Student Becoming Professor: Knowledge Transfer from Subsidiaries to Headquarters

SOŇA FERENČÍKOVÁ
Vysoká škola manažmentu / City University of Seattle programs
Bratislava / Trenčín, Slovakia

JANA HRDLIČKOVÁ
Bratislava

Abstract: Reverse knowledge transfer is defined as the knowledge flow from the subsidiary to the parent company. The ambition of this paper is to analyze the conditions under which the subsidiaries located in the originally transitional, less developed countries are able to create and hand over some specific knowledge to their parent companies or regional headquarters, and subsequently to the other daughter companies of the group. The authors focus on the theoretical background of the drivers and the type of the knowledge generated in the subsidiaries.

Keywords: knowledge transfer, subsidiary – headquarter relationship

JEL Classification: M1

1 Introduction and context of the study

The company competencies to learn, adapt and respond to market trends can be critical success factors of the competitive advantage. Thus, knowledge deployment is vital for the society's future and also for the success of business (Hasan/Zhou 2015). Knowledge transfer is used as a means to disseminate knowledge in the corporation and bring multiple beneficial results in performance.

The research used to focus on traditional knowledge transfer from the parent companies to their subsidiaries and from developed countries to developing countries. The situation changed following the internalization trend and increasing research and development decentralization, which initiated also studies which uncover less frequent knowledge flows, including transfer from subsidiaries to the parent company and from less developed countries to the developed ones. Reverse „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" (Schotter/ Bontis 2009:151). "Reverse knowledge transfer from subsidiary to parent [stands for] subsidiary experiences that are transfered to parent companies" (Mudambi et al. 2013:49). An example of reverse knowledge transfer could be product development on the local market that is made available for the other subsidiaries through the parent company.

Some research finds reverse knowledge transfer identical with the traditional one. Other opinions state that reverse transfer requires richer activities, more frequent personal interactions, parent facilitation and a lot of guidance and effort (Borini et al. 2012). "The

political complexities of reverse transfer can be more difficult to overcome than those of forward transfer“ (Chung 2014:229). Even though the transfer mechanisms are similiar, much fewer cases of reverse knowledge transfer have been captured in literature, and cases from Slovakia are missing.

This paper adds to knowledge management studies and focuses on reverse knowledge transfer. We analyze the companies operating in Slovakia to find out whether reverse knowledge transfer is used to improve the competitivness of multinational corporations and what the contribution of Slovak subsidiaries to the corporate knowledge base is. To achieve this, we study real examples from multinationals and real cases.

2 Knowledge flows and reverse transfers in multinational companies in general

The modern view of multinationals emphasizes the international network of organizational units and their opportunities to receive and contribute to the corporate knowledge base (Coakes 2006, Bezzera et al. 2013, Najafi-Tavani et al. 2014, Andersson et al. 2015). The subsidiaries´ resources form a basis for knowledge exchange and allow each unit to benefit from the heterogenous competences available in the corporation.

The subsidiaries can have different roles in the corporations: some are supposed to commercialize products and services, the others to conduct research and development, some serve to manufacture products, etc. According to knowledge generation, the subsidiaries can either utilize the existing corporate knowledge and potentially adapt it if needed or generate knowledge new to the corporation and create new skills (Mudambi et al. 2013). Development of new competences depends on the mandate that the parent company gives to the subsidiary. “If a subsidiary has only the mandate to distribute the 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“ (Schotter/Bontis 2009:152).

Based on the contribution of the subsidiaries to the corporate knowledge base or use of knowledge from this database, the following subsdiary types can be defined: local innovators, integrated subsidiaries, local implementators, global innovators (Ordoñez de Pablos 2006), specialized contributors, world leaders (Nair et al. 2015), subsidiaries adapting products to their context, subsidiaries developing global technological competences and contributing to existing knowledge and subsidiaries generating brand new practices (Rabbiosi 2011).

Integration of knowledge into products and technologies helps corporations sustain their competitive advantage, a skill especially needed on highly competitive markets (Ling et al. 2009). Managing the knowledge circulation process has a positive impact on sustainable performance and competitivness of the organizations (McKeen et al. 2006). Many researches suggest the positive impact of knowledge management on company performance – various non-financial indicators improvement, such as competitiveness, customer relationship, productivity, share of market growth, profit increase, higher rate of innovation, strengthening consumers´ satisfaction. According to some authors, knowledge management practices reflect also in profitability increase. (See also Appendix 1 for more details on specific performance indicators that can be improved by knowledge management practices).

The research has identified many factors that influence knowledge transfer, some are supporting and the others are hindering it. We believe the key factor that has impact on knowledge transfer is a strategy. A strategy outlines cultural standards, which are expressed in company values and form the context for knowledge exchange. A long-term strategy assigns responsibilities to the subsidiaries as well as defines the knowledge flow.

Ling et al. (2009) formed a triad of the barriers related to knowledge transfer that includes multiple individual barriers (insufficient time for knowledge transfer, risk of job loss, lack of understanding of the importance of knowledge exchange, prevailing transfer of explicit knowledge, a hierarchy barrier, lack of contacts, weak interpersonal contacts, poor communication and interpersonal skills, age difference, gender difference, educational difference, weak networking, lack of trust, lack of recognition, doubt about knowledge quality, cultural differences), multiple organizational barriers (an unclear role of knowledge management, poor managerial skills, poor leadership, weak transparency regarding the recognition system, lack of motivational culture, poor knowledge workers appraisal and motivation to stay in the company, insufficient infrastructure, lack of knowledge sharing tools, intra-company competition, limited communication and knowledge flows, company size) and various technological barriers (weak integration of knowledge and IT systems, outdated technologies, unrealistic expectations related to knowledge transfer, uncompatible company systems, a gap between IT needs and employee skills, insuficient IT training).

Nooshinfard and Nemati-Anaraki (2014) followed the empirical findings and formed a framework containing individual factors, organizational factors and technological factors/dimensions of knowledge flow, different to the ones stipulated previously. They are interconnected and together form real knowledge transfer context.

Further, knowledge transfer is fueled by information and communication technologies (ICT), which overcome distance issues, hierarchy barriers and time difference (Nooshinfard/ Nemati-Anaraki 2014), support the learning process, including the re-use of existing knowledge (Rabbiosi 2011), accelarate creation of new knowledge, intensify communication and cooperation, safeguard the access to information and store knowledge in the databases (Rhodes et al. 2008).

Søndergaard et al. (2007) also suggest individual, organizational and managerial factors. Managerial factors refer to leadership skills. Organizational factors prevail over technological factors and, therefore, technological factors are included as a sub-group of the organizational category.

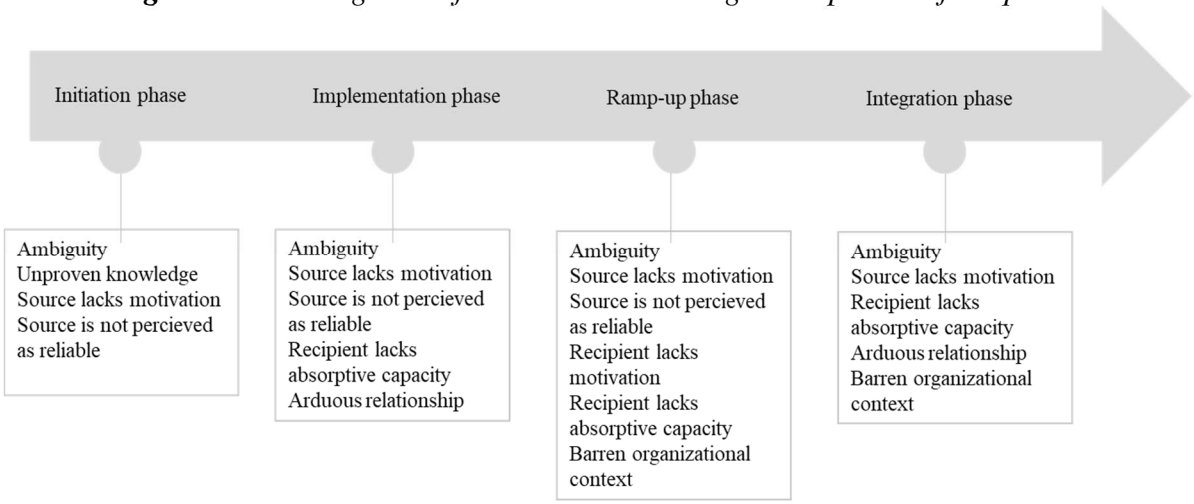
Van Wijk et al. (2008) split the antecedents of knowledge transfer into three layers: knowledge, organization, network. Knowledge factors refer to knowledge ambiguity; organizational factors contain size, age, decentralization, flexibility of structures, absorptive capacity, learning capability; and the network is linked to a number of relationships, central position, relationship power, trust, shared vision and systems, cultural distance. These factors are very important for knowledge flow; they are frequently mentioned in literature, but their effect on knowledge transfer is not always consistent.

The framework developed by Tseng (2015) about internal knowledge sharing consists of sender factors, transfer factors, receiver factors and knowledge factors. Sender factors relate to the organization, its knowledge base, willingness to share knowledge and capacity to transfer knowledge. Receiver factors refer to learning capacity and motivation. Transfer factors include

formal and informal transfer mechanisms. Knowledge factors comprise of knowledge complexity and tacitness. As a sender starts the process of knowledge transfer, its motivation is identified as the most important factor.

Knowledge transfer barriers are the subject of a diachronic analysis developed by Szulanski (2000). It gathers potential issues in each transfer phase, see figure 1.

Figure 1 *Knowledge transfer barriers according to the phases of the process*



Source: G. Szulanski, 2000

The ability of the multinational to transfer knowledge depends also on individual communication skills, foreign language knowledge, cultural distance, employee committment and motivation. Some employees are not willing to pass on their knowledge since they could lose their own power, status and competitive advantage. Other employees would be willing to share knowledge if they understood the importance of knowledge management, had more time or less urgent tasks (Ling et al. 2013).

Many other factors specific to reverse knowledge transfer are captured in the research. They are derived from the company environment, shared strategy, cultural distance, subsidiary integration within corporate structures or subsidiary linkages to third parties. "Reverse knowlege transfer´s contribution to the parent´s competitive advantage has been traced to the subsidiary´s role, subsidiary autonomy, the subsidiary´s international experience, the development of intra-MNE trust relationship and different entry modes, as well as technological, organizational and cultural distance" (Rabbiosi/Santagelo 2013:161).

Following Millar and Choi (2009), reverse knowledge transfer is negatively influenced by the environment different from the corporate standards. On the contrary, similiar values as those perceived by the parent company and the subsidiary lead to more intense reverse knowledge transfer. Similiar values also support the subsidiary's willingness to hand over its knowledge (Najafi-Tavani et al. 2011). Reverse transfer from the subsidiaries is supported by cooperation and socialization (Rabbiosi/Santagelo 2013, Nair et al. 2015). Najafi-Tavani et al. (2011) suggest that tight relationship between the subsidiary and the parent company, together with their interaction, eliminate the issue of weak motivation and strengthen the willigness of the subsidiary to alocate the resources for the transfer.

Centralized structures and a strict hierarchy diminish the subsidiaries´ motivation to innovate, which has a negative impact on reverse knowledge transfer. On the other hand, reverse knowledge transfer is supported by the strategic orientation of research and development in the subsidiaries that goes beyond product and process adaptation and focuses on significant strategic breakthrough innovations (Borini et al. 2012).

The key factor influencing reverse knowledge transfer seems to be the entry mode. It influences subsidiary integration within the company, which reflects in the intensity of reverse knowledge transfer. The acquired subsidiaries have had time to gather knowledge and can, therefore, contribute more to the corporate database. Moreover, knowledge from the acquired subsidiaries is not duplicative and can help to create a global competitive advantage (Mudambi et al. 2013, Rabbiosi/Santagelo 2013). The use of knowledge from acquired subsidiaries depends on the integration process - market practice shows that the acquired subsidiaries transfer less knowledge compared to the greenfield ones (Borini et al. 2012).

Reverse knowledge transfer is fueled by the informal control by the parent company or by giving benefits for knowledge sharing. Trust and personal contacts between subsidiary managers and headquarter managers advance reverse knowledge transfer. Mutual trust is especially helpful when exchanging abstract and tacit knowledge (Chung 2014).

Knowledge-intense industries generate a huge amount of knowledge and innovations, which translates into much bigger effect of reverse knowledge transfer compared to the other industries (Nair et al. 2015). The subsidiaries that are more active in innovation have more knowledge that might be transfered to the parent company.

The amount of knowledge which is owned by the subsidiary also affects reverse knowledge transfer. Should the subsidiary own only little knowledge, it can benefit very little from not sharing this knowledge. Such subsidiaries are usually engaging in reverse knowledge transfer although their value for the corporation is low. Following the increase of knowledge amount, the subsidiary gains more attention from the parent company and the intensity of reverse knowledge transfer will go up. When the subsidiary manages to grow its knowledge base further, the interest of the parent company will strenghten again, but it can happen that the subsidiary will realize its power in the corporation. Knowledge transfer will be equivalent to decreasing subsidiary power and control over its knowledge. However, in the context of long-term relations, we can also expect a cooperative approach – the subsidiary which passes on its own knowledge in the longer run is strenghtening its role in the corporation (Mudambi et al. 2013).

The transfer of knowledge that is embedded in employee experience and skills and highly tacit knowledge is difficult to transfer and often requires the physical presence of the parties, with the cost impact. Nevertheless, Nair et al. (2015) proved that more complex knowledge is being transfered more often.

Strong involvement in the external environment can hinder reverse knowledge transfer: such subsidiaries may prefer development of their own competences at the expense of working against the corporate goals and hence the reverse knowledge transfer will decrease (Najafi-Tavani et al. 2014, Tseng 2015). On the other hand, the external parties are often thought to be important innovation drivers. External embeddedness of the subsidiary, when combined with the same vision as the parent company, has forecasted increase reverse knowledge transfer (Najafi-Tavani et al. 2014).

Andersson et al. (2015) discovered the paradox suggesting that more developed technologies cause weaker motivation of the parent company to receive knowledge from its subsdiaries and

the subsdiaries with high quality knowledge and better transfer skills are less interested to engage in knowledge transfer. The subsidiaries with better technologies are also less willing to learn and to share their knowledge.

For overview of the factors influencing knowledge transfer please refer to figure 2.

Figure 2 *Factors influencing knowledge transfer*

General factors: HQ perspective	**Specific reverse knowledge transfer factors: subsidiary perspective**
• Corporate vision and strategy • Individual factors – e.g. willingness to share, communication, cooperation, leadership skills, trust • Organizational factors – e.g. company culture, structures, role of the headquarters, company processes, decentralization, size, age, absorptive capacity, communication channels and their management • Knowledge characteristics – ambiguity • Networking and ties towards partners – shared vision, cultural distance, number of ties, central position, strong ties	• Subsidiary integration, cooperation between the subsidiary and the parent company • Decentralization of research and development, entrepreneurship, industry type • Entry mode – greenfield, acquisition • Control mechanisms, trust • External embededness • Resources for transfer, communication skills, IT, ICT • Motivation from the HQ • Internal culture

Source: Authors´ own research

3 Research areas and methodology

The intention of the authors is to continue and analyze if the subsidiaries in Slovakia are able to generate new knowledge that is transfered back to the parent companies, to regional headquarters and/or consequently to the other daughter companies in the group. Very important research questions are what the major factors driving Slovak subsidiaries are to generate new knowledge and what type of knowledge is transfered from Slovak subsidiaries to the parent companies, regional headquarters and other daughter companies. Another, subseqeunt and vital question is which factors primarily influence reverse knowledge transfer from the subsidiaries operating in Slovakia to their parent company abroad.

Primary and secondary data sources will be used in the research. Secondary data are used in the theoretical part to draw a picture of the (reverse) knowledge transfer status in literature, explain the background, antecedents and importance, supporting tools and potential outcomes. All of this information comes from foreign studies; cases and articles from Slovakia and Central Europe are not available. The information was searched for in academic databases ProQuest and Google Scholar within the papers via multiple key words combining core elements „knowledge“, „transfer“, „reverse“, „corporation“, „management“, „performance“ and their synonyms.

Primary data will describe the cases of reverse knowledge transfer, the driver for knowledge creation, the process of its implementation locally and the results. It will also cover the way of data transfer, influencing factors, the cost and the effect for the corporation.

The research methodology used in our qualitative study will be the case study method and the technique will be the interview. The preliminary sample has already been formed according to our judgement, which is sufficient for qualitative study. We will bank on the pioneering work in this area (Hrdličková 2018) plus enrich it by new cases. Four new companies so far have confirmed their involvement in reverse knowledge transfer and their willingness to provide us with information. The contact persons are senior managers who have direct experience with reverse knowledge transfer. All these respondents have been asked to describe the case, and the interview will be semi-structured with a common template.

4 Contribution of this type of research

We assume that receiving knowledge from the headquarters or regional centers generally is more common than creating new knowledge. It does not mean that subsidiaries in Slovakia are less competent to innovate, but simply the headquarters gather much knowledge from multiple areas, whose amount is bigger by default. Accepting knowledge from elsewhere is useful for subsidiaries as it saves the resources and gains the solution just in time.

Based on the case studies, we would like to answer the research questions and discover if the subsidiaries operating in Slovakia generate new knowledge, too. In line with literature, we assume that new knowledge is generated when the organization lacks adequate practices – the creation of new knowledge is driven either by subsidiary ambition to grow or by its need to solve a specific problem. We will gather the examples of knowledge from various business functions, which will make it obvious in which business areas the Slovak subsidiaries generate new knowledge.

With respect to the next research question, we assume that the most relevant factors for reverse knowledge transfer from Slovak subsidiaries are: corporate vision, values, structure, organization, motivation and control mechanisms, previous experience of the headquarters with the reverse knowledge transfer and subsidiaries´ role in the corporation.

5 Conclusions

The ambition of this research is to be among the first papers studying the reverse knowledge transfer status from Slovakia and Central and Eastern Europe and help to close the significant gap in this kind of literature. The subsidiaries are important creators of new practices, validating the strategy of differentiating in multinationals. The multinational corporation can increase its competitive advantage via effective management of reverse knowledge transfer, through combining local knowledge, technological and managerial know-how and its sharing within own boundaries. We expect that the subsidiaries have huge potential to generate new practices, innovate products, improve the current way of working and pass it to the parent companies.

At the same time, knowledge sharing is a very effective tool to gain new solutions – utilization of knowledge from the other subsidiaries is a common practice nowadays, which continues to support efficiency and synergies. In some cases, the solutions are being developed as global, within international projects.

To achieve a smooth knowledge exchange, the parent companies do take part in the process, usually as facilitators. Therefore, the parent companies need to have an overview of the local activities and the weaknesses. The parent companies are also supposed to create global culture, which supports communication and cooperation, which is often achieved via control mechanisms, formal and informal opportunities to share experiences, international human resource management or even matrix organisation.

Looking at the first cases, we are advocates of the reverse knowledge transfer. Although it is difficult to quantify the effect of knowledge sharing, we expect the benefits of increased competitiveness, effectiveness and cost reduction. Inflow of knowledge avoids duplicate development cost, and reverse transfer further helps coordinate the global strategy, align the product offer, drive technological development, monitor development of the subsidiaries, align knowledge processes and mitigate the risk thanks to earlier implementation elsewhere. Finally, a subsidiary that is sharing its know-how increases its reputation in the corporation.

As there were not any publications describing specific knowledge transfer cases from Slovakia and Central and Eastern Europe, we believe we will contribute to that literature. All in all, reverse knowledge transfer offers room for additional research with new objectives. Some objectives will require quantitative methodology that would allow generalization of the findings. They can be used also for studying causalities, e.g. managerial attitude and activity in knowledge transfer, or to find out the most common reverse knowledge transfer cases. Synthesis combined with our research will form a complex framework and understanding of the phenomena within the Slovak environment.

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Contact data:
Prof. Ing. Soňa Ferenčíková, PhD.
Vysoká škola manažmentu v Trenčíne / City University of Seattle programs
Bezručova 64, 911 01 Trenčín, Slovakia
e-mail: sferencikova@vsm.sk

Ing. Jana Hrdličková, PhD.
e-mail: hrdlicka@upcmail.sk

Appendix 1 *Performance indicators that can be improved by knowledge management practice*

Indicators of Knowledge management performance	Performance indicators	Source
Non-financial indicators	• Innovations, efficient use of resources, productivity, learning ability, knowledge re-allocation ability, product quality, faster market responsivness, anticipation of problems, competitive advantage	McKeen et al. (2006) Darroch (2005)
Financial indicators	• Profit	Darroch (2005)
Models	Framework combining three group factors • Financial performance – ROA, ROE, ROI • Customer satisfaction – product leadership, firm image perception • Operational effectivness – operational excellence, i.e. responsivness to customers and improvements in productivity	Ping-Ju Wu et al. (2015)
	Knowledge management effectivness measured through input-output ratio • Inputs – number of employees, research and development expenses, administrative expenses, advertising expenses • Outputs – net revenues, value of intelectual property	Chang et al. (2011)
	• Organizational competitivness – product leadership, customer intimacy (understanding and retaining customers), operational execellence – consequently partial improvement of financial performance	McKeen et al. (2006)
	Knowledge management performance index • Knowledge circulation process (creation, accumulation, sharing, utilization, internalization) in relation to stock price, price earning ratio, research and development expenditure	Lee et al. (2005)