Chapter V

Actor–Network Theory and Autopoiesis: A New Perspective on Knowledge Management

Lars Steiner
University of Gävle, Sweden

ABSTRACT

A new knowledge management perspective and tool, ANT/AUTOPOIESIS, for analysis of knowledge management in knowledge-intensive organizations is presented. An information technology (IT) research and innovation co-operation between university actors and companies interested in the area of smart home IT applications is used to illustrate analysis using this perspective. Actor-network theory (ANT) and the social theory of autopoiesis are used in analyzing knowledge management, starting from the foundation of a research co-operation. ANT provides the character of relations between actors and actants, how power is translated by actors and the transformation of relations over time. The social theory of autopoiesis provides the tools to analyze organizational closure and reproduction of organizational identity. The perspective used allows a process analysis, and at the same time analysis of structural characteristics of knowledge management. Knowledge management depends on powerful actors, whose power changes over time. Here this power is entrepreneurial and based on relations and actors’ innovation knowledge.

INTRODUCTION: A DEFINITION OF KNOWLEDGE MANAGEMENT

The aim with this paper is to present a new perspective on knowledge management, a perspective that uses both actor network theory (ANT) and the social theory of autopoiesis (ANT/AUTOPOIESIS). Knowledge management is empirically presented as how a number of actors and actor companies collaboratively organized to increase
specific knowledge and innovation capability. The co-operation, named KIT, aimed at research and innovations in home and buildings information technology (IT) products and services.

To know something is to interpret meaning and make sense of something from one’s own experiences, information and data (Callon, 1986b). This is the ANT perspective of knowledge management which in this sense resembles a cognitive perspective where knowledge exists within a human brain. Managing knowledge is from a cognitive perspective impossible. Knowledge from a cognitive perspective is independent of others and socially closed. To be interesting from an organizational point of view, knowledge should be analysed in the light of goals and meaning not only for an individual, but also for an organization or as in this paper a collaboration of organizations. Knowledge is shown in the speech and activities of human actors. Argyris and Schön (1978/1995) called this visibility of knowledge; knowledge-in-action. Decision making is the most important act by which knowledge becomes apparent in organizations, according to Luhmann (2002). Acts, though, are also dependent on expectations of the future, power and human will. Non human actors do not have knowledge, since they cannot by themselves create meaning. To make machines “act” according to a human actor’s wishes, knowledge might be inscribed into a machine, or a description of how to use a machine is prescribed for the user to read and follow. Also artifacts in buildings like doors, stairs, corridors, windows, etc, are shaped to fulfil certain functions decided by the designers. Prescriptions “give” non-humans ability to “act” on behalf of the humans that have written these. Machines and artifacts become agents for the will of human actors. Sveiby (2008) says that knowledge management is a poor term and that knowledge cannot be managed. Since knowledge is something inside a human brain, to claim that knowledge could be managed would mean to manipulate humans’ brains. In spite of this the concept knowledge management is widely used. Wilson (2002) after a thorough review of the concept concludes that knowledge management is used about activities concerning management of information and work practices.

Social autopoiesis theory, being a general systems theory uses living systems as metaphor for describing social phenomena. Living cells communicates with its environment to survive (Maturana and Varela, 1987). The human brain is in social knowledge autopoiesis used as a metaphor for what happens in and between organizations (Morgan, 1986). Metaphors are often used in organizational theory and are for example used in the concept of the learning organization (Senge, 1990). Generative learning (Senge, 1990) imply that the organization as a whole is able to learn from experiences that actually are inherited from individuals and groups of human actors in the organization.

Burgoyne et al (1994) and Alvesson and Willmott (1996) claimed that knowledge is socially constructed in an organizational setting. With this view of knowledge management, power differences, conflict, domination, subordination and manipulation are considered as well as aspects that have to do with handling complex organizing processes efficiently, innovation capability and competitiveness. Knowledge actually expresses itself in multiple forms: propositional, theoretical, practical, experiential, and presentational (Marshall and Reason, 1993).

ANT draws on the relational aspects of human communication. Actor-networks inscribe the complex social processes underlying the construction, development and stabilization of forms of the social, the technological, the natural world and their combinations (Callon, 1986b). Humans make sense of language, texts (inscriptions) and actions. Relations between humans make the world meaningful by sensing and communication. In ANT actions are contingent phenomena, mediated by human actors and non-human actants. Power translation originally was the ontological interest in ANT (Callon, 1986a; 1986b). Power translation is explained in the following way:
11 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the product’s webpage:

www.igi-global.com/chapter/actor-network-theory-autopoiesis/20846?camid=4v1


www.igi-global.com/e-resources/library-recommendation/?id=1

Related Content

Officer-to-Application Systems

www.igi-global.com/chapter/officer-application-systems/25037?camid=4v1a

Stages of Growth in Knowledge Management Technology

www.igi-global.com/chapter/stages-growth-knowledge-management-technology/29798?camid=4v1a

Design of Knowledge Based Analytical Model for Organizational Excellence

www.igi-global.com/article/design-of-knowledge-based-analytical-model-for-organizational-excellence/216837?camid=4v1a

Reference: A Short History

www.igi-global.com/chapter/reference-short-history/76858?camid=4v1a