

Emergence of the Cognitive-Emotional Knowledge Dyad

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Abstract

The purpose of this paper is to present the emergence of a new knowledge dyad composed of cognitive and emotional knowledge. The old dyad made of explicit and tacit knowledge may become a particular case of the new one. The explicit-tacit knowledge dyad has been conceived in the Western thinking perspective of the dualism of mind and body, so well illustrated by the famous Cartesian expression: Cogito, ergo sum! The new dyad is conceived in the Eastern thinking perspective of oneness of body and mind. That means to recognize emotions as knowledge, and to give equal chances for them to parallel the cognitive knowledge. The paper advance also the new idea of the possible transformation of cognitive knowledge into emotional knowledge, and of emotional knowledge into cognitive knowledge, respectively. This knowledge dynamics constitute in our view one of the most important challenges for the knowledge management research.

Keywords: *cognitive knowledge, emotional knowledge, explicit knowledge, tacit knowledge, knowledge dynamics*

JEL classification: M10, M14

1. Introduction

These last decades managerial focus shifted from the traditional factors of production to *knowledge*. But knowledge is not something new, it has been here for centuries, the only thing that changed was managers and companies' perception on knowledge. Knowledge is one of the fundamental building blocks of the intellectual capital, both at the individual level and organizational level (Allee, 1997; Andriessen, 2004; Bratianu, 2008; Davenport & Prusak, 2000; Debowski, 2006; Nonaka & Takeuchi, 1995; Polanyi, 1983). Most of the people believe that knowledge can be easily recognized when encountered but what people do not know is that in fact there are more types of knowledge that a person uses and applies this knowledge in different ways. Among the most important forms are the

following: tacit knowledge, explicit knowledge, cognitive knowledge and emotional knowledge.

Performing a strategic analysis of the main issues and challenges for the *Knowledge Management* development, we identified five challenges, each challenge being a driving force for future development (Bratianu, 2009). These challenges are the followings: 1) emotional knowledge; 2) the new dyad: cognitive knowledge-emotional knowledge; 3) knowledge dynamics; 4) knowledge hypersystems; 5) intercultural knowledge management. The first three challenges lead to the emergence of the new dyad: cognitive knowledge – emotional knowledge. The old dyad composed of explicit knowledge – tacit knowledge may be interpreted as a particular instance of the new one, since its definition domain is included in the much larger domain of the new dyad. The old dyad is a product of the Western culture, in which knowledge is a result of cognition. Descartes used to say: *Cogito, ergo sum!* Actually he created that dualism of mind and body that governed the whole education in Europe.

On the other hand, in the Japanese tradition there is a strong emphasis on the *oneness of body and mind*. This tradition emphasizing bodily experience has contributed to the development of Zen Buddhism in medieval times. According to this tradition *samurai* had to develop their wisdom through physical education. As Nonaka and Takeuchi remarked (1995, p.29), "*Samurai education placed a great emphasis on building up character and attached little importance to prudence, intelligence, and metaphysics. Being a man of action was considered important than mastering philosophy and literature, although these subjects constituted a major part of the samurai's intellectual education*". Later on, in the Meiji era (1868-1912), Kitaro Nishida, a prominent Japanese philosopher built up a theoretical system based on Zen experience. For Nishida, the ultimate reality and existence lay only in the acquisition of facts from *pure experience*, obtained directly by the subject. Thus, in contrast to Descartes emphasis on the mind, the Japanese epistemology tends to value the embodiment of direct, personal experience. In Zen Buddhist training students are required to devote themselves to the world of nonlogic throughout their learning process.

The difference between the two sides of the world is a topic long disputed by centuries. East is East and West is West, and the difference between them is starting to turn up even on brain scanners (Andriessen, 2006; Andriessen & Boom 2007a,b). Western culture conditions people to think of themselves as highly independent entities. And when looking at scenes, Westerners tend to focus on central objects more than on their surroundings. In contrast, East Asian cultures stress interdependence. When Easterners take in a scene, they tend to focus more on the context as well as the object: the whole block, say, rather than the BMW parked in the center (Goldberg, 2008). Eastern and Western cultures are having different perceptions in terms of knowledge. For western culture is characteristic the old dyad: explicit knowledge – tacit knowledge, while for the Eastern culture is characteristic the new dyad: cognitive knowledge – emotional knowledge.

2. The old dyad: explicit knowledge – tacit knowledge

The first dyad is based on the cognitive side of the Cartesian dualism. Russel explained it very clearly: *“If I ceased to think, there would be no evidence of my existence. I am a thing that thinks, a substance of which the whole nature or essence consists in thinking, and which needs no place or material think for its existence. The soul, therefore, is wholly distinct from the body and easier to know than the body; it would be what it is if there were no body”* (Russel, 1972, p.565). Thinking refers mostly to the explicit knowledge, the component that can be explained, expressed in words and transferred to others. Explicit knowledge is carefully codified, stored in databases and accessed with reliability, fast. Explicit knowledge assets can be reused to solve many types of problems or connect with people who have valuable reusable knowledge.

Contrary to explicit knowledge, tacit knowledge is relatively hard to code and extract. Tacit knowledge is probably the most important part of knowledge management and it doesn't solely need to be discovered, captured but it has to be disseminated so that more and more people can benefit from this shared knowledge. Tacit knowledge can be defined as *“work related practical knowledge learned informally on the job”* (Wagner & Sternberg, 1985). But, unfortunately, this definition is not complete because it comprises only one part of what tacit knowledge really is, only the “know-how”. Polanyi wrote about ‘tacit knowing’ as a process rather than a form of knowledge, and emphasized the importance of factors such as beliefs, habits and culture, which are essential parts of our capability without us being conscious of them (Bartholomew, 2008, p. 22). Tacit knowledge is not just about experiences learned on the job; it also comprises beliefs, values, attitudes, ideals, and elements that are related to the culture of the individual. Tacit knowledge cannot be found in manuals, books, databases and files. People use metaphors, analogies, demonstrations and stories to convey their tacit knowledge. Listeners can evaluate the content of the story and the actions and apply the knowledge that is best suited for their job.

Analyzing a series of psychological experiments, Polanyi reached the conclusion that in many practical situations a person apprehends the relation between two known events, but only one of them can be expressed in an explicit way. The other one remains tacit (Polanyi, 1983). For instance, some individuals have been subjected to shock waves whenever some nonsense syllables have been shown to them. After repeating the experiment several times, these individuals learned to anticipate the shock waves, but they could not explain how they made it. These kinds of experiments used by Polanyi as examples show the structure and nature of tacit knowing. It involves two things, two kinds of knowing, among which there exists a functional relation: *“we know the first term only by relying on our awareness of it for attending to the second”* (Polanyi, 1983, p. 10). The analysis undergone by Polanyi introduced the fact that a person has more than one

type of knowledge. There is the explicit knowledge, that can be described in formal language (manuals, expressions), the “know-what”; and there is the tacit knowing, the knowledge that cannot be easily transmitted and expressed. Tacit knowledge is the result of experience, subconsciously processed and integrated in our live. Knowledge in this view can be acquired through direct experience of the body. “*Tacit knowledge is highly personal and hard to formalize, making it difficult to communicate or to share with others. Subjective insights, intuitions, and hunches fall into this category of knowledge. Furthermore, tacit knowledge is deeply rooted in an individual’s action and experience, as well as in the ideals, values, or emotions he or she embraces*” (Nonaka & Takeuchi, 1995, p.8). As shown by Bratianu (2006) any concept must have two components: explicit knowledge – obtained through a rational knowledge transfer, and tacit knowledge – obtained through a direct experience. Thus, any concept is actually composed of the dyad explicit knowledge – tacit knowledge. Davenport and Prusak (2000) recognize that “*knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of workers*” (Davenport & Prusak, 2000, p. 5). Actually, they underline the fact that knowledge can be structured (explicit knowledge), and in the same time it is intuitive and hard to capture in words (tacit knowledge). Although the focus is on explicit knowledge, the authors stress also the importance of tacit knowledge, as experience, ground truth, judgment, values and beliefs. Coping with change in today’s environment means coping with learning (Năstase, 2009)! Regardless of the fact that we talk about a pro-active or reactive attitude, we refer to the adjustments of organizations settings and the need to modify accordingly the people behaviors and the procedures that govern some of the professional interactions. Learning is the result of higher interactions among people, even not often due to direct contacts but as a result of informational technology. We can see how the distances diminish and a large variety of bridges are built among professionals, who are able to crystalize and develop more general or specialized communities.

Knowledge is an abstract concept. It has no direct referent in the real world. To make it comprehensible, we use metaphor to map elements of things we are familiar with in the real world. Knowledge is not a concept that has a clearly defined structure. Whatever structure it has it gets through metaphors (Andriessen, 2006). Andriessen (2006) studied two of the most cited books in knowledge management, *The knowledge-creating company* (Nonaka, Takeuchi, 1995) and *Working knowledge* (Davenport, Prusak, 2000), in order to see how knowledge is conceptualized in the two cultures, Japanese and American. He found that in order to conceptualize knowledge the authors used six types of metaphors. The first type of metaphor refers to knowledge as something physical. In this view knowledge is perceived as something with substance, which can be located, moved, converted and transformed. In this category can also be included the *knowledge as a resource, knowledge as capital* metaphor, intensively used in Davenport and Prusak’s book. Capital is said to be an asset for the future, capital can be invested

in and allows for a return. Having more capital is better, capital is something that can be owned and valued financially (Andriessen, Boom, 2007). Transferring these attributes to knowledge, it is deduced that knowledge is also something valuable, an asset, which can be invested in and from which can gain return. The second type of metaphor is that of *knowledge as a wave*. Making the analogy with energy, waves, light, knowledge can be amplified, generated and transmitted. The third type of metaphor is highly used in Davenport and Prusak's book, *knowledge as a living organism*. Here knowledge exists, grows, develops, works, judges. Knowledge receives the attributes of a living person. Another interesting aspect of Andriessen and Boom's (2007) study is the conclusion drawn on the analysis of Serenko and Bontis' list of most cited knowledge management publications. All seven publications, starting with Davenport and Prusak's *Working knowledge* and ending with Roos' *Intellectual capital*, have in common the conceptualization of *knowledge as a resource* metaphor, that is based on the source domain of physical resource for survival. The findings of this study underline the dominant trait of conceptualizing knowledge within the Western part of the world, the segregation of mind from the body.

3. The new dyad: cognitive knowledge – emotional knowledge

Nowadays the focus shifted from tacit and explicit knowledge to much wider concepts, *cognitive knowledge* and *emotional knowledge*. Cognitive knowledge comprises the rational part of the thinking process, the assisted experience. The emotional component of knowledge has been in central stage for some time due to emotional intelligence concept (Goleman, 2004). The curricula in universities changed and concepts of emotional intelligence have been introduced, thus emotional knowledge gaining more and more ground. Eastern cultures are dominated by the teachings of Buddha and Confucius. The Japanese intellectual tradition is dominated by the *oneness of humanity and nature, the oneness of body and mind* and *the oneness of body and self* (Nonaka & Takeuchi, 1995, p. 27). The Japanese have developed and nurtured a delicate and yet sophisticated sensitivity towards nature. Nakamura, a Japanese philosopher, demonstrated that the Japanese failed to build a rational thought of clear universality exactly because of the failure of separating the self from the nature. Time and space have different perspectives in Japanese culture. Time is perceived as a permanent present opposed to clearly determined and delimited space line in Eastern literature. The space in Japanese art is free from fixed perspectives, and thus there is no need to draw shadows. Japanese have a tendency to stay in their own world of experience without appealing to any abstract theory in order to determine the relationship between human thought and nature – the oneness of humanity and nature (Nonaka & Takeuchi, 1995).

In Eastern part of the world the concept of *enlightenment*, being illuminated by gaining wisdom or understanding, dominates the thinking patterns. There is a strong emphasis on the oneness of body and mind, integrated in one

entity. Knowledge is not a substance outside, but merely innate knowledge that unifies the man with the world and the society (Andriessen & Boom, 2007). In Zen Buddhism the ultimate condition for practitioners is to obtain oneness of body and mind through meditation and equilibrated life style. *“The truth is that strength lies in the interior of the warrior: in his heart, his mind, and his spirit”* (Kaufman, 1994, p.8). Training students in Zen Buddhism are required to devote themselves to the world of non-logic throughout their learning process; they seek to develop wisdom through physical training. Japanese epistemology tends to value the embodiment of direct personal experience. In the Confucian concept knowledge is seen as the unity of the knowledge and action. Knowledge exists in action. Chinese philosopher, Wang Yang-ming, states that principle and mind are one. Outside the mind there is no principle, and all principles are contained within the mind. The mind can be seen as the originator of knowledge. The master of the body is the mind (Andriessen & Boom, 2007).

Emotional knowledge has two dimensions: time of existence, and intensity of manifestation. The first dimension is a quantitative one and it can be measured easily in a psychology laboratory. The second dimension is qualitative in nature and it can be measured more difficult. By contrast, cognitive knowledge has only one dimension which is closely related to a metrics. Thus, the quantity of cognitive knowledge should be evaluated in a different way than the quantity of emotional knowledge. However, at this moment knowledge evaluation is in its early trial and error phases, without any workable method and metrics. Psychology research revealed the fact that our facial muscles may express seven core emotions, regardless of race, ethnicity, age or gender. One is essentially neutral – surprise. Five emotions are negative – fear, anger, sadness, disgust and contempt. The remaining emotion is positive – happiness. Sometimes, contempt is incorporated into disgust, and thus there remain only six basic emotions (Hill, 2008). Emotional knowledge comes into play in many situations. Gladwell is stressing the importance of emotional knowledge in food tasting: *“when we put something in our mouth and in that blink of an eye decide whether it tastes good or not, we are reacting not only to the evidence from our taste buds and salivary glands but also to the evidence of our eyes and memories and imaginations, and it is foolish of a company to service one dimension and ignore the other”* (2005, p.171).

4. Knowledge dynamics

Nonaka and Takeuchi (1995) underline the dynamics of knowledge creation as a continuous, self transcending process. The same idea of knowledge dynamics is underlined in Western literature, in the works of Davenport and Prusak (2000), and Bratianu (2009). *“In contrast to individual knowledge, organizational knowledge is highly dynamic: it is moved by a variety of forces”* (Davenport & Prusak, 2000). This dynamics can be better understood if we consider knowledge as a field of generic forces, representing meanings and feelings (Bratianu & Andriessen, 2008). Knowledge dynamics means transformation of one form of

knowledge into another according to some laws. Thinking about potential energy transformation into kinetic energy, or of the kinetic energy into potential energy, we may imagine the transformation of tacit knowledge into explicit knowledge and vice versa. In the same way, we may postulate the transformation of cognitive knowledge into emotional knowledge and of the emotional knowledge into cognitive knowledge, based on the thermodynamics metaphor. In the field theory, any non-uniform distribution in time or space generates forces, and any variation of these forces generates fluxes which tend to produce uniformity.

This is true for the knowledge field as well, and we may coin the concept of *cognitive work* as a result of variation of cognitive fluxes at the individual level or organizational level. A cognitive work is actually any flux which may generate, or which can be generated by a knowledge field variation. It is a step further from the concept of *working knowledge* (Davenport & Prusak, 2000). Also we shall coin the concept of *emotional heat*, for the emotional flux which has been included or produced as a result of a knowledge field variation (Bratianu & Andriessen, 2008). The second law of thermodynamics has many formulations and interpretations. However, the core meaning of this law is that heat can flow naturally from a body with a higher temperature, toward a body with a lower temperature. These two bodies can be in direct contact or not. The reverse process can be done only by performing mechanical work. Using the energy metaphor we may think in a similar way for knowledge dynamics. That means that knowledge can flow only from a higher level of knowing toward the lower level of knowing and understanding.

5. Conclusions

The recognition of the *emotional knowledge* by more and more researchers throughout the world demonstrated the practical validation of the Eastern perspective on knowledge and the oneness philosophy of body and mind. This new concept could not be incorporated in the old dyad of explicit knowledge – tacit knowledge since this dyad has been built on the rational perspective so well described by Descartes in his famous dictum *Cogito, ergo sum!* In this context we consider that a new dyad is necessary, and we present in this paper the dyad of cognitive knowledge – emotional knowledge. This dyad enlarges the perspective of knowledge field, and allows us to consider the knowledge dynamics from the more complex perspective of thermodynamics.

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