Knowledge Management Research & Practice (2008) 6, 173–186

www.palgrave-journals.com/kmrp

Tapping tacit local knowledge in emerging markets – the Toyota way

Kazuo Ichijo[1] and
Florian Kohlbacher[2]

[1]*ICS, Hitotsubashi University, Tokyo, Japan;*
[2]*German Institute for Japanese Studies (DIJ), Tokyo, Japan*

Correspondence: Florian Kohlbacher, German Institute for Japanese Studies (DIJ), Jochi Kioizaka Bldg. 2F, 7-1 Kioicho, Chiyoda-ku, Tokyo 102-0094, Japan.
Tel: +81 3 3222 5944;
Fax: +81 3 3222 5420;
E-mail: kohlbacher@dijtokyo.org

Abstract
This paper presents insights from two case studies of Toyota Motor Corporation and its way of global knowledge creation. In 2004, Toyota announced an initiative to increase the self-reliance of overseas manufacturing facilities, especially in emerging markets. In 2005, Toyota Peugeot Citroën Automobile, an international joint venture between Toyota and Peugeot in Kolín, Czech Republic started the production of small compact vehicles in order to react to the changing European customer market. We will show how Toyota's knowledge creation has changed from merely transferring knowledge from Japan to subsidiaries and affiliations around the globe to a focus of creating knowledge and tapping tacit local knowledge in foreign markets by local staff. In fact, Toyota's new strategy of 'learn local, act global' for international business development and its knowledge-based approach to marketing proved successful for tapping rich local knowledge bases, thus ensuring its competitive edge and global lead in the automotive industry.
Knowledge Management Research & Practice (2008) **6,** 173–186.
doi:10.1057/kmrp.2008.8

Keywords: case study/studies; competitive advantage; knowledge creation; knowledge management strategy; innovation; inter-organizational; knowledge management practice; knowledge sharing

Introduction

Research and academic writing on Toyota are proliferating and Toyota frequently serves as a role model for both academics and business practitioners. Yet, with few exceptions (e.g. Dyer & Ouchi, 1993; Dyer & Nobeoka, 2000; Dyer & Hatch, 2004; Liker, 2004; Liker & Choi, 2004; Evans & Wolf, 2005; Nonaka & Peltokorpi, 2006), the mainstream of the Toyota literature has hardly touched the fundamental issues of knowledge creation, sharing or organizational learning as key drivers behind Toyota's remarkable success. Especially regarding the process of knowledge creation at Toyota, the extant literature is surprisingly silent. Besides, there is also a dearth of studies about Toyota's way of exploring foreign markets and transferring knowledge across borders. As Ichijo & Nonaka (2007, p. 3) correctly note, 'the success of a company in the twenty-first century will be determined by the extent to which its leaders can develop intellectual capital through knowledge creation and knowledge-sharing on a global basis' as knowledge constitutes a competitive advantage in this age. Therefore, this paper aims at contributing to close this disconcerting gap by discussing Toyota's way of global knowledge creation. Drawing from empirical case material, we reveal Toyota's strength and ability at creating and leveraging knowledge both locally and globally, specifically in tapping tacit customer, competitor and supplier knowledge – which can be seen as marketing knowledge (Kohlbacher, 2007) – in emerging markets. By

Received: 3 March 2007
Accepted: 27 February 2008

analyzing and highlighting Toyota's strategic way of global knowledge creation, we contribute to both the global knowledge management and the international marketing literature.

This paper is structured as follows: First, the relevant literature is reviewed, giving an account of the transfer and creation of marketing knowledge and knowledge creation and transfer in the Japanese automotive industry. Then, the research methodology is presented, followed by two case studies of Toyota Motor Corporation. The subsequent discussion section first analyzes the Toyota way of strategic knowledge creation and then presents the lessons learned for global knowledge management in general. Last but not least, implications for further research are put forth.

Literature review

Transfer and creation of marketing knowledge

For more than 10 years the marketing literature has struggled to come to an understanding of the nature of marketing knowledge, and even though contributors to the debate all agree on the importance of knowledge to the marketing discipline, beyond that there is no common ground unifying scholars (Kohlbacher, 2007; Kohlbacher *et al.*, 2007). Nevertheless, there seems to be no doubt that 'in marketing, a wide array of knowledge needs to be created' (Schlegelmilch & Penz, 2002, p. 12) and that the creation of marketing know-how is the most important function of marketing in the global knowledge-based economy (Achrol & Kotler, 1999). Marketing knowledge can be defined as 'all knowledge, both declarative as well as procedural, concerning marketing thinking and behavior in a corporation' (Kohlbacher, 2007, 96). This definition includes both tacit and explicit knowledge about products, markets, customers, competitors, partners, marketing processes and marketing strategy. It also includes experiences of past marketing efforts such as new product introductions, etc. as well as future expectations. Note that a finer and narrower definition of marketing knowledge leads to the definition of one of these subunits of marketing knowledge, such as customer knowledge, competitor knowledge, etc.

Bennett & Gabriel (1999) correctly note that marketing requires knowledge of customers and their preferences, competitors, products, distribution channels, service providers, laws and regulations, and general management practices. Especially the continuous need to learn about customers and competitors and to exploit such knowledge to stay ahead has frequently been stressed and discussed (cf. e.g. Davenport & Klahr, 1998; Davenport *et al.*, 2001; Gibbert *et al.*, 2002; Chaston, 2004). Indeed, 'customer focus' and 'customer knowledge co-creation' are crucial keywords in this context (cf. e.g. Prahalad & Ramaswamy, 2004; Gulati & Oldroyd, 2005; Lawer, 2005), as well as the concept of 'market orientation', which 'reflects a [firm's] ability to internalize the marketing concept as a primary organizing principle of the firm' (Baker & Sinkula, 2005, p. 483). A strong market orientation manifests itself through customer-focused market-oriented learning (cf. e.g. Kohli & Jaworski, 1990; Narver & Slater, 1990; Jaworski & Kohli, 1993; Day, 1994b; Slater & Narver, 1995), and firms with strong market orientations 'prioritize learning about (1) customers (e.g., likes and dislikes, satisfaction, perceptions); (2) factors that influence customers (e.g., competition, the economy, sociocultural trends); and (3) factors that affect the ability of the firm to influence and satisfy customers (e.g., technology, regulation)' (Baker & Sinkula, 2005, p. 483). Summarizing the literature, Kyriakopoulos & Moorman (2004, pp. 223–224) view market orientation as: (1) a firm-level belief or unifying frame of reference that emphasizes serving the customer (Deshpandé *et al.*, 1993; Homburg & Pflesser, 2000) or understanding buyers' current and latent needs so as to create value for them (Narver & Slater, 1990; Slater & Narver, 1999); (2) a set of organization-wide processes involving the generation, dissemination, and responsiveness to intelligence pertaining to current and future customer needs (e.g. Kohli & Jaworski, 1990; Jaworski & Kohli, 1993; Kohli *et al.*, 1993); and (3) a firm-level capability that links a firm to its external environment and enables the business to compete by anticipating market requirements ahead of competitors and by creating durable relationships with customers, channel members, and suppliers (Day, 1994a). However, as Kohlbacher (2007) has shown, the market orientation literature focuses mainly on information/explicit knowledge rather than tacit knowledge and on passive organizational learning rather than active knowledge creation, while the concept of joint knowledge creation – knowledge co-creation – is completely ignored. This paper therefore wants to help to overcome this shortcoming of the market orientation literature.

As marketing organizations serve as corporate links between customers and their organization's manufacturing and R&D operations (Riesenberger, 1998), the integration of and knowledge exchange between R&D and marketing has often been discussed (e.g. Song & Parry, 1993; Griffin & Hauser, 1996). Therefore, creating, sharing and managing (marketing) knowledge is particularly crucial in new product development projects (cf. e.g. Moenaert & Souder, 1990; Kusunoki *et al.*, 1998; Madhavan & Grover, 1998; Kusunoki, 2004; Baker & Sinkula, 2005; Dyck *et al.*, 2005; Hoegl & Schulze, 2005; Schulze & Hoegl, 2006; Kohlbacher, 2007; to name but a few). Indeed, according to Bell *et al.* (2002, p. 82), product development is 'a particularly salient area for organizational learning inquiry for a number of reasons': it is often a team-based pursuit, it requires a high degree of interfunctional coordination, and it is frequently project based. But, product development is often difficult because 'the ''need'' information (what the customer wants) resides with the customer and the ''solution'' information (how to satisfy those

needs) lies with the manufacturer' (Thomke, 2003, p. 244).

In an international context, the capability of multinational corporations (MNCs) to create and efficiently transfer and combine knowledge from different locations around the world is becoming increasingly important as a determinant of competitive advantage (cf. e.g. Gupta & Govindarajan, 1991; Doz *et al.*, 2001; Schulz & Jobe, 2001; Asakawa & Lehrer, 2003; Chini, 2004). Hence, 'creating knowledge […] has now become a core element of business strategy' (Ichijo, 2007b, p. 122) and the ability to manage knowledge effectively is a 'strategic imperative' (Birkinshaw & Sheehan, 2002).

Cultural differences and the cross-cultural context seem to play an important role for and influence global knowledge creation and management (cf. e.g. Holden, 2001, 2002; Glisby & Holden, 2003; Holden & Von Kortzfleisch, 2004; Zhu, 2004) and marketing (Thomas, 2002; Holden, 2004; Trompenaars & Woolliams, 2004). Therefore, '[c]ross-cultural knowledge management systems among global marketing organizations must take into account learning techniques in various cultures' (Riesenberger, 1998, p. 99).

Ikujiro Nonaka's publications (e.g. Nonaka, 1994; Nonaka & Takeuchi, 1995) have drawn the attention to Japanese firms as knowledge-creating companies, a feature that supposedly has helped them to create the dynamics of innovation and to become world leaders in certain business areas. The difference, it was argued, between Japanese and Western firms, lies in the focus on tacit knowledge of the former and explicit knowledge of the latter (Hedlund & Nonaka, 1993; Takeuchi & Nonaka, 2000). Additionally, the practices of the Japanese 'knowledge-creating company' are also interesting from a marketing perspective, 'because they demonstrate how companies mobilize all employees to learn more about markets and how to captivate customers' (Johansson & Nonaka, 1996, p. 164). As a matter of interest, since its beginning, the theory of corporate knowledge creation has been closely related to the field of marketing due to its focus on new product development projects (Takeuchi & Nonaka, 1986; Nonaka, 1991).

However, even though 'marketing functions lend themselves particularly well for an investigation of knowledge transfer within MNCs', 'there is a dearth of research on knowledge transfer in the field of marketing' (Schlegelmilch & Chini, 2003, pp. 220–221). Yet, in an increasingly global business environment, the creation and transfer of marketing knowledge and intra-firm collaboration through knowledge-based approaches to marketing will become more and more crucial as a determinant for corporate competitive advantage and survival of firms (Kohlbacher, 2007).

Furthermore, as Kohlbacher and fellow researches (2007) have shown, notions of marketing knowledge habitually focus too strongly on explicit knowledge, even though for international (cross-cultural) marketing it is essential that tacit knowledge is built into constructs of marketing knowledge. Moreover, the literature to date is completely silent about the application of a knowledge-based approach to marketing as in explicitly international pace cross-cultural contexts. This paper aims at contributing to close these disconcerting gaps and overcome misconceptions by presenting and analyzing case studies of Toyota, revealing its strength and ability for creating and leveraging (marketing and customer) knowledge both locally and globally.

Knowledge creation and transfer in the Japanese automotive industry

According to Hanvanich *et al.* (2003, p. 130), 'marketing knowledge resides in three key marketing processes: product development management (PDM), customer relationship management (CRM), and supply chain management (SCM)'. The first two have already been mentioned above. As for SCM, Ahmadjian (2004, p. 227) contends that '[k]nowledge creation occurs not only within firms, but also through relationships between firms'. In fact, notably the strong supplier networks of Japanese companies – and here again especially the ones in the automotive, but also the electronics sector – have frequently been put forth in this context (cf. e.g. Cusumano & Takeishi, 1991; Ahmadjian & Lincoln, 2001; Kotabe *et al.*, 2003; Dyer & Hatch, 2004; Liker & Choi, 2004).

Furthermore, the benefits of cross-border alliances, foreign partnerships, and JVs – even between competitors – in general as well as (inter)organizational learning and knowledge creation, levering and transfer/exchange through these collaborations have regularly been discussed in the extant literature (cf. e.g. Inkpen, 2000; Lane *et al.*, 2001; Lyles & Dhanaraj, 2004; Steensma *et al.*, 2005). Indeed, IJVs are viewed as effective conduits that enable MNCs to exploit their knowledge in multiple markets (Dhanaraj *et al.*, 2004) and learning – together with trust and control – has become one of the most important and studied concepts in the alliance and JV literatures (Inkpen & Currall, 2004). Here, marketing knowledge is an organizational resource that reduces the effects of ambiguity and complexity in cross-border interactions (Simonin, 1999), as well as a 'primary source of coordinating power' in business networks (Achrol & Kotler, 1999, p. 157). In the automotive industry, the JV between Toyota and General Motors (GM) – New United Motor Manufacturing, NUMMI – has already become legendary and has repeatedly been discussed (cf. e.g. Doz *et al.*, 2001; Liker, 2004; Inkpen, 2005). This paper features a case study of Toyota's second IJV with a competitor, TPCA in the Czech Republic, an emerging economy in Eastern Europe. According to Lyles & Baird (1994), little is known about the effectiveness of current joint ventures in Eastern Europe. Although there has been increasing research interest in this topic lately and more recent studies have helped to shed some light on the performance and success factors of IJVs in Eastern Europe (cf. e.g. Lyles & Salk, 1996; Steensma & Lyles,

2000; Lyles *et al*., 2004; Steensma *et al*., 2005), there is still a strong need for further research, and this paper claims to contribute new insights to the state of the art.

Research methodology

The empirical research presented here is part of a comprehensive long-term, multi-stage research project on Toyota and its way of global learning and knowledge creation. We conceive of our work as theory-building and theory-extending and therefore have chosen a qualitative research approach to explore our assumptions and examine new relationships, concepts, and operational definitions (e.g. Eisenhardt, 1989; Weick, 1996; Flyvbjerg, 2006). Our research is problem-driven, not methodology-driven, so we emphasize our endeavor to grasp the essential nature of Toyota's way of global knowledge creation, using 'force of example' (Flyvbjerg, 2006) to illustrate our reasoning. Specifically for the second case study – following Parkhe's (1993,p. 248) recommended program for research in IJVs – we decided to start our research endeavor with a qualitative study focusing on a single case study. Subsequently, by revisiting and re-interviewing we plan to achieve systematic replications of this case study. Finally, it is our intention to triangulate our data and test our empirical findings and conceptual framework by employing other methodologies that complement our initial case study research and thus raise the level of theory development.

Case study research

According to Yin (2003b, p. 2), 'the distinctive need for case studies arises out of the desire to understand complex social phenomena' because 'the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events', such as organizational and managerial processes, for example. In fact, '[o]rganizations constitute an enormously complex arena for human behavior' (Dubin, 1982, p. 379) and case studies seem to be the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context (Yin, 2003b). In such a setting, case studies are explanatory ones, that is, they present data on cause–effect relationships, explain how events happened and extend theoretical understandings (Yin, 2003a, b). Hartley (2004, p. 323) states that case study research 'consists of a detailed investigation, often with data collected over a period of time, of phenomena, within their context', with the aim being 'to provide an analysis of the context and processes which illuminate the theoretical issues being studied'. This is why case studies have an important function in generating hypotheses and building theory (cf. e.g. Eisenhardt, 1989; Hartley, 2004). According to Parkhe (1993, p. 228), 'inductive/theory-generating/idiographic research may provide a powerful stimulus that is particularly well suited for the current stage of evolution of IJV research'. Even though we acknowledge that IJV research has significantly advanced since this statement was made in 1993, we believe that a case study research strategy can help to provide the necessary stimulus and shed light on crucial issues like learning and knowledge creation and enabling in IJVs, which are still not fully understood, especially in the peculiar case of two foreign competitors in a transitional economy. Finally, according to Siggelkow (2007, p. 21), 'there are at least three important uses for case research: motivation, inspiration, and illustration'. While the case studies presented in this paper mainly serve as an illustration – they are meant to be explanatory as pointed out above – our studying Toyota and its global activities has both motivated and inspired our research (questions) and reasoning about global and local knowledge creation in general.

Data and method

Our research methodology involved triangulation among a variety of different sources of data (cf. e.g. Parkhe, 1993; Bryman, 2004; Wolfram Cox & Hassard, 2005) including the conducting of both formal and informal on- and off-site interviews (Rubin & Rubin, 1995; Kvale, 1996) with managers as well as scholars and other experts in the field, analysis of archival materials such as company internal documents as well as articles in the business media (Forster, 1994; Hodder, 2000), and an evaluation of existing case studies and other relevant literature (Yin, 2003b). For the first case, interviews were conducted in 2005 in Japan. Senior executives at the Toyota headquarters and middle managers directly involved in the relevant project were interviewed. For the second case, despite our overall research focus on Toyota, we followed Osland and Cavusgil's (1998, p. 200) recommendation to collect multiple-party perspectives, this is 'especially critical when examining international joint ventures that involve parent companies from dissimilar cultures'. Therefore interviews were conducted in 2006 with Toyota managers who have already returned from Toyota Peugeot Citroën Automobile (TPCA) to Toyota headquarters – including the first TPCA President – in Japan as well as with key persons of both Toyota and PSA at TPCA in Kolin, including the President and Executive Vice President. Moreover, additional insights and views were gained from interviewing key persons at TPCA suppliers. This includes qualitative interviews with Toyota key account managers at Bosch Japan (parts supplier) and key account managers and project leaders at Siemens Japan (supplier of factory automation equipment).

In the course of the qualitative interviews, semi-structured questions in accordance with the theory of organizational knowledge creation and enabling were employed, but the interview partners could nevertheless answer openly and lead the interview mostly. In fact, as Osland & Cavusgil (1998, pp. 200–201) have noted, '[i]n depth field research methods enable researchers to gain a rich understanding of respondents' perspectives, often providing insights that the researcher would not have uncovered from structured questionnaires used in

traditional surveys'. For more details on the following two cases and their analysis, cf. also Ichijo & Kohlbacher (2007) and Kohlbacher (2007).

The Toyota way of creating marketing knowledge in emerging markets

Case 1: Innovative International Multi-purpose Vehicles (IMV) project

Initially, Toyota developed and produced cars only in Japan and exported them abroad in order to ensure high quality and to maintain customer trust in the brand. Having steadily been developing its business globally afterwards and because of increasing overseas demand, the need to tailor production to local needs, the opportunity of tax breaks, and in order to save shipping costs, Toyota evolved to the second stage of its manufacturing model: it started to produce vehicles where the market is. This model has been working well in established mass markets such as North America and Western Europe, because the high sales volume justifies the production overhead. Recently, Toyota has identified attractive business opportunities in other developing markets such as BRICs (Brazil, Russia, India, and China) and each has huge growth potential. The strategic challenge to Toyota was whether the previous manufacturing model used in the North American and European markets will apply equally well in emerging markets. In these emerging markets, local demand sometimes fluctuates widely, or may vary greatly from that in Japan, Western Europe, and the US. Equally, demand is usually not high enough to achieve optimal production, as shown in Table 1.

The solution for globally operating companies – including Toyota – has, in the past, tended to be to build manufacturing facilities in developing markets (such as Asian regions) mainly owing to their cheap labor costs. However, in developing and producing cars for these regions, Toyota used to stay reliant on Japanese designers and engineers, rather than exploiting local talent. The problem is obvious. People who are not familiar with local tastes and local unique customer needs are probably not the best to develop and produce cars which will satisfy unique local customer needs. Growth rates in emerging markets are significant and a growing number of companies are trying to gain and sustain competitive advantage. The victors in this tough competition are likely to be those companies able to satisfy unique customer needs efficiently and effectively – and to achieve this, a new way of developing business in emerging markets might be necessary. Innovation in the business model for such emerging markets has surfaced as an important agenda point for Toyota.

Finally, the materialization of free trade agreements in different parts of the world has presented tremendous opportunities for Toyota to allow its manufacturing model to evolve to its third stage: a global production and supply network that will solve, efficiently and effectively, the problems of local production in emerging markets. In 2004, Toyota announced a break-through initiative called the 'Innovative International Multi-purpose Vehicles (IMV) Project', which aims at increasing the self-reliance of overseas manufacturing facilities in such a way as to optimize overall worldwide production, especially in emerging markets, by both understanding common needs and paying sufficient attention to unique local needs. The initiative is led by Toyota's subsidiaries, and in this business model, Toyota upgraded and expanded plants in Thailand, Indonesia, South Africa, and Argentina. These four main IMV production and export bases will supply Asia, Europe, Africa, Oceania, Latin America, and the Middle East with a total of five all-new IMV vehicles (pickup trucks and multipurpose vehicles). This project is now dependent upon close collaboration between Toyota in Japan and its subsidiaries in emerging markets. Figure 1 gives an overview over the development stages of Toyota's global production.

Toyota's aim is to increase the ratio of parts imported from these Asian and Latin American countries from 60 to 70% to as close as possible to 100% in order to enhance the self-reliance of local Toyota subsidiaries and to accomplish lower procurement costs. The plants for the IMV project were chosen as assembly and export bases because they have both sufficient manufacturing experiences and skilled and experienced managers and labor force. The focus of new IMV car development is not on passenger cars for developed markets in which much more varied consumer preference demands differing levels of comfort, styling, and handling. These IMV cars are specifically created for emerging markets with their particular needs and demand for more competitive pricing. Indeed, IMV cars are only for emerging markets and will not be sold in other regions such as Japan, the US, and Western Europe.

For the first time in its history, Toyota is producing and selling cars that are not produced and sold in Japan. In this respect, the IMV initiative is a very innovative strategy for Toyota. Within these emerging markets, the

Table 1 Production and demand

	Number of plants	*Number of vehicles produced in 2004 ('000 units)*	*% of vehicles produced in 2004*	*Number of vehicles sold in 2004 ('000 units)*	*To bridge the gap*
Japan	12	4,284	65.8%	2,303	Export
North America	11	1,034	15.9%	2,103	Import
Europe	6	515	7.9%	898	Import
Other regions	34	680	10.4%	1,415	Import
Total	63	6,513	100.0%	6,719	

Source: Company information.

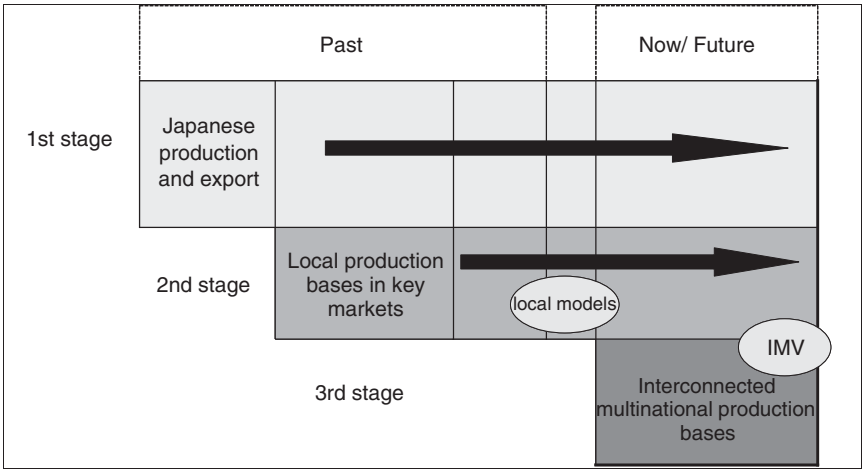

Figure 1 Stages of global production (*Source*: adapted from company information).

study of the unique local needs and then the developing, manufacturing, and supplying of cars which closely meet them promises competitive advantage. 'Learn local' is the key to local success. But there is a global dimension, too. IMV cars assembled in Thailand and Indonesia are used both for local consumption and are exported to different countries, particularly emerging markets. Surplus IMV cars assembled in Argentina are exported to Central and South America, and those assembled in South Africa are shipped to Africa. This global, cross-country collaboration is another key to the success of the IMV project. While paying attention to local unique needs in each region, Toyota tries to accomplish effective use of resources worldwide to provide high quality cars with cheaper cost. 'Act global, learn local' is thus another winning formula for the IMV project. As a result, IMV-series vehicle production including that in countries other than the four main production bases is projected to exceed 500,000 units in 2006.

The success of IMV is dependent upon the leadership of local engineers. Historically, Toyota used to recruit only Japanese nationals to be designers and engineers, first assign them to work in mother plants in Japan to gain knowledge and skills, and then transfer them to overseas factories. Product development stayed within Japan. Toyota realized, though, that it did not have sufficient Japanese designers and engineers to be sent to the growing number of overseas plants, and, moreover, that local talent was available that would be helpful for identifying common customer needs in emerging markets. Therefore, in the planning and development stages this meant listening to dealers and customers in Asia, Africa, and South America and repeatedly debating the issues among members of the design and engineering teams. Nowadays, Toyota never underestimates the importance of local knowledge. The success of the IMV is dependent upon human resource development in Asia and more efforts are being made in this area. The advanced digital technology of the Global Production Centre, established in 2003, is being used to train its managers and workers in the IMV project factories. The merit of this technology is that visual training materials can be accessed by every overseas factory at the same time, thus allowing a large number of employees to be trained rapidly and consistently. Toyota estimates that the Centre can increase the efficiency of workforce instruction by a factor of 6–10. Therefore, in addition to improving production efficiency and quality, the Global Production Centre can speed up the preparations for model changes at overseas factories as they respond to changes in customer needs.

Case 2: Toyota Peugeot Citroën Automobile (TPCA)

Toyota Peugeot Citroën Automobile Czech (TPCA) is an IJV between Toyota Motor Corporation and PSA Peugeot Citroën in Kolín, Czech Republic. Both companies own exactly half of the shares (50/50 JV). After an agreement in July 2001, the two automakers announced on 9 January 2002, the signing of an official JV agreement to establish TPCA. It is Toyota's sixth manufacturing company in Europe. The TPCA factory alone employs about 3000 Czech employees, and indirectly ensures an additional 7000 jobs in all areas from the production of automobile components to cleaning services.

With this unique automobile partnership and its joint plan for the development and production of small compact vehicles and the construction of a new manufacturing factory, Toyota and PSA decided to react to the changing European customer market and to found a whole new category of small modern and technologically advanced vehicles. In fact, both companies see growing demand for such cars in Europe, and the new-platform vehicles to be built in the Czech Republic will be marketed under the Toyota, Peugeot, and Citroën brands. The total investment into the project on the grass field – including R&D and business startup costs – has surmounted 50 billion crowns (approximately 1.5 billion euros) and finally started manufacturing on 28 February

2005. The plant manufactures 300,000 small gasoline and diesel cars annually to be sold in Europe under both automakers' brands, that is, 200,000 units for Peugeot and Citroën and 100,000 for Toyota. The three, all-new small cars produced on a common platform are: the Citroën C1, the Peugeot 107, and the Toyota Aygo.

The cars built on this new platform have jointly been developed by the two companies. They are a modern, four-seat model boasting the most sophisticated technologies in terms of safety, reliability, environmental protection, and urban mobility. Equipped with the latest generation of 1.0-l gasoline engines and 1.4-l diesel engines, they are especially fuel-efficient. The project offers clearly differentiated models and specific styles for the vehicles of the two groups while guaranteeing strong commonality for the car structure and components. In launching this new vehicle concept, Toyota and PSA have introduced a brand new offer of small-size cars, which will complement their product lines. This decision to jointly introduce a new class of cars, positioned below current entry-level models is in order to respond to the changing needs in Europe, a market where demand for compact vehicles remains as strong as ever and is forecast to increase in the years ahead. Therefore, TPCA paves the way for a new market of vehicles, which thoroughly retain all the essential features of a real car, and offer, at attractive prices, efficient solutions to environmental and urban mobility-related requirements. Target customers also include current buyers of used or outdated cars. In fact, primarily designed for European markets, this new car concept has been conceived to meet the changing needs of local customers. Cars produced using this common platform have a three-fold advantage: they have prices lower than those in the current small-car segment, feature a high-level of standard safety performance, and offer excellent environmental achievements.

The joint production at TPCA not only allows for a reduced cost but also a connection of the best of both automobile factories: the untouched production system of Toyota with the excellent knowledge of the European market of PSA. Therefore, Toyota is in charge of development and production while PSA is responsible for procurement. Toyota's Polish plant – Toyota Motor Manufacturing Poland Sp. (TMMP) in Walbrzych, Poland was established on 7 June 2002, as Toyota's first European transmission plant – will expand to supply manual transmissions and 1.0l gasoline engines for the Czech plant. PSA Peugeot Citroën will supply 1.4l diesel engines. Nearly all other components will be sourced locally. In fact, since the establishment of the JV, many Toyota-affiliated parts makers have set up shop in Central and Eastern Europe, and about 20 have signed supplier agreements with TPCA. PSA views this cooperation between two independent companies as a further materialization of the PSA Group's strategy aimed at reaching agreements on the joint development and production of mechanical components and platform elements, with the objective of obtaining economies of scale.

The TPCA plant is the fruit of a successful cooperation project that allowed the two global carmakers to combine their knowledge of product design, styling, production and supplier relationships, while learning from each other's corporate cultures, technologies and processes, as there seems to be very good teamwork and cooperation between Toyota and PSA. This led to an exchange of a wealth of specific know-how: PSA's knowledge of small cars in Europe and its expertise in purchasing activities, and Toyota's skill in development, manufacturing and production processes. Indeed, Toyota learns from PSA mostly about purchasing issues, supplier relationships, both from a European and a general point of view, and even about production methods and shift management. On the other hand, PSA learns about Toyota's management style and the Toyota Way, and TPS and the production process. This mutual learning also leads to new joint ideas and knowledge co-creation.

As of March 2006, there were 38 expatriates employed at TPCA: 29 from Toyota and nine from PSA. All expatriates have management functions and include the President (Toyota) and Vice-President (PSA). They usually stay in Czech Republic for about 1.5 years before returning to their respective headquarters. Local staff are sent to Toyota's other European plants (Turkey, U.K., France), and in the case of managers also to Toyota headquarters in Japan, for training for a period of 1–6 months. This ensures that directly and interactively learn the Toyota Way and that local knowledge from TPCA can also be transferred back. Besides, over time, responsibility is handed more and more over to local staff after they have been trained by experts from Toyota and PSA.

Supported by their spirit of teamwork and reinforced by a favorable national environment in terms of solid industrial experience and a quality education system, TPCA completed all stages of the cooperation successfully in terms of deadlines and results. This cooperation between independent carmakers has provided a fast, cost-efficient response to market demand through the sharing of expertise and experience. As a matter of fact, levering synergies and fostering mutual knowledge sharing and creation between the two partners is one of the most important goals and merits of this strategic alliance. Here, Toyota consistently follows its new 'learn local, act global' strategy by feeding back the newly created and acquired knowledge to its headquarters and spreading it also to other subunits.

In early 2006, the Toyota Aygo was doing extremely well on the forecasted resale values of the major leasing companies and the launch was widely seen as successful (Rädler, 2006). Unlike the mature market of Western Europe, the Eastern European automobile market offers much room to grow, with an automobile diffusion rate about half that of countries belonging to the European Union (EU). On joining the EU in May 2005, the five Central European nations have become subject to the

bloc's tighter environmental regulations, so new car demand will likely increase as older cars are scrapped. As a result, Central and Eastern Europe will be vital for Toyota if it wants to achieve its goal of selling 1.2 million units a year in Europe by 2010. TPCA will help to build a strong production base and will serve Toyota as a springboard for expanding its presence in Europe.

Discussion

The Toyota way of strategic knowledge creation

The cases have shown how Toyota's knowledge creation in the automotive development has changed from creating new knowledge in Japan and transferring it from the headquarters to subsidiaries and affiliations around the globe to a focus of creating knowledge and unlocking tacit customer knowledge in foreign markets by local staff and together with local partners (cf. also Ichijo & Kohlbacher, 2007). With its new strategy of 'learn local, act global' for international business development, and its knowledge-based approach to marketing, Toyota proved successful in tapping rich local knowledge bases, thus ensuring its competitive edge and global lead in the automotive industry. Indeed, this is the first time in its history that Toyota is producing and selling cars which are not produced and sold in Japan. In this respect, the IMV initiative and TPCA were very innovative strategic decisions for Toyota.

Figure 2 shows how Toyota's way of global production has evolved from a centralized multinational production network to the current global optimum production network, where regional headquarters and local affiliates have gained greatly in participation and responsibility, and where supply bases respond to local and regional needs. More and more, this is not only true for knowledge creation and production, but also for product development, thus evolving to a strategy incorporating the new practice of global product development as described by Eppinger & Chitkara (2006).

Furthermore, it is also important to note and understand the reasons and causes that induced this change in Toyota's knowledge creation and car development strategy. Different reasons can be identified and traced back to different variables and the changes in environment as their trigger. These reasons can basically be divided into two main trends in the automotive industry: First of all, the maturity of the Japanese automobile market made Toyota look more intensively for new opportunities abroad. As explained above, it originally found these in North America and Europe. But due to fierce competition and beginning stagnation in some of these markets, Toyota – following other major carmakers – turned to developing markets such as BRICs and Eastern Europe. In fact, this phenomenon that MNCs are increasingly viewing emerging markets as potential sources of future growth is not limited to the automotive industry and has become a more and more important issue recently (Hoskisson *et al.*, 2000; London & Hart, 2004). Historically,

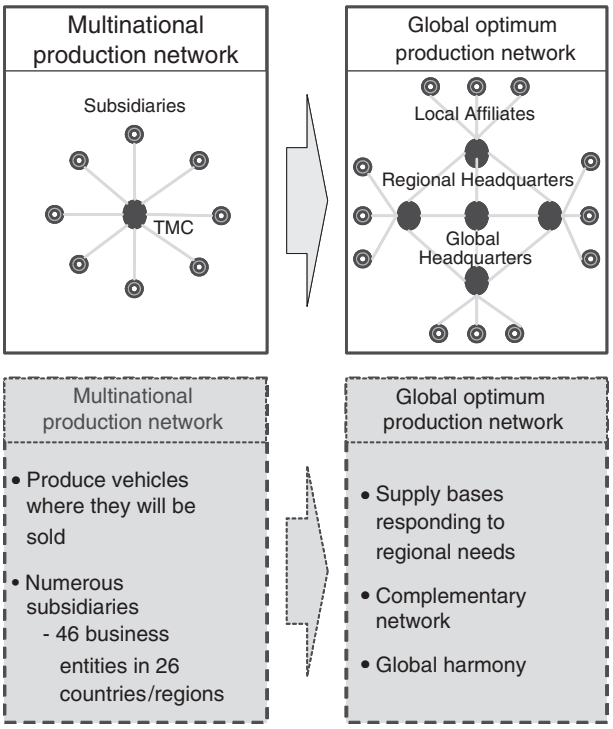

Figure 2 Evolution of Toyota's global production (*Source*: Authors' own illustration).

JVs – as well exporting through a local agent – were the preferred entry modes for Japanese MNCs into European markets, with financial costs and the costs concerning uncertainties and risks deterring them from full ownership entry modes such as acquisitions and greenfield investments. However, especially with the development of the European integration, JVs have become less attractive (Ando, 2005). But, the case of TPCA – as well as the other JV in Poland – is different. In contrast to West European countries, emerging economies like Poland and the Czech Republic are new and less known ground for Toyota (and Japanese MNCs in general), thus possibly entailing higher uncertainty costs. Additionally, the collaboration with PSA is expected to result in mutual learning and other advantages for Toyota's European operation and its strategy of using external, local resources (Ando, 2005). This attempt by organizations to realize their objectives through cooperation with other organizations rather than in competition with them is called 'cooperative strategy' (Child *et al.*, 2005). As for the TPCA case, Toyota considers this collaboration as one of its efforts to meet consumer demand for low-cost, fuel-efficient and environment-friendly vehicles and believes that cooperating with PSA will provide a capable response to the expanding small passenger car market.

Second, with all major global players penetrating into the emerging markets, competition intensified quickly and severely. The high price-sensitiveness of the consumers in the new markets and differences in taste and buying behavior called for a change in strategy.

Finally, Toyota came up with a new strategy for global business development – 'learn local, act global' – which meant learning about unique local needs and requirements and adapt to them while doing global coordination for the operational excellence. The strategy also meant systematically tapping tacit local knowledge from various sites around the world, blending and integrating it, and finally sharing and applying it on a global scale. Thus, this strategy goes far beyond mere local customization and cross-country collaboration as it is about a systematic and continuous way of leveraging local and global knowledge and about co-creating new knowledge with a variety of local and global partners (including competitors). This is also reflected in Toyota's outstanding global sales performance and its high profitability (cf. e.g. Liker, 2004; Ichijo & Kohlbacher, 2007). As a consequence, it is probably safe to say that Toyota has made the leap from simply being a global projector to a truly metanational company. Indeed, this need to unlock the potential of globally dispersed knowledge has been called 'the metanational imperative' (Doz *et al.*, 2001) and the term 'front-line management' has been used to describe a form of management, where 'the workplace is recognized and valued as the center of knowledge creation and in which knowledge-creation resources […] and processes […] are concentrated at the front line of the company' (Yasumuro & Westney, 2001, p. 178).

The fact that in basically any company, 'critically important knowledge resides in the workplace – on the factory floor, within sales and service organizations that deal directly with customers, at the ''bench'' in the R&D lab', in short at the 'front lines' of the company (Yasumuro & Westney, 2001, p. 178), underscores the importance of tacit knowledge and its strategic creation and management (Ichijo, 2007b). Indeed, valuable knowledge in the marketplace is 'unique and mostly context-specific [and] often difficult to obtain' (Schlegelmilch & Penz, 2002, p. 7) and 'the most influential knowledge is likely to be tacit' (Day, 1994b, p. 10). But, this is precisely the kind of knowledge, which if discovered and exploited, can be harnessed to secure competitive advantage (Kohlbacher *et al.*, 2007). As our study of Toyota clearly demonstrates, the marketing knowledge was acquired in a specific cultural context and thus might be 'sticky' and difficult or even impossible to transfer (Bjerre & Sharma, 2003; Schlegelmilch & Chini, 2003). However, as Day (1994b, p. 17, 23) correctly notes, '[l]ocal market knowledge […] won't benefit the rest of the company unless it is shared so that other parts can consider its value to them' and '[m]arket knowledge is not fully captured in a usable form until the lessons and insights are transferred beyond those who gained the experience'. As has been shown above, by consistently following its 'learn local, act global' strategy, Toyota is feeding back newly created and acquired knowledge to its headquarters and spreading it also to other subunits. Indeed, in Toyota's continuous learning system, '[t]ough analysis, reflection, and communication of lessons learned are central to improvement as is the discipline to standardize the best-known practices' (Liker, 2004, p. xvi).

As the cases have illustrated, Toyota can be seen as a firm with a strong market orientation, possessing 'the basis for rapid adaptation to customers' manifest and latent needs, which may translate into superior new product success, profitability, market share, and, perhaps, sustainable competitive advantage' (Baker & Sinkula, 2005, p. 483). Hence, we can conclude that Toyota has successfully implemented 'knowledge-based marketing', which is a knowledge management approach to marketing that focuses both on the exploitation (sharing and application) and exploration (creation) of marketing knowledge from contexts and interactions in order to gain and sustain competitive advantage (Kohlbacher, 2007; Kohlbacher *et al.*, 2007). In fact, '[i]n a world where other firms are seeking to expand their market share, successful firms often can only stay ahead of the competition by exploiting new knowledge to offer improved products or processes that deliver new forms of added value to their customers' (Chaston, 2004, p. 155).

However, '[t]he creation of knowledge is not simply a compilation of facts but a uniquely human process, one that cannot be reduced or easily replicated', which among other reasons is why 'effective management of knowledge, that is, knowledge creation, sharing, protection, and discarding depend on an enabling context' (Ichijo, 2007a, p. 85). Companies can generate such an enabling context for knowledge management and creation by using five knowledge enablers: (1) instilling a knowledge vision, (2) managing conversations, (3) mobilizing knowledge activists, (4) creating the right context, and (5) globalizing local knowledge (Ichijo, 2004). As a matter of fact, Toyota has basically introduced all five knowledge enablers into its organization (cf. also Ichijo & Kohlbacher, 2007). While usually all enablers play an equally crucial role, for the analysis in this paper, the fifth enabler is of particular relevance. Globalizing local knowledge considers the complicated issue of knowledge dissemination globally (von Krogh *et al.*, 2000). Ichijo (2007a, p. 92) notes that 'it is crucial for the competitive advantage of a corporation operating globally that knowledge created in a certain local unit is disseminated to other local units effectively, efficiently, and fast', since 'sharing knowledge globally constitutes competitive advantage of a corporation'. Toyota achieves this by feeding back local knowledge and best practices to its headquarters and by circulating these further to other global units through its global production centers as well as by job and country rotation of its staff. Given the necessity for satisfying the local unique needs, disseminated knowledge should not be used immediately without any concerns for local uniqueness and accommodation and necessary modifications. However, by globalizing local knowledge, corporations will be able to reduce time and cost for knowledge creation initiatives. Globalizing local knowledge is, indeed, a major challenge; it is one of the most important

responsibilities of the corporate headquarters managers and those local managers who must cooperate in order to make it happen. In order to facilitate globalizing local knowledge, building enabling infrastructure is critically important. In other words, this fifth enabler does not work effectively without the other four enablers. Social networks, mobility, shared experiences among people working in different regions will be able to overcome the tensions accompanying globalizing local knowledge (Ichijo, 2007a).

In the case of an IJV, knowledge sharing and creation can occur at different levels. Figure 3 illustrates it for the concrete example of TPCA.

Obviously, knowledge will not only have to be created locally at TPCA but also between the JV (child) and the partner firms (parents). Moreover, the process of transferring newly created knowledge at TPCA to the parents is also critical. Inkpen (1998, p. 79) goes even as far as to state that '[w]ithout active parent firm involvement in the alliance learning process, learning will not occur'. Note that the term 'learning' here roughly means the same as knowledge sharing. The concept of knowledge co-creation is drawn from the framework of Kohlbacher (2007), which emphasizes the co-creation of knowledge with various entities – for example suppliers, customers, business partners, and competitors – in the business ecosystem (cf. also Nonaka & Toyama, 2005). Indeed, knowledge co-creation with selected key stakeholders has become an essential part of Toyota's strategy for global knowledge creation. TPCA and NUMMI are concrete examples for knowledge sharing and co-creation with competitors, and suppliers are also integrated into the improvement of the car-manufacturing process itself, continuously creating new knowledge that is difficult, if not impossible, for competitors to imitate (cf. also Ichijo, 2007b).

Lessons learned for global knowledge management

In the age of increasing globalization, knowledge management constitutes a core competence. This is especially the case for companies that operate business across geographical boundaries. Whatever the motive, companies increasingly distribute tasks over an expanding geographic, sociopolitical, demographic, and cultural area. However, while it is easy to say 'sharing knowledge across regions, businesses, and functions', or to discuss the knowledge-based economy in general terms, the human processes involved – creativity, conversation, judgment, teaching, and learning – are difficult to quantify (Ichijo, 2007a, pp. 84–85). It is probably safe to say that Toyota has brought the concepts of front-line management, global knowledge creation and enabling to perfection through the implementation of its 'learn local, act global' strategy and thus has mastered the challenge of applying a knowledge-based approach to marketing. Thus it has also mastered 'the challenge of identifying, nurturing, and re-deploying knowledge resources within the MNC's global operations' (Asakawa & Lehrer, 2003, p. 32) and of unleashing the power of tacit (internal and external) knowledge. As Hansen & Nohria (2004, p. 22) correctly note, the ways for MNCs to compete successfully by exploiting scale and scope economies or by

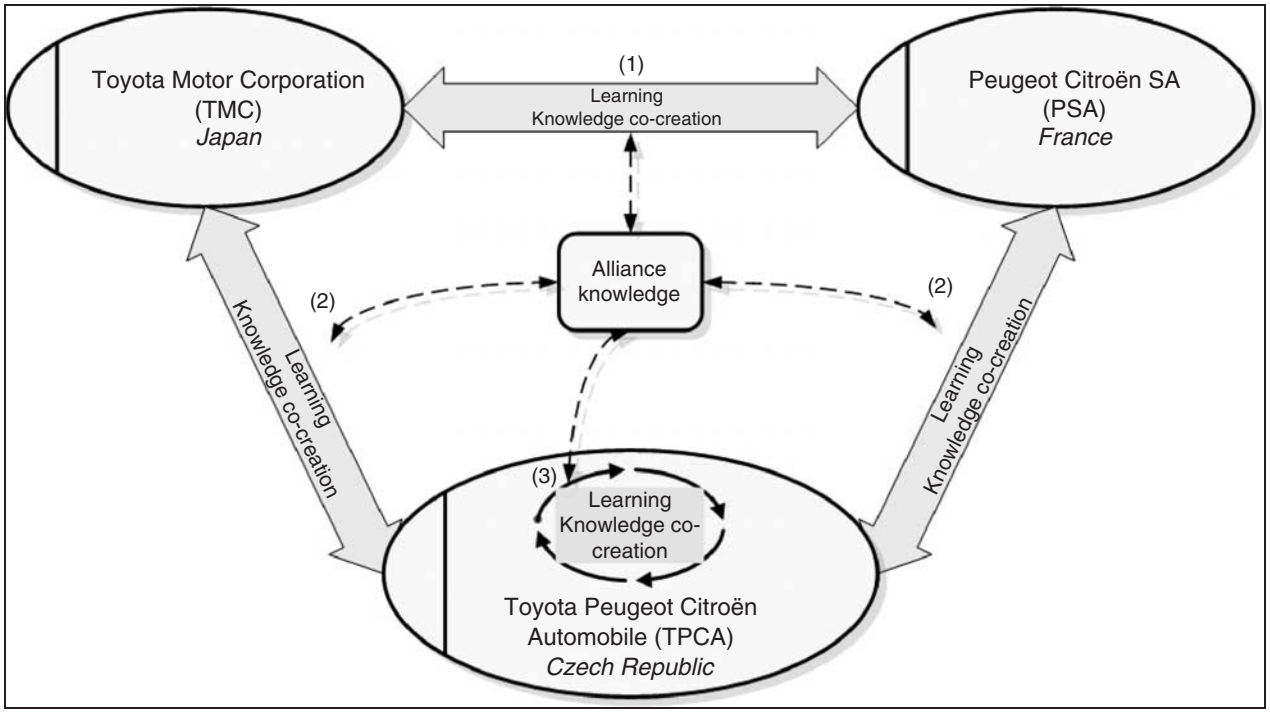

Figure 3 Knowledge sharing and creation in and through TPCA (adapted from Kohlbacher, 2007, p. 152).

taking advantage of imperfections in the world's goods, labor and capital markets are no longer profitable as they once were, and as a result, 'the new economies of scope are based on the ability of business units, subsidiaries and functional departments within the company to collaborate successfully by sharing knowledge and jointly developing new products and services'. Besides, Ghemawat (2005) has shown that it is often a mistake to set out to create a worldwide strategy and that better results come from strong regional strategies brought together into a global whole. In fact, these statements strongly support the need for a global knowledge creation strategy as implemented by Toyota. However, even though Toyota has been identified to 'have gone furthest in exploiting the power of regionalized thinking' (Ghemawat, 2005, p. 100), the application of a 'learn local, act global' strategy is by no means restricted to Toyota or the automotive industry. Of course, Toyota is a pioneer and still one of very few truly metanational companies – for other examples, see for example Doz *et al*. (2001) and Ghemawat (2005) – but their success seems to prove them right and the Toyota Way could serve as an excellent role model for other firms. Note that this does not imply a mere copying of Toyota's strategy and processes but a carefully deployed adaptation to the specific context and needs of each individual firm and industry. Indeed, the basic logic of the strategy always remains the same but its implementation and operationalization may have to be adapted to each company's specific circumstances.

Moreover, the Toyota Way never stands still but is constantly evolving and refined through *kaizen* processes. Grasping this need for continuous learning and improvement will be a crucial criterion for competitive advantage and corporate success and survival in the knowledge economy. This is in line with Kohlbacher's (2007) finding that especially when introducing new products or when entering new markets, knowledge creation and transfer and intra- as well as inter-firm collaboration prove critical for the success of the projects. Therefore, he concluded that applying knowledge management concepts and practices to the knowledge-intensive field of marketing and to marketing functions bears out particularly efficient and effective. Last but not least, as large parts of marketing knowledge are tacit and hard to codify, face-to-face communication and the integration of local staff into marketing processes and decision-making is an important factor for global marketing knowledge sharing that leads to successful marketing and sales achievements (Kohlbacher, 2007).

Finally, the lessons learned from the Toyota Way of global knowledge creation can be summarized as the following propositions:

(1) as knowledge has become a critical source for competitive advantage, marketing – and management in general – has to become knowledge-based;
(2) tacit knowledge needs to be leveraged both on a global and local level; tapping tacit local knowledge, blending and integrating it and finally applying it globally is a *sine qua non* for strategic knowledge management;
(3) global as well as local knowledge creation have to be nurtured by a set of enabling conditions;
(4) in the network economy of the 21st century, a decentralized global knowledge creation strategy – involving customers, suppliers, other partners and even competitors – is more effective than a centralized one;
(5) IJVs can be a useful vehicle not only for knowledge accessing and acquisition but also for knowledge co-creation on the local and global level;
(6) a learn local, act global strategy is especially effective when entering new, emerging markets and in collaborating with local agents like customers, suppliers, business partners and even competitors;
(7) this strategy goes far beyond mere local customization and cross-country collaboration; it is about a systematic and continuous way of leveraging local and global knowledge and about co-creating new knowledge with a variety of local and global partners (including competitors).

Implications for further research

Although carefully researched, documented and analyzed, our study is subject to some limitations. First of all, the insights gained were derived and concluded from two single – probably even unique – cases, even if this is exactly what case study research is all about (Stake, 2000). Indeed, the common limitations of generalizability of such field research are well documented (cf e.g. Eisenhardt, 1989; Yin, 2003b; Hartley, 2004), though analytic generalization – in contrast to statistical generalization – is possible (Numagami, 1998; Yin, 2003b; Hartley, 2004). Therefore, it would prove helpful to conduct further case studies of Toyota, but also of other global players in order to analyze the process of inter-organizational knowledge creation in different environments and under different conditions. Besides, the propositions put forth above need to be refined and the resulting hypotheses quantitatively tested. It will be particularly important to find out under which circumstances – both company internal and external – the Toyota best practices are effective and under which conditions they need to be adapted and how.

Finally, our cases presented two very new and recent projects at Toyota. A follow-up investigation in the next couple of years – longitudinal case studies – might help to gain additional insights. Besides, Toyota might start similar action in other countries with different environments and economic conditions, thus providing an opportunity for further research as well. Last but not least, researchers and practitioners should note that the Toyota Way is not necessarily a silver bullet or a single right approach. Indeed, depending on each company's individual circumstances, the processes may look different and a particular knowledge-based approach to marketing and global management will have to be developed and strategically managed.

References

ACHROL RS and KOTLER P (1999) Marketing in the network economy. *Journal of Marketing* **63(4),** 146–162.

AHMADJIAN CL (2004) Inter-organizational knowledge creation: knowledge and networks. In *Hitotsubashi on Knowledge Management* (TAKEUCHI H and NONAKA I, Eds), pp 227–245, John Wiley & Sons (Asia), Singapore.

AHMADJIAN CL and LINCOLN JR (2001) Keiretsu, governance and learning: case studies in change from the Japanese automotive industry. *Organization Science* **12(6),** 683–701.

ANDO K-i (2005) *Japanese Multinationals in Europe: A Comparison of the Automobile and Pharmaceutical Industries*. Edward Elgar, Cheltenham.

ASAKAWA K and LEHRER M (2003) Managing local knowledge assets globally: the role of regional innovation relays. *Journal of World Business* **38(1),** 31–42.

BAKER WE and SINKULA JM (2005) Market orientation and the new product paradox. *The Journal of Product Innovation Management* **22(6),** 483–502.

BELL SJ, WHITWELL GJ and LUKAS BA (2002) Schools of thought in organizational learning. *Journal of the Academy of Marketing Science* **30(1),** 70–86.

BENNETT R and GABRIEL H (1999) Organisational factors and knowledge management within large marketing departments: an empirical study. *Journal of Knowledge Management* **3(3),** 212–225.

BIRKINSHAW J and SHEEHAN T (2002) Managing the knowledge life cycle. *MIT Sloan Management Review* **44(1),** 75–83.

BJERRE M and SHARMA DD (2003) Is marketing knowledge international? A case of key accounts. In *Learning in the Internationalisation Process of Firms* (BLOMSTERMO A and SHARMA DD, Eds), pp 123–141, Edward Elgar, Cheltenham.

BRYMAN A (2004) *Social Research Methods*, 2nd edn, Oxford University Press, New York.

CHASTON I (2004) *Knowledge-Based Marketing: The Twenty-First Century Competitive Edge*. Sage Publications, Thousand Oaks.

CHILD J, FAULKNER D and TALLMAN SB (2005) *Cooperative Strategy: Managing Alliances, Networks, and Joint Ventures*, 2nd edn, Oxford University Press, New York.

CHINI TC (2004) *Effective Knowledge Transfer in Multinational Corporations*. Palgrave Macmillan, Basingstoke.

CUSUMANO MA and TAKEISHI A (1991) Supplier relations and management: a survey of Japanese, Japanese Transplants, and U.S. auto plants. *Strategic Management Journal* **12(8),** 563–588.

DAVENPORT TH and KLAHR P (1998) Managing customer support knowledge. *California Management Review* **40(3),** 195–208.

DAVENPORT TH, HARRIS JG and KOHLI AK (2001) How do they know their customers so well? *MIT Sloan Management Review* **42(2),** 63–73.

DAY GS (1994a) The capabilities of market-driven organizations. *Journal of Marketing* **58(4),** 37–52.

DAY GS (1994b) Continuous learning about markets. *California Management Review* **36(4),** 9–31.

DESHPANDÉ R, FARLEY JU and WEBSTER FE (1993) Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing* **57(1),** 23–37.

DHANARAJ C, LYLES MA, STEENSMA HK and TIHANYI L (2004) Managing tacit and explicit knowledge transfer in IJVs: the role of relational embeddedness and the impact on performance. *Journal of International Business Studies* **35(5),** 428–442.

DOZ Y, SANTOS J and WILLIAMSON P (2001) *From Global to Metanational: How Companies Win in the Knowledge Economy*. Harvard Business School Press, Boston.

DUBIN R (1982) Management: meaning, methods, and moxie. *Academy of Management Review* **7(3),** 372–379.

DYCK B, STARKE FA, MISCHKE GA and MAUWS M (2005) Learning to build a car: An empirical investigation of organizational learning. *Journal of Management Studies* **42(2),** 387–416.

DYER JH and HATCH NW (2004) Using supplier networks to learn faster. *MIT Sloan Management Review* **45(3),** 57–63.

DYER JH and NOBEOKA K (2000) Creating and managing a high-performance knowledge-sharing network: the Toyota Case. *Strategic Management Journal* **21(3),** 345–367.

DYER JH and OUCHI WG (1993) Japanese-style partnerships: giving companies a competitive edge. *Sloan Management Review* **35(1),** 51–63.

EISENHARDT KM (1989) Building theories from case study research. *Academy of Management Review* **14(4),** 532–550.

EPPINGER SD and CHITKARA AR (2006) The new practice of global product development. *MIT Sloan Management Review* **47(4),** 22–30.

EVANS P and WOLF B (2005) Collaboration rules. *Harvard Business Review* **83(7/8),** 96–104.

FLYVBJERG B (2006) Five misunderstandings about case-study research. *Qualitative Inquiry* **12(2),** 219–245.

FORSTER N (1994) The analysis of company documentation. In *Qualitative Methods in Organizational Research, A Practical Guide* (CASSELL C and SYMON G, Eds), pp 147–166, Sage, London, Thousand Oaks, New Delhi.

GHEMAWAT P (2005) Regional strategies for global leadership. *Harvard Business Review* **83(12),** 98–108.

GIBBERT M, LEIBOLD M and PROBST G (2002) Five styles of customer knowledge management, and how smart companies use them to create value. *European Management Journal* **20(5),** 459–469.

GLISBY M and HOLDEN N (2003) Contextual constraints in knowledge management theory: the cultural embeddedness of Nonaka's knowledge-creating company. *Knowledge and Process Management* **10(1),** 29–36.

GRIFFIN A and HAUSER JR (1996) Integrating R&D and marketing: a review and analysis of the literature. *The Journal of Product Innovation Management* **13(3),** 191–215.

GULATI R and OLDROYD JB (2005) The quest for customer focus. *Harvard Business Review* **83(4),** 92–101.

GUPTA AK and GOVINDARAJAN V (1991) Knowledge flows and the structure of control within multinational corporations. *Academy of Management Review* **16(4),** 768–792.

HANSEN MT and NOHRIA N (2004) How to build collaborative advantage. *MIT Sloan Management Review* **46(1),** 22–30.

HANVANICH S, DRÖGE C and CALANTONE R (2003) Reconceptualizing the meaning and domain of marketing knowledge. *Journal of knowledge management* **7(4),** 124–135.

HARTLEY J (2004) Case study research. In *Essential Guide to Qualitative Methods in Organizational Research* (CASSELL C and SYMON G, Eds), pp 323–333, Sage Publications, London, Thousand Oaks, New Delhi.

HEDLUND G and NONAKA I (1993) Models of knowledge management in the West and Japan. In *Implementing Strategic Processes: Change, Learning and Co-operation* (LORANGE P, CHAKRAVARTHY B, ROOS J and VAN de VEN A, Eds), pp 117–144, Basil Blackwell, Oxford.

HODDER I (2000) The interpretation of documents and material culture. In *Handbook of Qualitative Research* (DENZIN NK and LINCOLN YS, Eds), pp 703–715, Sage, Thousand Oaks.

HOEGL M and SCHULZE A (2005) How to support knowledge creation in new product development: an investigation of knowledge management methods. *European Management Journal* **23(3),** 263–273.

HOLDEN NJ (2001) Knowledge management: raising the spectre of the cross-cultural dimension. *Knowledge and Process Management* **8(3),** 155–163.

HOLDEN NJ (2002) *Cross-Cultural Management: A Knowledge Management Perspective*. Financial Times/Prentice-Hall, Harlow.

HOLDEN NJ (2004) Why marketers need a new concept of culture for the global knowledge economy. *International Marketing Review* **6(21),** 563–572.

HOLDEN NJ and VON KORTZFLEISCH HFO (2004) Why cross-cultural knowledge transfer is a form of translation in more ways than you think. *Knowledge and Process Management* **11(2),** 127–136.

HOMBURG C and PFLESSER C (2000) A multiple-layer model of market-oriented organizational culture: measurement issues and performance outcomes. *Journal of Marketing Research* **37(11),** 449–462.

HOSKISSON RE, EDEN L, LAU CM and WRIGHT M (2000) Strategy in emerging economies. *Academy of Management Journal* **43(3),** 249–267.

ICHIJO K (2004) From managing to enabling knowledge. In *Hitotsubashi on Knowledge Management* (TAKEUCHI H and NONAKA I, Eds), pp 125–152, John Wiley & Sons (Asia) Pte Ltd, Singapore.

ICHIJO K (2007a) Enabling knowledge-based competence of a corporation. In *Knowledge Creation and Management: New Challenges for Managers* (ICHIJO K and NONAKA I, Eds), pp 83–96, Oxford University Press, New York.

ICHIJO K (2007b) The strategic management of knowledge. In *Knowledge Creation and Management: New Challenges for Managers* (ICHIJO K and NONAKA I, Eds), pp 121–145, Oxford University Press, New York.

ICHIJO K and KOHLBACHER F (2007) The Toyota way of global knowledge creation: the 'learn local, act global' strategy. *International Journal of Automotive Technology and Management* **7(2/3),** 116–134.

ICHIJO K and NONAKA I (2007) Introduction: knowledge as competitive advantage in the age of increasing globalization. In *Knowledge Creation and Management: New Challenges for Managers* (ICHIJO K and NONAKA I, Eds), pp 3–10, Oxford University Press, New York.

INKPEN AC (1998) Learning and knowledge acquisition through international strategic alliances. *The Academy of Management Executive* **12(4),** 69–80.

INKPEN AC (2000) Learning through joint ventures: a framework of knowledge acquisition. *Journal of Management Studies* **37(7),** 1019–1043.

INKPEN AC (2005) Learning through alliances: general motors and NUMMI. *California Management Review* **47(4),** 114–136.

INKPEN AC and CURRALL SC (2004) The coevolution of trust, control, and learning in joint ventures. *Organization Science* **15(5),** 586–599.

JAWORSKI BJ and KOHLI AK (1993) Market orientation: antecedents and consequences. *Journal of Marketing* **57(3),** 53–70.

JOHANSSON JK and NONAKA I (1996) *Relentless: The Japanese Way of Marketing*. HarperBusiness, New York.

KOHLBACHER F (2007) *International Marketing in the Network Economy: A Knowledge-based Approach*. Palgrave Macmillan, Basingstoke.

KOHLBACHER F, HOLDEN NJ, GLISBY M and NUMIC A (2007) Knowledge-based approaches to international marketing: unleashing the power of tacit local and global knowledge to create competitive advantage. Paper presented at the 49th Annual Meeting of the Academy of International Business (AIB), Indianapolis.

KOHLI AK and JAWORSKI BJ (1990) Market orientation: the construct, research propositions, and managerial implications. *Journal of Marketing* **54(2),** 1–18.

KOHLI AK, JAWORSKI BJ and KUMAR A (1993) MARKOR: a measure of market orientation. *Journal of Marketing Research* **30(4),** 467–478.

KOTABE M, MARTIN X and DOMOTO H (2003) Gaining from vertical partnerships: Knowledge transfer, relationship duration, and supplier performance improvement in the U.S. and Japanese automotive industries. *Strategic Management Journal* **24(4),** 293–316.

KUSUNOKI K (2004) Value differentiation: organizing ''Know-what'' for product concept innovation. In *Hitotsubashi on Knowledge Management* (TAKEUCHI H and NONAKA I, Eds), pp 153–181, John Wiley & Sons (Asia) Pte Ltd, Singapore.

KUSUNOKI K, NONAKA I and NAGATA A (1998) Organizational capabilities in product development of Japanese firms: a conceptual framework and empirical findings. *Organization Science* **9(6),** 699–718.

KVALE S (1996) *InterViews, An Introduction to Qualitative Research Interviewing*. Sage, Thousand Oaks.

KYRIAKOPOULOS K and MOORMAN C (2004) Tradeoffs in marketing exploitation and exploration strategies: the overlooked role of market orientation. *International Journal of Research in Marketing* **21(3),** 219–240.

LANE PJ, SALK JE and LYLES MA (2001) Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal* **22(12),** 1139–1161.

LAWER C (2005) On customer knowledge co-creation and dynamic capabilities. Working Paper, Cranfield School of Management.

LIKER JK (2004) *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. McGraw-Hill, New York.

LIKER JK and CHOI TY (2004) Building deep supplier relationships. *Harvard Business Review* **82(12),** 104–113.

LONDON T and HART SL (2004) Reinventing strategies for emerging markets: beyond the transnational model. *Journal of International Business Studies* **35(5),** 350–370.

LYLES MA and BAIRD IS (1994) Performance of international joint ventures in two Eastern European countries: the case of Hungary and Poland. *Management International Review* **34(4),** 313–329.

LYLES MA and DHANARAJ C (2004) Learning across borders: Organizational learning and international alliances. In *Knowledge Flows, Governance and the Multinational Enterprise* (MAHNKE V and PEDERSEN T, Eds), pp 81–107, Palgrave Macmillan, New York.

LYLES MA and SALK JE (1996) Knowledge acquisition from foreign parents in international joint ventures: an empirical examination in the Hungarian context. *Journal of International Business Studies* **27(5),** 877–903.

LYLES MA, SAXTON T and WATSON K (2004) Venture survival in a transitional economy. *Journal of Management* **30(3),** 351–375.

MADHAVAN R and GROVER R (1998) From embedded knowledge to embodied knowledge: new product development as knowledge management. *Journal of Marketing* **62(4),** 1–12.

MOENAERT RK and SOUDER WE (1990) An information transfer model for integrating marketing and R&D personnel in new product development projects. *The Journal of Product Innovation Management* **7(2),** 91–107.

NARVER JC and SLATER SF (1990) The effect of a market orientation on business profitability. *Journal of Marketing* **54(4),** 20–35.

NONAKA I (1991) The knowledge-creating company. *Harvard Business Review* **69(6),** 96–104.

NONAKA I (1994) A dynamic theory of organizational knowledge creation. *Organization Science* **5(1),** 14–34.

NONAKA I and PELTOKORPI V (2006) Knowledge-based view of radical innovation: Toyota Prius case. In *Innovation, Science, and Institutional Change: A Research Handbook* (HAGE J and MEEUS M, Eds), pp 88–104, Oxford University Press, New York.

NONAKA I and TAKEUCHI H (1995) *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York.

NONAKA I and TOYAMA R (2005) The theory of the knowledge-creating firm: subjectivity, objectivity, and synthesis. *Industrial and Corporate Change* **14(3),** 419–436.

NUMAGAMI T (1998) The infeasibility of invariant laws in management studies: a reflective dialogue in defense of case studies. *Organization Science* **9(1),** 2–15.

OSLAND GE and CAVUSGIL ST (1998) The use of multiple-party perspectives in international joint venture research. *Management International Review* **38(3),** 191–202.

PARKHE A (1993) ''Messy'' research, methodological predispositions, and theory development in international joint ventures. *Academy of Management Review* **18(2),** 227–268.

PRAHALAD CK and RAMASWAMY V (2004) *The Future of Competition: Co-Creating Unique Value with Customers*. Harvard Business School Press, Boston.

RÄDLER G (2006) Toyota's strategy and initiatives in Europe: the launch of the Aygo. IMD Case Study, IMD-3-1673.

RIESENBERGER JR (1998) Executive insights: knowledge – the source of sustainable competitive advantage. *Journal of International Marketing* **6(3),** 94–107.

RUBIN HJ and RUBIN IS (1995) *Qualitative Interviewing, The Art Of Hearing Data*. Sage, Thousand Oaks.

SCHLEGELMILCH BB and CHINI TC (2003) Knowledge transfer between marketing functions in multinational companies: a conceptual model. *International Business Review* **12(2),** 215–232.

SCHLEGELMILCH BB and PENZ E (2002) Knowledge management in marketing. *The Marketing Review* **3(1),** 5–19.

SCHULZ M and JOBE LA (2001) Codification and tacitness as knowledge management strategies: an empirical exploration. *Journal of High Technology Management Research* **12(1),** 139–165.

SCHULZE A and HOEGL M (2006) Knowledge creation in new product development projects. *Journal of Management* **32(2),** 210–236.

SIGGELKOW N (2007) Persuasion with case studies. *Academy of Management Journal* **50(1),** 20–24.

SIMONIN BL (1999) Transfer of marketing know-how in international strategic alliances: an empirical investigation of the role and antecedents of knowledge ambiguity. *Journal of International Business Studies* **30(3),** 463–490.

SLATER SF and NARVER JC (1995) Market orientation and the learning organization. *Journal of Marketing* **5(3),** 63–74.

SLATER SF and NARVER JC (1999) Market-oriented is more than being customer-led. *Strategic Management Journal* **20(12),** 1165–1168.

SONG XM and PARRY ME (1993) How the Japanese manage the R&D-marketing interface. *Research Technology Management* **36(4),** 32–38.

STAKE RE (2000) Case studies. In *Handbook of Qualitative Research* (DENZIN NK and LINCOLN YS, Eds), pp 435–453, Sage, Thousand Oaks.

STEENSMA HK and LYLES MA (2000) Explaining IJV survival in a transitional economy through social exchange and knowledge-based perspectives. *Strategic Management Journal* **21(8),** 831–851.

STEENSMA HK, TIHANYI L, LYLES MA and DHANARAJ C (2005) The evolving value of foreign partnerships in transitioning economies. *Academy of Management Journal* **48(2),** 213–235.

TAKEUCHI H and NONAKA I (1986) The new new product development game. *Harvard Business Review* **64(1),** 137–146.

TAKEUCHI H and NONAKA I (2000) Reflection on knowledge management from Japan. In *Knowledge Management: Classic and Contemporary Works* (MOREY D, MAYBURY M and THURAISINGHAM B, Eds), pp 183–186, The MIT Press, Cambridge, MA.

THOMAS DC (2002) *Essentials of International Management: A Cross-Cultural Perspective*. Sage, Thousand Oaks.

THOMKE SH (2003) *Experimentation matters: unlocking the potential of new technologies for innovation*. Harvard Business School Press, Boston.

TROMPENAARS F and WOOLLIAMS P (2004) *Marketing Across Cultures*. Capstone, Chichester.

VON KROGH G, ICHIJO K and NONAKA I (2000) *Enabling Knowledge Creation, How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*. Oxford University Press, New York.

WEICK KE (1996) Drop your tools: allegory for organizational studies. *Administrative Science Quarterly* **41(2),** 301–313.

WOLFRAM COX J and HASSARD J (2005) Triangulation in organizational research: a re-presentation. *Organization* **12(1),** 109–133.

YASUMURO K and WESTNEY DE (2001) Knowledge creation and the internationalization of Japanese companies: front-line management across borders. In *Knowledge Emergence: Social, Technical, and Evolutionary Dimensions of Knowledge Creation* (NONAKA I and NISHIGUCHI T, Eds), pp 176–193, Oxford University Press, New York.

YIN RK (2003a) *Applications of Case Study Research*, 2nd edn, Vol. 34, Sage, Thousand Oaks.

YIN RK (2003b) *Case Study Research, Design and Methods*, 3rd edn, Vol. 5, Sage, Thousand Oaks.

ZHU Z (2004) Knowledge management: towards a universal concept or cross-cultural contexts? *Knowledge Management Research & Practice* **2(2),** 67–79.

About the authors

Kazuo Ichijo is Professor at the Graduate School of International Corporate Strategy at Hitotsubashi University in Tokyo. He received his B.A. (social sciences) and M.S. (social sciences) from Hitotsubashi University and Ph.D. (business administration) from the University of Michigan. He published numerous books, including 'Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation' (with Georg von Krogh and Ikujiro Nonaka), Oxford University Press, 2000.

Florian Kohlbacher is a research fellow at the German Institute for Japanese Studies in Tokyo. From April 2005 to March 2007 he was a visiting researcher at Hitotsubashi University, Tokyo, where he conducted research in knowledge management, international business and marketing. He is the author of 'International Marketing in the Network Economy: A Knowledge-based Approach', Palgrave Macmillan, 2007.