of the workplace by removing walls and using plants to separate different areas. Thus he changed the formal management structure, the physical lay-out of things and also the ethos and values of the company. This latter he did by founding the business on three core values by which all management activities were to be guided. These were: democracy, profit sharing and information. In this way he pushed the company away from equilibrium and into operating on the edge of chaos.

Living at the edge of chaos has many advantages for an organization, for it is able to experiment with different ways of doing things and so avoid getting trapped in one particular routine or way of thinking. If an organization becomes too formal, too rigid and too inflexible it will struggle to survive in our rapidly changing and uncertain world, as was the case with many of the large bureaucracies at the end of the last century. Likewise those organizations that are too disorderly with little or no structure or underpinning frameworks for

accountability and action will also find it hard to survive as did many of the dot coms.

Earlier in this chapter I provided a case study vignette of Oticon the Danish hearing care company and how Lars Kolind revived its fortunes. Kolind not only introduced a new form of order to replace the controlling ethos, but he also pushed the company closer to the edge of chaos. This is described in the *Case Study Vignette* which follows.

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