

## “Knowledge working” and

### Complex Adaptive Organizations in Israel / Hasgall Alon

#### Abstract

The basic assumption of this research was that knowledge is a strategic asset for an organization. Knowledge management is the basis on which lies the organization's competence to deal with intensive changes in a dynamic environment (Davenport, Thomas & Prusak, 2000) and the increasing power of the “knowing” individual (Roos, 1998). However, new researches indicate the difficulties of organizations in realizing the personal knowledge of the organization's employees in order to turn it into a capital that can contribute and solve systemic organizational problems (Ganesh and Bhatt, 2002).

The Complex Adaptive Systems model refers to an organization which contains employees as independent sub-systems, but only synchronization between them allows the existence of a system which enables a continuous sequence of events and complex systemic processes. The uniqueness of the Complex System lies in balancing the entire system's process of adaptation to changes in the environment, and the competence of each individual or group as a sub-system in the organization to provide demand-focused solutions. Thus, the organization as a Complex System has great potential to realize the unique competitive advantages of the organizational strategy (Roos and Oliver, 1997).

The research's question referred to the relation between the functioning of employees/managers/work groups, which represent fractals of an organization, and the organization's competence to create and manage knowledge. The assumption was that organizations that function as complex systems would have the competence to create a knowledge management setting, since this setting relies on each employee's capability to realize his competence to create and use knowledge – just like the functioning of the fractals in complex physical and biological systems.

In order to compare the different models, the research tools were defined according to the operational definitions of the components of the Complex Adaptive Systems' model. Five characteristics for the organization as a complex system was chosen, which were compared to the central processes of the organization's knowledge

management: focusing on goals and organizational and personal core competence. Sensitivity to the environment, dynamic working processes of the decentralized and related sub-systems' setting, decentralization of resources and capability of independent operation by authorization and multi-dimensionality of a sub-system. These definitions constituted the basis for the construction validation.

The research was conducted by the ethnographic method and in reliance on observations and interviews. Observations were made on six organizations of private, governmental and municipal ownership, about sixty employees and managers were interviewed on the basis of primary observation. The research's data was categorized according to the operational definitions while trying to identify the thinking patterns of organizations as systems and of employees/managers as sub-systems. A comparative analysis of the thinking and operation patterns of the "sub-system" (employees/managers) in the different organizations was done. Also, the difference between the different kinds of organizations (organizations of private ownership versus governmental or municipal ownership) was examined, along with the differences between employees/managers.

The first assumption regarding the relation between the existence of thinking and operation patterns as of complex systems in the organization and the competence to perform a knowledge management process was significantly confirmed in this research. It was found that the competence to have knowledge management processes in the organization depends on each employee's competence to function as a complex sub-system. Each employee contributes to the uniqueness of the complex system, which enables knowledge transfer on the basis of active personal responsibility and self-development of each sub-system. On the other hand, a complex system demands synchronized activity and active update of all sub-systems as one system. This way each employee can handle complex processes, give fast and focused solutions while updating the system and receiving resources and relevant information. The belonging of the knowledge to the employee, and his functioning as a sub-system are significant regarding his responsibility for focused self-development of himself as an expert in his field. The credit and the benefits he gets, and explicitly to the organization's competence to cope successfully with a dynamic and changing environment. The second assumption was not confirmed - the type of organization has no significance. Organizations of private orientation and organizations of governmental orientation are exposed, in the knowledge era, to a dynamic and changing environment and must

cope with this environment. The coping process, as found in this research, is similar and does not depend on the type of the organization.

Nevertheless, the connection between the organization's functioning as a complex system and its competence to realize knowledge management processes are significantly strengthened in this research. An organization that has more complex system characteristics was found to be an organization that will have more knowledge management processes, and the affectivity of these processes in coping with the environment will be more satisfactory. The third assumption was partially confirmed. Indeed, managers and employees are similar in their personal behavior as complex sub-systems, but different in their organizational functioning as complex sub-systems. Apparently, the difficulty in the application of knowledge management processes requires an organizational behavior as a complex system where the managers have the unique role of synchronizing and integrating resources and information. In that, their role is different from that of the employees, who need decentralization of resources and distribution of information in the organization in order to create knowledge and to execute the required solution. An organization that operates according to the complex system model is aware of the independent complex sub-systems' competence to provide a fast and focused solution to any event in an intensive environment. It was cleared that there is no way of "controlling" the employee's development as a complex system. The employee must take upon himself the responsibility for self-development as a business unit and to nurture his expertise, be updated with the relevant organizational processes and actively update the other relevant sub-systems in the organization.

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