

COMPARATION BETWEEN WESTERN AND EASTERN ENTERPRISE KNOWLEDGE CONVERSION MODES

Sérgio Santos Silva^{1,2}, Adroaldo Santos Soares^{1,2}, Fabio Sousa Santos^{1,2}, Renelson R. Sampaio, PhD^{1,2}

¹, SENAI CIMATEC, Brazil

², Computer Modeling and Industrial Technology Program

Abstract: The Cartesian division gave rise to a vision of the organization as a mechanism for processing information. By the concept of this view, an organization processes this information from the external environment to adapt to new circumstances. To explain innovation, a new theory of organizational knowledge creation is needed, and the secret lies in the mobilization and conversion of tacit knowledge. This work aims to make a comparative analysis between the Western and Eastern (Japanese) models based on the theories developed by Nonaka and Takeuchi (1995), with some practical examples presented and analyzed by one of the authors of this article who worked in companies using the two models from the same branch of manufacturing activity.

Keywords: comparison; conversion; knowledge; information; innovation.

COMPARAÇÃO ENTRE MODOS DE CONVERSÃO DE CONHECIMENTO DE EMPRESA OCIDENTAL E ORIENTAL

Resumo: A divisão cartesiana deu origem a uma visão da organização como mecanismo para processamento das informações. Pelo conceito dessa visão, uma organização processa essas informações a partir do ambiente externo, para se adaptar a novas circunstâncias. Para explicar a inovação, é preciso uma nova teoria de criação do conhecimento organizacional e o segredo está na mobilização e conversão do conhecimento tácito. Este trabalho tem como objetivo fazer uma análise comparativa entre os modelos Ocidental e Oriental (japonês) e, a partir das teorias desenvolvidas por Nonaka e Takeuchi (1995), com alguns exemplos práticos apresentados e analisados por um dos autores deste artigo que atuou em empresas dos dois modelos, do mesmo ramo de atividade de manufatura.

Palavras-chave: comparação; conversão; conhecimento; informação; inovação.

1. INTRODUCTION

Knowledge management is becoming a major priority for organizations because of the urgency and need for knowledge in the knowledge environment, with the source of enduring competitive knowledge becoming clear among other aspects of information and information technology. Before talking about specific technologies, it is necessary to highlight the eminently human processes by which knowledge is born, multiplied, and propagated.

The society focused on the knowledge economy has grown, and it considers knowledge as intangible, being a dynamic and dialectical process, from the conversion of explicit knowledge into tacit. The boundaries and size of companies are determined by the cost of knowledge as an input and knowledge conversion rates. There is a cost involved in creating and retaining knowledge. Knowledge can be brought in from outside, but it is cheaper to produce it in-house. A company will continue if its knowledge rate is higher than the market rate. A company can be seen as a collection of knowledge assets, which are important resources to give sustainability and competitive advantage (NONAKA; TOYAMA) [3] [6].

Nonaka's theory of knowledge creation (1991–1994) was regarded as one of the most important theories on the subject in the literature. Despite some limitations and criticisms due to philosophical sources of Western knowledge and development on the basis of only theoric [4], it has gained great academic and professional acceptance given its consistency in explaining how knowledge is created in organizations. In 1995, Nonaka and Takeuchi presented the model with four modes of knowledge conversion. According to them, explicit knowledge, which is more systematized and communicable, is more prevalent in the Western model, while the Eastern model presumes knowledge as the result of processing information and taking advantage of subjective reviews as well as intuitions of company members. Since tacit knowledge is in people's minds, it is easier to use and utilize as a starting point.

Regarding the differences between knowledge and information, knowledge, unlike information, concerns beliefs and commitments, being a function of an attitude, perspective, or specific intention. Information, on the other hand, is a flow of messages having syntactic (volume) and semantic (meaning) perspectives. The two dimensions of knowledge are epistemological, based on the distinction between tacit knowledge (transmissible and expressed), and ontological, created by individuals.

Through this work, a case study will be done about the theory of Nonaka and Takeuchi's model, as well as comparative analyses, based on practical work experience and living in two manufacturing companies, one Western, in the '90s and early 2000s, and the other Eastern, starting in the mid 2000s.

1.1. The knowledge conversion's modes

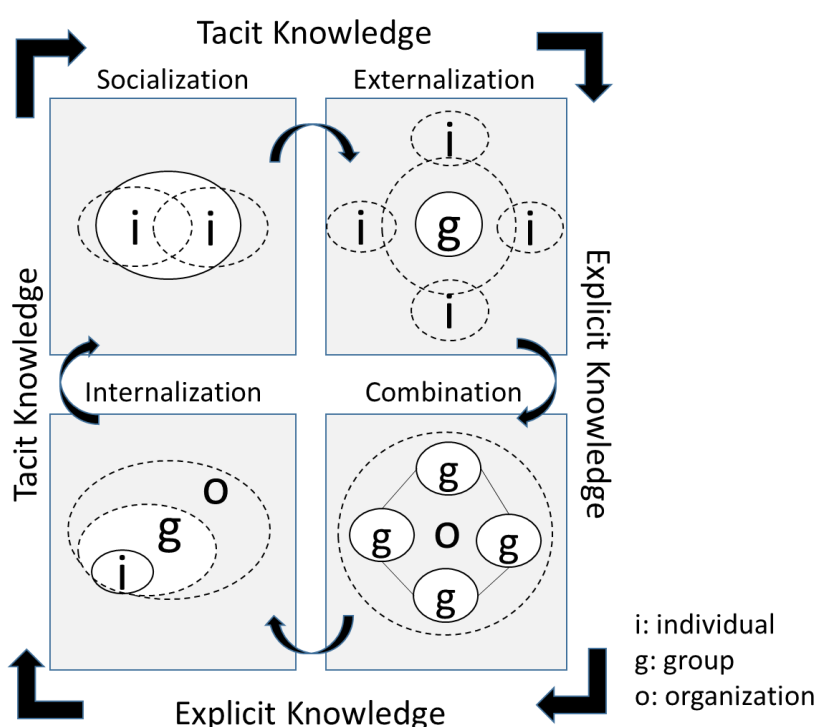
Nonaka and Takeuchi (1995) developed a model that relates the innovation process to the tacit and explicit knowledge present in an organization. For them, the Western model primarily recognizes explicit knowledge as that which can be easily systematized and communicated. The Oriental model, on the other hand, understands

that knowledge is the result of processing information and taking advantage of the subjective views and intuitions of everyone in the organization. This implies that tacit knowledge, which is in people's minds, is widely accepted and is the starting point of innovation.

Thus, knowledge-creating companies are those that systematically create new knowledge, propagate it throughout the organization, and quickly incorporate it into new products and services. According to Nonaka and Takeuchi (1995, p. 80), this process arises from a spiral of knowledge based on a personal commitment to four modes of conversion between tacit and explicit knowledge, which involve both the individual and the group, the organization, and the environment. These are: (1) from tacit to tacit knowledge, which is called socialization; (2) from tacit to explicit knowledge, called externalization; (3) from explicit to explicit knowledge, called combination; and (4) from explicit to tacit knowledge, or internalization, as illustrated in figure 1.

Nonaka and Takeuchi's model has been well known and disseminated in organizations for its clarity when represented in quadrants with graphs that clarify its content. Suggested in 1995, it considers that knowledge is a creative process and is divided between tacit and explicit knowledge. Also, the knowledge brought by individuals and that is part of the organization must be collectively disseminated. Nonaka and Takeuchi (2008) rehabilitate the concepts they proposed in 1995 about the four modes of knowledge conversion: socialization (S), externalization (E), combination (C), and internalization (I)—SECI, which were adapted by Japanese companies for the creation and maintenance of organizational cultures aimed at knowledge generation. The definitions of the four modes of knowledge conversion are in Nonaka and Takeuchi's book (1997, pp. 68–79) [1].

Figure 1. The SECI model



2. METHODOLOGY

An assessment will be made of the characterization of a Western versus Eastern company, to survey the differences in emphasis between Eastern and Western thinking and their similarities with the models in the literature.

The Western and Eastern models have different characteristics, having similarities in some points but with their own characteristics, with the exception of the Japanese system, which has a stimulus to flexibility in the entire production process, essentially in relation to labor. In the West, an environment of expert workers and production lines with few changes is created (PESSOA, 2012) [2].

The Japanese, with their conception of the production line, do not have a rejection character in relation to the principles adopted in the West but tend to change the emphasis given to various aspects of the subject. In the West, greater importance is given to the well-balanced capacity of a production process, while the focus given by the Orientals, in Japan, is to give the greatest possible emphasis to the flexibility of the plant, passing along this path through men, machines, and methods.

From the experience of a collaborator who worked in companies of both types in the same branch of manufacturing activity, it will be a case study for practical evaluation in Western and Eastern companies using the SECI model.

3. RESULTS AND DISCUSSION

Through evaluating the Socialization conversion mode, which consists of sharing experiences and creating tacit knowledge, such as mental models or shared technical skills, through practical experience in a Western and an Eastern multinational company, it was possible to associate the compatibility of its characteristics with this mode of Nonaka and Takeuchi's theory. When he joined the Oriental company, the collaborator went to a unit in São Paulo for integration, passing through several departments such as Human Resources, Safety, Quality, Production, and Engineering. During a period in the company of an engineer where he observed him and received information about his activities, some of them, such as the installation of equipment identical to the ones that would be installed under his responsibility in the factory in Bahia. After a period, he could absorb a little of the company's culture and receive some demands where they started to do together the updates and adjustments of the chronograms, besides the countermeasures to adapt them when necessary. There were some similarities with this mode in Western companies, but not to the same extent. In a production expansion project, there was a program for sharing experiences with the São Paulo unit, but not in great depth, being more specifically for the management model and production process of similar equipment. The Externalization conversion mode could be validated through the learning program at the Japanese unit. In this country, initially, there was training about the culture and instructions for the stay in the country (safety, environment, selective collection, 5S, etc.). Next, integration into the unit. The training was divided into a theoretical part in the classroom and a practical part with on-site observations, which are called *genbutsu-genba* (on the factory floor). The theoretical part was divided by department, and for each

process, we received instructions from Safety, Quality, Production, Engineering, and Maintenance. Regarding the Combination conversion mode, the Oriental company has used several tools to spread the knowledge, including documentation, daily and formal meetings with functional groups, including units from other countries, and the existence of a specific department of education to formalize the knowledge, and, as a consequence, the Internalization conversion mode, where the members of the organization start to experience the practical result of the new knowledge. The current technologies facilitate the sharing of knowledge between units on the same continent and even worldwide, and there are social networks created for benchmarking and problem-solving purposes. The two approaches are summarized in Table 1 below.

Table 1. Comparison of Eastern and Western experience

	Eastern	Western
Socialization	Design of a tacit knowledge-sharing program. Model of assistance at hierarchical levels.	Sharing tacit knowledge with less depth.
Externalization	Training in Japan was divided into theory and practice. On-site observations on the factory floor (genbutsu-genba).	Training in Brazil was focused on the management model and production process.
Combination	Documentation, and formal daily, weekly, and monthly meetings. Meetings with functional groups, including between units in other countries.	Documentation of management and procedures; and the existence of routine meetings but no general monthly meetings with all members.
Internalization	Knowledge sharing between units worldwide, and networks for benchmarking and problem-solving.	Knowledge sharing between units was the status until the early 2000s.

It was possible to verify that the attention given to resource capacities is seen by Westerners and Easterners in a particular way, with similarities in some points but with their own characteristics, with the Japanese system tending to stimulate the flexibility of labor resources. While in the West, there is a trend toward specialized workers and more stable production lines [5].

It has not been verified, and theoretically, there is no effective system for managing knowledge assets in companies, due to the fact that knowledge is often tacit and belongs mostly to the individual rather than the organization, being interdependent and dynamic. Companies, to achieve creativity and efficiency in their operations at the same time, need to give autonomy to their members up to a certain limit [3].

4. CONCLUSION

From the study of Nonaka and Takeuchi's model and information from the practical experience cited in the case study, it was possible to make several analogies between the characteristics described in the theory and the parallel between the Eastern and Western traditions. The Eastern tradition values personal and direct experience, with an emphasis on personal experience. The Western tradition places high value on abstract theories and hypotheses that contribute to the development of the sciences and values precise, conceptual knowledge and systematic science. It is worth noting that the first experience of the case study was in a Western company, until the early 2000s, and should therefore be considered. The Western company was already applying some philosophies, methodologies, and tools of Japanese origin, such as 5S (motivation and awareness for a clean, organized, agile, productive, and safe work environment), TPM (Total Productive Maintenance), Kaizen (change for the better, continuous improvement), and Ishikawa (cause-effect diagram or fishbone for problem root cause analysis). According to the Japanese view, companies see knowledge as being predominantly tacit, which is strictly personal and difficult to formalize, not recognizing the organization as an information processing machine but as a living organism. However, it does not discard explicit knowledge; organizational knowledge is created in the conversion of explicit knowledge from tacit knowledge.

5. REFERENCES

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