Chapter 17
Evaluating HRM Functions within the Context of Chaos and Complexity Theory

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ABSTRACT

Chaos theory moots that consequences can be predicted in a system of deterministic thinking. Moreover, in general, chaotic systems can be accepted as random as they are predicted. Of course, the prediction depends on how the dimensions are clear. As chaos theory is applied for social sciences, many related studies were done on business management and to its functions. However both the studies on chaos theory and human resources management are satisfactory in numbers, studies on the relationship between these two are scarce. This paper provides a review of literature that underlines the basic principles of chaos and complexity theory, and the functions of human recourses management. In addition to this common practices of human resource management functions will be discussed in the context of chaos and complexity theory. During the text, the question of how HRM can be explained with chaos theory will be answered. It is aimed to fill the gap in the area with showing the connections between two levels of reality. Then, the study was designed to serve the daily business life with is discussions.

INTRODUCTION

Many authors have stressed the existence of continuous processes of convergence and divergence, stability and instability, evolution and revolution in every organization (Tietart & Forgues, 1995). Instability is a common qualification of all organizations and this obliges businesses to survive in chaos. And from an opposite perspective; it provides a competitive advantage that the more information provided about the dimensions of the concept the more moved away from chaos and complexity.

Realizing and accepting chaos theory requires a deeper understanding of the relationships between parts and whole, of segments and system, and of dialectical relationships between constant and change, of opposing systems, and of stability and chaos, leading eventually to a new form of order and stability

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and this is the dialectical nature of phenomena, whether natural or social, in the universe (Farazmand, 2003). Chaos is formulated by a deterministic equation, but it destroys the basis of the deterministic framework itself and in a broader explanation; chaos appears in deterministic dynamics and ultimately describes stochastic behaviors (Kaneko & Tsuda, 2000). Since we are not able to observe a phenomenon with infinite accuracy, we are forced to introduce probability, based on determinism (Kaneko & Tsuda, 2000). It is known that even a small difference in initial conditions can cause a large difference. This remains also for social sciences, organizations and HRM.

Complexity is the generation of rich, collective dynamical behavior form simple *interactions* between large numbers of subunits (Rickles, Hawe, & Shiell, 2007). Complexity theory has been used in the field of organizational studies and it includes how organizations cope with the conditions of uncertainty. The theory perceives the organizations as complex systems with the sum of its functions, interactions and their relations. No matter how sophisticated the systems, processes and technology of an organization, it is the capabilities and commitment of its employees that ensure its success (Banfield & Kay, 2008). Not only because of this reason but also being a main function of an organization, human resources management (HRM) is worth to be analyzed as complex system with its functions as well.

The specific contribution of this chapter can be summarized in three parts. First, it extends the limited literature concerning both chaos and complexity and human resource management. Second it helps to explain the relationship between HRM functions within chaos and complexity theory. Finally, this chapter also highlights the main implications for future researches.

CHAOS THEORY AND COMPLEXITY

According to Kaneko and Tsuda (2000); in physics, chaos is a type of unpredictable motion generated by deterministic equations, and the rules which generate chaos are sometimes called chaotic dynamical systems besides since the studies by Pointcaré from the end of 19th century till the beginning of 20th century the concept of chaos has been an expanding field at the forefront of academic research. For theoretical physicists the revolution started with chaos which is a purely mathematical concept (Baranger, 2002, para. 1) and was adapted to all other disciplines.

Chaos is an ancient word originally denoting a complete lack of form or systematic arrangement, but now often used to imply the absence of some kind of order that ought to be present (Lorenz, 1993). The word “chaos” simply originates from a Greek word and its everyday meaning is “a state without order” (Nagashima & Baba, 1999). Briefly; chaos theory is the very name suggests a paradox (Smith, 1998). Chaos can be a property of very simple systems that until recently it was widely believed that the kind of complication which now is associated with chaos, and which could be observed in many places in the real world, had to be due to the interactions of large numbers of independent variables, which would make the problems very difficult to be solved by any method (Baranger, 2002, para. 17)

From the descriptions mentioned above, we find that chaos is complex, not simply random. Chaos appears complex because it is neither utterly irregular nor completely regular (Kaneko & Tsuda, 2000). It is impossible to discuss chaos theory without mentioning the concept of complex systems.