Chapter 14

Lead–Entropy:
Redefining Leadership from the Perspective of Organizational Entropy

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ABSTRACT

In a world where entropy has become the order of the day, leadership becomes even more central to organizational transformation. Leaders ought to devote their attention, focus, skills, techniques, efforts and values toward eradicating entropy in organizations or at least reduce it where possible. Entropy can be positive and negative wherein the first is precarious and the second is bearable. Positive entropy renders the organization chaotic, complex and edging closer to extinction. By talking about entropy from a theoretical and conceptual perspective, we only expand the talk and by assuming that reducing entropy is implied in conventional leadership, we still miss a point. Accordingly, there is a need to focus leadership potential on managing entropy in organizations. This paper coined the term Lead-Entropy as a combination of leadership and entropy. It is assumed that in such a leadership paradigm, leadership traits, functions, skills and techniques are all directed toward reducing or eradicating organizational entropy as a modus operandi. Discussing this subject is of paramount importance consequent to contemporary trends in organizations.

INTRODUCTION

Many organizations are surviving in a chaotic, complex and uncertain environment. Levels of organizational adaption to these conditions change according to their abilities (Neyişci & Potas, 2012a). One of these abilities is evaluated as being organizationally intelligent by Kayman and Erçetin (2012). On the other hand, leader' behaviors become an important issue to respond to this chaos, complexity and uncertainty. One thing that creates chaos, complexity and uncertainty in organizations can be Entropy.

Entropy is largely as old as mankind. Indeed we cannot talk of the existence of humanity without succumbing to entropy or at least coming face to face with it. Concern about entropy has been abound just as the amount of research dedicated to it through the ages. Such research efforts have been pivotal to exploring the key dimensions of entropy as well as its intricate implications for various social and scientific phenomena.

The classic definition of entropy coming out of the mid-19th to early 20th centuries is a measure of (1) a system's capacity to undergo spontaneous change (Ray, 2006) or (2) the disorder in a system (Ryan, 2011). A third definition of entropy: the energy dissipated (and unrecoverable) in a system undergoing change, is also prevalent. In a typically simple understanding of entropy, key examples in our usual lives can be offered. These may include: books left open and scattered on a table, old newspapers, half read articles, and funny letters spread out in a room, assignment scripts of students, etc.

Calabrese and Hardy (2006) in their entanglement entropy: a non-technical introduction posit that considering entropy from a simplistic angle would be more ideal to having it understood, conceptualized and dealt with. To them, this is crucial since entropy is a fact of life that we have to contend with on a regular pattern yet it is largely unknown and misunderstood due to its technical sense or the way it is normally explored and expressed.

Leadership has been defined and redefined over and over again in order to be compatible with the changing paradigms and dictates of time. Such efforts have brought to the forefront concepts and terminologies like plazma leadership (Erçetın & Açıkalın, 2015; forthcoming), Quantum leadership, (Porter-O'Grady & Malloch, 2003), and fractal leadership (Li Yan-zhong, 2005). All such forms of leadership are credited with the impetus to stimulate leadership transformation and organizational growth through proper organization of functions and programs. However, entropy sometimes eludes them and quite regularly. This thus leaves the leadership door largely open.

In this paper, the authors seek to coin a new phrase Lead-Entropy as a merger of leadership and entropy to establish the stakes for leaders and leadership in the wake of entropy. That is, Lead-Entropy signifies the act of leadership and leading within entropy. There is no gain saying therefore, that with specificity being conceptualized in line with leadership, the issue of entropy in organizations is bound to become a *fait accompli*.

The Nature and Forms of Entropy

The key insight in the law of entropy (also the second law of thermodynamics) is that the world is inherently active, and that whenever an energy distribution is out of equilibrium a potential or thermodynamic "force" (the gradient of a potential) exists that the world acts spontaneously to dissipate or minimize. (www.entropylaw.com/thermoevolution10.html). The point is that no matter what the specific conditions, or the number of paths or drains, the system will automatically select the assembly of paths from among those otherwise available so as to get the system to the final state, to minimize or drain the potential, at the fastest rate given the constraints. This is the essence of the law of maximum entropy production.

The major classification of entropy has featured two basic categories in the form of balanced entropy and unbalanced entropy (Ray, 2006). However this only limits us to a narrow view and perception of the concept. The more explicit classification is offered by Wang (2007) and the Barrett values centre (n. d.) who present the following types and forms of entropy: Information entropy, Cultural Entropy, Social entropy, System entropy, and Environmental entropy.

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