NON-LINEAR APPROACH TO LEARNING PROCESS IN ORGANIZATIONS: CHAOS THEORY

A. Gizem GÜRSEL
Gazi University

Yavuz ERCIL
Turkish Military Academy
yercil@harp.kho.edu.tr

Change

Change is an important concern for any dynamic approach that deals with managing and organizing. Because it has impacts on individuals and groups of people in an organization. People are affected by change and have to deal with it. (1)

There are three types of changes covered in this paper; "closed change", "contained change" and "open-ended change". In a closed change situation, changes have predictable consequences and in a short time period they may occur repeatedly. This is shown in figure 1 as area A.

In contained change, there are some other occurring events and actions being taken in the current time which are less exact repetitions of the past. The possibility of making forecasts extends some way further into the future than is the case with closed change. The time period has to be short enough to allow us to ignore any build up of small unnoticeable changes, which may have major consequences. This change is depicted in figure 1 as area B.

Open-ended change is a new type for business and is qualitatively different from closed and contained change. While those two changes involve some repetition or large numbers of events, open-ended change is unique and organizations encounter it rarely. In this situation, changes may seem small and insignificant at first. But after a period of time, they escalate with major consequences for many companies. Causes of these changes may not be known. Open-ended change is depicted in figure 1 as area C.
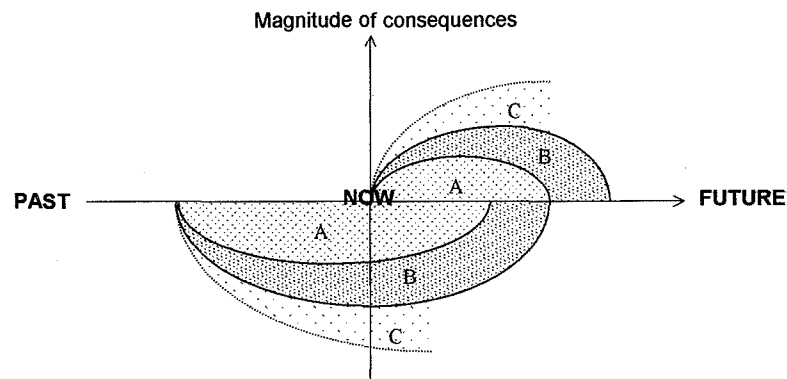
Figure 1: Types of changes

Source :Stacey, Ralph D, *The Chaos Frontier*, Butterworth & Heinemann, London, 1991 p.30

Feedback in Open-Ended Change

In closed and contained change situations, it is possible for the preferences and objectives of organizational actors to be reasonable, clear and piercing. This makes it possible to choose between goals and proposed actions. But in an open-ended change, information is always inadequate and uncertainty is very high. In closed situations causes can easily be understood. There are clearly identifiable links between cause and effect. Insignificant events or actions undertaken in the current time (now) have insignificant consequences in closed and contained situations. In closed situations, learning is achieved in advance of change and there is nothing new left to learn as it occurs.

In contained situations much is learned in advance and rests by purposeful adaptation through trial and error search as the change occurs. Learning is minimal in those changes because most of the change has been foreseen. But in open-ended situations, learning as discovery is the major significance. Learning becomes a part of dealing with the change. It proceeds with the handling of change in real time. So, in open-ended change the control loop is different from closed and contained change. In open-ended situations, the past is ambiguous, it requires acts of interpretation,

understanding and agreement among those concerned with change. In open-ended situations, the future consequences are unknown and forecasting is totally impossible.

People detect open-ended change when they are sensitive to anomalies and to making different interpretations of what is going on. People in a company will be more prone to detect open-ended change when they are different from each other, e.g., when they have different cultural values, reason from different basic assumptions, use different mental models to interpret the ongoing situation and when they have time to do all of these. Creative response to open-ended change and the beginning of strategic control of the change lies in spontaneity and difference.

Learning Process

The learning process can be modelled in four main stages;(2)

1. Scanning
2. Problem solving
3. Diffusion
4. Absorption

The dynamics of this stages are as follows;

In the scanning stage, foreseeble chenges affect the intrapreneuring. Intrapreneuring is a process of entrepreneuring in the organizations(3). Intrapreneurs capture the new opportunities, and make the business in the name of his/ her organization.

In the problem solving stage, creativity is very impotant. Especially, in the open ended situations, creativity affects the learning process directly. Intrapreneuring feeds up the creativity. Problem solving stage is competible with learning directly.

Foreseable changes in industry

creativity

competence

Intrapreneuring

Scanning

Problem Solving

diffusion

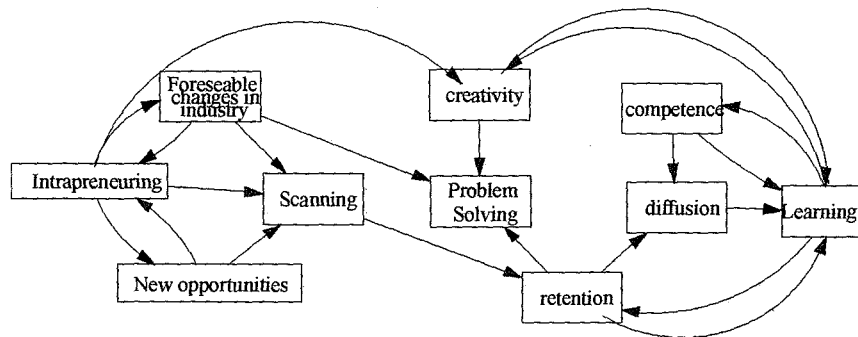Learning

New opportunities

retention

Figure 2: Non- lineer learning process in organizations.

Retention also plays an important role in the learning process. Because of the previous knowledge usage, learning can be affected directly. Scanning feeds up and learning feeds back the retention .

Conclusion

Learning in organizations is a non-linear,unpredictable, interactive and dynamic process. Organizations learn in a rugged landscapes with the transformation at the same time. Organizations transform their structure as they learn and they learn as they transform. This dynamic complex nature of learning makes the chaos theory an important tool to explore the structure.

References

1. Stacey, Ralph D, *The Chaos Frontier*, Butterworth & Heinemann, London 1991 pp 25-37.
2. Boist, Mark, Griffiths, Dorothy, and others, *Learning model in organizations*, http://www.webnet.fr/ea/us/EntApp/Articles.html.
3. Pinchot III, Gifford, Intrapreneuring, Harper Brow, NewYork, 1985,p 3.