

行政院國家科學委員會補助專題研究計畫期中報告

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Relationships insights in organizations: From the perspective of complexity theory

Some scholars predicted that in this hyper-competition era, future successful managers should be skillful at relationship management. In a complex organizational context impacted by many unpredictable external and internal factors, running a business is no longer easy. Ideal management procedures of formulating strategies, planning, goals deployment, implementation, evaluation, and corrective actions may not go as smoothly as expected. Relationship insights perhaps will be a key factor to explore opportunities for sustaining competitive advantages.

Since organizational environment has become dynamic, nonlinear, unbalanced, discontinuous, complex, and chaotic, it is better that organizational transformations are assessed from the perspective of complexity theory to unveil the real business problems. In what follows, major concept regarding contemporary organizational community, complexity theory, and self-organization will be reviewed.

Organizational Community

Nowadays, organizational community can be regarded as an ecosystem – consisting of inter-linked organisms living within an abiotic (nonliving) setting. A community's dynamic is driven by the ceaseless, persistent economizing activities of its resident organisms as they respond to the ecosystem. Each organism is a complex adaptive system entirely dependent for its life on all of the other organisms within the ecosystem. The corporation is hypothesized as a complex adaptive system; the host community is hypothesized as a dense interactive network of diverse adaptive systems. (Frederick, 1998) Foster (2000) also mentioned that organizations are complex adaptive systems. Organizational, process, and product development all depend on individuals discovering ways to generate more organized complexity through new designs, recombination, and the reduction of transaction costs. Taking opportunities in the face of uncertainty is not only the basis of entrepreneurship but also the source of innovative behavior within productive organizations. Organized complexity emerges from disorganized complexity, so innovation is inevitably associated with

considerable “waste” from a static perspective

Complexity Theory

Complexity science is the study of complex adaptive systems and is a science of relationships (Zimmerman, 1999). “Complex” implies diversity – a great number of connections among a wide variety of elements. Complexity theory has been used to understand the qualitative traits of nonlinear systems, such as business organizations. Complexity science tells us that a myriad of individuals attempting to achieve aspirational goals in quite simple ways in different contexts can result in a reality that is behaviorally complex (Foster, 2000). Complex adaptive systems not only actively search for appropriate energy sources to create and maintain the “organized complexity” necessary to produce goods and services but also search for appropriate knowledge, embodied in labor services, capital goods, and the information flow that is accessible in the environment. The greater is the diversity, that is, complexity, of the environment, the more opportunities there are for aspects of such diversity to be organized into productive structures, such as firms. Within the chaos zone, a hidden order may be concealed beneath what looks like utter randomness. These latent regularities are difficult to discern because chaotic change usually occurs in the form of branching, chain-reaction, accelerated movement. The push and pull of its value clusters ultimately determines the corporation’s fate – its success in balancing between order and disorder, adaptation and decline, self-organization and entropy, service to humankind, and an inward-looking, power-centered self-interest. Chaos theory that explains the organizational and evolutionary dynamics that occur as complex living systems interact with each other and with their environments (Guastello, 1995).

Self-organization

Natural order evolves through self-organization. Kauffman refers to the phenomena of self-organization as antichaos and views self-organization as a reaction to Darwinian evolutionary processes, which tend to place the motive force in species survival in selection processes operating at an environment level. Self-organization is viewed as the capacity to generate their own new forms from inner guidelines rather

than the imposition from outside” (Loye & Eisler, 1987; White, Marin, Brazeal, & Friedman, 1997). In chaotic systems, a small initial uncertainty grows exponentially with time. Furthermore, as attempts are made to predict further and further into the future, the amount of information needed about the initial state of the system increases exponentially with time (i.e., the system exhibits sensitivity to initial conditions). Zimmerman (1999) said that self-organization describes how units in a complex adaptive system can respond to changes and cooperate with others without being told what to do. When self-assembly occurs in living systems, the result is the formation of an interrelated and usually complex set of cells, atoms, molecules, organs, and so forth that collectively have the ability to adapt to the environment in a systematic way. The self-organized structure emerges through a process of interaction. The idea that organizations can naturally evolve effective strategies, structures, and processes and self-adjust to new strategies and environmental changes implies that managers should facilitate, guide, and set the boundary conditions within which successful self-organization can take place (Lewin, 1999).

Methodology

To achieve the above stated purpose, this research will adopt the methodology of process research using in-depth case interviews. Specifically, this research attempts to investigate whether employees have relationship insights between the organizational goals and various external factors, internal factors. In addition, this study will examine whether such relationship insights are different between organizations that have successful transformation and those that failed. The mechanisms of self-organization during the process of organizational transformation will also be examined. Based on the brief explanation of the 7S and the research purpose, this author has designed a relationship table to be used in the interviews. By mapping the relationship matrix, research result can be systematically compared among different firms.

Brief Explanation of the 7S

7S	Explanation
Strategy	actions in response to external environment in order to create unique values
Structure	the formalization, the complexity, and the centralization of an organization
Systems	the policies and procedures in an organization
Styles	management action, attention, or orientation in reflecting management philosophy and organizational culture
Skills	crucial attributes such as quality, innovation, marketing skills, and responsive capability
Staff	the morale, attitudes, motivation and behavior of employees
Shared value	a set of values, aspirations, and the guiding concepts

Relationship Table

Date: _____

Co. _____ Event: _____ Year: _____ Interviewee: _____

Event	Chaos(S/W)	Time(e/m/l)	Self-org.	Relations	Remark
國際					
科技					
社會文化					
經濟					
法律政治					
實體					
顧客					
競爭者					
供應商					
勞動市場					
共享價值					
策略					
結構					
系統					
領導風格					
技術					
人員					