

TEORIA HAOSULUI ȘI PLANIFICAREA, UN MODEL MATEMATIC PENTRU A EXEMPLIFICA EFECTELE TEORIEI HAOSULUI ÎN MANAGEMENTUL SCHIMBĂRII

CHAOS THEORY AND PLANNING, A MATHEMATICAL MODEL TO PRESENT THE EFFECTS OF CHAOS THEORY IN CHANGE MANAGEMENT

Drd.ing. Ștefan BOGDAN

Prof.dr.ing. Liviu MORAR

Drd.ing. Cristian GELMEREANU

Universitatea Tehnică din Cluj-Napoca

Abstract: The origins of chaos theory are to be found in the research Edward Lorenz around 1960. Although this new theory started to be used more and more in exact sciences, it got embraced by the social sciences only after the 80's. In the field of management, its use has been primarily invoked as a metaphor. As Smith states: „...some disciplines have already displayed a tendency to rely too heavily on purely conceptual applications of chaos theory” (Smith, A. 2002:523). Other chaos theory researchers state that chaos theory is a mathematical theory and therefore, its use should include mathematics. (Elliot & Kiel, 1996; Faber & Koppelaar, 1994; Smith, A 2002; Smith, D. R., 1995) The purpose of this paper is to present a mathematical model defined through a set of equations, to demonstrate the susceptibility of the management process to subtle changes along its path. The two conditions of chaos will be presented: sensitive dependence to initial conditions, unpredictability in the long run.

Keywords: chaos theory, management, model, strategy.