International Journal of HRM and Organizational Behavior

www.ijhrmob.com

editor@ijhrmob.com

International Journal of
HRM and Organizational Behavior
ISSN 2454 - 5015

Examining the Past: HRM, Subsidiary Absorption Capacity, and Knowledge Transfer from Multinational Corporations

M. Ram Varma
Indian Institute of Management Ranchi.

Abstract
In this retrospective, we revisit the goals of the original paper, and we review the studies that have used our paper to discuss the "concept" and the "develop- ment" of absorptive capacity. We also propose directions for future research, stressing the need to develop thorough theoretical and empirical models of
absorptive capacity as a multi-level and dynamic construct that is contingent onthe context in which it is embedded.
Keywords: absorptive capacity; Human Resource Management (HRM); knowledge transfer; decade award

BACKGROUND

In our original paper (Minbaeva, Pedersen, Björkman, Fey, & Park,2003), we argued that we made a twofold contribution. First, we contributed to the conceptualization of absorptive capacity for multinational corporation (MNC) knowledge transfer by stressing
the importance of individual employees' motivations to engage in knowledge absorption. While previous research had focused on employees' abilities as the key aspect of absorptive capacity, we highlighted the importance of the *interaction* between employees' abilities and their motivations. In fact, we proposed that, without
motivation, higher abilities to absorb knowledge might havea limited effect on the degree of knowledge transfer. Second, we went a step beyond previous studies that had explored the impact ofabsorptive capacity on knowledge transfer by treating the develop- ment of absorptive capacity as an endogenous part of the model. One could argue that – especially within the context of MNCs – wewould have not provided much guidance by demonstrating the key
importance of absorptive capacity (for knowledge transfer, etc.) unless we also showed how such capacity is actually developed in firms.

Consequently, the aim of the original paper was to add to the existing literature on absorptive capacity for MNC knowledge transfer in two important directions:

1. *the concept* in terms of the conceptualization and measurement of absorptive capacity; and
2. *the development* in terms of identifying organizational practicesthat may contribute to the development of absorptive capacity.

With regard to the first goal, we identified employ-ees' abilities and motivations to absorb knowledge as key factors in a firm's absorptive capacity. These factors, in turn, facilitate knowledge transfer *within*
the MNC. With reference to the second goal, we identified several specific human resource manage- ment (HRM) practices that managers may imple- ment to increase the absorptive capacities of their organizations.In order to understand the impact of our paper since its publication in 2003, we analyzed all papersfound in the Social Science Index that refer to our paper (150 papers as of 1 March 2013). Table 1 provides some examples of such studies, the key areas they investigate, and illustrative quotes. The table lists sample papers that build on our paperin their own theory sections, and excludes papers that make only a passing reference to our paper. As

Table 1 Overview

Our arguments	Examples of studies
Individual-level behavioral characteristics matter"Interunit knowledge flows are typically made up of knowledge exchanges between individual managers or groups of managers … This implies that issues such as individual ability, motivation, and opportunities (Argote et al., 2003; Minbaeva et al., 2003) … may influence knowledge flowsin ways we have not been able to detect in current research" (Mäkelä & Brewster, 2009: 593). "Initial evidence suggests that important motivational issues arise for those individuals who areable to initiate knowledge flows in MNEs" (Reiche et al., 2009: 509). "We suggest that not only do organizational structures and strategies matter to knowledge transfer, but the MNC's assignment of expatriates with certain attributes such as motivation forknowledge transfer may also make a difference" (Wang et al., 2009: 1186–1187).Other examples: Furuya et al. (2007), Ambos and Ambos (2009), Williams (2009); Williams andLee (2009), Park (2011), Williams and Lee (2011), Chang et al. (2012), Foss et al. (2012).	

Importance of interaction: ability*and* motivation should be present"Following Minbaeva et al. (2003) we argue that potential absorptive capacity consists of bothmotivation and ability on the part of the receiving organisation to acquire and assimilate capabilities" (Björkman et al., 2007: 664).

"Individual abilities as well as their motivation enhance AC [absorptive capacity]" (Volberda et al.,2010: 934).
"Successful knowledge transfer depends on the ability and motivation of the source to transferknowledge" (Oddou et al., 2009: 188).
"When MNC employees possess the ability (prior experience and job-related skills) and are
motivated, these barriers may be overcome and they are more likely to engage in internalknowledge transfer" (Williams, 2009: 95).
Other examples: Kurokawa et al. (2006), Aguilera (2007), Noorderhaven and Harzing (2009),
Tran et al. (2010), Michailova and Mustaffa (2011), Mäkelä et al. (2012), Reiche (2012), Vaara et al. (2012).Development Can be developed
through theemployment
of managementpractices"An example of this body of work is Minbaeva et al.'s (2003) study, which takes the concept ofabsorptive capacity as a starting point to explore, on the one hand, the types of organizational mechanism that increase absorptive capacity – emphasizing both employees' motivation and employees' ability – and the level of knowledge transfer and, on the other hand, the relationship
between MNC subsidiary human resource management practices and the level of absorptivecapacity" (Aguilera, 2007: 44).
"To date, however, most research on internal knowledge transfers within MNCs fails to consider
fully the critical role human resource management (HRM) practices play in creating and sharingknowledge in and by the MNCs' subsidiaries" (cf. Minbaeva et al., 2003) (Simonin & Özsomer, 2009: 506).
"Yet internal knowledge sharing varies, for instance with human resource management practices and methods of training" (Meyer, 2004: 266).
Other examples: Foss and Pedersen (2004); Hong and Nguyen (2009); Mäkelä and Brewster (2009); Gooderham et al. (2011); Lewin et al. (2011); Minbaeva et al. (2009).
we illustrate below, authors have built on ourwork on the "concept" as well as the "development" of absorptive capacity. However, discussions of the "concept" and the "development" have followednotably different paths, as authors have typically referred to one or the other of our paper's contribu- tions. Moreover, although our original paper sug-
gested that it is important to consider both drivers ofabsorptive capacity, our followers rarely explicitly
theorized about the synergistic effect of employees'abilities and motivations. Similarly, they did not
conceptualize or operationalize absorptive capacity in an integrated systematic way that was backedby empirical evidence.

On another level, we believe one reason why our original paper has been widely cited is that it brought together the literature on knowledge trans- fer and the literature on HRM. At the time, the transfer of knowledge had rarely been viewed as endogenous to organizational processes and arrange- ments (Foss & Pedersen, 2002). Our interest in building bridges between HRM and knowledge was,in part, facilitated by the diverse backgrounds of themembers of our research team. As we show below, despite the passage of a decade, there is still much research to be done in this area (Minbaeva, Foss, &Snell, 2009).

THE CONCEPT: ABSORPTIVE CAPACITY FORKNOWLEDGE TRANSFER

At the time of the paper's idea formation, the transfer and sharing of knowledge across national and organizational boundaries was a topic that
had already attracted substantial attention. In the stream of literature on inter- and intra-organizational knowledge transfer, absorptive capacity was emerging as a construct useful for explaining why organizations vary in their organizational learning and knowledge sharing (Lane & Lubatkin, 1998; Lane, Salk, & Lyles, 2001; Lyles & Salk, 1996). Whileresearchers had found support for the importance
of the "ability to recognize the value of new externalinformation, assimilate it, and apply it to commer- cial ends" (Cohen & Levinthal, 1990: 128) for orga-nizational learning and knowledge transfer, they
had struggled with the theoretical construct of absorptive capacity and its empirical operationalization. For example, Lyles and Salk (1996) operationa- lized absorptive capacity as international joint

ventures' "capacity to learn, mainly the flexibility, and creativity" (896), and found it to be a significantindicator of knowledge acquisition from a foreign partner.

Lane and Lubatkin (1998) tested the traditional measure of absorptive capacity, R&D as a share of sales (applied by Cohen & Levinthal, 1990), againsttheir own measures of relative absorptive capacity (three bibliometric-based measures of knowledge and five variables on knowledge-processing similar-ity). They found that the traditional measure of R&D spending explained only 4% of the variance in interorganizational learning, while the knowledge- similarity variables explained another 17%. Notably, the five knowledge-processing similarity variables explained an additional 55%. They concluded that absorptive capacity should be understood in its context. In other words, they suggested that absorp-tive capacity should be treated as a dyad-level con- struct rather than as a firm-level construct in some instances.

In their retrospective summary of representative empirical studies on absorptive capacity, Zahra andGeorge (2002) identified four dimensions of absorp-tive capacity: acquisition, assimilation, transforma- tion, and exploitation. They suggested that the first two dimensions form potential absorptive capacity, while the latter two constitute realized absorptive capacity. In addition, Zahra and George (2002) criticized the extant studies for applying measures (such as R&D intensity or the number of scientists
working in R&D departments) that were "rudimen- tary and [did] not fully reflect the richness of the construct" (199). They suggested that such approaches neglected the role of individuals in the
organization, as individuals are crucial for knowl- edge utilization and exploitation.

In fact, when reviewing work on absorptive capacity published up until the early twenty-first century, we were puzzled by the absence of "the individual" in discussions of the absorptive capacityconcept. This was surprising, as individuals are the
primary actors in knowledge creation, and are the principal repositories of knowledge. As Grant (1996) states, "knowledge is viewed as residing within the individual, and the primary role of the organization
is knowledge application rather than knowledge creation" (109). In fact, it could be argued that an organization cannot have any absorptive capacity
independent of its employees.

Notably, Cohen and Levinthal's (1990) original operationalization of absorptive capacity referredto the employees of an organization. They recog-
nized the role of individuals when acknowledging that "a firm's absorptive capacity is not … simply the sum of the absorptive capacities of its employees, and it is therefore useful to consider what aspects of absorptive capacity are distinctly organizational"(Cohen & Levinthal, 1990: 131). This definition
implies that although the concept of individual absorptive capacity should mirror its organizational operationalization to some extent, certain aspects must focus distinctly on individual factors. In this
regard, we viewed employees' abilities, their educa- tional backgrounds, and their job-related skills as "mirroring" or representing the "prior related knowledge" that was often used as a proxy for absorptive capacity at the organizational level. In
our search for distinctly individual aspects, one passage in Cohen and Levinthal's (1990) original paper caught our attention:

To develop an effective absorptive capacity, whether it be for general knowledge or problem-solving or learning skills,it is insufficient merely to expose an individual briefly to therelevant prior knowledge. *Intensity of effort is critical*. (131;emphasis added)

Hence, as we argued, a focus on individuals should encompass the "will-do" factor, whichreflects drive or intensity of effort, in addition to the"can-do" factor. Consequently, we built on the organizational behavioral literature, which suggeststhat both employees' abilities *and* their motiva-tions are important for their behavior. Indeed, as is
argued in the expectancy-valence theory on work motivation:

More is to be gained from increasing the motivation of thosewho are high in ability than from increasing the motivation of those who are low in ability … More is gained from
increasing the ability of those who are highly motivated than
from increasing the ability of those who are relativelyunmotivated. (Vroom, 1964: 203)

In other words, to achieve high performance of any kind, both the ability to perform and the motivation to do so are necessary (Baldwin, 1959).
Accordingly, we argued that knowledge transfer is facilitated when employees' abilities and motivations to absorb knowledge are high.

Other authors, such as Gupta and Govindarajan (2000), had worked with explanatory variables of ability and motivation as determinants of knowl- edge flows. However, they treated ability and moti-vation as separate and additive constructs, while weconceptualized them as synergistically reinforcing. Our focus on individual behavior and the micro- foundations of absorptive capacity put employeemotivations to absorb knowledge and the interac- tions of such motivations with employee abilities atthe forefront.

Aftermath

Several observations emerge from an examination of studies that refer to our theorization and operatio- nalization of absorptive capacity. First, a relatively high number of studies (e.g., Ambos & Ambos, 2009;Phene & Almeida, 2008; Rabbiosi, 2011) cite our paper's focus on the importance of the receiver's abilities to not only acquire but also utilize the transferred knowledge, as described in the followingpassage:

The key element in knowledge transfer is not the underlying(original) knowledge, but rather the extent to which the receiver acquires potentially useful knowledge and utilizes this knowledge in own operations. (Minbaeva et al., 2003: 587)

Second, scholars refer to our work to argue thata greater understanding of intra-organizational knowledge transfer requires a focus on individuals. In particular, scholars highlight such factors as individual heterogeneity, individual-level motiva-tions, and interpersonal interactions (e.g., Mäkelä &Brewster, 2009; Reiche, Harzing, & Kraimer, 2009;Wang et al., 2009). Indeed, as Felin and Hesterly (2007) discuss, explanations of organizational-level,knowledge-related phenomena should be grounded in explanatory mechanisms located at the individualand interpersonal levels. Extant research on the behavioral antecedents of knowledge transfer recog-nizes ability, motivation, and opportunity as ante- cedents of knowledge-sharing behavior (e.g., Argote, McEvily, & Reagans, 2003; Chang, Gong, & Peng, 2012; Hansen & Nohria, 2004; Minbaeva, 2013; Siemsen, Roth, & Balasubramanian, 2008). However,theoretical arguments regarding synergetic effects among the individual-level antecedents of knowl- edge-sharing behavior are largely absent, as are empirical tests of such theories.

The behavioral literature suggests that ability, motivation, and opportunity are interrelated, and that the interrelations among these elements may provide interesting insights. This is also relevant forknowledge sharing, as Argote et al. (2003) argue:
"ability and extra effort are even more valuablewhen coupled with opportunity … to create, retain and transfer knowledge" (575). For example, more opportunities (e.g., a large network) allow people with more ability to access more knowledge than individuals with less ability, simply by virtue of the former's capacity to recognize distinct and rare knowledge in a network (Bresman, Birkinshaw, & Nobel, 1999). Likewise, the use of opportunities offered by the organization will be higher among intrinsically motivated individuals, as extrinsically motivated individuals are likely to exploit opportu- nities at a minimum cost, and are typically unwillingto spend extra time on network relations, as such efforts are not typically rewarded directly.

Notably, although many scholars have acknowl- edged that individuals matter, few studies have focused empirically on the individual level, or oper-ationalized absorptive capacity at the individual level. This is also true for our original paper, in whichwe theorized about individual-level antecedents but, when operationalizing, relied on the respondents' assessments of the general level of employees' moti- vation and ability in MNC subsidiaries. To some extent, this reflects the difficulties of collecting representative individual-level data in MNCs, especially in projects like ours, which are characterized by challenging data-collection designs. Moreover, we acknowledge the challenges associated with the-orizing about and measuring the aggregation from "individual" to "collective", especially the aggrega- tion from individuals' abilities and motivations to absorb knowledge to organizations' absorptive capa-

city. Thus, while this makes good theoretical sense, it is difficult to implement in many research projects. Nevertheless, we believe this would be a fruitful research avenue to follow, and discuss this further
in the section entitled "Future directions".

THE DEVELOPMENT: GOVERNANCE MECHANISMS FOR KNOWLEDGE TRANSFER

In the original paper, our second goal was to exploreactions that managers could take to develop absorp-tive capacity and, ultimately, enhance knowledge transfer. Although absorptive capacity had previously been recognized as a key factor in organizational learning and knowledge transfer, the literature was unable to offer much advice on which organiza- tional practices would promote absorptive capacity. In the few studies that had discussed organizational practices (Gupta & Govindarajan, 2000; Lane &
Lubatkin, 1998), we found calls for further researchon "the learning capacities of organizational units", "the motivation and cooperative choices of the organizational individuals", and "organizationalmechanisms to facilitate knowledge acquisition".For instance, in their widely cited theoretical study,
Zahra and George (2002) introduced the concept oftriggers of absorptive capacity within the organiza- tion, but they did not specify which triggers actuallypromote absorptive capacity, or how they do so. Similarly, Cohen and Levinthal (1990) mentioned organizational issues, but did not provide any details on organizational drivers as antecedents of absorp- tive capacity.

Researchers working in the HRM field had also mentioned that the process of organizational learn- ing was a key strategic task facing the HRM func- tion in MNCs (Pucik, 1988). Along this line, Lado and Wilson (1994) suggested that HRM practices can contribute to sustained competitive advantage through facilitating the development of competen-
cies that are firm specific, produce complex social relationships, … and generate organizational knowl- edge (699). HRM practices that influence employee
ability and motivation had been a focus of research on high-performance HRM practices for some time (e.g., Huselid, 1995). As even highly skilled emp- loyees will not perform effectively if they are not properly motivated, HRM practices that recognize and reinforce appropriate employee behavior by providing incentives are needed. In our paper, we
hypothesized that certain HRM practices shape the organization's absorptive capacity by affecting employees' abilities and motivations to absorb knowl- edge. We found competence/performance appraisals
and training to be positively related to employee ability, while performance-based compensation, merit-based promotions, and internal communica- tion were positively related to employee motivation.While this list is not exhaustive, it does show that organizational practices can be applied to develop and promote absorptive capacity. It also suggests that some specific organizational practices are help-ful in this regard.

Aftermath

Our suggestion that MNCs can institute various
organizational policies and practices to overcome knowledge-transfer barriers, such as low absorptivecapacity, was well received and quickly developed in the literature. Researchers have since found thatstaffing (selection and recruitment) serves to iden- tify, attract, and bring people into vacant positions who possess the desired skills and knowledge (Lopez- Cabrales, Prez-Luo, & Cabrera, 2009; Minbaeva, 2005); that training enhances the human capital needed to attain the knowledge goals of an orga- nization (Beugelsdijk, 2008; Laursen & Foss, 2003; Simonin & Özsomer, 2009; Zarraga & Bonache, 2003);and that performance appraisals provide employeeswith feedback on their performance and competen- cies, and provide opportunities to agree on how to enhance employee competencies to meet the orga-
nization's knowledge needs (Lopez-Cabrales et al.,2009; Minbaeva, 2005; Simonin & Özsomer, 2009) Other research has shown that job design can ensure that jobs stimulate different kinds of motivations forknowledge sharing (Cabrera, Collins, & Salgado, 2006; Foss, Minbaeva, Pedersen, & Reinholt, 2009);that appraisals can beneficially focus on employee
merit in past instances of knowledge-sharing beha- vior, perhaps by acknowledging an employee's con-tribution to others' work and/or to organizational development (Lopez-Cabrales et al., 2009, Minbaeva
& Pedersen, 2010); and that performance-based compensation is related to more positive attitudes toward knowledge sharing, and reduces uncertainty with regard to issues surrounding goal prioritization(Björkman, Barner-Rasmussen, & Li, 2004; Bock, Zmud, Kim, & Lee, 2005; Cabrera et al., 2006).

In recent years, HRM scholars have gone beyond the focus on employee ability and motivation to examine how organizations can create opportunitiesfor knowledge sharing. Flexible working arrange- ments have been found to grant employees greater latitude in altering activity patterns in order to adaptto changing needs and conditions (Beugelsdijk, 2008), while personnel rotation and internal trans- fers have been linked to higher levels of shared experience and richer interaction ties, which can be used for knowledge transfer (Jansen, Van DenBosch, & Volberda, 2005; Mäkelä & Brewster, 2009; Reiche, 2012). Schleimer and Pedersen (2013) showthat MNCs can apply organizational mechanisms, such as decentralization and normative integration, and promote an innovative culture to develop sub- sidiary absorptive capacity. Thus the Ability, Motiva- tion, Opportunity (AMO) framework often used in the HRM literature (see Jiang, Lepak, Hu, & Baer, 2012, for a meta-analysis) can also be beneficial forframing and potentially extending our thinking about mechanisms that contribute to knowledge transfer in MNCs.

Despite this progress, HRM researchers dealing with determinants of knowledge transfer, such as absorptive capacity, still face certain challenges. Forexample, a growing number of studies on the link between HRM and knowledge processes consider multiple rather than individual HRM practices. Thisapproach makes sense, as the mutually reinforcing effect of HRM practices, which is discussed exten-
sively in theoretical and review articles as "horizon-tal fit" (Wright & McMahan, 1992) or "internal alignment" (Becker & Gerhart, 1996), is well docu-mented (Huselid, 1995). However, just as in the
general strategic HRM literature (see Wright & Boswell, 2002, and Boxall & Purcell, 2011, for over-views), researchers working on the link between
HRM and knowledge processes have adopted differ-ent approaches to defining horizontal fit and deter- mining which HRM practices should be bundled together in order to achieve the desired system effect. We argue that our understanding of howHRM practices affect absorptive capacity and, ulti- mately, knowledge transfer should be rooted in theories of how such practices influence individual ability, motivation, and opportunity. There are rea- sons to believe that these outcomes are interdepen- dent, and that a failure to take this likelihood into account might result in lower performance. For example, practices designed to increase opportu-nities for engaging in knowledge sharing, such as job rotation, may have unwanted side-effects, such as a decline in motivation (see Deci & Ryan, 2000).Overall, we concur with MacDuffie (1995), Youndt,Snell, Dean, and Lepak (1996), and Guest (1997), who recommend that the grouping of practices be
based on theoretical rationales, because "statistical sophistication appears to have been emphasized at the expense of theoretical rigor" (Guest, 1997: 263). We therefore argue that the question of horizontal
fit or system effect, and the determination of its posi-tive or negative sign, must be answered theoretically.Finally, in the quest to understand why and how HRM practices affect individual antecedents ofknowledge-sharing behavior, HRM scholars havestarted moving beyond the largely organizational-level analyses of HRM practices (see, e.g., Minbaevaet al., 2009). This line of argumentation acknowl-edges that intended HRM practices (i.e., corporatepolicy), the way those practices are implementedacross units and individuals, and how they areperceived by individual employees (Wright &Nishii, 2013) tend to differ. Variations in implemen-tation and perceptions of HRM practices acrossindividuals and units belonging to the same organi-zation are likely to influence knowledge sharing.Therefore a profound understanding of the causal relationships between HRM and knowledge-related outcomes requires that scholars analyze antecedentsof knowledge processes at different levels of analysis.We suggest that there is a true need and a realopportunity for empirical research, and for theorybuilding on HRM and knowledge processes thatadopts a multi-level logic. We elaborate on this
suggestion in the next section.

FUTURE DIRECTIONS

In many ways, our original paper only scratched thesurface of the notion of absorptive capacity, by pointing out some key challenges related to the
concept and its development. Although these issueshave since been scrutinized in the literature, we continue to face similar challenges. In many ways, we opened the door to a new line of research, and
that door remains wide open. For example, one of our paper's key contributions was that it brought thefields of HRM and knowledge transfer together.However, there has not been enough work over the
past decade on this stream of research, which makesit a fruitful area for future investigations. We

believethere is a need to develop thorough theoretical and empirical models of absorptive capacity as a multi- level and dynamic construct that is contingent uponthe context in which it is embedded. Accordingly, we call for more theoretical and empirical workfocused on:

1. greater contextualization of both the concept andthe development of absorptive capacity;
2. a multi-level research logic; and
3. understanding the dynamic models of knowledgetransfer.

We elaborate on these below.

The Need for Greater Contextualization

Lane and Lubatkin (1998) were among the first to highlight the contextual nature of absorptive capa- city. They argued that absorptive capacity varies with the specific relationship, which they denotedas relative absorptive capacity. To date, we lack an understanding of the extent to which the absorp- tive capacity is the same across an organization or varies with, for example, location, counterpart, or function.

Furthermore, when including individual behavior and individual motivation in the discussion on absorptive capacity in international business, theissue of context becomes highly pertinent. For example, motivational issues vary with certain con-textual factors, such as culture, mindset, history, andreligion. While we examined MNC operations in three countries – Russia, Finland, and the United States – we made little effort to discuss differences across locations. Additional research is therefore opposed to post hoc contextualizing" (719; see alsoMichailova, 2011).

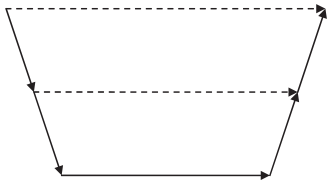
The Need for Multi-level Research Logic Absorptive capacity is a multi-level construct: thecapacity to absorb knowledge ultimately resides within the minds of individuals and teams, while synergies are manifested at the organizational level.Even within a single organizational unit, such asa subsidiary, a full understanding of this concept and its development through HRM practices requiresa multi-level logic. Such a logic is visualized in Figure 1. In testing this logic, intended HRM practices maybe observed at the organizational or subsidiary levels by studying the HRM intent. The effect of intendedHRM practices can be observed at the organizational level by measuring subsidiary absorptive capacity. Within each subsidiary, implemented HRM practices can be measured at the unit level by observing HRMpractices in use. We expect the degree to which HRMpractices are implemented to affect absorptive capa-city at the team/unit level. Finally, the effect of per-ceived HRM practices and absorptive capacity can be measured at the individual level by studying individuals' perceptions of implemented HRM practices, aswell as the resulting changes in their abilities and motivations to absorb knowledge.

While we recognize that it may be hard to fine- tune individual behaviors in a way that leads toa positive aggregate result, we nevertheless follow Cohen and Levinthal's (1990) original logic in arguing that a firm's absorptive capacity is more than the mere sum of the absorptive capacities of its employees. As Minbaeva (2013) explains, the move- ment from micro to macro (the right-hand side of Figure 1) involves a potentially strong interdepen-dence between an individual's action and the actions of others in the same context, particularly when individuals take the actions of other indivi- duals into account. However, explaining such inter-dependencies has proven to be a "main intellectual hurdle both for empirical research and for theoryneeded to refine our understanding of how differentcontextual factors affect the conditions for the development of absorptive capacity. This is a key issue in this field of research that speaks to the core of international business studies, and we suggestit would be a fruitful area for future studies. Indeed,we concur with May, Stewart, Puffer, McCarthy,

Intended HRM practices

Implemented HRM practices

ISSN 2454 - 5015



and Ledgerwood (2011), who call for "more direct contextualization of theoretical propositions as that treats macro-level relation via methodological individualism" (Coleman, 1986: 1323). This calls for a better theoretical understanding of the interplay between the different levels, and gives rise to a number of relevant questions. For example, what is unique about absorptive capacity at the individual level? How is the group's absorptive capacity formed? If absorptive capacity at the organizational level is not just the sum of the employees' absorptive capacities, then what is it exactly? An additional challenge is that absorptive capacity is not only a multi-level construct but also a latent construct. Theoretical development of these issues seems necessary if we are to conduct better empirical studies of the development of absorptive capacity.

Figure 1 Bridging micro and macro.
Source: Modified from Minbaeva (2013).

In recent years we have seen growing interest in multi-level research in international business, as many MNC phenomena are inherently multi-level in character (Peterson, Arregle, & Martin, 2012). We hope to see more studies connecting different levels, and carefully theorizing about the nature and the impact of HRM practices and organizational mechanisms in general on the absorptive capacity of individuals, groups, and organizations. One interesting approach is presented by Rico, Sánchez-Manzanares, Gil, and Gibson (2008), who view team-level knowledge structures as underlying mechanisms that enable the implicit coordination of individual behaviors, which in turn creates an aggregate phenomenon at the team level (Kozlowski & Klein, 2000).

The accommodation of multiple levels of analysis in empirical research is challenging (see Dansereau & Yammarino, 2005), not necessarily because we lack the statistical tools to conduct multi-level studies, but because we lack proper data to test our models. For example, a simple study of 20 organizational units with analyses at the organizational and individual levels requires a minimum of 400 individual responses spread equally across organizational units. Gaining access to this kind of rich data is obviously one bottleneck when attempting to proceed with this line of research.

The Need for Dynamic Models of Knowledge Transfer

Not only is the development of absorptive capacity is related to knowledge transfer through a causal link from the former to the latter, but the two are also linked in a dynamic process with feedback loops. For example, when transferred knowledge is integrated into the current knowledge pool and put into use, it affects the absorptive capacity of the recipient both in relation to "ability", as prior knowledge is enhanced, and (most likely) through "motivation", given the improved understanding of the benefits of knowledge sharing. Another potential feedback loop exists between HRM practices and absorptive capacity: the higher the absorptive capacity, the more receptive employees are likely to be to sophisticated HRM practices, the employment of which could result in greater synergies and "system effects". To truly capture the effects of absorptive capacity,

researchers should follow the flow of knowledge in organizations where absorptive capacity is applied, as it is difficult to measure absorptive capacity unless it is in use in a specific case of knowledge absorption(see Schleimer & Pedersen, 2013, for an example).

We argue that the concept of absorptive capacity can be accurately captured only in dynamic models.However, papers published on the topic of absorp- tive capacity during the last decade, including our own paper, are dominated by linear thinking and static models. In this regard, access to proper data isagain lagging the theoretical development, as solid studies of the dynamics will require longitudinal data, which are hard to obtain for the individual level.

Another reason for this trend is the tendency among researchers (including ourselves) to separate the sender from the receiver, and to view the "capa-
city to learn" (absorptive capacity) and the "capacity
to teach" (disseminative capacity) as unrelated. This is a clear simplification of reality, as the same
individual can simultaneously be a knowledge sen- der and a knowledge receiver. Perhaps such simplifi-cation was necessary to grasp the basic elements of the concept. Furthermore, given the cross-sectional nature of the data dominating the field, we believe we had no other choice but to adopt this simpli- fication. To truly capture absorptive capacity as
a dynamic concept, future research needs to build more on a "it takes two to tango" way of thinking. Inother words, absorptive capacity cannot be under- stood in isolation, especially at the individual level,where "capacity to teach" and "capacity to learn"
can sometimes stimulate or even offset each other
(Easterby-Smith, Lyles, &Tsang, 2008).

CONCLUSION

We are honored to receive the 2013 *JIBS* Decade Award. The award reflects the numerous citations ofour original paper, which presented new research
questions related to the "concept" and "develop- ment" of absorptive capacity. However, we view our paper as simply an initial step toward opening theblack box of the workings of absorptive capacityat the individual and organizational levels. Our
original paper's recognition of the importance of considering not only employee ability but also
employee motivation in facilitating knowledgetransfer, and its demonstration of the importance of understanding the organizational drivers (e.g., HRM practices) that promote absorptive capacity
introduced important issues worthy of consideration when attempting to facilitate knowledge transfer. Our paper also highlighted the numerous benefits that can be gained from making two research fields (e.g., HRM and knowledge transfer) meet. However,significant scope remains for additional studies of how managers can create and develop absorptive capacity in their organizations.

REFERENCES

Aguilera, R. V. 2007. Translating theoretical logics across borders: Organizational characteristics, structural mechanisms and con- textual factors in international alliances. *Journal of InternationalBusiness Studies*, 38(1): 38–46.

Ambos, T. C., & Ambos, B. 2009. The impact of distance on
knowledge transfer effectiveness in multinational corporations.
Journal of International Management, 15(1): 1–14.

Argote, L., McEvily, B., & Reagans, R. 2003. Managing knowl-
edge in organizations: An integrative framework and review ofemerging themes. *Management Science*, 49(4): 571–582.

Baldwin, A. 1959. The role of an "ability" construct in a theory of
behavior. In D. McClelland, A. Baldwin, U. Bronfenbrenner, &
F. Strodtbeck (Eds), *Talent and society* : 195–233. Princeton, NJ: Van Nostrand.

Becker, B., & Gerhart, B. 1996. The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39(4): 779–801.

Beugelsdijk, S. 2008. Strategic human resource practices and
product innovation. *Organization Studies*, 29(6): 821–847.

Björkman, I., Barner-Rasmussen, W., & Li, L. 2004. Managing
knowledge transfer in MNCs: The impact of headquarters control mechanisms. *Journal of International Business Studies*, 35(5): 443–455.

Björkman, I., Stahl, G. K., & Vaara, E. 2007. Cultural differences

and capability transfer in cross-border acquisitions: The mediat- ing roles of capability complementarity, absorptive capacity, and social integration. *Journal of International Business Studies*,38(4): 658–672.
Bock, G., Zmud, R., Kim, Y., & Lee, J. 2005. Behavioral intention formation in knowledge sharing: Examining the roles of extrin-sic motivators, social-psychological forces, and organizationalclimate. *MIS Quarterly*, 29(1): 87–111.
Boxall, P., & Purcell, J. 2011. *Strategy and human resource management*, 3rd edn. New York: Palgrave.
Bresman, H., Birkinshaw, J., & Nobel, R. 1999. Knowledge transfer in international acquisitions. *Journal of International Business Studies*, 30(3): 439–462.
Cabrera, A., Collins, W. C., & Salgado, J. F. 2006. Determinants of individual engagement in knowledge sharing. *InternationalJournal of Human Resource Management*, 17(2): 245–264.
Chang, Y., Gong, Y., & Peng, M. W. 2012. Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary perfor-mance. *Academy of Management Journal*, 55(4): 927–948.
Cohen, W. M., & Levinthal, D. A. 1990. Absorptive capacity: A new perspective on learning and innovation. *AdministrativeScience Quarterly*, 35(1): 128–152.
Coleman, J. S. 1986. Social theory, social research, and a theory ofaction. *American Journal of Sociology*, 91(5): 1309–1335.
Dansereau, F., & Yammarino, F. J. 2005. *Multi-level issues in strategy and method*. Amsterdam: JAI Press.
Deci, E. L., & Ryan, R. M. 2000. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior.*Psychological Inquiry*, 11(4): 227–268.
Easterby-Smith, M., Lyles, M., & Tsang, E. 2008. Inter-organiza- tional knowledge transfer: Current themes and future pro- spects. *Journal of Management Studies*, 45(4): 677–690.
Felin, T., & Hesterly, W. S. 2007. The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Manage- ment Review*, 32(1): 195–218.
Foss, N. J., & Pedersen, T. 2002. Transferring knowledge in MNCs: The roles of sources of subsidiary knowledge and organizational context. *Journal of International Management*, 8(1): 49–67.
Foss, N. J., & Pedersen, T. 2004. Organizing knowledge processes in the multinational corporation: An introduction. *Journal ofInternational Business Studies*, 35(5): 340–349.
Foss, N. J., Minbaeva, D., Pedersen, T., & Reinholt, M. 2009. Encouraging knowledge sharing among employees: How jobdesign matters. *Human Resource Management*, 48(6): 871–893. Foss, K., Foss, N. J., & Nell, P. C. 2012. MNC organizational formand subsidiary motivation problems: Controlling intervention hazards in the network MNC. *Journal of International Management*, 18(3): 247–259.
Furuya, N., Stevens, M. J., Oddou, G., Bird, A., & Mendenhall, M. E. 2007. The effects of HR policies and repatriate self-adjustmenton global competency transfer. *Asia Pacific Journal of Human Resources*, 45(1): 6–21.
Gooderham, P., Minbaeva, D. B., & Pedersen, T. 2011. Govern- ance mechanisms for the promotion of social capital for knowl-edge transfer in multinational corporations. *Journal of Management Studies*, 48(1): 123–150.
Grant, R. M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue): 109–122.Guest, D. 1997. Human resource management and performance:A review and research agenda. *International Journal of Human Resource Management*, 8(3): 263–276.
Gupta, A., & Govindarajan, V. 2000. Knowledge flows within multinational corporations. *Strategic Management Journal*,21(4): 473–496.
Hansen, M. T., & Nohria, N. 2004. How to build collaborativeadvantage. *Sloan Management Review*, 46(1): 22–30.
Hong, J. F. L., & Nguyen, T. V. 2009. Knowledge embeddedness and the transfer mechanisms in multinational corporations. *Journal of World Business*, 44(4): 347–356.
Huselid, M. 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3): 635–672.
Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. 2005. Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of ManagementJournal*, 48(6): 999–1015.

Jiang, K., Lepak, D., Hu, J., & Baer, J. 2012. How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Acad-emy of Management Journal*, 55(6): 1264–1294.

Kozlowski, S. W. J., & Klein, K. J. 2000. A multilevel approach to theory and research in organizations. In S. W. J. Kozlowski, & K. J. Klein (Eds), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*: 3–90. San Francisco: Jossey-Bass.

L. 2013. Strategic HRM and organizationalbehaviour: Integrating multiple levels of analysis. In D. E. Guest, J. Paauwe, & P. M. Wright (Eds), *HRM and performance:Achievements and challenges*: 97–110. Chichester: Wiley.

Youndt, M., Snell, S., Dean, J., & Lepak, D. 1996. Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal*, 39(4): 836–866.

Zahra, S. A., & George, G. 2002. Absorptive capacity: A review, reconceptualization, and extension. *Academy of ManagementReview*, 27(2): 185–203.

Zarraga, C., & Bonache, J. 2003. Assessing the team environment for knowledge sharing: An empirical analysis. *InternationalJournal of Human Resource Management*, 14(7): 1227–1246.