



Intra-organizational knowledge exchange

Intra-organizational knowledge

An examination of reverse capability transfer in multinational corporations

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Abstract

Purpose – Recent research on intra-organizational knowledge-transfer showed that new capability development within multinational corporations shifts from parent companies to foreign subsidiaries. This paper seeks to identify antecedents and barriers for reverse capability-transfer in multinational corporations.

Design/methodology/approach – The paper adopts a multiple case study approach based on active interviews at six subsidiaries of a multinational manufacturing company.

Findings – The results suggest that subsidiary autonomy, environmental heterogeneity, and managerial initiatives are all necessary antecedents of unique capability development at the subsidiary level, but that companies do not utilize foreign subsidiary-originated capabilities in their home-country operations. The results also show that person-to-person communication is required for intra-MNC capability-transfer in any direction, and that other forms of communication seem to be inefficient.

Research limitations/implications – A logical next step is the investigation of the phenomenon at the headquarters level with the goal to identify specific barriers for reverse capability-transfer.

Practical implications – The findings support the idea that managers of multinational corporations should recognize that new unique capabilities originate not only at the parent company level but also at the foreign subsidiary level, and that it could be beneficial for the company as a whole to transfer these new capabilities back to the home country operation.

Originality/value – The study shows that in-depth interviews provide the richest form of data for this type of research. Moreover, it provides a counter-intuitive perspective on intra-organizational knowledge and capability-transfer in multinational corporations.

Keywords Multinational companies, Knowledge management, Knowledge transfer

Paper type Research paper

Introduction

The development and operationalization of competitive advantages and superior capabilities across different countries are central to the strategies of multinational corporations (MNCs) (Dunning, 1980, 1988, 2000). The domain of this research project lies within the MNC strategy-structure-paradigm (Harzing, 2000), at the intersection of subsidiary role, corporate structure, and corporate-level strategy (Bartlett and Ghoshal, 1998). Corporate structure not only pre-empts the level of autonomy, but it also



pre-empts subsidiary initiative, intra-organizational communication, and ultimately knowledge and capability transfer within MNCs.

This research aims to empirically identify reverse capability transfer (RCT) and its antecedents as a source of competitive advantages in the MNC context. RCT is defined as the transfer of foreign-subsidary-originated capabilities to the home country operations of MNCs. For example, when a subsidiary develops a value-added product for its local market, which goes beyond the product proposition provided by the parent company, new capabilities have been developed at the subsidiary level, which could then be transferred to the parent company for utilization in the home country.

While intra-subsidary transfer has been investigated (Frost *et al.*, 2002), previous research has mostly overlooked the RCT phenomenon. It appears to be an unchallenged assumption that capability and knowledge transfer within MNCs flow in one direction, along the hierarchical structures, from the parent company down to the subsidiaries, and not the other way around, from the foreign subsidiaries to the home country operation. More recently, researchers have combined network theory and the knowledge-based view of the firm to uncover other intra-MNC knowledge transfer mechanisms including subsidiary-to-subsidary transfers (Frost *et al.*, 2002), but only a few studies have addressed knowledge transfer from the foreign subsidiary to the parent company (Frost, 2001; Hakanson and Nobel, 2000; Piscitello and Rabbiosi, 2004). It is suggested that the reason for the limited number of publications on RCT lies in the inherent assumption that knowledge and capability transfer is path-dependent (Araujo and Rezende, 2003) and in the belief of researchers and practitioners that knowledge and capabilities indeed only flow top-down from the parent company to the subsidiary or from subsidiary to subsidiary at best. In this context, one could also think of similarities to parent-child relationships, or the question of how perceptive parents can learn from their children. It is a prevailing assumption that parents learn about children, but not from children. Bartlett and Ghoshal (1998) call this phenomenon “administrative heritage”, which describes companies as “captives of their past”. It is suggested that it is this assumption that prevents parent companies from learning from their foreign subsidiaries.

Another explanation for the limited number of investigations into this phenomenon might be that it is difficult to detect, since it requires multipoint access to different foreign subsidiaries as well as access to the home-country operation of the MNC. It also requires expert understanding of the particular capabilities of the individual subsidiaries and the parent company. RCT goes beyond the notion of knowledge transfer and falls into the category of dynamic capabilities (Teece *et al.*, 1997). Once RCT and its potentials have been identified, it will gain significant relevance for researchers and practitioners alike.

For this preliminary study, an active interview approach is used at the foreign subsidiary level of an international manufacturing company to identify evidence of RCT and to analyze its antecedents (and barriers). In the following sections, a preliminary review of previous research that bears on the problem is provided. Then, a conceptual framework that leads to a series of working hypotheses is developed. Then, a hermeneutical research design is described before a detailed analysis of the empirical data.

The purpose of this study is to develop a clear understanding of the phenomenon and to develop reference points for future more wide-ranging empirical analyses that

include multiple companies and multiple levels. At this stage, however, the phenomenon is investigated at the subsidiary level only. For a future project, the headquarters perspective will be included so that more specific barriers to RCT can be uncovered.

Theoretical background

Firm-specific capabilities as competitive advantage

Building on the dynamic capabilities framework (Teece *et al.*, 1997), the competitive advantage of firms can be defined as the combination of the specific asset position of firms with firm-specific knowledge and processes capabilities. However, knowledge, if regarded as an asset position, does not imply operational utilization or any specific impact on the performance of a firm. Capabilities are more than knowledge; they are utilized knowledge and know-how. Capabilities have a direct impact on firm performance while knowledge, both tacit and explicit, without specific operationalization do not (Choo and Bontis, 2002). From this perspective, capabilities can be of many different types including research and development capabilities, innovations, production processes and technologies, management practices including human resource practices, communication and control mechanisms, and operational practices including logistics, accounting, marketing, sales, supplier management and organizational learning (Bontis *et al.*, 2002).

The theoretical foundation of knowledge transfer research in management studies can be traced back to Nelson and Winter (1984) and Kogut and Zander (1992, 1993, 1996). Based on this stream of research, capability transfer is defined as a firm's replication of internal practices, which are performed in a superior way in some parts of the organization compared to other parts of the organization, and which are superior to internal and external alternative practices (Szulanski, 1996).

Rugman and Verbeke (1992) argued that previous research assumed that MNC-specific advantages of originate at the parent-firm level. Later Birkinshaw and Morrison (1995), in their extensive review, identified an emerging body of literature that was concerned with a shift in the origin of firm-specific advantages of MNCs. For example, Bartlett and Ghoshal (1986) and Gupta and Govindarajan (1991) showed that subsidiaries can provide major outflows of knowledge and resources to the rest of the MNC. Among the first who explicitly investigated foreign subsidiary to parent company knowledge transfer was Frost (2001), who counted patent applications and patent citations as indicators of knowledge transfer of US subsidiaries of foreign MNCs to their parent firms. Although Frost found support for the reverse transfer notion, a citation measure might be not reliable enough due to the fact that patent application criteria vary greatly among different countries (Rabbiosi, 2005). However, the use of patent and citation indices leaves the question of successful utilization of knowledge unanswered. For example, if a patent application was intended to protect intellectual property rights in the home country, than it does not mean that the home country operation of the parent firm actually utilized the knowledge.

While the notion of global mandates (Hakanson and Nobel, 2000) of foreign subsidiaries has been investigated, the independent entrepreneurial development of new capabilities in foreign subsidiaries and its use in the home country operation of the parent firm has been given very little attention. For example, Hakanson and Nobel (2000) analyzed technology transfer from foreign subsidiaries of Swedish MNCs back

to their home operation by asking 120 R&D managers at headquarters level and subsidiary level about the phenomenon, using a mail questionnaire. They found support for reverse technology transfer under the condition that the foreign subsidiary had a global mandate to develop specific know-how. Hakanson and Nobel (2000) also stated that it is common that Swedish MNCs provide mandates to foreign subsidiaries to develop new products and innovations, since naturally their home market Sweden is relatively small compared to most of their export markets.

Building on this study, Piscitello and Rabbiosi (2004) found a positive impact of foreign activities of Italian MNCs on the innovative performance of their respective parent companies. Piscitello and Rabbiosi (2004) used a case study approach based on a mail questionnaire followed by semi-structured interviews. This study describes more explicitly the learning from the operating experiences of foreign subsidiaries. However, the majority of the companies investigated in this study still kept their R&D at the parent company level. Therefore, none of these three studies captured the transfer of foreign subsidiary-originated capabilities in the sense of this research, where the transfer of those capabilities that were originally developed at the subsidiary level for the host market only are specifically investigated.

Hypothesis development

Birkinshaw *et al.* (1998) identified three distinct perspectives in the existing intra-MNC knowledge transfer literature:

- (1) operating environment heterogeneity;
- (2) subsidiary autonomy; and
- (3) subsidiary management initiative.

Environmental heterogeneity as antecedent for local capability development

Environmental heterogeneity builds on the notion that MNCs operate in multiple distinct environments and that the level of heterogeneity of these environments has an impact on the individual characteristics of the subsidiary and consequently on the individual capability contributor role of each subsidiary relative to the rest of the MNC (Bartlett and Ghoshal, 1986; Ghoshal and Nohria, 1989). "Operating environment" in this context refers to the unique market, cultural, geographical, and institutional environment of the different host countries and the MNC home country.

- H1.* Environmental heterogeneity between the home country of the MNC and the host country of the subsidiary is positively related to the development of new capabilities at the subsidiary level.

Subsidiary autonomy as antecedent for local capability development

Subsidiary autonomy is concerned with the autonomy and mandate of foreign subsidiaries. Central to this notion is that the development of local capabilities depends on the mandate of the foreign subsidiary provided by the MNC headquarters (Birkinshaw and Morrison, 1995; Ghoshal and Bartlett, 1990; Gupta and Govindarajan, 1994). If a subsidiary has only the mandate to distribute products that have been manufactured elsewhere, it naturally has no mandate to develop new product related capabilities. However, even a sales subsidiary might be able to develop unique marketing capabilities that could be used by the home country operation of the parent

company. However, in order to develop new capabilities locally, foreign subsidiaries need to possess sufficient levels of autonomy to make necessary decisions quickly and independently (Birkinshaw *et al.*, 1998; Cantwell and Piscitello, 1999). Following the earlier discussion and consistent with Bartlett and Ghoshal (1986), a positive relationship between subsidiary autonomy and the development of more location specific capabilities is expected. Bartlett and Ghoshal (1986) showed that the creation of new capabilities in foreign subsidiaries is dependant on high levels of autonomy.

H2. Local capability development at the subsidiary level is positively related to subsidiary decision-making autonomy.

Managerial initiative as antecedent for local capability development

Subsidiary management initiative stands for the notion that the contributor role of the subsidiary depends on the choice of the subsidiary management to engage in new capability creation and capability transfer (Birkinshaw, 1995; Roth and Morrison, 1992). Here the subsidiary management plays the critical role in both, the local creation of specific capabilities, and the level of transfer of these capabilities to other units within the MNC.

H3. Local capability development at the subsidiary level is positively related to the strength of managerial initiatives at the subsidiary level.

Intra-MNC communication and linkages as a transfer mechanism

There are three major alternatives how to create intra MNC linkages. The first is person-to-person linkage (Bjorkman *et al.*, 2004; Gupta and Govindarajan, 2000; Nobel and Birkinshaw, 1998). Direct person-to-person links can create dialogues that lead to both identification of transferable capabilities and to feasible transfer solutions. Previous research (Gupta and Govindarajan, 2000) has shown that person-to-person mechanisms are very effective, especially in a corporate structure that is based on open communication and collaboration instead of inter-unit competition. Informal meetings, reciprocal visits and internationally staffed committees all increase intra-MNC collaboration. On the other hand person-to-person contacts are very difficult and costly to maintain for MNCs, mainly due to geographical distance.

An alternative to person-to-person interaction is the use of technology. Technology-based interactions need more formalized procedures (Almeida *et al.*, 2002; Piscitello and Rabbiosi, 2004). Information-technology based transfer is, however, somewhat limited and is usually not effective in helping to identify new foreign capabilities, since it is much more complicated to maintain an open and creative dialogue. In this case the sensing is totally up to the sender of the information and the recipient has to take what he/she gets. Information asymmetries about the individual local conditions and requirements can leave major opportunities undetected (Buckley and Carter, 2004).

A third option is a combination of formal technology-based and formal and informal person-to-person collaboration, with the aim to develop and maintain an open and cooperative environment with frequent social as well as task oriented exchanges (Buckley and Carter, 2004):

H4a. RCT is positively related to the organizational linkage between the operational level subsidiary managers and the operational level parent company managers.

H4b. RCT is positively related to the intensity of direct communication between the operational level subsidiary managers and the operational level parent company managers.

Figure 1 visualizes the conceptual process of RCT from the subsidiary perspective.

Research design

An active interview approach (Holstein and Gubrium, 1995) is used to investigate RCT and to build a base case (Eisenhardt, 1989; Yin, 1984) for future research, which then allows to confirm or to disconfirm the emerging phenomenological insights (Brown and Eisenhardt, 1997). The study included six subsidiaries of an international commercial refrigeration equipment manufacturer. The German-based company conducted 85 percent of its sales and 50 percent of its manufacturing outside of the home country. The company was the global number two in its segment in terms of gross sales and was known as a high-quality component manufacturer with a flexible country-by-country strategy and a highly entrepreneurial company culture. A quote from a previous interview with the CEO confirms this notion:

If we always would have done everything by the book and if we would have strategically planned all actions bit by bit, we would not have grown almost 800% over the last 15 years. Sometimes you have to follow your intuition especially when you operate in an emerging market; and this is exactly what makes this company strong.

For this phase of the project, information at the country manager level and at the top management team level of the parent company was collected. Subsidiaries were selected on the basis of two main criteria. First, the subsidiaries had to have local manufacturing activities; second, they had to have some product and service diversity. Ten subsidiaries were pre-selected during a preliminary interview. Finally, six

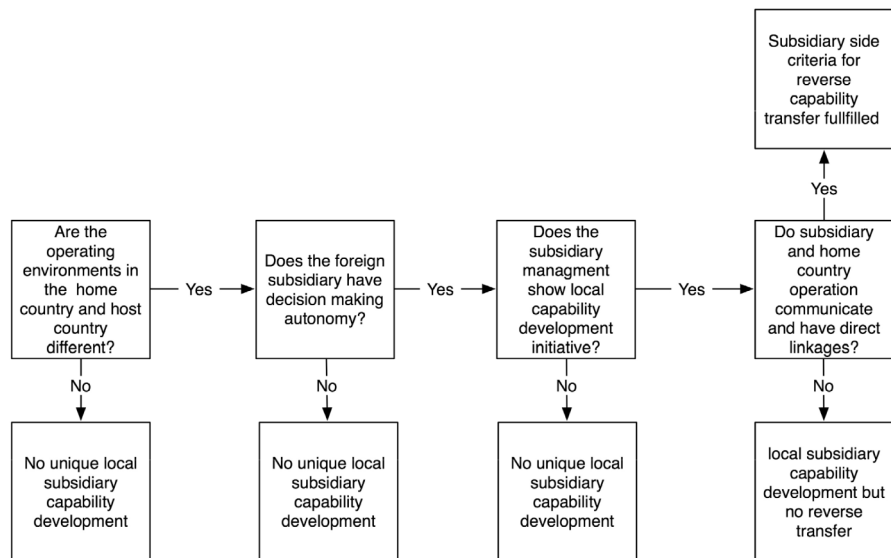


Figure 1.
Subsidiary side RCT model

subsidiaries were chosen for in-depth interviews, including Australia, Brazil, China, Great Britain, Indonesia, and South Africa.

Table I summarizes the demographic data of these six subsidiaries. China and Brazil were green-field investments, while Australia, Great Britain, and South Africa were (at least partly) acquisitions. The China operation was split up into four different entities under the control of one country manager. The Australian operation was split into two different entities under the control of one country manager. However, the businesses within each of the countries were interconnected and could therefore be treated as one operation per country. This assumption was confirmed during the interviews. Indonesia was originally established by the Australian subsidiary but was later transformed into an independent subsidiary that reported directly to the headquarters in Germany. Due to internal difficulties, Indonesia was at this stage not fully self-sufficient. A recent management change had also affected the subsidiary. For completeness, the data for Indonesia are included in this study but are somewhat not representative.

Data collection and analysis

The interviews were conducted by telephone during the month of April, 2006 and lasted between 30 and 45 minutes. Country managers from Indonesia, China and Brazil were interviewed first, followed by the two headquarters executives and then followed by the remaining three country managers in Australia, Great Britain and South Africa. In all cases, the research question was described clearly to the individual respondents in order to eliminate misunderstandings, specifically in terms of the direction of the capability transfer. Preconditioning biases were avoided by not using any examples unless the interviewees specifically requested this. Recording sheets were prepared right after each interview to document all relevant additional informal information carefully. Two different interview guides were used (one each for the subsidiary and the parent company interviews). In both cases, the interviewees were asked open-ended questions that let them relate their stories of how knowledge and capability transfer worked in the company. Probing questions were then asked to identify details, when appropriate.

The subsidiary interview guide had three separate areas. First, background information on the particular subsidiary was established, including the number of employees, sales volume, product diversity, market position, and general competitor information. The second part concentrated on the identification of existing local capabilities, products, and unique know-how of the individual subsidiary. The third part concentrated on the level of autonomy, the mandate, the development processes of new capabilities, and the capability exchange within the overall network of the company. The headquarter interviews focused solely on capabilities and know-how of the six foreign subsidiaries. (A detailed summary of the interview results is provided in Table II).

Following an inductive approach, six different coherent cases were generated for the interviewed subsidiaries before commonalities and differences were established. This process maintained the independence of the replication logic (Brown and Eisenhardt, 1997). In addition, a second researcher read through the original interviews and formed an independent set of cases and frameworks. Then, the two resulting cases were compared using cross-case analysis (Eisenhardt, 1989; Miles and Huberman, 1984) to

Table I.
Description of case data

	Product/service strategy	Other local specialties	Age (years)	Total staff	Sales (\$ millions)	Percentage local products	R&D activities	CEO nationality	CEO tenure	CEO tenure at parent company
Australia	Local and imported. Highly different business model compared with base case. Minor OEM component sales. Local value added products are sold through own distribution network to contractors and end-users or OEMs	New customer training facility for value-added products. Independent heat exchanger manufacturing. Highly integrated enterprise management system. Paperless company. Self-initiated global environmentally friendly value-added product mandate	21	124	24	65	Strong	German	4	No
Brazil	Locally assembled imported components. Component sales to OEM and through distributors. Value-added products only through contracting OEMs	Strong integration with OEM customer R&D departments	19		20	15	Moderate	Brazilian	7	No
China	Imported and locally manufactured parent company range of products	Key strategic corporate market. Global mandate for a specific global OEM customer project. High level of local standard products. Global sourcing mandate	10	332	64.5	0 ^c	Minor (extension of parent company)	German	3	No
Great Britain	Imported components and local value-added products	Locally designed value added products. Newly acquired system-manufacturing business. High level of customization	12	45	18	45 ^d	Strong	British	3	No
Indonesia	Imported components and locally assembled standard range of German condensing units	No	8	27	1	0	Suspended	Australian	> 1	No
South Africa	Imported components and local value-added products	Independent heat exchanger manufacturing. Unique range of local condensing units	17	34	10	50	Moderate	German	4	No

	Market characteristics		Subsidiary characteristics			Country manager characteristics		
	Local market characteristic	Other local specialties	Special capabilities	Local products	Local capability development		Autonomy	Mandate
Australia	Highly concentrated market with low number of OEM manufacturers but large number of small and medium installation firms. Not a strong component market	Very far away from other developed markets like Europe or the USA. Some larger wholesalers started to outsource assembly to China and SE Asia. Special regulations for pressurized products	Own R&D department. Strong understanding of supermarket applications. Internal processes "paperless" operations. End-user and contractor training facility	Multi-compressor systems. Special condensing units. Finned coiled heat-exchangers. Pressure vessels. CO ₂ systems (cutting edge environmentally friendly). Screw compressor racks	Own R&D ahead of local market shows potential. Always first mover in terms of new products. Team-based approach with country manager constantly pushing for new solutions in all areas	Very high level of autonomy. Authorities to use any surplus funds above budget for local company development. Intensive communication between country manager and all HQ departments	Very entrepreneurial. Aggressive, vision ahead of current market. Not technical capabilities. Very strong administrator. Wants to push own ideas to other places in MNC. Member of newly initiated international marketing task force	South Pacific mandate. No global mandate. Recent CO ₂ development has led to role as best practice example
Brazil	Diverse market. No other local component manufacturers. Supermarket equipment OEM and wholesaler-driven	Very far away from other developed markets like Europe or the USA	Own multi-system and condensing unit development. Strong customer sales and marketing integration	Locally assembled parent company products. Local multi-compressor systems and condensing units	Own R&D department. Team-based approach	High level of autonomy. Special because group CEO used to be country manager. Contact (bi-weekly)	Country mandate with limited extension to other South-American markets	
China	Top industry growth market in the world. Volume-wise already number three behind USA and Japan. Many local and international competitors with own manufacturing activities	Language barrier. Regulations constantly changing. High level of product copying. Largest market for transport compressors. Asian base for many system customers	High level of local manufacturing of parent company products. Local sourcing	None. All products are similar to parent company portfolio	All new products are being developed at the parent company or together with the R&D department of the parent company	High level of autonomy. Special project of group CEO. By far most important strategic market for company. Intensive collaboration on all levels. Frequent parent company visitors	Country-wide mandate. Global mandate for the development of special transport application with one global OEM in coordination with HQ	Highly assimilated including language. Regards himself more as a local than as an expatriate. Calm personality but strong opinion. Not visionary but very empathetic with regard to local customers and own employees. Not a first mover type of personality

(continued)

Table II. Summary of data analysis

Table II.

	Market characteristics		Subsidiary characteristics			Country manager characteristics		
	Local market characteristic	Other local specialties	Special capabilities	Local products	Local capability development		Autonomy	Mandate
Great Britain	Driven by supermarket and industrial refrigeration business. Strong market for scroll technology	Not far from parent company operation. Used to be high-margin market but not any more	Own R&D. Good understanding of industrial applications. High level of customization. Newly acquired system company is scheduled to transfer know-how to the group	Locally modified parent company condensing units. Local multi-compressor and industrial refrigeration systems	Limited own R&D department	High level of autonomy. No strategic role within group but big hopes from newly acquired system manufacturer. Regular contact with VP sales and marketing	UK and Ireland mandate. Newly acquired system development autonomy	Good administrator. Friendly and fair, not pushing. Sometimes appears to be unfocused. Wishes sometimes for more input from parent company
Indonesia	Technologically not advanced. No other international competitor with local subsidiary. Singapore and Malaysian importers press on margins	Language barrier. Difficult access to parts of the country Other than Jakarta. High level of corruption. Potential to be strong one day. Not stable	Used to have the capability to develop own condensing units. At the moment on hold	None. All products are similar to parent company portfolio	None. New country manager has knowledge but needs to settle in first	High level of autonomy but budget restricted and closely monitored by corporate control. Very limited communication with other departments	Country-wide mandate limited due to exclusivity contract for components with single local distributor	Very experienced in value-added product sales and development. Was the most successful regional manager in Australia. Very friendly. Very driven
South Africa	Very remote, although in the same time zone as the HQ. Country skill in transformation. Many local solutions. Very farming oriented. Industrial refrigeration starts to be more important	After the end of apartheid, the potential to be a sourcing base for other countries around SA	Own condensing units. Good understanding of non-standard applications. High level of low-tech customization. Heat exchanger manufacturing	Locally modified parent company condensing units. Small local multi-compressor and industrial refrigeration systems. Finned coil heat exchangers	Limited own R&D	High level of autonomy. Does not play a very important role within the group. Sometimes no communications for months	UK and Ireland mandate. Newly acquired system development autonomy	Good administrator. Friendly and fair, not pushing. Sometimes appears to be unfocused. Wishes sometimes for more input from parent company

Notes: ^aWe refer to the parent company model as the base case. The parent company only sells components and condensing units to distributors and original equipment manufacturers but never value added services. The parent company does not sell to end-users. ^bOriginal equipment manufacturer. ^cThe country manager strongly opposed the value-added product concept, and feared a loss of existing customers. ^dIn 2004 the company acquired a local value added product manufacturer. However, the UK operation had always manufactured its own range of products

validate the conceptual insights. Finally, the data was cross-analyzed to identify common themes and to build a cohesive phenomenological framework (Eisenhardt, 1989).

Decision-making autonomy

What emerged from the data was that all subsidiaries reported a high level of autonomy. However, the perception of the benefits of autonomy was different. Some subsidiary managers (e.g. Australia and South Africa) reported that they could do what they wanted to do as long as their performance fulfilled the budget requirements imposed by the parent company, and that this was a good thing. These subsidiaries tried actively to utilize their high levels of autonomy to develop new capabilities:

If we believe we need a certain product for our market and we can not get it from within the group, we go ahead and develop it ourselves. We do not ask headquarters since they don't know our market as well as we do. We know that if it works, they are happy.

Other subsidiary managers (e.g. China, Indonesia and Brazil) were not so positive about the high levels of autonomy; they felt a lack of support or guidance from the parent company:

While it is nice to have some freedom, sometimes we need something special for the market but we can not get it. It would be great if headquarters would support us more. It seems nobody is really interested in our local problems.

There was a third notion from the acquired subsidiaries (Australia), which was slightly different than the first quote. Here the subsidiary managers was not even welcoming any parent company support:

We have done things our way all the time and we believe that this is the right way to do it. We do not ask headquarters for support or advice, they do not really understand what we need but this is no problem.

Possible explanations for this behavior could be that Australia kept its original structure after the acquisition and also kept operating very differently from the parent company. During the interview with the Corporate Vice President Sales & Marketing, it was confirmed that all acquisitions had the characteristic of smaller very entrepreneurial organizations and that it was intended to keep it this way.

Environmental heterogeneity between home market and host market

Obviously, the local environments where the six subsidiaries operated were very different compared to the MNC home country (i.e. Germany). Although one could imagine that Great Britain might be more similar to Germany than, for example, China, all country managers actually reported specific differences of their local environments. Most extreme was the comment from Australia:

The market in Australia is completely different from Germany. We would not be able to survive with the same product and services strategy that our parent company has in Germany.

On the other hand, one could imagine that China would be extremely different from Germany and that therefore the local country manager would make a similar case like the one in Australia. Surprisingly the country manager in China argued differently:

China is changing so rapidly and there is no consistent local product proposition identifiable other than that our local customers want to buy German products and German design only. If we would offer different product here we would not be as successful. Look at competitor A; they struggle with their dual product strategy in China. Actually their local products are not liked in the market at all.

Interesting enough, China, Great Britain and Indonesia all reported some differences in terms of customer structure and customer demand, but when it came to localization they were more inclined to take as much from the parent company as possible. Australia, Brazil and South Africa in contrast went more towards a differentiation approach and aimed for greater variations in terms capabilities, specifically in terms of local products and services.

Managerial initiative

It became apparent during the interviews that all country managers had a dominating influence on the individual subsidiary strategies. Therefore, it was not surprising (considering their individual tenures with the company) that with the exception of Indonesia (new country manager) each of the subsidiaries showed very different characteristics. These differences were also reflected in organizational and administrative structures. For example, the country manager in Australia explained in great detail that he changed the complete reporting and enterprise management system in order for the subsidiary to be more efficient in terms of local market responsiveness. He explained that he always did what he thought was right and that if he could not get it in a way he liked it from Germany, he would then go ahead and develop it locally. This manager was characterized as very entrepreneurial.

In contrast the country manager in Brazil explained that he was happy that recently all reporting formats had been changed to a global format by the head office. He said his only localization was the marketing and sales task with the customer. He also said that despite the fact that the Brazilian subsidiary proudly manufactured local value added products, he only wanted to do as much differently compared to the parent company as necessary. This country manager was characterized as a good administrator with a good sense for local customer demands but with a lack of innovativeness.

The country manager in China was completely against any variation to the German standards. He more or less only agreed on the fact that the language had to be different in China compared to Germany, but that would be it. He also wanted new product developments, even if they were predominantly for the Chinese market, to immediately receive global product status. He therefore argued that the development of new products and capabilities was the responsibility of the parent company's R&D department only. This country manager was characterized as a conservative administrator with no entrepreneurial ambitions.

Intra-MNC capability transfer

The analysis with regard to knowledge and capability transfer was the most difficult section of the study. The managers in Brazil, Indonesia and China did not talk much about reverse transfer, even though those issues were raised. All these managers thought more about receiving knowledge from the parent company:

It would be great if headquarters could be more proactive in terms of providing us with new technology.

On the other hand, the manager in Australia explained his new role as a member of the newly formed global marketing task force as follows:

It is about time that we start to look at all our global know-how and have it utilized company-wide. We in Australia would be happy to share our know how with the rest of the company. When it comes to CO₂ applications, we believe we are better than Germany. They can learn from us.

The interview with the country manager in Australia provided the richest evidence of transferable subsidiary-originated capabilities, but it also showed that our sample company had not left the traditional top-down knowledge and capability path yet.

Communication and transfer mechanisms

With regard to internal communication and linkages, the respondents always reflected on the big annual conference as the only major platform for the company to exchange ideas organization-wide. However, all country managers independently remarked that formal as well as informal exchange with other subsidiaries, and also with operational managers from the parent company, was the most valuable thing to take away from these conferences. All country managers seemed to be interested in learning about the activities of other units within the company network and were willing to share their own knowledge. However, it appeared that at least periodically this process needed to be initiated by headquarters, since all managers reported that they would build relationships at the conference but that after a while, unless there was a specific joint project, the intensity of these contacts faded somewhat until they would meet at the conference in the following year.

Discussion and concluding remarks

This pilot study explored antecedents of foreign subsidiary-originated capabilities to parent company knowledge transfer within MNCs. The main purpose at this initial stage was to identify the phenomenon within the context of a MNC empirically and to test a qualitative research tool for a more extensive research project. The investigation was based on the notion that MNCs not only exploit their ownership advantages by operating internationally, but that MNCs also create new local competitive advantages that can be formalized as new superior capabilities and can then be used across different environmental contexts.

The results provided initial support for the hypotheses. First, support for *H1* (environmental heterogeneity is positively related to the development of new capabilities) was found. Second, some support for working hypothesis *H2* (a high level of decision-making autonomy is necessary but not sufficient for local product and services development) was found. However, since the sample did not include subsidiaries with low levels of autonomy, the support for this finding is somewhat limited at this stage. A more comprehensive sample at the next stage will provide richer insights. Thirdly, support for working hypothesis *H3* (managerial initiative at the subsidiary level is positively related to local product and services development) was found. This hypothesis does not suffer from the same sample related limitations like *H1* and *H2* do, since all subsidiary managers had about the same opportunities to

develop new local capabilities but only some subsidiaries did so. For example, the Australian country manager showed strong entrepreneurial characteristics, which generated, in combination with the subsidiary's high levels of autonomy, a wide variety of localized capabilities. At the other end of the spectrum was China. Here, the country manager used the power of the relative importance of the subsidiary within the MNC as leverage to get more direct support from the parent company. His strategy was to be as similar as possible compared to the home country operation in order to have easy flows of knowledge from the parent company to the subsidiary. He did not see any necessity to develop specific capabilities for the Chinese context.

The most complex working hypotheses were *H4a* and *H4b*, because the sample company did not have a network-like communication structure yet. However, what could be found was some evidence that communication and direct contact between country managers helped to leverage knowledge across all subsidiaries of the company and the headquarters. All interviewees agreed that regular subsidiary-parent company meetings and frequent communication helped to identify potentials for collaboration and capability transfer.

This study provided evidence that subsidiary autonomy, environmental heterogeneity, managerial initiative, and person-to-person communications are indeed pertinent antecedents of intra-MNC knowledge and capability transfer. The study also showed that in-depth interviews provide the richest form of data for this type of research. However, at this stage of the project specific transfers of foreign subsidiary-originated capabilities to the home country operation of the MNC could not be identified. Indeed, the next step would be a more comprehensive investigation at the headquarters level with the goal of identifying potential barriers for RCT.

This research is particularly important since previous studies have mainly focused on two directions of capability transfer, namely parent company to subsidiary transfer and subsidiary to subsidiary transfer. The research may ultimately lead to new insights for academics and practitioners alike. For example, the preliminary results showed that MNCs should recognize that new unique capabilities do not only originate at the parent company level, but also at the foreign subsidiary level, and that it could potentially be beneficial to transfer these new capabilities back to the home country operation.

On a critical note, one could argue that reverse capability transfer is not different from other kinds of knowledge transfer within MNCs, for example foreign market knowledge. Indeed, there are many similarities in terms of the transfer mechanism but these similarities do not explain the paradox of relative under-adoption of foreign subsidiary-originated capabilities in the home country operations of MNCs.

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