

KNOWLEDGE MANAGEMENT IS NOT UNIVERSAL: A CONTEMPLATION OF JAPANESE PRACTICES

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ABSTRACT

Knowledge management is a key source of competitive advantage for organizations worldwide. Following the literature from the 1980s and 1990s, it could be assumed that knowledge management is a fairly universal concept with easily transferable managerial practices. This paper argues that the concept is not universal, but is culturally bound, focusing on Japanese knowledge management practices that include lengthy induction training, spiral pyramid promotions, consensus decision making, and long-term employment. The distinction between tacit and explicit knowledge is discussed, with the conclusion that they are immutably linked and that the ability to externalize tacit into explicit is one of the key features of Japanese-style knowledge management.

KEYWORDS: knowledge management, transferability, Japanese companies, culture

INTRODUCTION

The multinational corporation arises not out of the failure of markets for the buying and selling of knowledge, but out of its superior efficiency as an organizational vehicle by which to transfer this knowledge across borders. (Kogut & Zander, 1995: 625)

Knowledge management is currently a key area of professional focus, encouraged by the development of information technologies, growing organizational and social networks, and awareness that people and their embedded knowledge potential are the remaining scarce economic resource. This concept of purposeful creation, acquisition, interpretation, storage, dissemination, and application of knowledge is commonly construed as a universal approach for companies and societies, both within and across countries and regions.

As we argue in this paper, however, even if the meta-concept of knowledge management must be universal, the practices of knowledge management cannot be universal due to substantial variation in the influence of other, socio-culturally bound, components in the construction of knowledge. Many highly acclaimed papers refer to the work of Ikujiro Nonaka and Hirotaka Takeuchi, Japanese academics in the field of knowledge management, whose 1980s and 1990s arguments we will be dissecting through the prism of cultural specificities. A second reason for focusing our attention

specifically on Japanese knowledge management practices is the oft-declared uniqueness of Japanese managerial culture. In this paper, we develop the concept of culturally-derived knowledge management practices with respect to the Japanese business environment.

KNOWLEDGE MANAGEMENT

“Knowing” as a concept can itself be dissected. For example, Spender (1996) pointed out the existence of relevant differences in some European languages, e.g. between *wissen* and *kennen* (in German) and *savoir* vs. *connaître* (in French), to which we may add *vědět* contra *znát* (in Czech) or *zhī* and *shí* (in Chinese; see Figure 1). The distinctions are deeper than the disparities between *knowing* and *understanding* in English (which would be *verstehen*, *comprendre*, *rozumět*, and *lǐ jiě* in the above languages, respectively). The first words mean the capability of reproducing the stored facts and possessing of encyclopaedic skill, while the second represent the ability to manage unexpected situations and to establish a contextually appropriate orientation in the world. The closest English approximation to these concepts is “knowing-what” and “knowing-how.” (One could even consider this as reflecting the distinction between the academic and practitioner worlds – but that is a side argument we do not wish to explore at present! We would prefer to take a systems perspective... but will allow the reader to determine our success at achieving this.)

Figure 1. Chinese characters for knowing-what, knowing-how and understanding

David Ricardo (1817) employed the illustration of good land as a rent-seeking resource. All other things being equal, good land provides greater yield per acre than bad land, so the price per unit of output is lower and hence the product is more competitive. In a world where traditional economic resources (labor, land, and capital) have lost their

zhī 知 shí 識 lǐ jiě 理解

predominance, to be replaced by time, skills, and organizational systems, knowledge reigns supreme. Knowledge – its creation and dissemination – should therefore be the focal point of managerial attention. Knowledge itself must be managed – organized in suitable places, planned, passed to appropriate people, empowered through application, and controlled in terms of knowledge process efficiency (Berdrow & Lane, 2003). Knowledge management is the process of creation or acquisition, interpretation, storage, dissemination, and application of knowledge.

Knowledge is often associated with learning; indeed, some people would equate learning with knowledge acquisition (this is particularly the case in information science theory). Learning and managing knowledge of both individuals and organizations plays a central role in the competitive edge of firms (Pisano, 1994). Learning describes a problem-solving process targeted at addressing gaps between actual and potential performance. Furthermore, a distinction should be made between individual and organizational learning; and between organizational learning and the concept of a learning organization.

Organizational learning is the process whereby an organization develops skills or gains bodies of knowledge. Inherent in this concept is the notion that an organization itself cannot gain such skills or knowledge; it is the people within the organization that can do so. For this learning to be organizational, rather than individual, processes to manage (create, acquire, interpret, store, disseminate, and apply) skills and knowledge within the organization must exist. A learning organization is one that has established such processes; it is capable of transforming information into knowledge and disseminating that knowledge among organizational units. This may be accomplished intentionally (through a designed structure) or by means of self-organization. The notion of a learning organization is a timeless organizational philosophy, representing one of the fundamental rationales for the existence of any organization (namely, gaining advantage by cooperating and sharing resources). As a corollary and component of organizational learning, individual learning is a product of a person's general characteristics and abilities, and must be considered in the context of the social entity to which an individual belongs (Webb et al., 2001).

Another learning perspective was offered by Argyris (1980) with his framework distinguishing among single-loop (without change of underlying policies, assumptions and goals), double-loop (requires changes in the underlying policies, assumptions, and goals), and triple-loop or transformative learning (which requires change in the learning process itself) (Argyris & Schön, 1996). Further, Baird et al. (1999) suggest the notion of active (as opposed to passive) learning, preferring action over reaction; this is represented as the way a child attempts tasks and learns (through failures and successes) much more rapidly than does an adult.

EXPLICIT AND TACIT KNOWLEDGE

Resources can be summarily divided into two basic types, tangible and intangible. The origin of tangible resources lies outside organizations and individuals, whereas intangible resources are created by organizations and individuals. Sometimes, as in the case of production machinery, intangible resources can be materialized into tangible manifestations. Organizations and individuals can transfer resources; tangible resources, or tangible manifestations of intangible resources, are easier to transfer than are intangible ones. For example, a factory or a patent may be easily transferred; knowledge or goodwill may not. Organizations may gain comparative advantage through control of resources, tangible or intangible. Avenues open to gain control of resources include creation and acquisition – with creation applying only to intangible resources, while acquisition is applicable to tangible resources (including tangible expressions of intangible resources). The concept of protection of resources is implicit in their control.

Similarly, knowledge can be seen to exist in at least two forms – what we previously described as “knowing-what” and “knowing-how,” more commonly termed explicit and tacit knowledge (Grant, 1996). Organizations and individuals tend to acquire explicit knowledge from outside, as a tangible manifestation of a resource, but to develop tacit knowledge internally, as an intangible resource. Conversion between tacit and explicit is possible; we will address this issue later. Comparative advantage can arise from management of knowledge, both explicit and tacit. However, managing knowledge is not an easy task, particularly in the case of tacit knowledge. (A homily reflecting this

situation is “no pain, no gain,” reflecting that harder tasks tend to bring greater rewards.)

Tacit knowledge is an aspect of efficient behavior that is acquired through experience and is unrelated to cognitive ability in general (Kerr, 1995). Tacit knowledge is embedded in people’s minds – their culture, routines, processes and organizational practice (Darroch, 2002). Tacit knowledge is people dependent and highly contextual, while explicit knowledge is an entity of itself, relatively independent of its context. Explicit knowledge can be codified and made public (available to people other than the originators), and includes data and information. Tacit knowledge, on the other hand, is difficult to codify and share, relying on experience, relationships, and networks to provide both dissemination channels and contextually valid content.

The distinction between explicit and tacit is neither absolute nor universally recognized, nor is the terminology entirely accepted. For example, Prigogine (1989: 389) opposed this dissection of knowledge, because tacit and explicit knowledge are created concurrently and are inseparable. Tsoukas (1996), discussing the articulated and unarticulated backgrounds of a specific piece of individual knowledge, also deemed them to be inseparable and therefore mutually essential components of the knowledge. Others have proposed more than two basic types of knowledge, e.g. Maula (2000) distinguishes among explicit highly-structured knowledge, explicit less-structured knowledge, and tacit knowledge. Boisot (1995) prefers the terms codified and uncoded knowledge, but does not treat them as synonyms for explicit and tacit, despite wide-ranging similarities.

Differences between tacit and explicit knowledge may be expressed in dissimilar methods of transfer among company members, including aspects of location and time. Explicit knowledge is generally considered a non-tradable economic good, except for legally protected patents, copyrights, trademarks, and other items deemed “intellectual property.” Tacit knowledge is sheltered by individual minds, is usually created within the context of a firm’s structure, and is typically company-specific; it is not just non-tradable but hardly transferable. We will use the terms “explicit” and “tacit” to represent manifestations or instances of explicit knowledge and tacit knowledge, respectively.

Every kind of knowledge is difficult to codify or teach, although there is substantial variability. Whereas explicit knowledge is realized through its communication (Grant, 1996), tacit knowledge is demonstrated through its application. According to some authors, tacits cannot be codified, resulting in a low potential for transfer between people that is financially demanding and uncertain (Kogut & Zander, 1995). Tacit knowledge relies heavily on human abilities to perceive, understand, distill, and disseminate hidden meanings. Some authors have claimed that the so-called sharing of tacit knowledge rests mainly on the foundation of Japanese culture and that the concept is therefore not easily applicable outside this context (Glisby & Holden, 2003). A key distinction of Japanese companies from their Western counterparts is the Japanese ability to derive explicit from tacit through mutual sharing and interaction (Nonaka & Takeuchi, 1995). The process of deriving explicit from tacit is called externalization; it enables knowledge to be articulated and translated into forms that can be understood by other members of the organization.

It may be said that explicit and tacit knowledge are actually like two sides of a single coin, similar to female/male, yin/yang, or chaos/order. Theorists explain the interconnections between tacit and explicit knowledge elements according to their experience, socio-cultural background, and/or specific context. Individual knowledge storage must be examined as a set of effective behaviors based on previous experience and perceptions. Inborn cognitive abilities affect learning competence and therefore the resulting individual knowledge base. According to Martiny (1998), knowledge is based on experience, existing in the minds of individuals. Spender (1996) adds that individuals and collectives have knowledge-based identities, which means that human beings distinguish themselves from others by referring to the knowledge they hold.

Separation of tacit and explicit knowledge could be more an academic dispute than reality. As individuals attach different meanings to different situations and their perceptions of certain behaviors vary widely, knowledge may be considered distinct from the data and information on which it is based – recalling that knowledge enables effective behavior – but its tacit and explicit components are inseparable and context dependent. This is essentially looking at the same box from two different perspectives – inside (*tacit*) and outside (*explicit*).

KNOWLEDGE DEVELOPMENT AND TRANSFER IN JAPANESE MULTINATIONALS

Innovation and new product development are inconceivable without a well-maintained knowledge base. A strong connection between successful knowledge management and new product development has been acknowledged by many scholars (e.g. Pisano, 1994; Jacobs & Herbig, 1998; von Krogh & Grand, 1999; Darroch, 2002). Are knowledge processes in Japanese companies managed by means of general knowledge management practices or more by Japanese cultural assumptions?

Takeuchi and Nonaka (1986) define six jigsaw puzzle characteristics of successful new product development: (1) built-in instability; (2) self-organizing project teams; (3) overlapping development phases; (4) multilearning; (5) subtle control; and (6) organizational transfer of learning. They provide several examples from Japanese and U.S. companies, but with heavy reliance on the Japanese cases.

Their reliance on practices of Japanese companies is highly recognizable, especially in their emphasis on self-organization and subtle control. Self-organized teams possess the prerogative of relatively autonomous behavior, with the role of superiors being limited to providing guidance, money, and moral support. Such teams seem to work in a never-ending quest for excellence; they establish their own targets and keep raising them throughout the team's activities. Takeuchi and Nonaka discuss the notion of self-transcendence, which may well be connected to what Trompenaars and Hampden-Turner call communitarianism and Hofstede collectivism and in which Japanese rank high (Hampden-Turner & Trompenaars, 1997; Trompenaars & Hampden-Turner, 1998; Hofstede, 2001). Intentional overlapping of different professions and backgrounds, in part through ambiguous job descriptions and spiral career paths, so typical for Japanese companies (e.g. Fucini & Fucini, 1990), helps to promote successful knowledge creation. Subtle control implies lack of direct controllers. Management supports the

environment, in which teams operate on their own and by their own (often unspoken) rules. Nonaka cites Epson's senior vice president Susumu Aizawa:

It is our policy to assign two different jobs to engineers. For example, an engineer may spend 70% of his effort on design, his major job, and 30% of his effort on marketing, his minor function. We try to create a multi-functional engineer. This approach is critical in the interdisciplinary field of 'mechatronics' – mechanics and electronics. (Nonaka, 1988: 69)

As mentioned previously, jobs in Japanese companies are not defined narrowly. Following a Western logic, ambiguity of job descriptions would result in inefficiency – in particular, difficult tasks would be left untouched (Koike, 1994), so there must be some hidden aspect. We have to raise the question: Why do Japanese employees tend to work in groups? They hold on to their group relations for individual support rather than rely on abstract ideologies (Yamazaki, 1986). The work at the shop floor involves a high level of mutual interactions such as help, on-the-job training, and horizontal coordination of tasks; this side-contracting among workers can only be implicit, because written contracts would be costly if not impossible (Aoki, 1994).

Multilearning and transfer of learning are tasks for knowledge management itself. Multilearning refers to constant encouragement to acquire diversified knowledge from numerous sources at a given time, i.e. to the learning of multiple skills (Jacobs & Herbig, 1998). Individuals may learn in numerous ways, but always within an environment where learning itself is strongly promoted. Experts are encouraged to accumulate knowledge in their respective areas on their own. Learning is also pursued emphatically at group and corporate levels by means of policies and programs. Learning initiatives play a key role in the human resource management department (Takeuchi & Nonaka, 1986). Transfer of learning to other departments and subsidiaries should take place regularly. Knowledge is also transmitted in the organization by converting successful project activities into standard practices. When the institutional setting of the knowledge transmission is carried too far, this might reduce the ability of the company to react to changing environments (Takeuchi & Nonaka, 1986).

Management Japanese-style is often identified with the practice called on-the-job-training. Research conducted at the Center for Creative Leadership (headquartered in Greensboro, North Carolina) and at Honeywell Inc. (based in Morristown, New Jersey) showed that deepening on-the-job experiences produced greater learning than did typical classroom training (Seibert, 1999). However, this conclusion is surely dependent on the capabilities of the given mentoring person and the focus of the training program (which included simulation of critical situations). Note also that this research was conducted in a United States context; because induction training in Japan is typically substantially longer than that in the USA, there would almost certainly be more opportunities to deeply discover job-related issues.

How much information is actually given to Japanese workers? Nonaka (1990) identifies information redundancy in Japanese companies as a way to induce flexible and rapid innovations, while at the same time exposing a company to its potential ultimate limits of innovation. The relationship between knowledge and innovation relies on the combinative capability of the company (Kogut & Zander, 1992). Providing all workers

extensive information about all of the firm's activities allows them to develop the feeling that they are a real part of the company. Such workers are interested in their company, their coworkers, and their tasks; they trust the accuracy of company-provided information; and the resulting multidirectional communication flows enable them to see their role within a wider picture. From that perspective, information redundancy creates order (belonging to the company), because the vision is clear and it is relatively easy to promote a common sense for the strategic direction. This should be seen as another Japanese trademark, where workers are heavily trained in different positions and deal with tasks not related purely to their job description.

Nonaka and Takeuchi (1995) withdraw from connecting their approach to specific cultural conditions, while simultaneously confirming that human meaning and communication are based on collective knowledge to comprehend the context of a message. The Japanese way of cognition is more familiar with tacit knowledge, while the Western mind is closer to the notion of explicit knowledge (Glisby & Holden, 2003). Dependence on contextual conditions must be recognized as a culturally specific dimension of knowledge, while reliance on high context is common in the Japanese cultural heritage (Hampden-Turner & Trompenaars, 1997). Context refers to a specific situation within which knowledge occurs. Holden (2002) speaks about the problem of contextual knowledge, when a company (in his case the Japanese firm Matsushita) masquerades thin knowledge as thick knowledge.

Key characteristics of knowledge generation in the Japanese company are clearly visible in the famous Toyota production system (Nonaka, 1988; Kogut, 2000), and indeed constitute its very foundation. A related Japanese management practice intimately linked to knowledge management concepts is the quality control circle (QCC), which is very useful for generation of information – for systematically encoding otherwise individually perceived facts (Nonaka, 1988). The approach known as *ringi* (or *nemawashi*) for decision-making by consensus is essentially a mechanism for sharing knowledge (as well as responsibility, authority, etc.), since it ensures that decisions are reached based on a common understanding. Even after-office-hours drinks and social activities of Japanese workers must be seen as an important part of the knowledge exchange process.

Networking with customers and among related organizations as a start for reciprocations, interactions, and creation of information (Nonaka, 1988), is another habit mentioned in connection with Japanese businesses. Kogut (2000) introduces the notion of the network as knowledge itself. He concludes that networks are more than just relationships providing dissemination of knowledge and accessibility of information, but important sources of firms' value. Whitley (1992) points out the role of mutual obligation networks and the high level of interdependence among Japanese companies, subcontractors, general trading companies (*sogo shosha*), and banks. Seibert (1999) stresses the role of relationships in promoting learning and overall company development. The overall picture fits – Japanese companies deal with networks on a qualitatively different level.

Lower labor mobility in Japanese companies implies a kind of resistance of departments to willingly provide their own staff for new products and business projects (Nonaka, 1988), for fear of permanently losing valued group members. Although this appears to

conflict with interdepartmental teams and the spiral pyramid approach used for internal promotion, it is actually complementary. All three techniques foster loyalty, as well as subsuming the individual to group needs and goals. They also help maintain secrecy, with the most intimate corporate “family” knowledge passing from generation to generation, but certainly not a few days after a new generation is “born” or incorporated as new inductees – part of the reason for lengthy training periods. The “children” need to mature in order to be able to carry the heritage, something typical Western firms with high staff turnover can hardly achieve.

The transferability of Japanese managerial models overseas is surely one of the most important issues to which this paper contributes. Knowledge transfer considerations must be resolved by Japanese companies themselves, given the cultural binding of their knowledge management philosophy and practices. They must decide not only which policies, processes, methods, and knowledge to transfer abroad, but also by what means. Glisby and Holden (2003) give the example of General Motors’ 1998 attempt to adopt some “Japanese” know-how – an experiment which led to strikes and production losses amounting to US\$ 2 billion per week. Their conclusion is that knowledge management can’t be blind to differences in national and organizational cultural contexts.

CONCLUSIONS

We have critically analyzed the universality of knowledge management concepts as introduced by Nonaka and Takeuchi. Knowledge creation, acquisition, interpretation, storage, dissemination, and application cannot be simplified into technical software tools and universal solutions, as those are to a certain degree dependent on the cultural space in which individuals operate, particularly their mutual interaction and individual experiences.

Critics of our approach may point out that all we have done is to connect general knowledge management practice with the specific cultural environment, which is essentially true. Our reasoning is that cultural contexts do, indeed, strongly impact on knowledge management, at all levels from philosophy through practice. Further research should attach cultural context to various knowledge management practices and should investigate the appropriateness of given techniques in different cultural settings. We suggest starting by distinguishing to which proportion tacit and explicit component of knowledge are used by certain cultural clusters.

We propound that contemporary knowledge management is highly based on assumptions related specifically to Japanese companies and we identify the key areas of evidence – reliance on the tacit component of knowledge and its externalization, interfunctional groups used at key decision junctures, emphasis on the importance of learning (individually and organizationally), and internal dissemination of knowledge. For further research we suggest paying attention to Japanese multinational companies and the spreading of their knowledge. If different knowledge management attitudes are utilized by Japanese companies in Japan and by Japanese subsidiaries overseas, then such research would help distinguish between a ‘universal’ set of techniques and the processes which are bound in the specificity of Japanese culture.

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