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HRM PRACTICES AND MNC KNOWLEDGE TRANSFER

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ABSTRACT

The paper supports the idea that organizations can institute various internal structures, policies and practices to overcome transfer barriers and facilitate the degree of knowledge transfer. I discuss a framework for future empirical research on the relations between human resource management (HRM) practices and knowledge transfer in multinational corporations (MNC). The proposed model is empirically testable, includes a wider range of HRM practices and is not limited to one mode of foreign operations only.

INTRODUCTION

In the booming area of the research on knowledge management, a limited number of attempts has been made to empirically investigate how managerial practices may help to transfer knowledge within the multinational corporations (MNC). On the other hand, researchers working in the field of human resource management (HRM) more than a decade ago called for the transformation of the HRM system and identified the support to the process of organizational learning as the key strategic task facing the HRM function in many MNC today (Pucik, 1988). Drawing on the theoretical insights of the resource based view, Lado and Wilson suggested that HRM practices “can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific, produce complex social relationships, ... and generate organizational knowledge” (1994: 699). Clearly, two subjects are interrelated, but their link still misses some important aspects of the interpretation and empirical support.

Existing studies on the relations between HRM practices and knowledge transfer have failed to reflect the complexity of HRM practices. The empirical work has largely focused on individual HRM practices. However, recent research on strategic HRM has been pointing at the importance of focusing on the systems of HRM practices “which simultaneously exploit the potential for complementarities or synergies among such practices and help to implement a firm’s competitive strategy” (Huselid, 1995: 636). Thus, more investigations are needed to understand how, why and in which combinations HRM practices matter for knowledge transfer. The lack of such studies in large part may be due to the absence of a clear conceptual, empirically testable model. To undertake this challenge I combine the traditional HRM literature with the contemporary studies on knowledge transfer in MNC, and propose a framework for future empirical research on the impact of HRM practices on the degree of MNC knowledge transfer. By no means the proposed model is definitive. I offer it as one of many ways to approach the complex link between HRM and knowledge transfer.

The paper begins with the analysis of the process of MNC knowledge transfer (“*MNC KNOWLEDGE TRANSFER: THE PROCESS AND ITS DETERMINANTS*”). There are

different ways to do so. One of them is to examine knowledge transfer process from the communication theory perspective. In this case, the transfer process has at least the following elements: characteristics of knowledge senders (an encoding scheme), characteristics of knowledge receivers (a decoding scheme), characteristics of knowledge (a message) and characteristics of the senders-receivers relations (a process). To achieve a greater degree of knowledge transfer, organizations should employ various internal mechanisms (HRM practices) to deal with barriers associated with the named elements of knowledge transfer process. In “*HRM PRACTICES AND MNC KNOWLEDGE TRANSFER*” part I determine what HRM practices the organizations can employ to overcome transfer barriers and facilitate the degree of knowledge transfer. From the previous studies we learnt that HRM practices applied as a coherent system have greater effect on organizational outcomes than the sum of the individual effects from each practice alone (Ichniowski et al., 1997). However, HRM practices could work in a system in a number of different ways (Delery, 1998) and researchers have not really reached consensus about the conceptual categorization of HRM practices included into the system. To uncover the structure of the HRM system the benchmark articles that examined the influence of HRM practices on organizational outcomes are reviewed and possible solutions are discussed (“*CLASSIFYING HRM PRACTICES*”). Finally the conceptual model is presented, and various empirical and methodological problems, which may arise while applying and testing the model, are discussed (“*FINAL REMARKS*”). By offering a bigger picture the paper (1) contributes to the ongoing discussion of the link between HRM and knowledge based theories of the firm; (2) offers a comprehensive empirically testable model; and (3) discusses a potential methodology and empirical problems related to the model’s testing.

MNC KNOWLEDGE TRANSFER: THE PROCESS AND ITS DETERMINANTS

Eisenhardt and Santos (2002) in their review of knowledge-based view categorized the empirical research on that subject according to specific knowledge processes: sourcing, internal transfer, external transfer and integration. This analysis of MNC knowledge

transfer process is related to the second stream – “internal transfer”, and includes studies, which explore “how knowledge transfer within an organization depends upon the characteristics of that knowledge, the sender, the recipient, and their mutual relationships” (Eisenhardt and Santos, 2002: 149). Table 1 summarizes the empirical studies on MNC knowledge transfer and its determinants.

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Insert Table 1 about here
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Building on these studies, I identify the following factors affecting MNC knowledge transfer: the nature/characteristics of knowledge; the characteristics of parties involved (senders and receivers); and the characteristics of the transfer process (consistent with Szulanski, 1996; Argote, 1999; Gupta and Govindarajan, 2000; communication theory). Figure 1 presents the preliminary conceptual framework of the paper.

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Insert Figure 1 about here
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Nature/Characteristics of Knowledge

Knowledge is a multi-dimensional concept where each dimension can hinder or stimulate the degree of knowledge transfer. Existing literature on knowledge management indicates the presence of many distinct dimensions of knowledge, for example its degree of complexity, transferability, codifiability, breadth and depth, etc. (e.g., Kogut and Zander, 1992; March, 1991; Starbuck, 1992; Teece, 1998; Winter, 1987; Buckley and Carter, 1999). There are three characteristics of knowledge that individually or in combination can generate causal ambiguity: tacitness, complexity, and specificity (Reed and DeFillippi, 1990; Simonin, 1999).

“*Tacitness* refers to the implicit and noncodifiable accumulation of skills that results from learning by doing. *Complexity* results from having a large number of interdependent skills and assets. *Specificity* refers to the transaction specific skills and assets that are utilized in the production processes and provision of services for particular customers” (Reed and DeFillippi, 1990: 89).

Argote (1999) reviewed the studies that had considered the characteristics of knowledge being transferred and their impact on the degree of transfer. She concluded the following:

- (1) Knowledge that was codified in documents and software and that could be readily taught to new workers can be transferred most easily (e.g., Zander and Kogut, 1995);
- (2) Complex, highly interdependent knowledge is more difficult to transfer. However some researchers (e.g., Meyer and Goes, 1988) found that innovations are more likely to occur when the transferred knowledge is complex;
- (3) When knowledge is about specific functional expertise and is very important for functional effectiveness, it is well understood by knowledge receivers. Epple, Argote and Murphy (1996) suggested that embedding knowledge in technology is a very powerful and effective way to transfer knowledge.

Adopted from Argote (1999), Chapter 5

So, the first component of the presented conceptual model is centered on the discussed dimensions of knowledge that impede its transfer. The formation is consistent with Simonin (1999) and embraces Reed and DeFillippi’s (1990) representation of ambiguity. In sum, *lower degree of tacitness, complexity and non-specificity are each positively related to the degree of knowledge transfer to the subsidiary.*

Characteristics of Parties Involved (Senders and Receivers)

The inability of knowledge receivers to recognize the value of new information, assimilate it, and apply it to commercial ends (low absorptive capacity) is one of the most often referred impediments to organizational knowledge transfer (Cohen and Levinthal,

1990; Lyles and Salk, 1996; Szulanski, 1996; Lane and Lubatkin, 1998; Gupta and Govindarajan, 2000; Lane, Salk and Lyles, 2001). Even when exposed to the same organizational environment (the same MNC), the receivers (MNC subsidiaries) vary in their capacities to absorb knowledge: the higher absorptive capacity, the greater the degree of knowledge transfer. A subsidiary absorptive capacity resides with the employees and has two elements: prior knowledge and intensity of effort (Cohen and Levinthal, 1990; Kim, 1998). “Prior knowledge base refers to existing individual units of knowledge available within the organization” (Kim, 1998: 507). In addition to the prior related knowledge there should be a certain level of “organizational aspiration”, which is characterized by the willingness of the organizational members to innovate (Cohen and Levinthal, 1990). Since knowledge resides in individuals, their ability and willingness to acquire and use new external knowledge are positively associated with the degree of knowledge transfer within MNCs (Minbaeva et al, 2003).

The capacity of knowledge senders to transfer knowledge across MNC has not received such close attention as the absorptive capacity of knowledge receivers. Szulanski (1996) identified the lack of motivation of the knowledge senders as a source of internal knowledge stickiness and thus a barrier for knowledge transfer. Gupta and Govindarajan (2000) proposed a similar argument: they considered the motivational disposition of the source unit as having a positive impact on the magnitude of knowledge outflow. In addition to the incentives to cooperate and transfer knowledge across MNC, Simonin (1999) identified prior experience with a given knowledge base as a facilitator of the knowledge transfer. Despite of the little empirical evidence, it is logical to assume that ability and motivation of knowledge senders to transfer knowledge are positively associated with the degree of knowledge transfer within MNCs.

In sum, higher receivers’ ability and motivation to absorb transferred knowledge and higher senders’ ability and motivation to transfer knowledge are each positively related to the degree of knowledge transferred.

Characteristics of the Transfer Process

The studies reviewed in the Table 1 indicated that the relationship between the sender and the receiver is crucial for the effectiveness of knowledge transfer. Such relationship will highly dependent of the frequency of interpersonal communication. Ghoshal and Bartlett (1988) named communication between organizational units as a key source of the MNC's ability to create, share and leverage knowledge. There are several empirical studies supporting the statement (e.g., Appleyard, 1996; Birkinshaw, Hood, and Jonsson, 1998; Bresman, Birkinshaw and Nobel, 1999; Gupta and Govindarajan, 2000). The overall conclusion of the studies is that communication promotes organizational learning and increases MNC knowledge transfer. Hansen (1999) along with other researchers (e.g., Galbraith, 1973) concluded that the lack of direct relationships and extensive communication between people form different departments inhibit knowledge transfer while strong inter-unit relationships facilitate the transfer. However, in addition to the horizontal communication links, nowadays employers use all possible channels – such as information sharing programs, attitude surveys, employee suggestion systems - to build up the effective vertical employee relations for benefits of both (Brewster et al, 2001: 124). Both horizontal communication links (intra-organizational communication which occurs within a subsidiary, between the subsidiary's sub-units) and vertical employee relations (inter-organizational communication which is about collaboration and exchanges of information between the focal subsidiary and the rest of MNC) are of equal importance for knowledge transfer. Thus, *extensive intra- and inter-organizational communication are each positively related to the degree of knowledge transfer within MNC.*

HRM PRACTICES AND KNOWLEDGE TRANSFER

Knowledge has been an emerging topic within HRM literature (Wright et al., 2001). However, the literature has focused almost exclusively on testing, building and

developing job related knowledge of individuals. Exploring how the resource based view has been applied to the theoretical and empirical research in the strategic HRM field Wright et al. noted:

“While HR literature tends to treat knowledge as an individual phenomenon, the strategy and organizational literature view it more broadly as organizationally shared, accessible, and transferable... The concept of knowledge brings together the fields of strategy and HR. But a good deal more work needs to be done to integrate these research streams. Strategy theory and research provides the basis for understanding the value of knowledge to the firm and highlights the need to manage it. The HR field has lacked such a perspective, but has provided more theory and research regarding how knowledge is generated, retained, and transferred among individuals comprising the firm” (2001: 714)

Recently, several attempts of linking resource based view and HRM have been done in the international HRM literature. For example, Tsang (1999) examined the organizational knowledge transfer and learning aspects of international HRM and empirically evaluated HRM practices adopted by 12 Singapore MNC operating in China from knowledge-based and learning perspectives. He conducted 67 semi-structured interviews – 23 with managers in headquarters, 17 with expatriate managers in Singapore and 27 with Chinese managers. Tsang focused on the role of expatriates in replicating organizational routines in a foreign subsidiary, and concluded that effective expatriation (including selection of expatriates, pre-assignment training, rotation and their learning experience) in combination with inter-operation communication and training help in achieving knowledge diffusion within MNCs. This conclusion was later supported by other researchers focusing on expatriation (e.g. Downes and Thomas (2000) on expatriation as means of transferring knowledge overseas) and other HRM practices (e.g. Sparkes and Miyake (2000) on the use of closely monitored training as the best way to assimilate knowledge transfer).

Interestingly, similar discussions have been appearing recently among the international business scholars. For example, Lane and Lubatkin (1998) in their study on relative absorptive capacity and interorganizational learning looked at similarities and differences between the student and teacher firms. Among other factors, researchers considered compensation practices and found that a firm’s ability to learn from another organization

depends on the relative similarities of compensation policies in the student and teacher firms. Lyles and Salk (1996) and Lane, Salk and Lyles (2001) reported training programs to be an important knowledge acquisition mechanism. Moreover, researchers claimed that training programs are also important vehicles for establishing contact between local and parent companies' employees.

The referred studies have provided with a number of significant conclusions. One of them is that there are some *individual HRM practices* that influence organizational learning and internal knowledge transfer. According to Write et al. such approach ignores “the basic conceptual model that *HRM systems*, rather than an individual practices, impact employees and organizations” (2002: 255). Indeed, recent conceptual and empirical work within HRM field has argued for complementarities or synergies among individual HRM practices. This has been widely discussed by HRM researchers working on the impact of HRM on performance (e.g., Arthur, 1994; Ichniowski, Shaw, and Prennushi, 1994; Huselid, 1995; Delaney and Huselid, 1996; MacDuffie, 1996; Guest, 1997). It was concluded that the adoption and use of an internally consistent system of HRM practices (or High Performance Work Practices) are reflected in better firm performance and that “it should be possible to identify the best HRM practices, those whose adoption generally leads to valued firm-level outcomes” (Huselid, 1995: 643). The statement found a considerable empirical support.

In Minbaeva et al. (2003) an effort was made to diverge from the previous work on HRM-performance literature by integrating this stream with the research on knowledge transfer within the MNC. The results of the study indicated that investments in knowledge receivers' ability and motivation through the extensive use of training, performance appraisal, performance-based compensation and internal communication, contribute to MNC knowledge transfer. It was suggested that the future studies should not be limited in terms of the range of practices evaluated and should include more mediating variables of knowledge transfer process (in line with the previous discussion in “*MNC KNOWLEDGE TRANSFER: THE PROCESS AND ITS DETERMINANTS*” section). Indeed, many HRM scholars recognized the importance of including the mediating variables since HRM practices and systems do not lead directly to firm performance. “By

putting greater attention on these (mediating) variables, we may be able to better test how HRM practices influence these constructs, and ultimately firm performance. In fact, focusing on these mediators may help SHRM (strategic HRM) researchers identify systems of HRM practices that produce them” (Delery, 1998: 303). This paper makes a modest attempt to answer the call. It offers a conceptual model that includes the full range of HRM practices and examines those practices in terms of their influence on the degree of knowledge transfer through mediating variables - the capacity of knowledge senders to transfer knowledge, the capacity of knowledge receivers to absorb knowledge and the frequency of communication and exchange of information within a subsidiary and between the subsidiary and the rest of MNC. Next section discusses what HRM practices to be entered into the model.

CLASSIFYING HRM PRACTICES

Despite of the general agreement that the more coherent systems of the high performance HRM practices are used, the better the organizational outcomes, researchers vary substantially in what the exact HRM practices are and in which combinations they should be applied. In the remainder of the section, firstly, I determine HRM practices to be included in the model, and later discuss the possible ways to uncover their combinative structure.

What is consistent about the studies on HRM-performance link is their inconsistency with each other in terms of what HRM practices to name as High Performance Work Practices. For the summaries of the High Performance Work Practices (or in some studies “best practices”) please see Becker and Gerhart (1996), Delery and Doty (1996), Youndt, Snell, Dean and Lepak (1996), Delaney and Huselid (1996) and later researchers. Despite of the wide variety of HRM practices, it is still possible to identify those HRM practices that have attracted the most attention in terms of their influence on the organizational outcomes. Here they are, summarized under eight broad headings:

1. *Organizational Planning*: job analysis, job design, flexible working practices

2. *Staffing*: selection tests, formal recruitment, placement procedures, expatriation
3. *Training and Development*: orientation training for new employees, annual hours training, job-related skills training, executive and management development, career development
4. *Performance Appraisal*: regular formal performance appraisal procedure, variety of sources of performance appraisal, usage of performance appraisal procedures for variety of purposes
5. *Compensation Management*: performance-based compensation, incentive pay, benefits and services
6. *Employee Transfer*: merit based promotion, lateral transfer
7. *Employee Relations Activities*: information exchange, attitude surveys, complaint resolution procedures
8. *Employee Recognition Programs*: suggestion systems, recognition awards

Although the repeated efforts have been made, the reviewed studies on HRM-performance have not agreed on the universal conceptual categorization of HRM practices. How can a researcher uncover the underlying structure of the HRM practices included in the proposed model? According to Wright et al. (2002) there are three approaches to classify the practices: conceptual (e.g., Gardner et al., 2000), factor analytic (e.g., Huselid, 1995) and cluster analysis (e.g., Becker and Huselid, 1996). Conceptually it will be possible to identify HRM practices, which application enhances the degree of knowledge transfer by improving the capacity of knowledge senders to transfer knowledge, by improving the capacity of knowledge receivers to absorb knowledge and by promoting communication and exchange of information within a subsidiary and between the subsidiary and the rest of MNC ("*Conceptual Analysis*"). Alternatively, the groups (bundles) of HRM practices may be identified through some form of factor or principal component analysis ("*Factor Analytic Solution*"). Then it is possible to test how the identified group of HRM practices influence the mediating

variables and ultimately the degree of knowledge transfer. The final alternative is to use a cluster analysis. The cluster solution is possible when there is “a single most effective HRM system and a large group of firms have adopted it” (Delery, 1998: 301). The technique has been applied in several studies (e.g., Arthur, 1992). Its proponents believe that when compared to factor analysis the cluster analysis does not assume linear relationships between practices, which may be crucial in some cases (Becker and Gerhart, 1996). Since the cluster technique is less useful when testing theoretical frameworks (Delery, 1998), it is not going to be discussed further. Instead I elaborate a little bit more on the use of conceptual analysis and factor analytic solution for empirical testing of the proposed model.

Conceptual Analysis

This option is for researchers wishing to theoretically identify the groups of HRM practices influencing the mediating variables of knowledge transfer. Below are some thoughts on how HRM practices may improve ability and motivation of knowledge senders to transfer knowledge, ability and motivation of knowledge receivers to absorb knowledge, and promote communication and exchange of information between senders and receivers.

The capacity of knowledge senders to transfer knowledge and the capacity of knowledge receivers to absorb knowledge have something in common: each of them describes *employees' individual behavior* in relation to knowledge transfer and knowledge absorption respectively. The behavioral science literature suggests that both ability *and* motivation are equally important for individual behavior (Porter and Lawler, 1968). Employees' ability is more related to prior achievement, initial skills level, aptitudes, etc. “HRM practices influence employee skills through the acquisition and development of a firm's human capital” (Huselid, 1995: 637). Thus, organizations, interested in achieving better individual ability, should employ those HRM practices that aim at acquiring, developing and retaining human capital. For example, staffing procedures aim to bring into vacant positions people with desired skills and knowledge, specified by some type of

previously made job analysis. Training, when organized as a systematic process, helps organizational individuals to master their skills and influences their development. In addition, performance appraisal (or performance management) systems provide employees with feedback on their performance and competencies, and give direction for enhancing their competencies to meet the needs of the organization. An integrated part of most performance appraisal systems is also the establishment of objectives and targets for the self-development and training of employees. There is extensive evidence that investment in employees' training enhances the human capital of the firm, generally leading to a positive relationship between employee training and organizational performance (e. g., Delaney and Huselid, 1996; Koch and McGrath, 1996).

Even highly skilled employees will not perform effectively if they are not motivated to do so. A frequently appearing expression in industrial and organizational psychology is that "the effects of motivation on performance are dependent on the level of ability of the worker, and the relationship of ability to performance is dependent on the motivation of the worker" (Vroom, 1964: 203). There are at least two issues to be addressed: expectations of individuals that specific behaviors will lead to the attainment of certain desired outcomes, and incentives and socially based recognition so the behavior may be persistent and apparently insatiable. In this context, there are HRM practices that may influence individual performance by providing incentives that elicit the appropriate behavior. Such incentive systems may include performance-based compensation and the use of internal promotion systems that focus on employee merit and help employees to overcome invisible barriers to their career growth (Huselid, 1995). Most studies have included performance-based compensation as a component of high performance HRM practices (e. g., Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Delery and Doty, 1996).

Knowledge transfer will be higher within certain organizational contexts due to promoting collaboration and exchanges of information within the organization. "The way in which a workplace is structured should affect organizational performance to the degree that skilled and motivated employees are directly involved in determining what work is performed and how this work gets accomplished" (Delaney and Huselid, 1996: 951). Earlier I distinguished between intra-organizational and inter-organizational

communication (*“Characteristics of the transfer process”*). Intra-organizational communication takes place within a subsidiary and its extent depends on the existence of employees suggestion system, complaint resolution procedures, attitude surveys and alike (Huselid, 1995; MacDuffie, 1995; Delaney and Huselid, 1996). Inter-organizational communication occurs across all MNC units and is influenced by corporate-wide HRM practices such as cross-organizational labor management participation teams and corporate information sharing programs.

Factor Analytic Solution

Another way to compose the independent variables (HRM practices) in the proposed model is to analyze them using factor analysis technique. In his influential study of the impact of *“high performance work practices”* on organizational turnover, productivity and corporate financial performance, Huselid factor-analyzed a number of HRM practices into two categories:

- Employee skills and organizational structures – “HRM practices that influence employee skills through the acquisition and development of a firm’s human capital” (1995: 637): formal job analysis, recruitment from within, selection procedures, incentives and profit sharing, training, regular attitude survey, quality of work life program, quality circles programs, a formal information sharing program, complaint resolution system.
- Employee motivation – “HRM practices that affect employee motivation by encouraging them to work both harder and smarter” (1995: 637): formal performance appraisal, performance based criteria for compensation, internal promotion system based on merit, number of qualified applicant per position on average.

Moreover, Huselid (1995) emphasized the interactive effect between HRM practices influencing ability and HRM practices influencing motivation, and this was confirmed in the statistical tests. Similar results have been obtained by other researchers (e.g., Arthur,

1994; Ichniowski, Shaw, and Prenzushi, 1994; Delaney and Huselid, 1996). They categorized HRM practices in three groups: (1) those which influence employees' ability; (2) those which influence employees' motivation; and (3) those which are employed to structure the work. The latter group of HRM practices influence the ways in which a workplace is structured. That should affect organizational performance to the degree that "skilled and motivated employees are directly involved in determining what work is performed and how this work gets accomplished" (Delaney and Huselid, 1996: 951).

Grouping of the practices could be derived from the theoretical rationales as well (e.g. MacDuffie, 1995; Youndt et al., 1996). In any case, the factor analysis gives a possibility to reduce a number of independent variables that may reduce problems associated with multicollinearity. However, the researchers wishing to apply this technique must have a very clear idea about what kind of relationships between HRM practices they assume (see Relationships among HRM Practices in Delery, 1998).

FINAL REMARKS

Figure 2 presents the revised conceptual model. The studies of High Performance Work Practices have been criticized for being insensitive to country, industry, organizational characteristics, etc. The proposed conceptual model should benefit from the reviewed studies on MNC knowledge transfer and include the following control variables: ownership, age of organizations, ownership, size, cultural distance, industry resource characteristics, and the nature of subsidiaries operations (Birkinshaw, Hood, and Jonsson, 1998; Bresman, Birkinshaw, Nobel, 1999; Simonin, 1999; Gupta and Govindarajan, 2000).

Insert Figure 2 about here

The model has at least one advantage: it is empirically testable. Obviously, gathering the data for the analysis will face several challenges. One of them as pointed out by Huselid (1995) is the methodological problem confronting the survey-based research in general: the reverse causality between HRM practices and organizational outcomes, and survey response bias. If an attempt to draw conclusions about causality is made, the researchers should be aware of the limitations associated with the use of cross-sectional data. The study of this type requires as broad sample as possible. Moreover, given the perceptual nature of the knowledge transfer measures and the importance of them for the study, it was recommended in the previous studies to test knowledge transfer measures for inter-rater reliability (see Gupta and Govindarajan, 2000).

Conceptually, merging the centralization/decentralization debate with the reviewed literature on HRM and MNC knowledge transfer can further advance the model. Volume of studies has agreed that HRM in MNCs is not a monolithic function and decentralization of HRM practices may have impact on global learning and knowledge transfer (e.g. Taylor et al., 1996). From the other hand, Brewster et al. (2001) recently confirmed that policy formulation, planning and monitoring on core/critical HRM issues tended to remain centralized and provided the parent companies with formal controls over the activities of its subsidiaries. Brewster et al. also pointed out that “while decentralization has long been the best-practice ideal, these days it is accused of being costly and detracting from competitive advantage” (2001: 30). Studying the role of the corporate HRM function in international firms, Scullion and Starkey concluded that in global firms “the corporate HR function undertook a wide range of activities and the key roles were management development, succession planning, career planning, strategic staffing, top management rewards and managing the mobility of expatriate managers” (2000: 1074). Thus, we need more evidence before we make any conclusions about the impact of the relative degree of decentralization on the degree of knowledge transfer. The question is if the employment of certain HRM practices facilitates knowledge transfer, then does decentralization of those practices matter?

Another variable that may be interesting to explore in the future studies is the nature and characteristics of knowledge. As compared to other determinants of knowledge transfer,

knowledge characteristics have not received as much attention in HRM literature. The notable exception is a work by Bonache and Brewster (2001). Their findings provide evidence that knowledge characteristics have a significant impact on expatriation policies. They proposed that if the knowledge has a tacit nature, the organization must assign expatriate employees to the foreign operation; if the knowledge to be transferred among MNC units is specific, the recruitment source of expatriates will be the organization itself; if the knowledge to be transferred among MNC units is complex, the duration of the assignment will be longer. However, Bonache and Brewster's study is based on one case study of a Spanish MNC in the financial sector. Perhaps, this company has a privilege to identify the method of expatriation for every single subsidiary. But for the majority of MNC the choice of expatriation is determined to large extent by the attitudes of top management at the MNCs headquarters and the strategy-structure decisions (Dowling, Schuler and Welch, 1998). Do knowledge characteristics determine HRM practices to be employed for knowledge transfer? Or are knowledge characteristics determined by HRM practices in use? The causal link between knowledge characteristics and HRM practices is unclear.

It was mentioned many times that HRM literature could benefit from the greater level of interaction with other fields. One of the promising areas is the link between HRM and knowledge management within MNCs. In the conclusions of those few studies on that subject (for example, Lane and Lubatkin, 1998; Gupta and Govindarajan, 2000) we often find calls for further research on “the learning capacities of organizational units”, “more explicit description of the motivation and cooperative choices of the organizational individuals”, “organizational mechanisms to facilitate knowledge transfer”, etc. To answer these calls I offer a conceptual, empirically testable model that links the application of HRM practices with the degree of MNC knowledge transfer. The proposed model emphasizes the role of the mediating variables (determinants of knowledge transfer). It is a modest attempt to stimulate the empirical research on why, how and in which combinations HRM practices matter for knowledge transfer in MNCs.

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TABLE 1. Summary of Representative Empirical Studies on MNC Knowledge Transfer Process and Its Determinants

<i>Author(s)</i>	<i>Research question</i>	<i>Sample</i>	<i>Determinants</i>	
			<i>Determinants</i>	<i>Impact on the degree of knowledge transfer</i>
Zander and Kogut, 1995	The influence of the degree of codification and how easily capabilities are taught on the speed of knowledge transfer. Authors argue that firms, as repositories of social knowledge, compete not only through the creation, replication, and transfer of their own knowledge, but also through their ability to imitate the product innovations of competitors.	44 Swedish innovations for which 20 firms were responsible. A response rate of 80% was attained.	<p>Characteristics of knowledge (codifiability, complexity, teachability)</p> <p>System dependence</p> <p>Product observability</p> <p>Parallel development of a similar product</p>	The results suggest that certain characteristics of manufacturing capabilities (codifiability and teachability of knowledge, and parallel development) can be used to explain variations in transfer patterns.
Szulanski, 1996	The study analyzes internal stickiness of knowledge transfer. The research framework proposes a definition of stickiness based on the notion of eventfulness and a comprehensive taxonomy of barriers to intrafirm knowledge transfer	A data set consists of 271 observations of 122 best practice transfer in eight companies	<p>Characteristics of knowledge transferred (causal ambiguity, unprovenness)</p> <p>Characteristics of the recipient of knowledge (lack of motivation, lack of absorptive capacity, lack of retentive capacity)</p> <p>Characteristics of the source of knowledge (lack of motivation, not perceived as reliable)</p> <p>Characteristics of the context in which the transfer takes place (barren organizational context, arduous relationship)</p>	The results suggest that the three most important barriers are the lack of absorptive capacity of the recipient, causal ambiguity and an arduous relationship between the source and the recipient. Contrary to expectation, the coefficient for the recipient's lack of retentive capacity is negative

Bresman, Birkinshaw, Nobel, 1999	The research focus is on the patterns of interaction between acquirer and acquired units, and the impact that they have on knowledge transfer.	A survey of R&D organizations in 42 multinationals combined with the detailed longitudinal case studies of three international acquisitions.	<p>Communication channels</p> <p>Frequency of communication</p> <p>The nature of knowledge (explicit and implicit)</p> <p>Time elapsed</p> <p>Size of acquired unit</p>	The transfer of technological know-how is facilitated by communication, visits and meetings, and by time elapsed since acquisition, while the transfer of patents is associated with the articulability of the knowledge, size of the acquired unit, and the regency of the acquisition.
Simonin, 1999	The role of knowledge ambiguity (tacitness, asset specificity, complexity, experience, partner protectiveness, cultural and organizational distance) pertaining the process of knowledge transfer in international strategic alliances	Cross-sectional sample of 151 multinationals and a structural equation methodology	<p>Knowledge characteristics: tacitness, specificity, complexity</p> <p>Experience</p> <p>Partner protectiveness</p> <p>National cultural distance</p> <p>Organizational distance</p>	Tacitness emerges as the most significant determinant of knowledge transferability. The effect of cultural distance, asset specificity, and prior experience are moderated respectively by the firm's level of collaborative experience, the duration of the alliance and the firm size

Gupta and Govindarajan, 2000	Theoretical and empirical investigations into the determinants of internal knowledge transfers within MNCs. Results of the study show that (1) knowledge outflows from a subsidiary are positively associated with value of the subsidiary's knowledge stock, its motivational disposition to share knowledge, and the richness of transmission channels; and (2) knowledge inflows into subsidiary are positively associated with richness of transmission channels, motivational disposition to acquire knowledge, and the capacity to absorb the incoming knowledge.	Data are gathered from 374 subsidiaries within 75 MNCs headquartered in the US, Europe and Japan.	<p>Value of source unit's knowledge stock (mode of entry, subsidiary size, relative economic level)</p> <p>Motivational disposition of the source unit (incentive focus)</p> <p>Existence and richness of transmission channels (formal integrative mechanisms, corporate socialization mechanisms)</p> <p>Motivational disposition of the target unit (incentive focus, relative economic level, headquarter-subsidiary decentralization)</p> <p>Absorptive capacity of the target unit (mode of entry, proportion of local nationals in the subsidiary's top management team)</p>	The results provide either complete or partial support to the predictions regarding the impact of value of knowledge stock and transmission channels on knowledge outflows, the impact of transmission channels, motivational disposition to acquire knowledge, and absorptive capacity on knowledge inflows. However, they do not provide any support to the predictions regarding the impact of motivational disposition to share knowledge with other units on knowledge outflows.
Tsai, 2001	The author conceptualized an organization as a network arrangement and investigated a unit's access to knowledge by analyzing its network position in its intraorganizational network. External knowledge access and internal learning capacity are important for a unit's innovation and performance.	24 business units in a petrochemical company and 36 business units in a food-manufacturing company	<p>Absorptive capacity (R&D expenditure divided by sales)</p> <p>Network position (in-degree centrality)</p>	The results indicate that a unit's innovative capability is significantly increased by its centrality in the intraorganizational network, which provides opportunities for shared learning, knowledge transfer and information exchange. The research also demonstrates that absorptive capacity significantly affects business unit's innovation as well as their performance. Finally, the interaction between network position and absorptive capacity significantly affects business units' innovation and performance.

FIGURE 1. Preliminary Conceptual Model

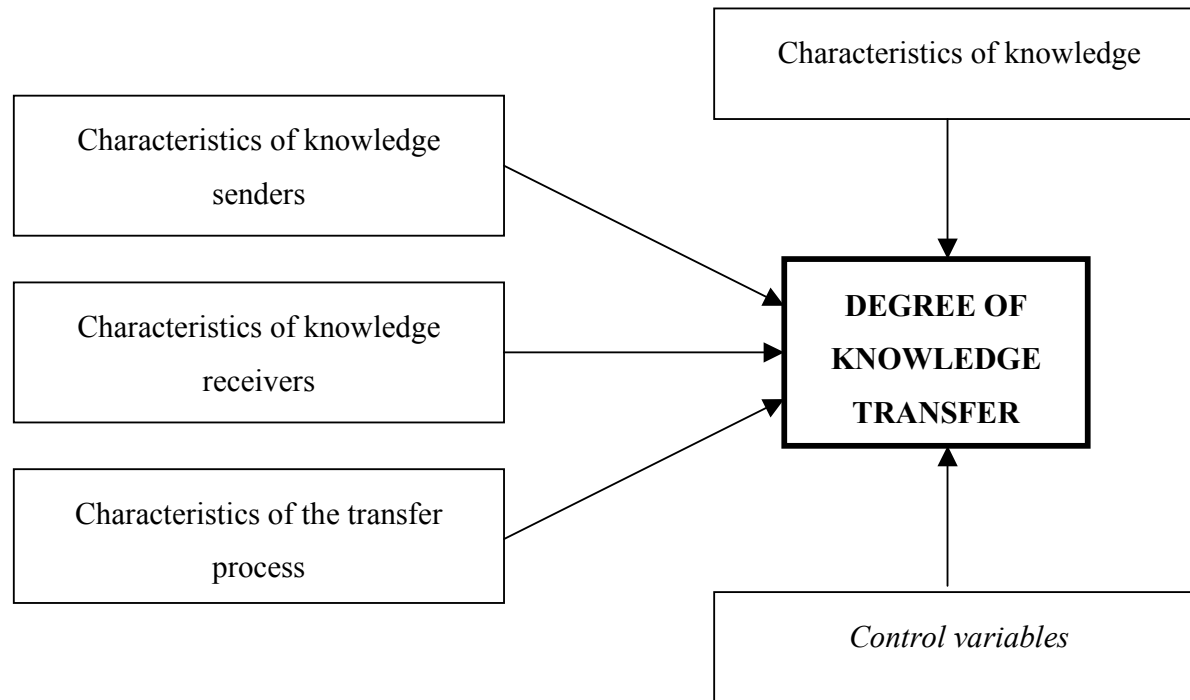


FIGURE 2. Revised Conceptual Model

