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KNOWLEDGE MANAGEMENT AS COMPLEX ADAPTIVE SYSTEMS

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Abstract

A knowledge management system is a complex system with an infrastructure comprising of strategies, technologies, structure, leadership and culture. On top of the infrastructure, knowledge is managed through a set of processes that deals with the acquisition, assimilation, dissemination and protection of knowledge. The complexity of the system comes from the difficulty of attributing success or failure to any one part. It is the interaction of the parts that determines the success or failure of the whole. In this study, I propose complexity theory as a new theoretical lens to examine the interaction between parts of the knowledge management system and the effect of the interaction on the success or failure of these programs. The emerging theory of complex systems focuses principally on the micro-domain to explain emergent behavior and overall outcome at the macro level. One distinguishing feature of a complex system is the ability of the parts to self-organize rather than being subdued by a central control. The parts are constantly seeking to improve performance driving the system away from equilibrium to the edge of chaos. What is of significance is how the parts co-adapt to improve their fitness and that of the system as a whole. Most of the earlier studies on knowledge management were able to deduce that failure to adopt knowledge management is a result of the inability of some organizations to realize the effect of the interaction between elements of the infrastructure but none, that I am aware of, have studied the interplay between elements of the knowledge management infrastructure and how they coevolve to renovate lessons learned into new marketing opportunities. The main objectives of the research project are to identify the nature and characteristic of the interrelationships that exist between elements of the knowledge management system and the effect of these relationships on the performance of the whole system. In this study I only focus on the strategies that govern knowledge management programs and their effect on the processes for capturing and disseminating knowledge, technologies in place to manage knowledge, roles that support the development and reuse of knowledge assets, and the cultural beliefs that sustain the whole effort. In particular the research attempts to answer the question of how knowledge management strategies affect processes, technologies, structure, and culture and how they collectively evolve to improve the performance of the whole knowledge management system.

Keywords: Knowledge management, complex systems, chaos theory.