KNOWLEDGE DYNAMICS AND THE CONCEPT OF – 'BA'

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Abstract:

Throughout the present paper work we undertake a theoretic approach through the fundamental research method and deduction method regarding the concept of 'ba' and the ways it contributes to knowledge creation within an organization. For the paper's introduction we considered to present a basic review for the concepts of knowledge and knowledge dynamics. Within the content of the paper we present the concept of 'ba' mainly from the Japanese authors' perspective –Nonaka and Konno and we argue the types and characteristics of this seldom debated concept. We approached this subject because we found it challenging to further contribute to building perfection, and we don't necessarily mean the reality's perfection. But, maybe the perfect mental projection of ideals and perspectives represents the first step towards accomplishing them. We carefully pondered the discussions upon the concept of 'ba' and this led us to elaborate this paperwork, the bottom line of which is to convince that 'good knowledge' shelters within an appropriate system/context, and we'll refer to it as 'ba'. Studying the specialty literature as well as observing practice, we came to believe that acquisition of good/ valuable knowledge does not help a company but temporary unless that company multiplies the good effects of knowledge. Towards the end, our research leads to the conclusion that organizations must accept 'ba' as a tool for "knowledge creation".

Key words: knowledge dynamics, knowledge creation context, knowledge management, conversion processes

JEL classification: M10, M14, M21, L20.

1. KNOWLEDGE AND KNOWLEDGE DYNAMICS

Nowadays, it has been widely agreed that a defining aspect of the New Economy is the continuously increasing importance of knowledge. The most ostentatious item of the present is 'knowledge' and as we have already got used to, it can't be described neither by a couple of issues nor within a few phrases, as today's facts are strongly interdependent and out of these may arise the strangest events. At the moment the hottest debate issue is 'knowledge', and there are various interpretations and arguments to this concept even if some are sceptical about its worth.

In order to make sure we point into the same direction, we shall further discuss some of the definitions of 'knowledge'. In recent years, the phrase 'knowledge management' has been used, to describe the efforts of organizations to capture, store, and deploy knowledge (Preece et al, 2001). Other definition reflects knowledge in a pragmatic sense: "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 knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms". (Davenport and Prusak, 1998) We believe that 'knowledge' is very much a contextual concept and a better understanding may arise out of its framework because it is multifaceted and has multilayered meaning. But recurring to the knowledge creation theory, 'knowledge' represents a dynamic human process of justifying personal beliefs as part of an aspiration for the "truth". People need more knowledge in order to better comprehend the phenomena occurring within their environment. Now the man is preoccupied more about knowing: what, when, why, how, or who. If the industrial era was creating its wealth with machinery which was replacing human work, today is considered that more than 60% of workers in the USA are 'knowledge workers' and they are regarded as the employees who manage with symbols and not machines.

In our words, knowledge represents something bigger than information, data or signs and we shall use the representation of a pyramid to explain the differentiations. Continuing on this approach we identify *signs* as being the base of the hierarchical structure and we define them as graphic representations which were invented by men in order to enhance communication with others. For example the letters of an alphabet or the numbers, which used separately they don't have any meaning but they start to make sense when they are used together in a certain context. (Davenport & Prusak, 2000) *Data* are groups of signs that give the expression of an event or a process characteristic. For example, a table filled in with the daily temperatures of one month constitutes a set of data. We shall stress that data of their own, do not possess significance but they borrow it within the context they are in. Therefore we need quality raw material –data, in order to obtain quality information. Stepping forward to an upper level, we find *information*, which has enclosed the meaning. Otherwise, *information* is *sets of data* that lead to semantic differentiation and *this information* represents raw material for building up *knowledge*. (Bratianu et al., 2010)

Knowledge is information processed to the purpose of achieving comprehension of phenomena occurring within our environment (Bratianu, 2008a, b).

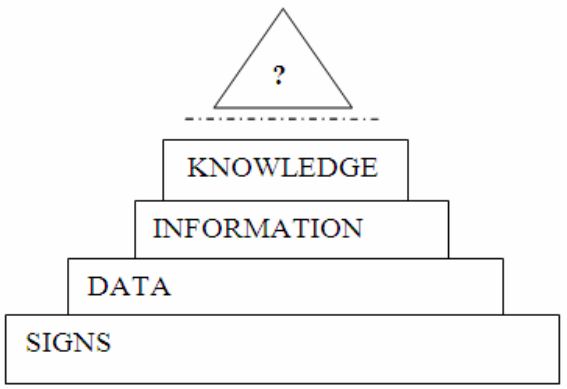


Figure 1. Representation of knowledge

We consider opportune to emphasize the differences and similarities between information and knowledge. An attempt to present these, made Gurteen in his article *Creating a Knowledge Sharing Culture* - published in the Knowledge Management Magazine, vol.2, in 1999. The author says that "knowledge is often regarded as richer information" and we consider it quite elusive. We try to separate these more clearly by using the concepts of know-how, of know-why and the metaphor of a cake. Thus, the molecular analysis of the cake's composition represents *–the data–* less useful in many cases because a single piece of data has no meaning unless the context is understood – you might not even realize that we are talking about a cake. Therefore, data needs to be transformed to *information*. Writing down a list of ingredients – means 'building up' information – which is more useful and is much probable that an experienced cook would deduce that is the recipe of a cake – as data are given a context.

However, Polanyi said that "We can know more than we can tell". According to him, knowledge that can be expressed in words and numbers only represents the tip of the iceberg of the entire body of possible knowledge. Polanyi classified human knowledge into two categories: explicit and tacit. At this point the cake recipe represents the *explicit knowledge* and transmits the *know-how* of making the cake. Even so, for a beginner, those presented above are not enough because he/she needs knowledge gathered throughout experience – *tacit knowledge.*

Even if we have clearly distinguished the stages preceding the superior level of knowledge and each one's significance, in theory, we can't tell exactly how it works for each individual. Some

person's knowledge may be another's raw material, as data or information because each person has a personal background of knowledge and practice and of course a specific cognitive system allowing him/her to perceive things in a unique manner.

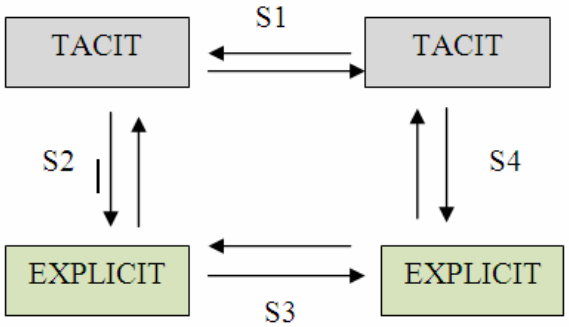
2. NONAKA'S SECI MODEL

We consider knowledge is dynamic through its nature and continuously moves between receivers. Knowledge may transform from one type to another, respectively from explicit knowledge into tacit knowledge and the other way around. The same piece of knowledge may exist within different forms for different persons.

Knowledge dynamics represents multiple transfers of knowledge throughout four processes of conversion: socialization, externalization, combination, internalization. These processes take place due to the two ways of expressing knowledge, tacit and explicit. Following we shall discuss each type's role within the organization.

Knowledge has a specific dynamic that could be described like an innate human characteristic and the various ways that knowledge moves around the world are not influenced or triggered by someone or something, they evolve naturally. The various types, stages and transfers of knowledge were later influenced by men, after long observations, judgments and finally comprehension for using it for the benefit of their work.

The famous Japanese scientists Nonaka and Takeuchi developed a research and discovered that the employees of a Japanese company had the ability of transforming tacit knowledge into explicit knowledge throughout a dynamic process of interaction, or more simple throughout proximity. The result of this research was the conception of their famous concept of *knowledge dynamics* which is represented by the *knowledge spiral*. The knowledge spiral expresses the continuous transformation of knowledge throughout the four stages of conversion.



S1-socialization; S2-externalization; S3-combination; S4 – internalization.

Figure 2. Knowledge conversion processes

We mentioned several times about the conversion processes and at this point we have to give a brief description of each. The first process and the most important is the *socialization* process. The knowledge stock grows out of another person's tacit knowledge, and can be captured throughout observation and imitation. There is not a precise order for the conversion processes evolution but we shall further discuss about *externalization*. This process speaks out the tacit knowledge and converts it to clear, articulated explicit knowledge. When tacit knowledge must be put into words, people use metaphors, analogies, description, gestures and also body language. The third process is *combination*. This is a very personal stage when each individual deals with his old and new knowledge. Within the combination process knowledge is mixed and sorted in order to integrate into the individual's knowledge background. The fourth process is *internalization* and

here the conversion happens the other way around, meaning that explicit knowledge is absorbed by each individual's cognitive mechanism and stored in a specific manner. Once this process is also complete the knowledge spiral starts all over. The existence of *knowledge dynamics* was not invented by man but was created as a theoretic reasoning in order to enhance comprehension. (Bratianu, et. al., 2010)

It has been widely agreed that knowledge represents a commodity for each organization with respect to development and accomplishment of goals and preserving their competitive advantage. For nowadays companies, the competitive advantage doesn't necessarily represent a dominant position on the market but their capability of developing their knowledge as an intangible and difficult to replicate resource that is something more powerful. (Teece, 2004) *Knowledge dynamics* is crucially important for correctly understanding the way organizations work.

3. 'BA' – THE FOUNDATION FOR KNOWLEDGE CREATION

We approached this subject because we found it challenging to further contribute to its spreading, integration and growing within organizations.

We carefully pondered the discussions upon the concept of *'ba'* and this led us to elaborate this paperwork, the bottom line of which is to convince that good knowledge shelters within an *appropriate context*. We shall further describe what this context consists of and how it works, and we'll refer to it as *'ba'*.

The concept of 'ba' was discussed for the first time by the Japanese philosopher Kitaro Nishida and afterwards developed by Shimizu. Later, Professor Ikujiro Nonaka adopted the concept in order to develop another model for knowledge conversion, similar to the SECI model, presented in the previous section of the paper: Socialization - Externalization – Combination - Internalization. According to the philosophic approach of Professor Kitaro Nishida, *'ba' represents a context that "harbors meanings"*. (Nonaka & Konno, 1998) Thus, we may consider that 'ba' is a shared space within knowledge creation is enhanced.

Studying the specialty literature, we came to believe that acquisition of good/ valuable knowledge does not help a company but temporary unless that company multiplies the good effects of knowledge. In order for good knowledge to spread continuously there are some compulsory aspects to consider: -good knowledge projection; -good knowledge presence (through acquisition or creation); -good knowledge sorting; -good knowledge diffusion; -good knowledge preservation; -knowledge transformation.

Ba is like a context within which lay the prerequisites for a new life –new knowledge. Accorsi and Costa say that according to Nonaka, Toyama and Konno (2000) "knowledge creation is a continuous, self-transcending process through which one transcends the boundary of the old self into a new self by acquiring a new context, a new view of the world, and new knowledge". They believe that knowledge is created through interaction between individuals or between individuals and their environment. These authors proposed a model of knowledge creation, combining three elements: 1) the SECI (socialization- externalization-combination-internalization) process; 2) the emergence of ba (a context to share knowledge); 3) knowledge assets (inputs, outputs, and a moderator of the knowledge-creating process). The authors also believe that these elements must interact with each other organically and dynamically. (Accorsi & Costa, 2008)

We consider that the name of 'ba' corresponds to that enabling context and was brought to light by the necessity to express the appropriate conditions for the development of SECI process. 'Ba' may exist wherever the conditions allow knowledge emergence and relationship emergence. It is dynamic by nature and combines only dynamic elements as:-people, -time; -places. More precisely, 'ba' is an impact function of three dynamic components. It is unique and irreproducible and it can be identified not through its form but through its effects. We stress the "effects" aspect as

this is the first notable sign of a certain 'ba'. If we identify the happenings (the effects) then we can search for the connections between elements and draw the imaginary shape of 'ba'. Of course the issue is not to practically built patterns of 'ba' but to comprehend what does it stand on.

Nonaka, Toyama and Konno (2000) presented four types of 'ba': originating 'ba', interacting 'ba', cyber 'ba', and exercising 'ba'. We further describe the characteristics that each 'ba' consists of:

Originating 'ba' is defined as the individual and face-to-face interactions, where the individuals share experiences, feelings, emotions and mental models. It is associated to the socialization process from the SECI model and offers a context for socialization: the only way to capture the full range of physical senses and emotional reactions, such as ease or discomfort, which are important elements in sharing tacit knowledge. It is an environment where such feelings as care, love, trust and commitment, emerge, forming the basis for knowledge conversion among individuals.

Interacting 'ba' is defined as collective and face-to-face interaction, where individuals' mental models and abilities are shared and converted into common terms and concepts. It is associated to the externalization process from the SECI model and offers a context for externalization, where individuals' tacit knowledge is shared and articulated through dialogues amongst participants. The articulated knowledge is also brought back into each individual, and further articulation occurs through self-reflection. This type of '*ba'* is more consciously constructed than *originating 'ba'*, as the right individuals are brought together in order to interact, to exchange information, to share experiences and enrich themselves throughout all these. Tacit knowledge is articulated through metaphors, expressions or non-verbal language.

Cyber 'ba' is defined as collective and virtual interactions. It offers a context for the combination of existing explicit knowledge, as explicit knowledge can be relatively easy to transmit to a large number of people in written form. Information technology, through such things as on-line networks, groupware, documentation and databanks, offer a virtual collaborative environment for the creation of *cyber 'ba'*.

Exercising 'ba' is defined as individual and virtual interactions; it associated to the internalization process from the SECI model and overall, it offers a context for internalization. Here, individuals embody explicit knowledge that is communicated through virtual media, such as written manuals or simulation programs. *Exercising 'ba'* synthesizes the transcendence and reflection through action. Within this stage explicit knowledge is best learnt through practice and this way is assumed by the individual and instantly becomes another piece of tacit knowledge, very personal and difficult to express its new form. (Accorsi & Costa, 2008)

The word "ba" is a Japanese term which roughly translates into the English word "place". The Kanji ideogram of 'ba' has two parts: the left side means ground, boiling water or that something/someone is rising and the right side means to enable. One side expresses the potential and the other side suggests some kind of engine that gives a direction. The ideogram refers to the yin and yang philosophy of permanent transformation. (Javary & Faure, 2002)

We have to understand 'ba' like the shared space that is serving as a foundation for knowledge creation and that knowledge is embedded in 'ba'. If knowledge becomes separated from 'ba' it becomes information. Information can exist in media or networks, knowledge cannot, it is intangible. (Nonaka & Konno, 1998)

4. ANOTHER TYPE OF 'BA' – "CONNECTING BA"

The dynamic characteristic of 'ba' makes it flexible and the concept is always reconsidered within novel approaches. We previously referred to the four types of 'ba' as being the basic ones and used their description in order to enable the comprehension of the concept. Whether it is

tangible or intangible it generates effects if it is real. Even if the 'ba' can't be perceived with our sight or with our physical senses it can be viewed with our mind, by identifying it, by judging it and by getting to its feedback. Originating and exercising 'ba' are physical spaces, interacting 'ba' is mental, and cyber 'ba' is virtual but "connecting 'ba'" is a positive mix of these and technology. *"Connecting ba"* can operate with "any" kind of knowledge, but explicit knowledge (electronic) is easier to transmit through P2P KMSs (Peer-to-Peer Knowledge Management Systems) than tacit knowledge. Explicit knowledge depends on how accomplished people are at expressing their tacit knowledge in a perceptive way to others. The individual internal process of converting knowledge (tacit to explicit) cannot be replaced by technology but technology can support the process. Technology is a communication and collaboration facilitator, mainly for dispersed people. *"Connecting ba"* enables collaborators to actively share knowledge because they are embedded in '*ba'*, and have
a flexible and objective environment to support it." (Accorsi & Costa, 2008)

We consider that working on providing any type of these environments will lead to knowledge flow and knowledge creation. There is not an end point to this process but for sure there is a start point.

Knowledge is boundary-less, dynamic and if not used at a specific time or place, shall lose its value. Use of knowledge requires the concentration of knowledge resources at a certain space or time. 'Ba' is the place for resource concentration of knowledge assets and intellectualizing capabilities within the knowledge creation process, 'ba' collects applied knowledge and integrates it. An example of 'ba' is a project team, a place where people of several different capabilities are brought together in order to generate knowledge. Nonaka showed us some great examples of 'ba' - specifically designed- to enable knowledge creation and sharing in companies such as NTT DoCoMo and Toyota.

5. CONCLUSIONS

The approach of this subject gave us the opportunity to have a contribution for completing the description of 'ba' and to align to the variety of interpretations.

Towards the end, our research leads to the conclusion that organizations must accept 'ba' as a tool for "knowledge creation". The atmosphere of 'ba' may be recognized within the 'communities of practice' and within the learning organizations.

The quality of the 'ba' context depends on the components of the social capital and it consists in an appropriate Service of Social Networks. Designing the social context may be possible through using the existing body of networks as mean of interacting with the organization's social capital. And it can also be done by changing and managing physical workplace.

We also conclude that the management of knowledge in the organizations is fundamentally about creating an environment that is conducive to and encourages to knowledge creation, sharing and use. In order to pursue the previous as objectives, the organizations should be guided by the enabling conditions presented in this paper.

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