

Knowledge transfer within Japanese multinationals: building a theory

Pavel Štrach and André M. Everett

Pavel Štrach is a Researcher at the University of Economics, Prague, Czech Republic. André M. Everett is a Senior Lecturer at the Department of Management, University of Otago, Dunedin, New Zealand.

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Abstract

Purpose – *The purpose of this research is to explore the theoretical underpinnings of knowledge transfer within Japanese multinationals. To that end, a conceptual model of knowledge transfer within Japanese multinational companies and their overseas affiliates is proposed.*

Design/methodology/approach – *In the first part, theoretical models of knowledge transfer within multinationals in general are explored through a literature review. Next, related knowledge management practices utilized by Japanese companies, specifically in their overseas subsidiaries, are introduced. The third section develops a conceptual model proposing how knowledge is disseminated within Japanese multinationals. The discussion is based on the assumption that Japanese firms consciously apply the same knowledge management methods abroad as at home only to the extent to which they consider them appropriate for transplanting into a foreign environment.*

Findings – *Distillation of prior research has led to the conceptual model proposed here. This general model incorporates two principal dimensions (facilitating factors and knowledge flows). An examination of Japanese managerial practices in light of these dimensions illuminates the relationships between some recognized typically Japanese traditions and their implications for knowledge transfer approaches and activities.*

Originality/value – *The intention of this paper is to provide insights useful to practitioners as well as academic researchers. Non-Japanese firms can further their understanding of the motivations and rationale behind Japanese practices, while Japanese companies may apply some of the reasoning to their decisions regarding which of their practices, methods, and knowledge to transfer abroad and by what means. The paper concludes with suggestions for further research.*

Keywords *Knowledge transfer, Multinational companies, Japan*

Paper type Conceptual paper

This research explores the theoretical underpinnings of knowledge transfer within Japanese multinationals. In the first part, theoretical models of knowledge transfer within multinationals in general are explored. Next, related knowledge management practices utilized by Japanese companies, specifically in their overseas subsidiaries, are introduced. The third section develops a conceptual model proposing how knowledge is disseminated (i.e. transferred) within Japanese multinationals and their overseas affiliates. The discussion is based on the assumption that Japanese firms consciously apply the same knowledge

management methods abroad as at home only to the extent to which they consider them appropriate for transplanting into a foreign environment. Japanese companies must decide which of their practices, methods, and knowledge to transfer abroad and by what means. Finally, the paper concludes with suggestions for further research.

Knowledge management and transfer

Knowledge is often associated with learning. Learning and managing knowledge of both individuals and organizations plays a central role in the competitive edge of firms (Pisano, 1994). From an organizational perspective, learning describes a problem-solving process targeted at filling the gaps between actual and potential performance.

A distinction should be made between individual and organizational learning; and between organizational learning and the concept of a learning organization. Organizational learning is a focused, time-framed activity aimed at developing a given set of skills or gaining a relatively narrowly targeted set of knowledge. A learning organization transforms information into knowledge and disseminates the knowledge across organizational units by means of a systematic self-organizing mechanism, and thereby the overall self-order is supported (Nonaka, 1988). The learning organization idea is a perpetual organizational philosophy, featuring principled learning as one of the key roles of the company (Senge, 1993).

Individual learning is contingent on 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). The emphasis on connection to others is not incidental – it implies development of a generally supportive environment and personal engagement for individual learning to occur. This in turn stresses the emotional side of relationships, wherein people who sense personal attachment to others at work participate in a quest for mutual support. Stimulating interactions are crucial for gaining deeper understanding of phenomena; they clarify ideas and help develop new solutions. Not all of the resulting ideas are worth pursuing; some, however, will be discussed, transformed into knowledge, and implemented – constituting an active knowledge generation and transfer process.

Such a process depends on the abilities of the participants to learn and to teach; knowledge transfer is affected by individual characteristics of the source, recipient, context, nature of the task, and type of transferred knowledge (e.g. Dixon, 2000). The ability to transfer knowledge enables an organization to develop itself and to evolve towards achieving its potential. The consequent search for valid knowledge transfer models has resulted in numerous proposals throughout the past decade (e.g. Hedlund and Nonaka, 1993; Boisot, 1995; Nonaka and Takeuchi, 1995; Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998; Gupta and Govindarajan, 2000; Holden, 2002).

An influential social learning model was proposed by Boisot (1995). He puts forward the idea of I-space (information space), where knowledge emerges in a three-dimensional cyclical flow as a product of learning. His proposed clockwise information trajectory describes the development, dissemination, and application of new knowledge. Three dimensions – codification, abstraction, and diffusion – are introduced as determinants for information movements in space and time. The social learning curve, as Boisot termed this flow, consists of six components: scanning, problem solving, abstraction, diffusion, absorption, and impacting. Scanning concerns experience and information reception. Problem-solving is a typical part of a learning process; some authors even see problems as a cause for learning

(e.g. Simon, 1991; Pisano, 1994; Weick and Roberts, 1995). Abstraction focuses on regularities and categorizing among information. Diffusion describes the process of transmitting and distributing information through understandable codes. Absorbed knowledge is in use; recipients master the practice, adapt knowledge in a variety of situations, and integrate the knowledge into their library. Impacting is associated with absorption, but at this stage of the social learning curve learning becomes embedded in brains and in artifacts (Boisot, 1995, p. 210).

Holden (2002) focuses mainly on the linguistic side of international knowledge transfer and defines three major obstacles by means of translation theory: ambiguity – intended knowledge may be misinterpreted by a receiver due to constraints of language or sender; interference – this confusing situation happens when words in different languages look or sound the same, but mean something else; and lack of equivalence – when the context of one language is imperfectly transferable into another. Thus, according to Holden, the key to international knowledge transfer is the search for a linguistic equivalent for a given body of knowledge in terms of its purpose, content, and importance.

Hedlund and Nonaka (1993) drew another model of knowledge transfer, subsequently applied in empirical research by others (e.g. Buckley *et al.*, 2004). They set up four main categories of knowledge transfer: articulation and internalization, extension and appropriation, assimilation and dissemination, and expansion.

During articulation, tacit knowledge is articulated, i.e., made explicit at all agency levels (individual, group, and organizational). Articulation creates a potential for knowledge to be transmitted. Internalization means experiencing the articulated knowledge in its unconscious form, essentially altering the knowledge from explicit to implicit. While articulation is stressed in Western firms, internalization is prevalent in Japanese companies.

When knowledge is extended, it is observed, imitated, emulated, or spread. Extension is considered an effective way to establish a desired corporate culture. Appropriation is transfer from higher agency levels to lower ones by transmission of both spoken and unspoken knowledge through eligible channels and to mature possessors. Western companies stress extension over appropriation, whereas Japanese firms promote appropriation rather than extension.

Assimilation bears on acquiring knowledge from outside of the organization, while dissemination is the opposite process, referring to knowledge passing from the organization into its external environment. Hedlund and Nonaka (1993) believe assimilation is more prevalent at Japanese firms, while Western companies are more inclined toward dissemination. However, this distinction is not broadly applicable to all of the attributes of assimilation and dissemination, with noticeable policy and practice differences from the anticipated norm in areas such as recruitment, expatriation, retention, mergers and acquisitions, licensing, R&D, and foreign direct investments; however, they do not provide detailed analyses or extensive references to justify their list of exceptions.

Finally, expansion describes the change in knowledge practices through knowledge itself, such as when an original idea for a new product is improved or processes are remodelled to better serve a company's purpose. Expansion requires frequent interactions. In support, the authors contrast the preference of the west for change in substantial increments with the Japanese philosophy of continual improvement.

Japanese approaches to knowledge management and transfer

To differentiate knowledge transfer in Japanese multinationals from that in other organizations, one should first identify the distinguishing characteristics of Japanese multinationals, relative to knowledge management. Past research provides guidance in accomplishing this in two key areas: societal configurations within which knowledge can transfer, and internal organizational structure and control mechanisms.

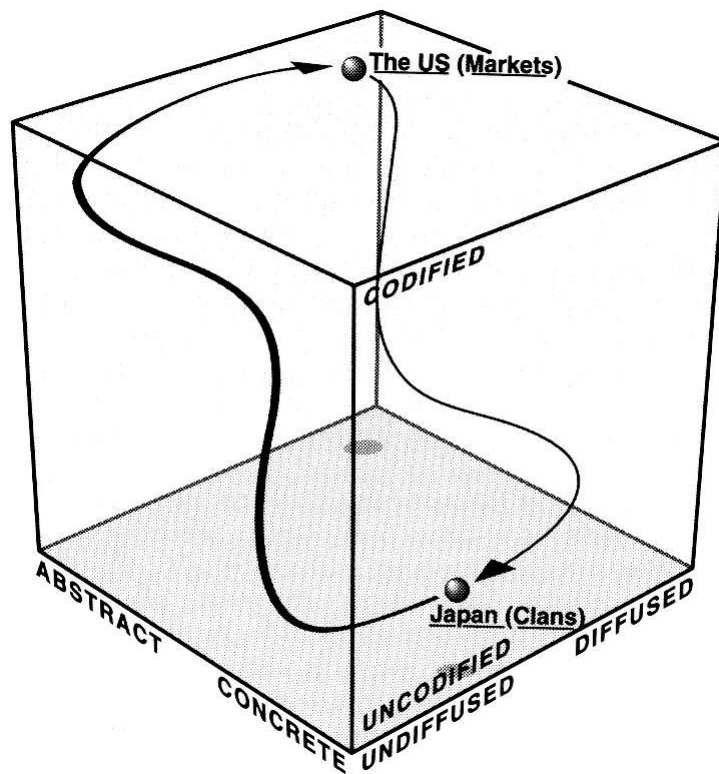
Societal and organizational configurations of Japanese companies result in the absence of a formal knowledge strategy and/or inhibit the existence of systemic knowledge workers (Jin, 2001). Knowledge management is embedded in the Japanese organizational system as a consequence of other management approaches and methods. In contrast to Western companies or other Asian firms (Luo, 1999; Si and Bruton, 1999), knowledge activities in Japanese organizations become a part of “line” management (Echeverri-Carroll, 1999; Forrester, 1999) rather than top-down stimulated activities[1]. However, it cannot be concluded that knowledge management issues are absent or that there are no knowledge workers within Japanese companies (Kubo and Saka, 2002). Rather than reflecting the lack of knowledge management, the absence of a formal knowledge management strategy in Japanese firms is indicative of the embeddedness of relevant beliefs, attitudes, and actions throughout all layers of the organization and all activities. The lack of formality and codification of a knowledge management strategy resembles the approach taken to job descriptions – minimal and flexible – which enables spontaneity and more natural knowledge flows. Societal and firm-related features provide Japanese companies with a different perspective on knowledge management and transfer.

Potential societal configurations within which knowledge can transfer have been extensively examined by Boisot (1995), who identifies four types of institutions – markets, bureaucracies, clans, and fiefs – as transactional structures that are both the products and originators of knowledge flows. His systemic view of organizations as adaptive systems (Boisot and Child, 1999) stresses the complexity and interrelatedness of the forms and institutions of knowledge transfer.

Boisot positions Japanese corporations in his information space as entities dealing with moderately diffused, mostly uncoded knowledge (see Figure 1). He links the core of Japanese corporate culture with the clan type of structure, which sharply distinguishes between insiders and outsiders. Clans represent a form of institutionally-based knowledge dissemination, where relatively uncoded knowledge is provided only to trustworthy insiders in its fuzzy (semi-codified) form. Clans may be also described as non-hierarchical family-like groups, limited in size and transferring intangible knowledge internally.

In terms of internal organization and control, it is widely recognized that Japanese firms differ from others, notably those in the US – which were contrasted by Takeuchi and Nonaka (1986), who focused on successful new product development. They provide several examples from the reality of Japanese and US companies; however, their reliance on Japanese cases should be acknowledged. New product development relies on new knowledge and affects the whole innovation process (Song and Montoya-Weiss, 2001). Takeuchi and Nonaka’s six “jigsaw puzzle” characteristics are self-organization, subtle control, multi-learning, transfer of learning, built-in instability, and overlapping development phases; the present work concerns the first four of these, which relate to the Japanese knowledge transfer context.

Figure 1 US markets and Japanese clans



Source: Boisot (1995, p. 405)

In general, self-organized teams possess the prerogative of relatively autonomous behavior, while the role of superiors is limited to providing guidance, money, and moral support. Teams seem to work in a quest for never-attained perfection; they establish their own targets and keep elevating them throughout the team's activities, an approach termed self-transcendence. The intentional overlapping of different professions and expertise backgrounds, so typical for Japanese plants (e.g. Fucini and Fucini, 1990), helps to promote successful knowledge transfer. Subtle control implies lack of direct controllers; management supports the environment, within which teams operate on their own and by their own (often unspoken) rules. The Japanese notion of control is related to the ability to self-manage (Markus and Kitayama, 1991), i.e. to the form of self-discipline that, within a Japanese context, is expected and natural, from both groups and individuals, in the attainment of mutual respect.

Multi-learning and transfer of learning are tasks for knowledge management itself. Multi-learning refers to the constant encouragement to acquire diversified knowledge from numerous sources at the given time, i.e. to the learning of multiple skills (Jacobs and Herbig, 1998). Individual learning may manifest itself in numerous ways, but it is officially promoted. In particular, experts are encouraged to accumulate knowledge in their respective areas on their own. Learning is pursued emphatically at group levels as well. Company learning is usually promoted at the corporate level by means of company policies and programs. Learning and knowledge transferring initiatives play a key role for the human resource management department (Takeuchi and Nonaka, 1986; Bender and Fish, 2000). Transfer of learning to the other departments and subsidiaries should take place regularly. Knowledge is also transmitted within the organization by converting learning from project

activities into standard practices. However, when the institutional setting of the knowledge transmission is carried too far, this might reduce the ability of the company to react to the changing environment (Takeuchi and Nonaka, 1986).

Sharing of knowledge is not purely a matter of multifunctional teams. The extensive R&D activity within keiretsu makes it possible to use invented technologies in new or unexpected industries and further build up the competitive edge. Kodama (1992) speaks about “technology fusion,” when Japanese companies’ main aim is thinking instead of producing, a multi-technology basis instead of reliance on a single technology, and demand articulation instead of simple demand satisfaction. The threat of new technology is inevitably real and permanent, and may come from different industries as a side product of their knowledge activities.

The literature confirms that jobs in Japanese companies are not defined narrowly (Nonaka, 1988; Boisot, 1995; Koizumi, 1996). Following Western logic, for most workers ambiguity of job descriptions would result in inefficiency – difficult tasks would be left untouched (Koike, 1994), yet this does not occur in Japanese organizations. Instead, Japanese employees depend on their group relations for individual support rather than relying 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 be only implicit, because sufficiently explicit written contracts would be costly if not impossible (Aoki, 1994). This implicitly cooperative group work constitutes a knowledge network, which attaches meanings to physical and social phenomena, as discussed by many authors (e.g., Teilhard de Chardin, 1947; Carter, 1997; Chia, 2000; Bose and Sugumaran, 2003; Chia, 2003).

Management Japanese-style is often associated with the experiential learning practice termed on-the-job-training. However, such “learning by doing” may be difficult (if not impossible) when newly acquired knowledge is not in accord with the background knowledge of the recipient, which would provide a necessary base for understanding and contextual interpretation (Boisot, 1995). Seibert (1999) points out that on-the-job experiences produce more learning than typical classroom training. It may be concluded that the particular outcome of a given on-the-job learning situation depends in part on the capabilities of the mentoring person and the focus of the training program on simulation of critical situations. As the “welcome training” (induction and orientation) in Japan typically lasts longer than in the West, there should be more opportunities to deeply discover issues related to the job. The heavy stress on learning creates a higher level of trust within Japanese companies, and therefore a lower level of direct and formal control mechanisms is required. This is exemplified by the “insider” tradition in *kaisha* (incorporated subsidiaries of large corporations), where a “salaryman’s” training period lasts about eight to ten years, after which he functions essentially without supervision for the remaining 20 or more years of his service to the company, having fully absorbed and integrated his particular *kaisha*’s philosophy (Yoshimura and Anderson, 1997). Information redundancy promotes order by clarifying the organizational vision and strategic direction, fostering greater loyalty and a common sense of belonging – enabling subtle control to take effect.

Such an approach may be construed as impeding innovative thinking. The long-term emphasis on experiential learning of a given way of thinking and working relies on a heavy dose of information redundancy. However, 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. Similarly, Cohen and

Levinthal (1990) propound that redundancy is crucial to foster cross-functional competence. Typical Japanese approaches to accomplishing this are job rotation and multitasking, whereby workers are trained in various positions and deal with a wide range of tasks.

Nonaka and Takeuchi (1995) withdraw from connecting their approach to specific cultural conditions, while simultaneously confirming that meaning and communication require collective knowledge to comprehend the context of a message. Dependence on contextual conditions must be recognized as a culturally specific dimension of knowledge, with reliance on high context commonly present in the Japanese cultural heritage (Hampden-Turner and Trompenaars, 1997).

Role of networks in Japanese knowledge transfer

The embeddedness of knowledge within a particular context is characteristic of the concept of a network. Indeed, networks have been termed a type of knowledge in themselves (Kogut, 2000). Networking with customers and among related organizations is seen as a key originator of the fluctuations and interactions that lead to creation of new information (Nonaka, 1988); this is a habit mentioned in connection with Japanese businesses.

More than being just relationships providing dissemination of knowledge and accessibility of information, networks are 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, trading companies, and banks. Reciprocity and obligatory belongingness relate to the Japanese culture in general (Markus and Kitayama, 1991). Seibert (1999) stresses the role of relationships in promoting learning and overall company development. The overall picture fits – Japanese companies deal with networks at a qualitatively different level from Western companies.

Internal networks feature strongly in Japanese knowledge creation and transfer. The origination of knowledge in the Japanese company is typically visible in company-specific production systems such as the Toyota Production System (TPS), described by numerous scholars (e.g. Nonaka, 1988; Kogut, 2000) and now a standard feature of operations management textbooks. TPS is the most famous implementation of the just-in-time (JIT) philosophy, which concerns everything from localized inventory reduction to long-term, strategic, coordinated interorganizational knowledge creation. Lower-level Japanese management practices, including components of TPS/JIT, are intimately related to knowledge management as well. For instance, quality circles (QC) are a very useful tool for creating new knowledge (particularly about processes and process control), going well beyond their use as perceived by the West, where they are limited to the recording, analyzing, and utilizing of otherwise individually perceived facts (Nonaka, 1988). This perceptual distinction regarding the purpose of QC in Japan and quality control circles (or QCC) in the US is characteristic of the much narrower focus of the Western interpretation of the purpose of such highly localized networks.

A Japanese corporation (*kaisha*) equips its workers with a higher level of awareness and social status than would a Western firm. The importance of being employed by a widely-recognized business is regarded as a key to personal success. The “best” companies hire almost exclusively graduates from specific top universities, where the students have already begun to build lifelong social networks. Workers enter the family of professions, where they spend virtually all their productive life. They are expected to share, in their company's favor, the personal relationships and contacts developed during their university studies and any

previous work or social experience. The ability to network successfully constitutes a key aspect of efficient knowledge management (e.g. Tsai and Ghoshal, 1998; Seibert, 1999; Asakawa and Lehrer, 2003).

Despite the tradition of job rotation and a spiral pyramid for senior managers, labor mobility across departments in Japanese companies tends to be restricted, implying a kind of resistance of departments to willingly provide their own staff for new products and business projects (Nonaka, 1988). The positive side of this approach appears in the maintaining of the company's secrecy. The most intimate family knowledge passes from generation to generation, but certainly not within a few days after a new generation is born. The "children" need to mature to be able carrying the heritage. This is something that typical Western firms with fairly fluctuating staff can hardly achieve. The clan structure of Japanese knowledge management reinforces the localization of knowledge, simultaneously fostering its (internal) dissemination and (anti-external) retention. Another important issue in retention of secrets is the role of trust in the relationship. Many Japanese companies emphasize the role of long-term relationships with their workers and the importance of good working conditions (Jackson and Tomioka, 2004).

International knowledge transfer within Japanese companies

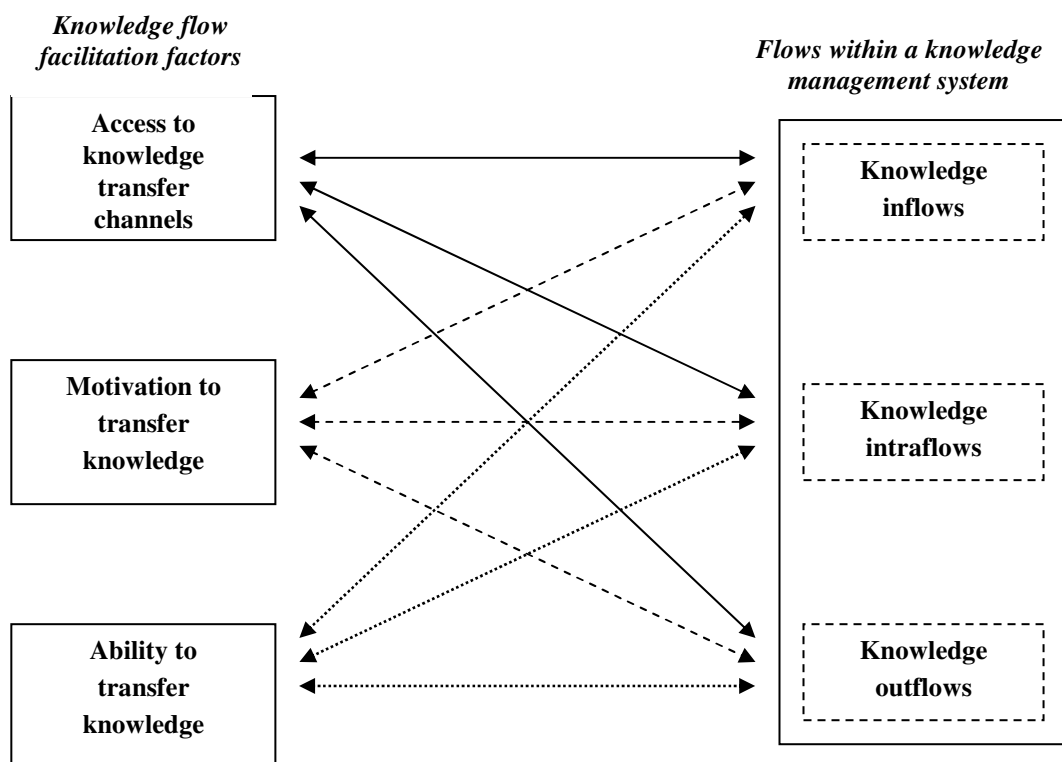
Having established that Japanese organizations manage knowledge from a different perspective and with different methods than those adopted elsewhere, discussion will now shift to one of the key issues to which this paper contributes, namely the international transferability of Japanese knowledge management models. This is inherently of great interest and relevance to Japanese companies themselves, and in turn it is also primarily their responsibility to resolve the conceptual and practical difficulties they might encounter. They should consider which practices, methods, and knowledge to transfer abroad and by what means. Glisby and Holden (2003) give the 1998 example of General Motors' attempt to adopt some of what it believed to be Japanese know-how. This experiment led to strikes and production losses claimed to have peaked at US\$ 2 billion per week. Knowledge management cannot be blind to national and organizational cultural backgrounds.

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 human beings, particularly their mutual interaction and individual experience, which in turn depend on the cultural space within which individuals operate.

Knowledge transfer is a critical aspect of corporate performance in the international arena through technology spillovers, exchanges of capable staff, and culturally diverse work teams (Tallman *et al.*, 2004). Porter (1998, 2000) suggests that firms originating in the same geographic area share a given knowledge base, which provides them with a competitive edge as a group. In turn, this supports the notion that Japanese firms will tend to maintain relationships with other Japanese companies present in a given offshore country. Furthermore, Porter's arguments suggest similar behavioral patterns of organizations headquartered and established in one geographic area, and therefore give hints regarding the influence of national culture on corporate culture. Sivakumar and Nakata (2001) noted that national culture explains two thirds of the overall cultural difference among nations, while the remaining third reflects other cultural layers – family, in-group culture, and organizational culture being the most prominent.

The knowledge transfer model introduced here (Figure 2) suggests two dimensions – facilitating factors and knowledge flows. Facilitating factors are contextual conditions that weaken or strengthen knowledge flows; in this model, these are access to knowledge transfer channels, motivation to transfer knowledge, and ability to transfer knowledge, within the context of a multinational firm. Knowledge flows are spatial and time measurements of knowledge transfer – it is expected that some knowledge enters a subsidiary from its parent company, some knowledge is transferred and maintained at the level of the subsidiary, and finally some knowledge is exported from the subsidiary to the headquarters. The categories of facilitating factors and knowledge flows proposed here should not be seen as separate or isolated dimensions, but rather as conceptual constructs, simplified for analytic purpose.

Figure 2 Model of knowledge transfer



Access to knowledge transfer channels

Some knowledge developed in one context can be transferred to other contexts, requiring appropriate transfer mechanisms, organizational settings, and consciousness about which knowledge is suitable for transfer and which is not. These mechanisms, constituting the preconditions for knowledge exchange, are referred as access determinants to the knowledge transfer. Holden (2002) labels this category “organizational inputs.”

It may be anticipated that there is a meaningful relationship between centralization and knowledge transfer. Less centralization implies higher decision-making authority for a subsidiary and therefore less knowledge transfer between the subsidiary and the headquarters. Following Perlmutter’s typology (Perlmutter, 1969; Heenan and Perlmutter, 1979), the proportion among parent country nationals, host country nationals, and third country

nationals within a foreign subsidiary (given the primary focus on subsidiaries, rather than on headquarters or parent companies, in this analysis) would substantially influence knowledge flows.

It is anticipated that a MNC would discourage engagement of subsidiaries in the redundant development of knowledge that is already available within the company's network. Larger subsidiaries will probably control a greater amount of resources that could be shared with other subsidiaries (Gupta and Govindarajan, 2000). The scale of a subsidiary may be measured by number of employees, turnover, and financial value of assets. From this perspective, it may be expected that the larger a subsidiary, the greater will be the knowledge outflows from that subsidiary to other subsidiaries and to the headquarters. The mode of entry may affect knowledge transfer within the multinational company as well. Gupta and Govindarajan (2000) expect that acquired subsidiaries would engage in greater knowledge outflow, while greenfield investments would be net knowledge recipients.

Motivations to transfer knowledge

Motivations to transfer knowledge are present in all organizational settings; they affect people's behavior, intentions, and interests in a way that may promote or inhibit their willingness to engage in knowledge transfer. Holden (2002) talks about a special atmosphere that parties in knowledge transfer bring into interaction. This notion of motivations affecting knowledge transfer may be observed in firms' histories, the level of trust between a parent company and its subsidiaries, the scope and scale of shared organizational resources, and intra-organizational trade.

Nahapiet and Ghoshal (1998) emphasize the importance of sharing the same narratives, company histories, and stories about legendary heroes. This is particularly important in the case of Japanese companies, since their founders (such as Konosuke Matsushita (Matsushita), Kiichiro Toyoda (Toyota), Akio Morita (Sony)) or present CEOs (such as Carlos Ghosn (Nissan)) are well known and admired throughout their companies. Japanese multinationals often publish books, comics and other memorabilia related to their great leaders. Sharing of the same myths, stories, historical patterns, and metaphors may promote knowledge transfer, especially in the form of uncodified organizational knowledge.

Trust among individuals (or organizational units) is an essential factor in establishing motivations favorable to knowledge transfer. There is wide accord that trust stimulates social exchange in general (Boisot, 1995; Fukuyama, 1995; Putnam, 1995; Tyler and Kramer, 1996; Goh, 2002). People must believe in the purpose of the knowledge transfer, as well as in the competence and reliability of the partner (Nahapiet and Ghoshal, 1998). Trust gives a certain level of significance to the transferred data, information, and knowledge. Trust is an important knowledge transfer motivator (Nonaka, 1990). In particular, the transfer of knowledge that is difficult to codify depends on trust and deeper awareness of the meaning, context, and communicable attributes of the knowledge (Kakabadse *et al.*, 2003).

Trust has to reside in the quality of the personal relationship that binds the parties through shared values and expectations rather than in the intrinsic plausibility of the message or other features of the communicative situation – i.e., it resides in their ability to get attuned to each other, to get on the same “wavelength” (Boisot, 1995, p. 153).

The relationship between innovation and knowledge management was addressed previously. The ability to seek knowledge (both extant and potential; both codified and uncodified) from all organizational units and the maintenance of suitable knowledge transfer channels facilitate higher levels of innovativeness. As Japanese multinationals are perceived as innovative, it may be expected that the most innovative of them will engage in knowledge transfer more heavily than others.

Increased knowledge transfer may also result from a high proportion of purchases from other in-group companies and sales to other in-group companies, because these relationships require a high degree of mutual coordination.

Ability to transfer knowledge

It may be expected that the sector in which the company operates may affect the knowledge distribution within the company, as well as other considerations such as subsidiary size. It may be true that manufacturing sites would have a higher level of knowledge inflow from the parent firm as the required know-how for production is expected to be supplied. On the other hand, the role of trade subsidiaries and other service arms may be seen in gathering data about the market, so a greater knowledge outflow (back to headquarters or to other subsidiaries) would be anticipated.

The ability to combine knowledge across subsidiaries relies on the use of a common language for communication. It may be assumed that companies using one language will be more suitable for knowledge transfer than multilingual multinational companies. It can be argued that multinationals would use more than one company language, because the lack of ability of subsidiary managers to speak the local language can be a serious issue. Therefore, the language skills of top managers in subsidiaries of Japanese companies must be carefully considered (Kopp, 1994).

Social relations build information channels that help to reduce time and costs required for knowledge transfer (Nahapiet and Ghoshal, 1998). The channels for knowledge transfer may be both formal (particularly suited to codified knowledge) and informal (more suited to uncodified knowledge). Formal channels include reports, meetings, guidelines, instructions, and other (principally but not exclusively written or recorded) communications. Practices that build personal affinity, familiarity, and convergence in cognition among employees from different subsidiaries are considered mechanisms of socialization (Edstrom and Galbraith, 1977), facilitating the establishment of informal channels for knowledge transfer. Loyalty, confidence, and habit promote knowledge transfer. Both types of channels may be used to establish organizational norms, obligations, and expectations. Japanese firms have carried this philosophy to an extreme, consciously recognizing and strongly promoting the self-identification of workers with the company. All such phenomena bind people together and encourage knowledge transfer.

Concluding remarks

Many published case studies in the field of strategy concern particular Japanese companies and their foreign subsidiaries (e.g., Fukuda, 1988; Fucini and Fucini, 1990; Murata and Harrison, 1991; Abo, 1994; Bromwich and Inoue, 1994; Nanda *et al.*, 1999; Muthu Kumar and Vedpurisvar, 2004). There is a complementary, rich body of literature focusing on management practices in Japan. Until now, very few comparative studies have examined the

transfer of managerial techniques used by Japanese companies in Japan and overseas (e.g., Kopp, 1994; Beechler and Bird, 1999; Beamish *et al.*, 2001).

A survey of Japanese companies at one time point in at least two different countries would filter regional aspects of Japanese knowledge transfer and decipher the core of Japanese knowledge management, transferred internationally. The aim of such research would be to distinguish how knowledge transfer is used in overseas subsidiaries of Japanese companies. The central research unit should be a subsidiary, receiving knowledge from the parent company (inflows), transmitting knowledge to the parent company (outflows), and disseminating knowledge across the subsidiary (knowledge intraflows).

The typical clan structure of a Japanese *kaisha* and published work in the field of knowledge transfer reveal that three facilitating factors are relevant for knowledge transfer – access to knowledge transfer channels, ability to transfer knowledge, and motivation to transfer knowledge. The question of how Japanese companies transfer knowledge with respect to their overseas subsidiaries remains explicitly unanswered, but a synthesis of the literature has offered valuable insights into this field and further research activities will address this question. The proposed model of knowledge transfer suits empirical testing; analysis employing it is expected to contribute both to the knowledge management and Japanese management literatures.

Note

1. The authors wish to thank an anonymous reviewer for highlighting this insight.

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About the authors

Pavel Štrach is a researcher at the University of Economics, Prague, currently working on his doctorate at the University of Otago; his research interests include international management, cross-cultural issues, and Japanese management approaches.

André M. Everett, PhD, is a senior lecturer in management at the University of Otago, integrating the areas of international management, operations strategy, and East Asian management through a focus on intercultural knowledge transfer. His writings in these fields have been published or presented in 25 countries. André M. Everett is the corresponding author and can be contacted at: aeverett@business.otago.ac.nz

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