

The Determinants of International Knowledge  
Transfer Effectiveness – Conceptual Advances and  
Empirical Verification

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*To my parents*

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Anaheim, 12.08.2008

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# Abstract

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This thesis extends the academic debate on the determinants of international knowledge transfer effectiveness. In a sample of German organisations that transfer knowledge to their Chinese subsidiaries, it is shown that organisations with distinct teaching skills (eloquent capacity) perform significantly better at intra-organisational, cross-border knowledge transfers than other organisations. It is further illustrated that organisations with high levels of self-efficacy and low levels of partner differences develop significantly better eloquent capacity, channel capacity, and absorptive capacity. The thesis thereby provides insights into the determinants of knowledge transfer effectiveness that go beyond the concepts established in the literature.

It also contributes to established concepts. The thesis shows that absorptive capacity is partly absolute and relative. Furthermore, it extends the view that knowledge transfers between unequal partners fail due to a lack of absorptive capacity to the view that they fail because of a lack of eloquent and absorptive capacity.

The thesis integrates the antecedent literature. Analogical reasoning reveals that theories on effective communication fully cover the empirical evidence on effective knowledge transfers. As such, a holistic approach to understanding knowledge transfer effectiveness in a single theoretical framework is found. This helps to dispose of the lack of integration of research output in the discipline and offers other researchers a valuable framework within which research into knowledge transfer effectiveness can be conducted.

The thesis contributes to research methodology by illustrating the value of combining conceptual, qualitative and quantitative findings. The qualitative and quantitative data collected from the same sample lead to seemingly opposing conclusions in one area of investigation. This apparent discrepancy is eliminated after the conceptual, qualitative and quantitative findings are triangulated and combined. The thesis thereby shows the value of a mixed-methods approach to understanding knowledge transfer effectiveness.

In sum, the thesis offers advanced explanations for the empirical reality of international knowledge transfer effectiveness. It suggests methodologies and frameworks that can guide and improve future inquiries into the effectiveness of international knowledge transfers.

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# Preface: Organisation of the thesis

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This thesis consists of eleven chapters. The chapters are arranged in a structure that is well suited to deductive, empirical research. The thesis starts with an introduction to the research area and question (chapter 1), followed by a review of the literature (chapter 2), the presentation of a research framework (chapter 3), the research hypotheses (chapter 4), the discussion of the research methodology (chapter 5), the presentation of qualitative findings (chapter 6) and quantitative findings (chapters 7, 8 and 9), data triangulation (chapter 10), and the limitations and implications (chapter 11).

In order to allow readers of this thesis to effectively identify and grasp the parts that are interesting to them, each chapter is self-standing; each chapter has an abstract and a conclusion, and an introduction that summarises the most essential findings from previous chapters. Although all chapters relate to and build on each other, each chapter can be read and digested as an independent piece.

# Chapter 1: Introduction to the thesis

*Knowledge, international business & international knowledge transfer  
effectiveness*

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## **ABSTRACT**

By defining international business as the sum of international macro-economic and international micro-economic topics and by outlining the importance of knowledge and knowledge transfer to all of these topics, this chapter introduces the important role of knowledge in international business studies. It starts with a formal definition of the terms knowledge and international business, before the two terms are then put into context. It is shown that knowledge and its transfer have been central to international business studies for a long time, but that scholars still lack answers regarding the effectiveness of the cross-border knowledge transfer process. The chapter concludes that more research into knowledge and knowledge transfer in international business is necessary, justifying the scholarly effort conducted in this thesis.

## A FORMAL DEFINITION OF KNOWLEDGE

*Information is not knowledge.*

- Albert Einstein

The online Oxford English Dictionary lists 16 definitions of the noun 'knowledge'<sup>1</sup>. Knowledge can be defined as "The fact of knowing a thing, state, etc., or (in general sense) a person; acquaintance; familiarity gained by experience" or "Acquaintance with a fact; perception, or certain information of, a fact or matter; state of being aware or informed; consciousness (of anything)". Scholars of international business and strategic management have similarly defined knowledge as "information combined with experience, context, interpretation, and reflection" (Davenport and Prusak., 1998: 43) or simply "the converse of uncertainty" (Buckley & Carter, 2004: 372). Hence, when defining knowledge, we have to understand that while information is the foundation of knowledge, knowledge is deeper than information. As shown in figure 1, the terms 'knowledge', 'information' and 'data' have to be distinguished, although they are often intermixed with one another in various literatures.

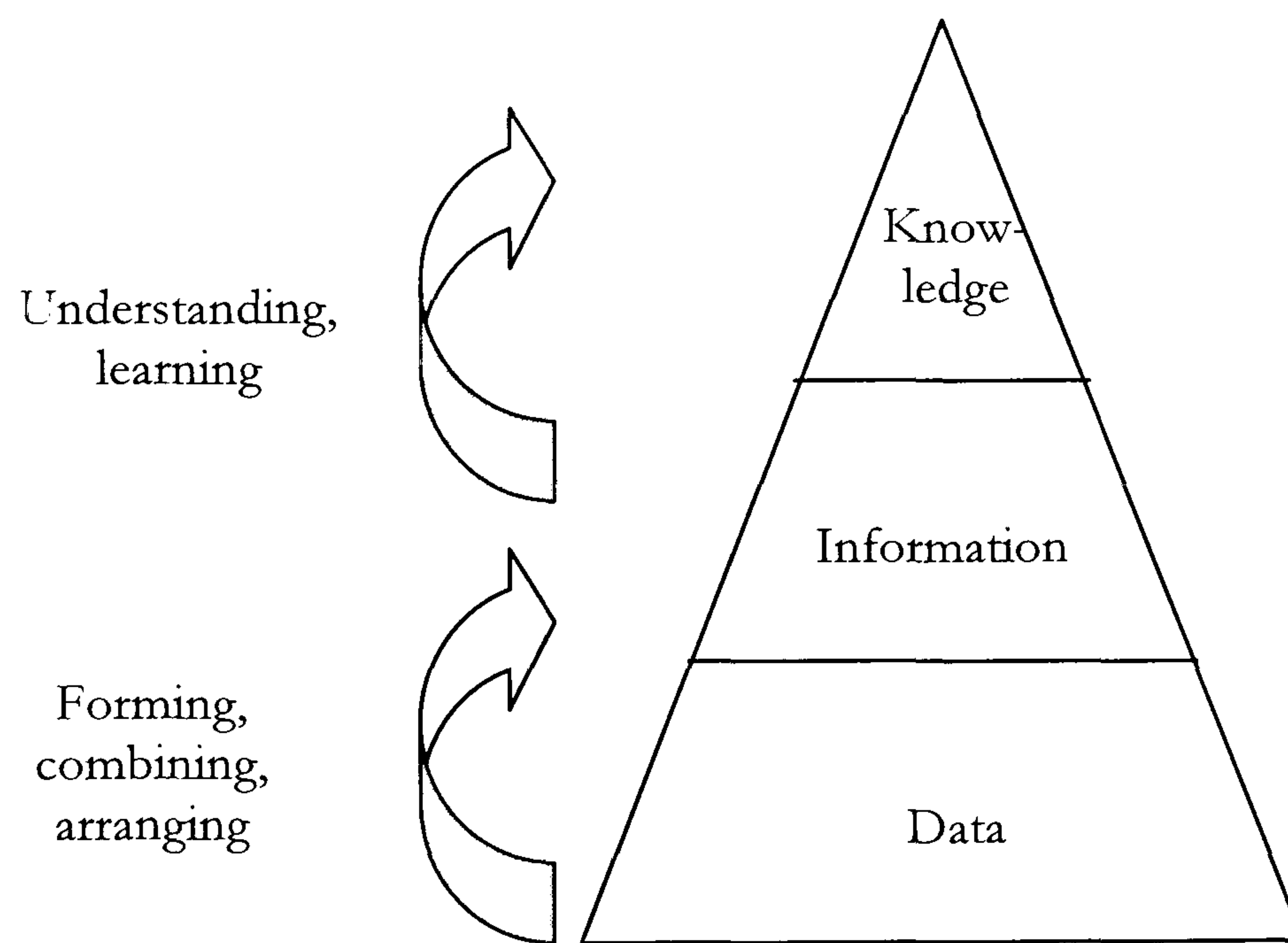


Figure 1: The nature of data, information and knowledge<sup>2</sup>

Knowledge is deeper than information or data. Data can be described as any coded record. The letters 'o', 'p', 's' and 't' are data. '1', '1', '3', '4' and '5' are data too. Data is any kind of

<sup>1</sup>

[http://dictionary.oed.com/cgi/entry/50127602?query\\_type=word&queryword=knowledge&first=1&max\\_t\\_o\\_show=10&sort\\_type=alpha&search\\_id=Jv2i-z3Bvic-20698&result\\_place=1](http://dictionary.oed.com/cgi/entry/50127602?query_type=word&queryword=knowledge&first=1&max_t_o_show=10&sort_type=alpha&search_id=Jv2i-z3Bvic-20698&result_place=1)

<sup>2</sup> Adapted from: <http://rdfer.com/swk/data-information-knowledge>

record in an unarranged format that does not provide insight before being formed, manipulated, arranged, or processed. By forming data, information is created.<sup>3</sup> We can combine and arrange the letters 'o', 'p', 's' and 't' as the word 'post'. By displaying the four letters in an ordered combination, data is processed to become information about where to bring our letters and parcels. Another arrangement of the four letters would be 'stop', representing a different piece of information. By rearranging the numbers '1', '1', '3', '4' and '5' to '3.1415', we can use them to provide information on the constant pi ( $\pi$ ). The process of data becoming information is therefore characterised by adding meaning (by means of combination, rearrangement, or contextualisation) to a set of data.

Information is the foundation of knowledge, or 'potential' knowledge. Most adults in this country will have the knowledge that the word 'stop' printed on a sign encourages you to stop your vehicle. They have previously absorbed the information and have learned what the implications are. They are in a *state of being informed* about the meaning of the word 'stop'. Some children will not yet have acquired this knowledge. For them, 'stop' is a source of information that might translate into knowledge some day. Since it has not done so yet, it remains information, or potential knowledge. Similarly, some people will not know what pi is. Not having learned that pi is a mathematical constant of high importance to many sciences, such people will not have acquired this knowledge. When reading about it in a specific context, e.g. a chapter in a mathematics book, they will be able to learn about it. This way, information becomes knowledge via the process of informing oneself (learning). Information of any kind can therefore become knowledge, in any case in which the process of acquaintance is initiated and successful. Information can be processed to knowledge via a process of understanding or learning, including the means of hearing, reading, seeing, doing, etc. This suggests that acquiring knowledge involves human beings who perceive. Indeed, Plato already pointed out that "knowledge is perception" (Burnyeat, 1990: 7). He defined knowledge as the overlap of what is both true and believed (Jowett, 1999). Hence, the process of acquiring knowledge requires the judgement of information. When information has been judged and the process of understanding a set of information has already been completed, a state of being informed has been achieved. As such, knowledge and uncertainty indeed can be understood as opposite poles on a continuum that represents the state of being informed. Being comprehensively informed represents the state of having knowledge; being insufficiently informed represents the state of uncertainty.

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<sup>3</sup> The relationship between data and information can also be derived linguistically. Information is derived from the latin word 'informare', which means to give form.

Knowledge can therefore indeed be classified as the converse of uncertainty. Uncertainty is reduced or eliminated by means of understanding.

For the purpose of this thesis we therefore define:

Knowledge is the state of being informed.

Other words often used as synonyms for knowledge are ‘know-how’, ‘expertise’, ‘acquaintance’, ‘familiarity’, ‘awareness’, ‘experience’ or ‘skill’. While the terms are used interchangeably in the literature, the terms ‘knowledge’ and ‘know-how’ are used in this thesis to describe the state of being informed.

We next define what is understood as international business, in order to afterwards explain how knowledge has shaped this research area.

## **A FORMAL DEFINITION OF INTERNATIONAL BUSINESS**

*Because of its complexity and diversity, a firm can be approached with many different types of analysis—sociological, organizational, engineering, or economic—and from whatever point of view within each type of analysis seems appropriate to the problem in hand.*

- Edith Penrose<sup>4</sup>

It has been recognised that the field of international business is somewhat muddled and misses a “big question” (Buckley, 2002: 370). Hawkins (1984) also pointed out that there is a lack of a theme being central to all enquiries: “international business is a potpourri of functional fields, methodologies, descriptions, occasional theorizing and conceptualizing, which does not yet come together into a coherent package of “received wisdom.”” (p. 15).

International business has traditionally focused on a few selected subjects that do not seem to evolve around the same topic. According to Hawkins (1984) these are i) the theory of the multinational enterprise; ii) government relations and international companies; iii) the organisational behaviour of international companies; iv) research in accounting and control for international operations, foreign exchange management, and market research for

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<sup>4</sup> Penrose (1959: 10).

foreign markets; and v) macro-economic and macro-political research for international business.

In a recent review of the activities in the field, Buckley (2002) summarises its major foci to be “1. explaining the flows of foreign direct investment (FDI); 2. explaining the existence, strategy and organization of multinational enterprises (MNEs); 3. understanding and predicting the development of the internationalization of firms and the new developments of globalization” (p. 365).

The multiple opportunities to analyse a firm and (the extent of) its operations (as observed by Penrose, 1959) led to rich research output in many areas. However, these opportunities simultaneously impose a problem on the study of the firm, because integrating different views in a common theory or definition is challenging. The same problem exists for the study of international business, a “confusing, pluralistic, and usually non-integrated field” (Hawkins 1984: 15).

Buckley’s (2002) and Hawkins’ (1984) attempts to summarise the international business agenda have in common that they revolve around aspects of internationalisation of enterprises and economies. International business can therefore be positioned somewhere in between, or thought of as the sum of, macro- and micro-economic topics. We simplify for the scope of this thesis:

International business is the study of the internationalisation of enterprises and economies.
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For the scope of this thesis, the above is a useful definition because it enables us to explain in the remainder of the chapter the importance and relevance of knowledge to international business studies in a structured way. By explaining the relevance of knowledge to the nature of the multinational enterprise and the multinational economy, it is shown in the following that knowledge and international business are inseparably intertwined. It is also shown that some questions remain unanswered in respect of knowledge and international business, introducing the very subject of this thesis. Table 1 gives an overview of topics that have significantly shaped the international business research agenda. The importance of knowledge and knowledge transfer to each of these topics is discussed in the following.

Micro-economic topics: The internationalisation of enterprises	Macro-economic topics: The internationalisation of economies
Theory of the MNE	Flows of FDI
Strategy and structure of MNEs	Competitiveness
Foreign-market servicing strategies	
Joint-ventures and Alliances	
International M&A	
Competitiveness	

Table 1: Knowledge & the international business research agenda<sup>5</sup>

## KNOWLEDGE AND THE INTERNATIONALISATION OF ENTERPRISES

### The theory of the MNE

Two major theories have emerged regarding the nature of the firm. One is the resource-based view of the firm (Penrose, 1959), which derives from the notion that resources are heterogeneously distributed among firms (Barney, 1991).<sup>6</sup> In search of effectiveness, companies seek to exploit their resources to the largest extent possible, e.g. by use of economies of scale and scope. Firms that exploit these resources across national boundaries are called multinational enterprises (MNEs). Economies of scale are large for intangible (i.e. knowledge intensive) products and services, because knowledge investments represent sunk costs (Johnson, 1970) that are relatively low when spread over a large number of marketable applications. Reproducing knowledge intensive products or services in other geographic locations requires only little machinery, equipment, and warehousing facilities, enabling the MNE to replicate them at low capital intensity. The existence of many of the ‘new’ MNEs (Microsoft, Google, Amazon, etc.), and in particular their fast international expansion, can be explained using a resource based view of the firm. Building on and applying internal organisational resources, such as knowledge, these firms are able to grow quickly internationally.

The major alternative is the transaction-cost view. The transaction-cost view regards the firm as a substitute for a market.<sup>7</sup> Firms and markets are at the end of a continuum of different institutions for performing a transaction (Coase, 1937). The firm has internal costs (that of managing its resources) and the market has market costs (that of bringing together sellers and buyers). Whenever internal (market) costs are lower than market

<sup>5</sup> Compiled from Buckley (2002) and Hawkins (1984)

<sup>6</sup> Chapter 2 discusses this theory in more detail.

<sup>7</sup> Chapter 2 discusses this theory in more detail.

(internal) costs, a firm (market) will carry out the transaction. One aspect important to understanding when the equation turns out in favour of the firm is knowledge or research intensity. As shown empirically by Buckley & Casson (1976), MNEs arise especially in knowledge intensive industries, where they internalise specific markets in their internal organisation and thereby circumvent external markets and their costs. For both views, knowledge, its sharing and exploitation are an integral part of explaining the nature of the MNE.

### **Strategy and structure of MNEs**

International companies operate with strategies and structures that correspond to two forces: the need to globally integrate operations and the need to locally adapt operations (Bartlett & Ghoshal, 1989; Hamel & Prahalad, 1983). The need to globally integrate operations forces a company to employ a more 'global' strategy, i.e. a more globally integrated and standardised process of value creation. The need to be locally responsive leads to more 'local' strategy, i.e. more foreign product and service diversity. 'Global' MNEs typically employ a product division structure that facilitates the management of a globally integrated value chain. 'Local' MNEs use area structures that enable their management to respond to local needs and demands. The "global-local dilemma" (Dunning & Mucchielli, 2001) arises from the fact that, in today's world, most companies have to respond to both needs at the same time. The need to globally integrate increases with more global competitors and lower trade barriers; the need to locally integrate increases with the number of local competitors, the availability of product substitutes, and distribution channel distinctiveness (Hamel & Prahalad, 1983). All of these trends could be observed during the last decades.

A firm that integrates its global operations needs to remain informed about delivery schedules, legal and political issues, location advantages, etc., all of which are subject to continuous change. It faces primary, secondary and tertiary uncertainty (c.f. Buckley & Carter, 2002). The global company thus needs to continuously acquire knowledge and overcome uncertainty to achieve the state of being informed. It also needs to be more sophisticated in language since the representatives of different countries have to communicate and cooperate with each other. Value creation in globally integrated firms depends on cross-border communication and interaction. Hence, a globally integrated firm faces supplementary knowledge needs. Similarly, the locally responsive firm needs to acquire information about local tastes, local competition, and local distribution channels. In



the absence of this understanding, firms cannot address local demand with suitable offers. Value creation in industries that require firms to be locally responsive fundamentally depends on achieving the state of being informed about the local situation. Locally responsive firms need to acquire (and transfer internally) knowledge about local investment environments. Since both forces of global integration and local responsiveness require firms to handle additional knowledge needs, the possession and transfer of knowledge is a central aspect of the research agenda on international strategy and structure.

### **Foreign-market servicing strategies**

Companies that enter or expand in foreign markets have a wide choice of diversification modes available. The choice ranges from exporting the products to the market to establishing the entire value chain in the country to which the goods or services are sold. The choice between the different modes is that of a least-cost choice (Martin & Salomon, 2003). Whichever mode offers the lowest costs of entering or expanding in a market will be the chosen mode. Rugman (1981) elaborated on five costs relevant to this choice. The first type of costs that needs to be considered is the normal costs of producing the product at home. The second type of costs is the normal costs of producing the product in the host country. The third type of costs is export marketing costs (insurance, transport, tariffs). The fourth type of costs is the costs related to being foreign; i.e. costs of having to acquire knowledge about local markets, politics, culture, etc. The fifth type of costs, knowledge dissipation costs, relates to the costs associated with protecting knowledge from inappropriate uses. Cost-types four and five illustrate the importance of knowledge to aspect of the international business research area. Martin & Salomon (2003) added a sixth factor to Rugman's (1981) equation, the costs of transferring knowledge-based assets to a foreign location. In total, there are three knowledge-related items (out of six in total) in the equation that determine a firm's foreign market servicing strategy. Hence, the study of foreign market servicing strategies is another topic on the international business research agenda that is strongly influenced by knowledge topics.

### **Joint-ventures and alliances**

Companies choose to cooperate with each other in either Joint-ventures or strategic alliances when they believe that the partner has useful complementary knowledge assets (Lane *et al.*, 2001). Two reasons as to why knowledge is considered useful can be distinguished: knowledge accession and knowledge acquisition (Grant & Baden-Fuller,

2004; Klijn, 2006). Firstly, a company can seek to acquire knowledge in cases in which it considers the knowledge useful for its own operations (knowledge acquisition). Secondly, a company can get access to the partner's knowledge for use in the Joint-venture operations, but without the desire to transfer the knowledge back into its own organisation (knowledge accession). In either case, it is the partner's knowledge that causes the cooperative mode of value creation. Indeed, empirical tests showed that *technology development and transfer*<sup>8</sup> is the most frequent motivation for international Joint-ventures (Glaister & Buckley, 1996). According to the research conducted, this motivation explains more Joint-venture formations than any other motive. Hence, knowledge must also be considered to be of highest importance to this field of international business inquiry.

### **International M&A**

The importance of knowledge in international Mergers & Acquisitions (M&A) can be derived from an analysis of the motives for acquisitions.<sup>9</sup> Amongst other motives like economies of scale and scope, portfolio or geographic expansion, acquisitions have been described to be particularly motivated by knowledge acquisition motives. They take place to secure good management or R&D teams when expertise is scarce (Cooke, 1986), to acquire knowledge that cannot be acquired in efficient factor markets (Buckley & Ghauri, 2002), to learn new knowledge, capabilities and managerial practices (Hitt & Pisano, 2004), to secure complementary resources or knowledge of national cultures (Hopkins, 1999), to gain control over resources or technology (Hubbard, 2001), and to share learning across organisational units (Hopkins, 1999; Schweiger & Very, 2003). In particular the acquisition of small- and medium-sized high-tech enterprises are motivated by the targets' innovative capabilities in the form of know-how and R&D capabilities (see for example Graebner, 2004; Inkpen, 2000; Laamanen, 1999; Puranam *et al.*, 2006; Vanhaverbeke *et al.*, 2002). Since markets in know-how are highly inefficient (Hennart & Park, 1993) and high transaction costs lead to the creation of internal markets for knowledge exploitation (Buckley & Casson, 1976), acquisitions are a popular method of strengthening a company's internal knowledge markets. Knowledge acquisition and sharing are highly important aspects in fully understanding the nature of international M&A.

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<sup>8</sup> Technology development and transfer is the label of a factor comprising the motivations to 1) share R&D costs, 2) exchange complementary technology, and 3) exchange of patents/territories.

<sup>9</sup> We restrict the analysis here to acquisitions, because in fact, most M&A are acquisitions (Newton, 2000), as are international M&A (UNCTAD, 2000).

## Competitiveness

In non-monopolistic industries, enterprises compete with each other for profit opportunities. In such industries, enterprises have to build and maintain competitive advantages in order to survive (Porter, 1980; Prahalad and Hamel, 1990). Once they have achieved a certain non-imitable skill, such enterprises possess an ownership advantage (Dunning, 1993). The above scholars build on the resource-based view of the firm, a view which explains that the degree of competitiveness of an international company increases with the knowledge resources it possesses. Furthermore, the transaction-cost view shows that there is a relationship between the degree of knowledge-intensity in an industry and the growth of its firms (Buckley & Casson, 1976). Knowledge possession and exploitation can thus be regarded a measure of competitiveness. Hence, there are two possibilities to explain why knowledge contributes to competitiveness and why understanding knowledge and its transfer are essential to understanding this aspect of the international business research agenda.

## KNOWLEDGE AND THE INTERNATIONALISATION OF ECONOMIES

*In place of the old local and national seclusion and self-sufficiency, we have intercourse in every direction, universal inter-dependence of nations. [...] The intellectual creations of individual nations become common property.*

- Karl Marx & Friedrich Engels<sup>10</sup>

## Flows of foreign direct investment

As pointed out in Buckley's (2002) summary of the antecedent international business research agenda, explaining the international flows of foreign direct investment has been and remains to be the major topic in international business from a macro-economic point of view. Most companies seek to maximise their profits and will invest in locations where they get the highest return on their investments. Companies' international production investments are determined by resource-seeking, strategic-asset-seeking, efficiency-seeking, and market-seeking motives (Dunning, 1993). Since knowledge is a resource employed by firms, knowledge is equally important to explain resource-seeking foreign direct investment (FDI); many MNEs are "targeting the knowledge base of developed countries" (UNCTAD, 2005: xxvii). The same holds true for strategic-asset seeking FDI, as shown by the many acquisitions in knowledge-intensive, "dynamic global markets" (Graebner, 2004: 751).

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<sup>10</sup> From Marx and Engels' (1888) "The Communist Manifesto", found in Marx & Engels (2002, 223).

Efficiency-seeking FDI seeks to make the operations of a company more efficient. Knowledge intensive value creation will be relocated in areas where knowledge is available, explaining why many car manufacturers organise their global value chain with production facilities in countries with low labour costs and R&D centres in Europe or Japan where more “knowledge workers” (Drucker, 1959) are available. When seeking a market, companies look for high purchasing power and invest in those geographic areas that accommodate enough people with sufficient purchasing power. Often these are the regions with high levels of economic development. Economic development and knowledge possession are interlinked: “developing countries that fail to build capabilities enabling them to participate in the evolving global networks of knowledge creation risk falling further behind in terms of competitiveness as well as economic and social development” (UNCTAD, 2005: 99). Turned around, market-seeking FDI is more likely in knowledge-possessing economies because they achieve higher levels of economic development. Therefore, knowledge can be used to explain market-seeking FDI flows via the mediator economic development. In summary, the possession and location of knowledge serve as explanations for all of the four FDI motivations. As such, knowledge is of significant importance to explain flows of FDI.

### **Competitiveness**

According to the online Oxford English Dictionary, the knowledge economy is “an economy in which growth is thought to be dependent on the effective acquisition, dissemination, and use of information, rather than the traditional means of production”.<sup>11</sup> In such economies, knowledge possession leads to location advantages (Dunning, 1993) or national comparative advantages (Porter, 1990). The degree to which competitiveness is determined by knowledge instead of the ‘traditional’ means of production has grown during the last decades, a period in which globalisation has increased the number of competitors a company has and during which services have become more and manufacturing less important. Indeed, compared to manufacturing firms, service firms depend to a larger extent on “knowledge-based, intangible assets” (UNCTAD 2004: xxii). Global knowledge flows are the key driver of economic growth because domestic innovation can be better exploited overseas (OECD, 2004). Nonaka (1991) even claimed that “in an economy where the only certainty is uncertainty, the one source of lasting competitive advantage is knowledge” (p. 21). Most economies in the developed world can

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[http://0-dictionary.oed.com.wam.leeds.ac.uk/cgi/entry/50127602/50127602se26?single=1&query\\_type=word&query\\_word=knowledge+economy&first=1&max\\_to\\_show=10&hilite=50127602se26](http://0-dictionary.oed.com.wam.leeds.ac.uk/cgi/entry/50127602/50127602se26?single=1&query_type=word&query_word=knowledge+economy&first=1&max_to_show=10&hilite=50127602se26)

be considered knowledge economies which depend on this source of lasting competitive advantage.

The above elaboration on knowledge in micro- and macroeconomic international business subjects has provided ample evidence that the study of knowledge and knowledge transfer is essential in understanding international business. The state of being informed is beneficial for both firms and economies, and both of them try to achieve this state. Both companies and countries continuously seek to acquire, maintain and develop knowledge. In this thesis, we are mainly concerned with micro-economic applications of knowledge, i.e. intra-organisational transfers of knowledge. For the scope of this thesis, we use the following definition of knowledge transfer.

Knowledge transfer is the transfer of the state of being informed from one organisation (organisational unit) to another organisation (organisational unit). The organisation that owns the knowledge prior to the transfer is called the source (organisation). The organisation that absorbs the knowledge is called the recipient (organisation).

## KNOWLEDGE TRANSFER AND ITS EFFECTIVENESS

*I wish we knew what we know at HP.*

- Lew Platt<sup>12</sup>

It was pointed out before that knowledge not only needs to be possessed, but needs to be disseminated from one place to another; one country to another; one firm to another. The increasing liberalisation of the world-economy has meant that MNEs have arisen from all countries in the world participating in globalisation, and knowledge transfer has reached record levels: “In the past, knowledge was transferred from one generation to another. Today, knowledge is transferred from one continent to another. Never before in the history of mankind has knowledge ever been transferred to such an extent without war and conquest”<sup>13</sup> (Steingart, 2006). Effective know-how transfer inside the MNE is central to its survival and success.

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<sup>12</sup> President and CEO of HP from 1992 – 1999

<sup>13</sup> Own translation, original quote in German: „Früher ging das Wissen von einer Generation auf die nächste über. Heute geht das Wissen von einem Erdteil auf den anderen über. Niemals zuvor in der Geschichte der Menschheit hat es ohne Krieg und Eroberung einen solchen Wissenstransfer gegeben.“

With the rise of foreign direct investment and the free exchange of all factors of production, knowledge of almost any form located in almost any location can be applied in almost any market, given that it can be successfully transferred (e.g. through a network of organisational units under the control of an MNE). It was shown that MNEs reap the benefits of knowledge exploitation more effectively than markets (Buckley & Casson, 1976), and scholars pressing the importance of knowledge to the firm have developed a knowledge-based theory of the firm (Conner & Prahalad, 1996; Grant, 1996; Kogut & Zander, 1992; Spender, 1996; Spender & Grant, 1996). The firm's ability to transfer knowledge is widely accepted to be a source of competitive advantage (Gupta & Govindarajan, 2000; Jensen & Szulanski, 2004; Szulanski *et al.*, 2004) because the application of knowledge to commercial ends enhances the competitive position of MNEs by leading to higher innovativeness (e.g. Cohen & Levinthal 1990; Nahapiet & Ghoshal 1998) and performance (e.g. Dhanaraj *et al.* 2004, Lyles & Salk 1996, Lane *et al.* 2001; Kotabe *et al.* 2003).

International organisations often “do not know what they know” (Szulanski, 1996: 38) on account of the barriers to knowledge transfer between geographically dispersed organisational units. Employees often do not have access to important firm resources; they might not speak a common language; they might lack communication devices or channels to exchange knowledge; cultural differences might prevent communication and learning success; they might protect knowledge from each other; or they might not feel confident enough to share (learn) know-how with (from) each other, just to mention a few of the possible reasons why international knowledge transfer might fail.

Since knowledge transfer depends on successful communication, and communication is a social process involving two or more individuals, the above list could be continued almost endlessly. Any social problem, i.e. a problem that arises from the interaction between two or more individuals, represents a potential barrier to know-how transfer, and might therefore impede transfer effectiveness. It has been admitted that the social processes underlying knowledge transfer effectiveness are the key to transfer success (Tsai, 2002), and that technology is only a tool that facilitates transfers. The same is realised by practitioners who claim that “knowledge management doesn't even start with technology. It starts with business objectives and processes and a recognition of the need to share information” (Gates, 1999: 265) and that “effectively exchanging knowledge on a company-wide basis is much less a technological problem than an organizational one” (McKinseyQuarterly, 2004).

Hence, understanding the organisational issues that support or inhibit knowledge transfer effectiveness is a key task for scholars who seek to understand MNEs.

Many scholars have assessed this effectiveness by means of transfer 'velocity' (the speed of knowledge transfers, e.g. Zander & Kogut, 1995), transfer 'viscosity' (the amount of knowledge transferred, e.g. Gupta & Govindarajan, 2000), and the value that is created from knowledge transfers (e.g. Yli-Renko *et al.*, 2001). The effectiveness of knowledge transfers (and the determinants that cause this effectiveness) is the central theme of this thesis. We will therefore describe and define the three measures of effectiveness next.

The first measure of knowledge transfer effectiveness is transfer velocity. In a globalised economy, most firms find themselves operating under market conditions of high time pressures. Market needs are constantly changing and firms are in a race to respond to them before their competitors do. There is ample evidence that the introductory and growth stages of product life cycles are being constantly shortened, making speed one of the central objectives of the firm (Cordero, 1991). Hence, firms seek to transfer know-how from where it is located (source) to where it is needed (recipient) as quickly as possible. Transfer velocity (Davenport & Prusak, 1998) refers to how quickly knowledge is transferred from the knowledge source to the knowledge recipient. If transfer velocity lags behind, timely market/ product entry is put at risk and if the delay is substantial, product success is endangered. For example, a firm that seeks to pioneer in a market but whose market entry is delayed by the slow pace of knowledge transfers puts at risk the benefits of customer loyalty, premium prices, cost advantages, and profit potential (Lilien & Yoon, 1990; Porter, 1985). Firms that transfer knowledge from one location to another more quickly than their competitors can position their product in the preferred market segment (Urban *et al.*, 1986) and timely address market needs. All such benefits can only be achieved when the firm transfers knowledge at a pace that is quick enough to precede competitors' moves. Transfer velocity is therefore a central aspect of knowledge transfer effectiveness. Effective transfers are quick; ineffective transfers are slow.

The second measure of knowledge transfer effectiveness is transfer viscosity. Research in the area of the knowledge-economy (Drucker, 1969) and the knowledge-based view of the firm (Conner & Prahalad, 1996; Grant, 1996; Kogut & Zander, 1992; Spender, 1996; Spender & Grant, 1996) suggests that the possession of knowledge represents a competitive advantage. Maximizing the amount of knowledge held by an organisation is an important corporate goal, but due to the growth of the firm, organisations often do not

know what they know. In order to know locally what they know globally, MNEs seek to transfer all relevant know-how from a source (e.g. the firm's headquarter) to a recipient (e.g. the firm's subsidiary) that can apply it. Transfer viscosity (Davenport & Prusak, 1998) describes how much knowledge transfer is transferred from a source to a recipient. Since firms differ in respect of the amount of knowledge that they can transfer (Björkman *et al.*, 2002; Gupta & Govindarajan, 2000; Minbaeva *et al.*, 2003), they also differ in respect of the effectiveness by which they transfer know-how. Transfer viscosity is another important aspect of transfer effectiveness. Effective transfers are large; ineffective transfers are small.

The third measure of transfer effectiveness is transfer value. Even when transfers are effective as judged by the amount and speed of transfers, there is no guarantee that there will be a positive impact on the business situation of the recipient. In a perfectly effective transfer, 100% of the knowledge that is transferred will be valuable for the recipient. This idealistic situation is seldom, if at all, achieved because of a lack of understanding or misperceptions by at least one of the transfer partners. The value of know-how is thus another aspect that needs to be considered when we seek to fully understand transfer effectiveness. Previously, scholars have investigated transfer value as useful transfers (Levin & Cross, 2004); as transfers that enhance product development capability (Subramaniam & Venkatraman, 2001; Yli-Renko *et al.*, 2001); and as transfers that improve firm performance (Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Kotabe *et al.*, 2003; Lane *et al.*, 2001). The value of knowledge transfers is the third aspect of transfer effectiveness. Effective transfers create a lot of value; ineffective transfers create little or no value.

For the scope of this thesis we define:

Knowledge transfer effectiveness describes how effective an organisation transfers knowledge from one organisational unit to another. Knowledge transfer effectiveness can be measured by transfer velocity (speed), transfer viscosity (amount) and transfer value (the benefits reaped from knowledge transfers). Effective transfers are those that are quick, large and value creating. Ineffective transfers are those that are slow, small and do not create a lot of value.



## RESEARCH GAPS

*No theory or model of organizational learning has widespread acceptance.*

- Fiol & Lyles (1985)

Despite the record levels of knowledge transfer, and the conceptual and empirical attention the topic has received in recent years, there remain questions as to how knowledge flows through intra- and inter-organisational networks and how the challenge of knowledge sharing and transfer can be managed (Levin & Cross, 2004; Subramaniam & Venkatraman, 2001). The multiple settings in which knowledge transfer takes place, and the multiple knowledge transfer aspects that have been researched, let the knowledge transfer phenomenon arise as a highly contextual and multivariate construct. Given its inter-disciplinarity, complexity, and contextuality, it is not surprising that in some areas of the research agenda, knowledge transfer research could not keep up with the pace by that knowledge transfer takes place in the outside world.

It was argued before that transfer velocity, viscosity and value can describe how effective organisations transfer knowledge. Figure 1 gives an overview how the three aspects of effectiveness have been investigated in antecedent studies. Typically, such studies employ one or two of the aspects of effectiveness identified above. However, a simultaneous investigation of all three aspects of effectiveness seems to be absent (figure 2). Since all three aspects have been considered important in the area of knowledge transfer, an interesting research gap is the investigation of how these measures relate to each other and what factors determine them. Some scholars have recently suggested that different measures might be determined by different factors. For example, Bhagat *et al.* (2002) argue that

“computer-mediated communication excels at enhancing the velocity of knowledge transfer. The issue of viscosity, however, is more complicated; viscosity is influenced by a number of cognitive and organisational factors and, in particular, by the mode of transfer. Knowledge transferred through a long process of apprenticeship or mentoring is characterized by high viscosity, with the recipient gaining a significant amount of tacit knowledge, but only after a long period of time” (p. 207).

While some studies simultaneously assess viscosity and value (see figure 2), an empirical test that simultaneously assesses all three measures of effectiveness seems to be missing (figure 2). As will be described in detail in chapter 4, transfer velocity and viscosity are

assumed to influence each other. Such influences can only be found when being simultaneously assessed. Hence, simultaneous investigation of all three measures of transfer effectiveness represents one research gap that needs to be addressed.

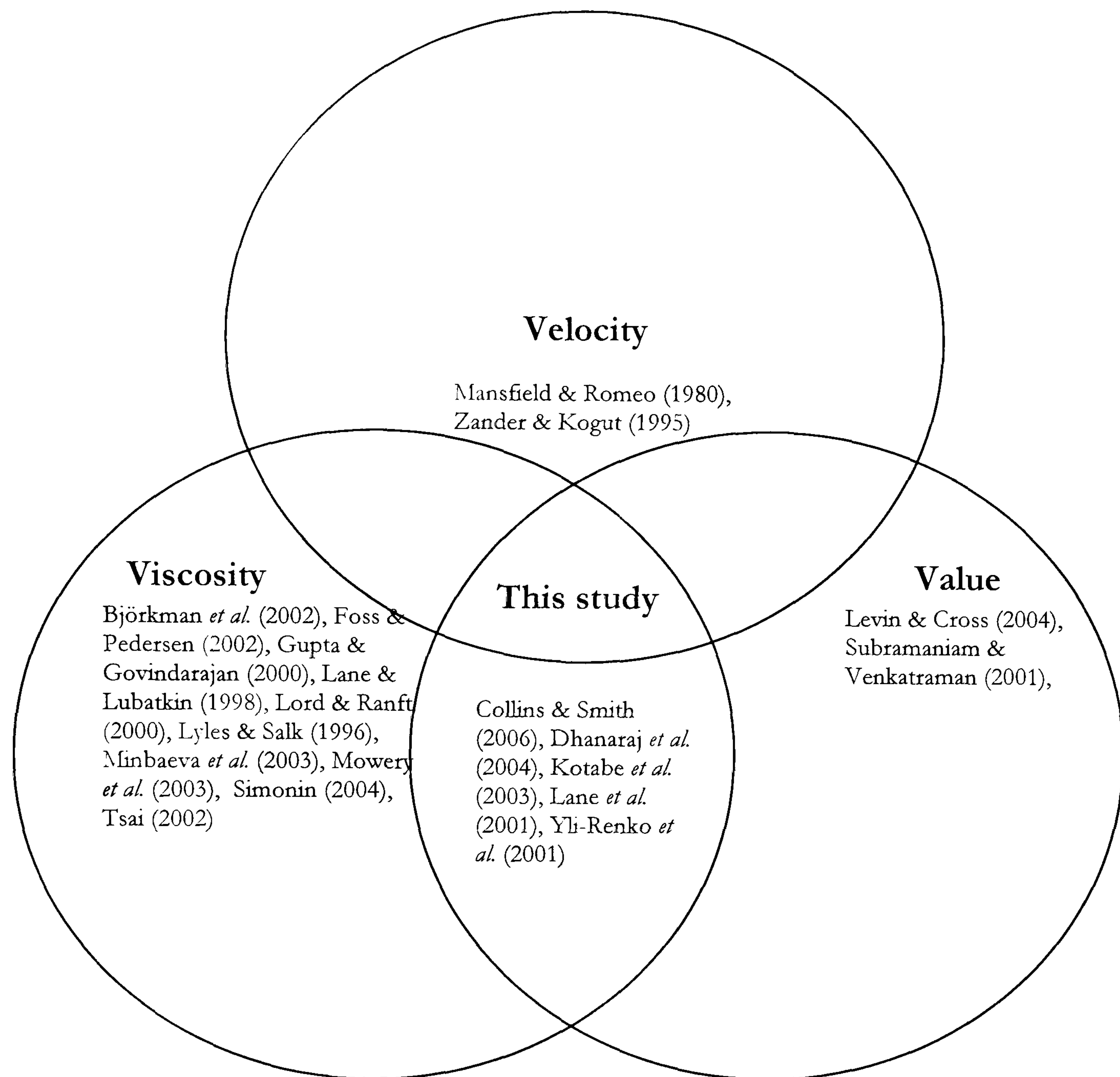


Figure 2: Transfer effectiveness as covered in previous studies

A second research gap can be found in the area of the determinants of transfer effectiveness. Scholars and practitioners still lack answers to the question of why organisations do not know what they know. Tsai (2002: 188) suggests that research into knowledge transfer should focus on delivering “systematic understanding of the social processes that underlie how organizational units learn from each other”. The existence of this research gap illustrates that Penrose’s (1959) observation about the multiple approaches to research the firm and Buckley’s (2002) and Hawkins’ (1984) conclusion

about the lack of integration of the international business research agenda holds valid for research into knowledge transfer, too. As such, the analysis of the firm (Penrose, 1959), the analysis of international business (Buckley, 2002; Hawkins, 1984), and the analysis of knowledge transfer/organisational learning (Fiol & Lyles, 1985; Szulanski, 1996; Tsai, 2002) share the challenge of finding overarching, conclusive theories and models. Chapter 2 will show in more detail how analyses from “whatever point of view [...] seems appropriate” (Penrose, 1959: 10) have led to multiple theoretical approaches that are considered valid within the research area of knowledge transfer. However, and very much in line with the idea of international business being a “non-integrated field” (Hawkins, 1984), an attempt to structure the holistic research output on know-how transfer and to explain all of the findings in one common theoretical framework seems to be absent and new empirical studies frequently do little more than adding new concepts to an already fragmented stream of research. The current project is deemed necessary to fully understand what determines effective know-how transfers, leading to a better understanding of the MNE and one of the key topics on the international business research agenda. In order to address the second research gap, it is therefore necessary to find a single, holistic theory that explains the major ideas revolving around the determinants of knowledge transfer effectiveness.

In this thesis, we seek to contribute to closing the two research gaps. The purpose is to build and examine a conclusive (i.e. more *systematic* and *complete*) theoretical framework for knowledge transfer that integrates all major determinants and allows us to investigate multiple measures of effectiveness. The framework shall integrate the empirical findings of previous studies and possibly even extend their views. The importance of conducting this integration will become even more visible throughout the discussion, when we will find that both communication theorists (e.g. Berlo 1960) and research methodologists (e.g. Hair *et al.* 2006) see problems in analysing transfers without having a complete model in mind.

In summary, this thesis will explore the social (and technical) processes that determine the effectiveness of international know-how transfer in the intra-organisational<sup>14</sup> networks of firms.

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<sup>14</sup> Both intra-organisational and inter-organisational studies of knowledge transfer have been conducted. The determinants of effectiveness in such transfers are largely similar, and both settings would be appropriate for this thesis. The choice for intra-organisational transfers relates to the nature of the sample employed in the empirical tests and the personal research interest of the researcher.

## RESEARCH QUESTION, OBJECTIVES AND THESIS STRUCTURE

The central research question of this investigation is defined as:

What are the determinants of international, intra-organisational knowledge transfer effectiveness?

The question will be answered by achieving three objectives. The first objective is to review the existing literature in a systematic way and to determine which theory is the most conclusive<sup>15</sup> and most appropriate for developing a framework for knowledge transfer effectiveness.

To find the most conclusive framework for research into knowledge transfer effectiveness.

The second objective is to use this framework to specify the factors that cause knowledge transfer effectiveness.

To specify the determinants of knowledge transfer effectiveness according to the chosen framework.

The third objective is to examine the theoretical framework and the determinants from objectives 1 and 2 in an empirical setting.

To empirically examine the degree to which the determinants of knowledge transfer effectiveness explain transfer effectiveness.

According to the research question and objectives, the thesis is structured in the following way.

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<sup>15</sup> While each theory has its own strengths and weaknesses, we are looking for the most conclusive theory, i.e. the theory that includes more research findings than any other theory. The more determinants the theory can explain and account for, the more conclusive it is.

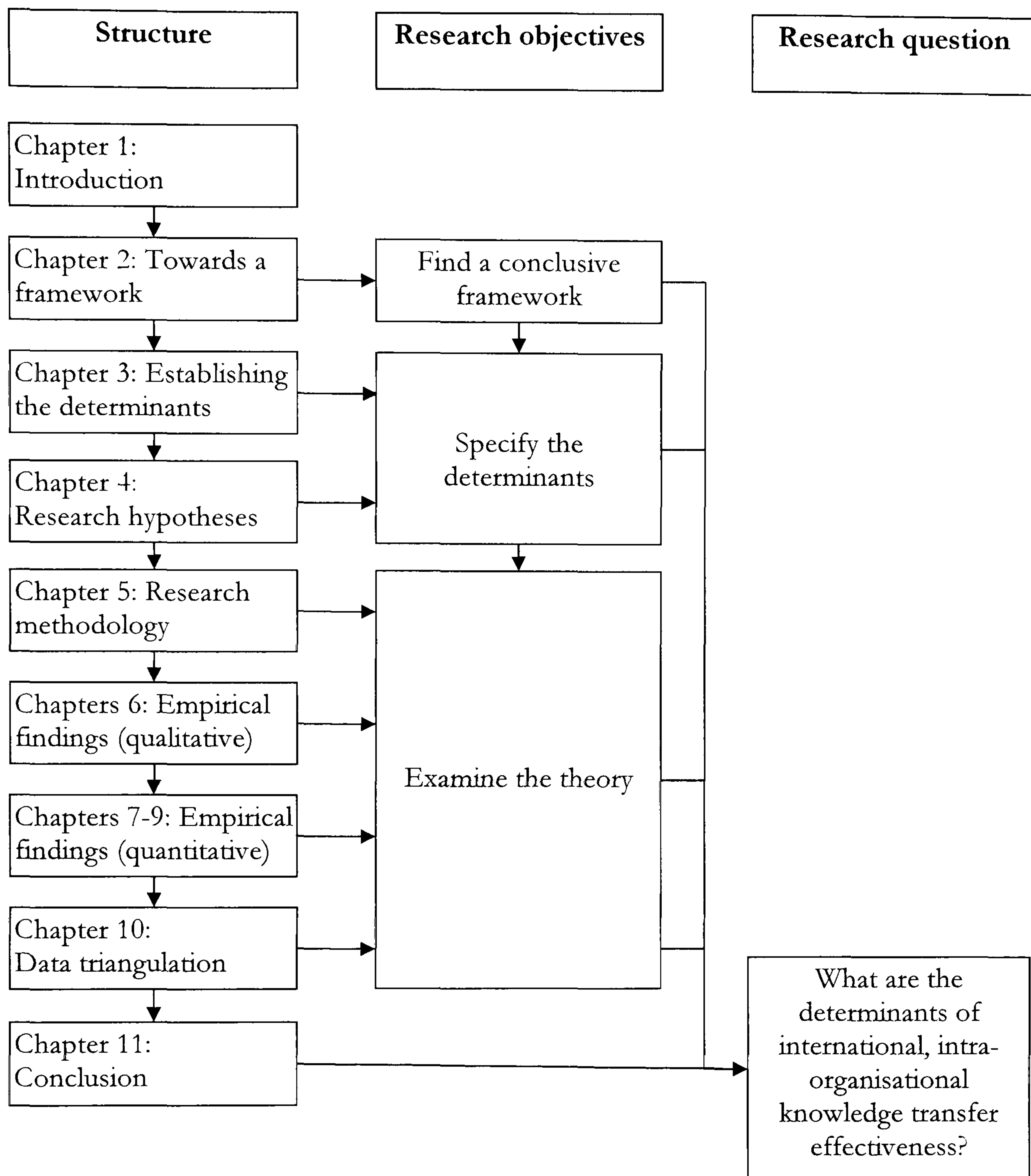


Figure 3: Thesis structure

## ACADEMIC CONTRIBUTION

For international business research, this project is of high importance because of “the lack of consolidation, followed by systemic empirical research” (Detert *et al.*, 2000: 850) in the discipline. We will conduct a consolidation, extend it with additional notions, and examine it in an empirical setting. This will enable scholars to better understand how know-how is transferred in an effective way, leading to a better understanding of effective MNEs. The assessment of multiple measures of effectiveness is especially important for the international business discipline. Bhagat *et al.* (2002) argue that for transfer velocity and

viscosity “both of these criteria of effective knowledge transfer are affected when knowledge transfers involve transacting organizations that are located in dissimilar cultural contexts” (p. 207). We agree with this point and extend it by including a discussion of transfer value. By investigating all three measures, and by doing so in an international context, we can provide insight into how effectiveness is affected when knowledge is transferred internationally.

In accordance with the prior discussion of how knowledge and knowledge transfer have shaped the international business research agenda, a better understanding of the knowledge transfer process can contribute to a better understanding of multiple disciplines (figure 4).

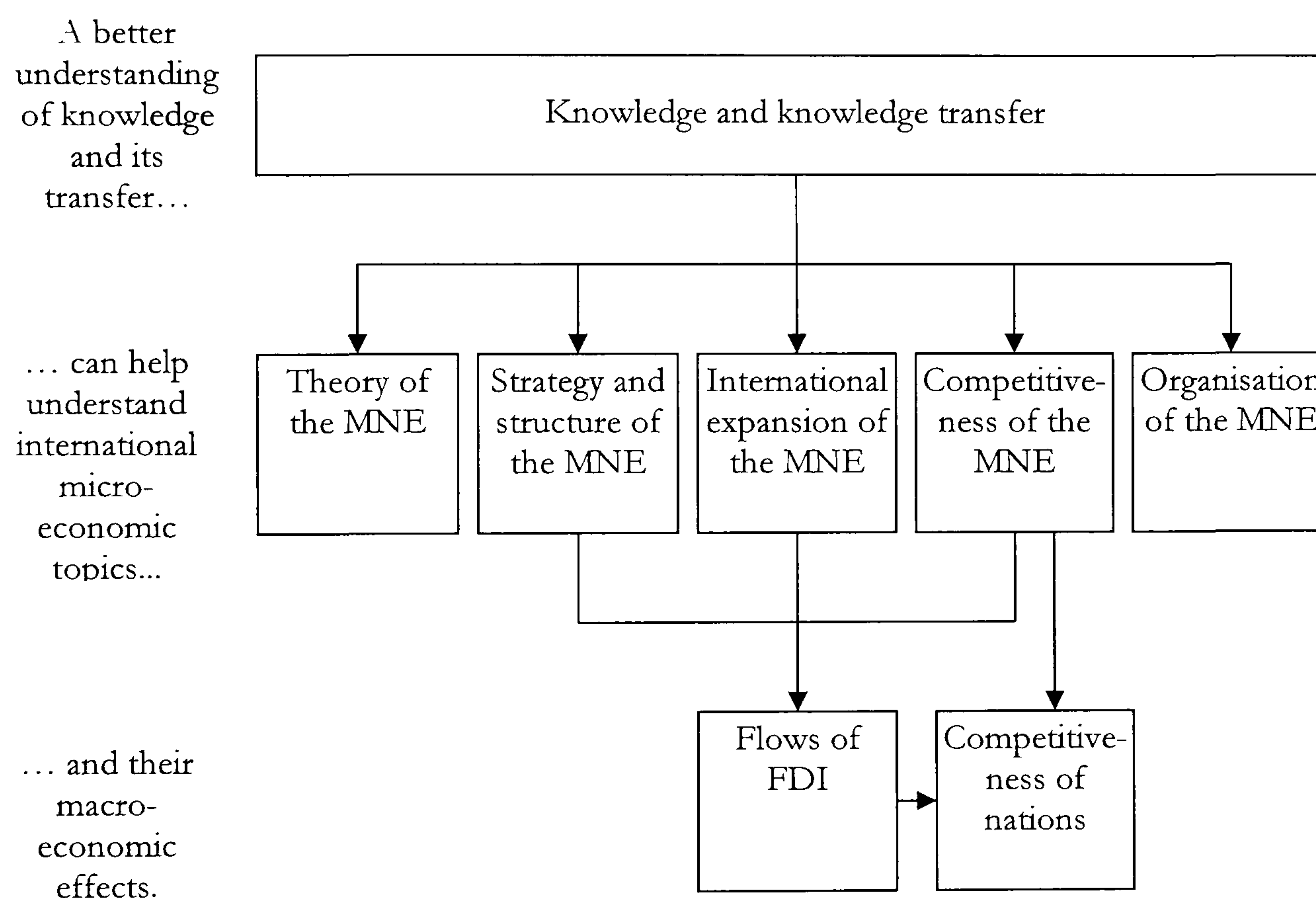


Figure 4: Potential benefits of understanding knowledge transfer effectiveness

## CONTRIBUTION TO PRACTITIONERS

*Naturally, most of us do not read more than 10 percent of this research outpouring. And businessmen, as it has been alleged, do not read any of it.*

- Hawkins (1984: 17)

Understanding knowledge transfer means understanding one of the key sources of competitive advantage of the 21<sup>st</sup> century organisation. Organisational knowledge can be understood as sunk costs (Johnson, 1970). Knowledge reflects an investment that was made in the past. By transferring it to a number of locations, the returns that organisations get on the previously made investment can be increased. New insights into the determinants of knowledge transfer effectiveness benefit managers because they can adjust their resource allocation policies in favour of the most important determinants. This thesis will investigate the social and systemic characteristics of successful knowledge transferring organisations and show practitioners some important levers to build learning (and, as will be elaborated on later, teaching) organisations. It will show the means by which the returns on knowledge investments can be maximised.

Policy makers will equally benefit from this research. Understanding knowledge transfer is key to understanding multiple micro- and macroeconomic issues (figure 4). Since knowledge transfer is key to understanding MNEs, many organisations and institutions will benefit from understanding additional determinants of knowledge transfer effectiveness that can be revealed in this thesis. For example those who design legal environments, investment guidelines and other policies to attract MNEs or make MNEs adjust their behaviour in a country's favour.

## CONCLUSION

While international business is a fragmented field, knowledge and knowledge transfer are topics that connect the research areas in it. Knowledge transfer is an essential aspect of international enterprises' and economies' behaviour and success, but there remain unanswered questions regarding the effectiveness of the knowledge transfer process. In this thesis, a threefold attempt to further the field is made, consisting of i) the search for a theoretical framework that integrates previous scholars' findings in one model, ii) the specification of the determinants of knowledge transfer effectiveness according to the framework, and iii) the empirical investigation of the framework and the determinants. This

will provide new and unique insights to scholars, managers in firms and other policy makers. Therefore, this thesis contributes to strengthening the three goals of international business research: education, research and influence (Hawkins, 1984).



# Chapter 2: Literature Review

*Theoretical approaches to knowledge transfer*<sup>16</sup>

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## **ABSTRACT**

This chapter outlines the reasons why communication theory is chosen as the theoretical framework to explain knowledge transfer effectiveness. We begin by outlining how scholars have formerly investigated transfer effectiveness. Four major theories have previously been employed to explain knowledge transfer effectiveness; i) the resource-based view, ii) the transaction-cost view, iii) social network theory and iv) communication theory. It is shown that communication theory provides the best theoretical framework for knowledge transfer investigations because it allows for the inclusion of both nodal-level (i.e. organisational-unit-specific) and dyad-level (relationship-specific) determinants. We show that, without a single exception, any dependent or independent variable from various knowledge transfer studies we review reflects an aspect dealt with in communication theory. In addition to the perfect theoretical match, communication theory seems to elaborate on additional determinants of transfer effectiveness that are under-researched in knowledge transfer effectiveness studies. The chapter concludes that communication theory offers the most comprehensive theory to build a theoretical model of knowledge transfer effectiveness. This model is subsequently built in chapter 3.

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<sup>16</sup> A paper similar to this chapter named “The Determinants of International Knowledge Transfer Effectiveness” entered the proceedings of the 4<sup>th</sup> Annual PhD Students Consortium at Texas A&M International University, Texas, USA, where the paper was presented.

## INTRODUCTION

Knowledge transfer, knowledge management, knowledge sharing and organisational learning are related areas of interest and, taken together, account for a substantial amount of research output in the international business discipline (see chapter 1). A structured review of the literature revealed that there are both conceptual and empirical publications of immense interest to this research project. These publications were reviewed and the results are discussed in this chapter.

While conceptual publications are of high importance to take the field further, this chapter pays particular attention to the details of empirical publications (table 2). Research into knowledge transfer has been conducted for multiple decades and there is ample research output available. Given the maturity of the field, it is reasonable to pay particular attention to the research ideas that have proven valid in empirical settings. Any good theory needs to be “followed by systemic empirical research” (Detert *et al.*, 2000: 850), in particular in a field like knowledge transfer where research output seems overwhelming, but integration and integrity seems diminishingly small.

The scope of the literature review is shown in table 2.<sup>17</sup> For each relevant publication, the major independent and dependent variables were identified, and the research results were summarised. While reviewing this literature, a number of initial findings were made.

Firstly, all listed publications have in common that their dependent variables measure an aspect of effectiveness. For example, Björkman *et al.* (2004), Collins & Smith (2006), Gupta & Govindarajan (2000), Minbaeva *et al.* (2003) and others investigate the amount of knowledge transferred; Szulanski and colleagues investigate ‘stickiness’ (e.g. Jensen & Szulanski, 2004; Szulanski, 1995, 1996); Reagans & McEvily (2003) explore the ease of transfers, and so on (see table 2).

Secondly, despite the fact that some researchers restrict their analyses to some items of the following list and others mix several of them in common variables, knowledge transfer researchers find the determinants of effectiveness in the source unit/organisation, the recipient unit/organisation, the type of knowledge transferred, external circumstances, and the transfer channels between the two transferring organisations. Research investigating the

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<sup>17</sup> The literature review comprised many other studies on knowledge, knowledge transfer, and knowledge transfer effectiveness. Table 2 only shows the empirical, quantitative studies that are of interest for our systematic review.

determinants at either source or recipient level is referred to as being conducted at the *nodal-level*; research investigating the relationship between source and recipient and its impact on the transfer outcome is referred to as being performed at the *dyad-level*.

Thirdly, researchers investigate how both technology (e.g. communication systems) and social or human factors affect knowledge transfers. Hence, knowledge transfer effectiveness seems to be determined by both technological systems and human/social factors.

Lastly, and central to this chapter, there is no ‘one theoretical framework’ drawn upon by all researchers. Knowledge transfer research is inspired by all kinds of related research streams and theories, the four most frequently employed being a resource-based view, transaction-cost view, social network theory and communication theory. In search of the most conclusive theoretical framework for the investigation of knowledge transfer effectiveness (objective 1), the four frameworks are outlined next.

## **LITERATURE REVIEW & PREVIOUSLY EMPLOYED THEORETICAL FRAMEWORKS**

Knowledge transfer research faces the same challenges as other international business research agendas – there is a lack of integration of different research outputs. One reason for this is that researchers have employed multiple theoretical approaches to derive their frameworks and studies have drawn on a number of different theories. Based on the literature reviewed, it can be stated that the most often employed theories in knowledge transfer research were a resource-based view, a transaction-cost view, a network-theory approach and a communication-theory view.

### **Resource-based view**

The resource-based view of the firm traces back to an article by Penrose (1959), who saw the firm as “a collection of productive resources” (p. 24). The resource-based view has become one of the major theories of the growth of the firm (Barney, 1991; Wernerfelt, 1984). Penrose explained the growth of the firm by the resources it has, which comprise both the traditional factor inputs and management competencies: “... not only [...] the resources with which a particular firm is accustomed to working will shape the productive services its management is capable of rendering (where management is defined in the

broadest sense), but also that the experience of management will affect the productive services that all its other resources are capable of rendering.” (p. 5). The possession and administration of resources determines the existence and limits the growth of the firm.

One spin-off of the theory has become the knowledge-based view, which regards knowledge as the most essential resource of the firm (Conner & Prahalad, 1996; Grant, 1996; Kogut & Zander, 1992; Spender, 1996; Spender & Grant, 1996). Essential to this theory is that knowledge is not only a personal possession, but can also be created from social interaction. The firm’s growth can therefore be higher than its possessed resources might permit us to assume at first glance, whenever social interaction between its employees is effective and contributes to the effective transfer of resources as well as the creation of new competencies.

Crucial to any of the above scholar’s discussion is that optimal use must be made of resources. In particular when resources are located in geographically dispersed locations, transferring resources from one location to another can become challenging. This potentially restricts firms in using their competitive advantages around the globe, and represents a potential barrier to the international growth of the firm.

From a resource-based view of the firm, the effectiveness of knowledge transfers inside the organisational network of a firm determines the growth of the firm. Many scholars listed in table 2 have used the resource based-view of the firm to conceptually identify determinants of transfer effectiveness, such as the amount of knowledge possessed (e.g. Gupta & Govindarajan, 2000) or management resources that distribute and absorb knowledge (e.g. Björkman *et al.*, 2004; Lyles & Salk, 1996).

It can be stated that the possession of resources helps the firm transfer knowledge, and therefore the resource-based view of the firm is a valid and logical framework to explain knowledge transfer effectiveness.

### **Transaction-cost view**

Transaction costs economics, initiated by Coase (1937), calls attention to the fact that market operations are not costless (Demsetz, 1988). Coase’s transaction-cost view argues that firms exist and grow to the extent that they can organise and carry out a transaction at a lower cost than the market can. Transactions “must be governed as well as designed and

carried out, and [...] certain institutional arrangements effect this governance better than others” (Shelanski & Klein, 1995: 336). Essential to this view is that markets and firms are alternative institutional arrangements that can carry out a transaction. Two types of costs have to be considered to understand transaction cost economics: market costs (e.g. the costs of setting up, organising and maintaining a relationship with another market actor) and internal costs (e.g. costs of managing the resources of the firm). Coase argues that whenever internal transaction costs are lower than market transaction costs, the transaction is carried out by a firm rather than a market. To specify the transaction costs imposed on seller or buyer by either market or firm, four factors should be considered: “the degree to which relationship-specific assets are involved, the amount of uncertainty about the future and about other parties’ actions, the complexity of the trading arrangement, and the frequency with which the transaction occurs” (Shelanski & Klein, 1995: 337). The reason that firms and markets coexist is that there are circumstances under which each of them are more efficient in terms of total transaction costs created (Hart, 1988). Many scholars have shared Coase’s views, and Shelanski and Klein’s (1995) overview of empirical works using transactions cost economics lists 118 empirical studies examining it. Their conclusion is that the majority of studies support the theory.

The theory is relevant to analyse knowledge transfer effectiveness for two reasons. Firstly, in knowledge intensive industries (i.e. industries in which value is generated by providing or applying knowledge), internal costs are more likely to be lower than external costs because of the imperfection of knowledge markets (Buckley & Casson, 1976). Firms dominate markets in knowledge intensive products and services because the transaction by the market is very costly. Profit opportunities are higher in markets, but bilateral coordination (read: the firm) is the preferred institutional arrangement when assets are specialised (Shelanski & Klein, 1995), e.g. in the case of knowledge intensive products. The costs of acquiring information, setting up contracts (Williamson, 1979) and monitoring the buyer/seller are in particular costly when knowledge is the subject of the transaction, because understanding its value, assessing its risk and marketability is more difficult than for a tangible product. A firm, on the other hand, does not face the same market costs of the transaction. Individual buyers/sellers can cooperate in the internal networks of a firm without having to set up individual contracts, can obtain information in a much more efficient way, and have less need to monitor each other. In addition, when a firm organises the individuals to cooperate, knowledge creation that is not valuable in itself can be combined with other knowledge, and a product or service is created that a market would

fail to produce.<sup>18</sup> Hence, a firm can combine different value-creation activities in its internal structure and thereby circumvent transaction costs of external markets, which creates MNEs (Buckley & Casson, 1976). Secondly, product knowledge intensity not only causes internal transaction costs to be lower than market transaction costs, but individual knowledge possession also lowers the internal transaction costs. The possession of knowledge facilitates economic decision making (Williamson, 1988) and reduces levels of uncertainty because it provides understanding of asset specificity and thereby can reduce/prevent sunk costs (Williamson, 1988). Hence, possessing knowledge is a valuable resource for the firm to create additional revenues *and* can reduce the costs of transactions.

It can be seen from table 2 that many scholars have derived determinants of transfer effectiveness from transaction-cost theory. Recalling the four factors specified to govern transaction costs as defined by Shelanski & Klein (1995), a review of table 2 reveals several elements that derive from a transaction-cost view. The uncertainty about other parties' actions was measured by trust (Collins & Smith, 2006; Dhanaraj *et al.*, 2004) and reliability (Szulanski, 1995, 1996). Uncertainty about the future was measured as written goal articulation (Lyles & Salk, 1996). The frequency of transactions is reflected in communication frequency (e.g. Subramaniam & Venkatraman, 2001).

### **Social network theory**

Social network theory is the study of the relationships between individuals. The research area traces back to Tönnies (1887) and his elaborations on *Gemeinschaft* (communities) and *Gesellschaft* (societies). Communities describe relations of people with close and direct ties, while societies refer to social constructs in which people have formal and indirect ties. Modern social network theory includes the works of Feld (1981), Granovetter (1973, 1983) and Rogers (1979). Using the notions of strong and weak ties, Granovetter explains that the important links between people looking for information are not the strong and close ties they have with a few selected individuals, but rather the 'weak' ties they have with a large number of people. Weak, distant ties are more likely to hold additional, useful information than strong, close ties because "the stronger the tie connecting two individuals, the more similar they are" (Granovetter, 1973: 1362). The important links in network theory are therefore those that enable individuals to connect via a known individual with

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<sup>18</sup> A good example is organising people in a university to do research. Much of the knowledge created at universities is not marketable in itself, but sometimes scholar's research can generate multi-billion dollar businesses. The case of the 2007 Physics Nobel Prize winner Grünberg, whose very theoretical research made hard drives of today's size possible, is one such example.

other individuals whom they did not know. Such ties are enabled by “local bridges” (Granovetter, 1973). Many conceptual and empirical works summarised by Granovetter (1983) support the usefulness of weak ties in many areas such as information acquisition and job search.

It was suggested earlier that knowledge is the state of being informed and that the process of informing oneself can be of a social nature. Hence, social networks represent an opportunity for information exchange. Networks, be they weak or strong in nature, are therefore used as a theoretical approach to understand how information is exchanged between individuals and groups and in particular how innovations diffuse (Granovetter, 1973; Rogers, 1979).

A look at table 2 suggests that many of the ideas in social network theory have also been employed by the knowledge transfer research community. Notions derived from social network theory comprise that of the number of ties (McFayden & Cannella 2004), tie strength (Levin & Cross, 2004; McFayden & Cannella, 2004), as well as other measures assessing the quality of social networks (Tsai, 2002; Yli-Renko *et al.*, 2001).

### **Communication theory**

Communication theory is the study of the transfer of meaning. This transfer of meaning takes place via the communication process. Similar to our previous definition of knowledge transfer, the communication process is concerned with the transfer of meaning from a source (often called sender) to a recipient (often labelled receiver). Ideas about the communication process trace back to Aristotle (Roberts, 1946; Saugstad, 2005). Aristotle’s ideas of analysing the communication process via its three attributes i) the speaker, ii) the speech and iii) the listener, resemble the ideas of modern communication (Saugstad, 2005). A comparison of influential studies shows that today there is a widespread agreement that the communication process comprises five elements i) the message, ii) the sender, iii) the channel, iv) the recipient and v) noise (Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954; Shannon, 1948; Shannon & Weaver, 1949).<sup>19</sup> Each of these elements contains several attributes that determine the effectiveness of communication simultaneously (Berlo, 1960).

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<sup>19</sup> More interactive models frequently include a sixth component ‘feedback’, the reverse communication from the recipient to the sender. This reverse recipient-source communication underlies the same rules as the ‘initial’ sender-recipient communication (De Fleur 1970; Schramm 1954). Hence, the notions about the initial

The theory is relevant to explain knowledge transfers because both knowledge transfer and communication take place along a similar process involving different actors and stages. Knowledge transfer has been viewed by different authors as a process consisting of different sub-processes, or stages. Szulanski (1996) defines knowledge transfer as an unfolding process including the stages initiation, implementation, ramp-up, and integration. Gupta & Govindarajan (2000) and Wang *et al.* (2000) distinguish between knowledge outflows and knowledge inflows as the two indicators of knowledge transfer between organisational units. All previous studies have analysed multiple aspects of the message, the sender, the channel, the receiver, or noise (c.f. table 2); scholars have investigated the knowledge source (the sender), a knowledge-body of interest (the message), a knowledge recipient (the receiver), a transfer medium (the channel) and some external effects (noise sources). These elements derive from Shannon's (1948) mathematical theory of communication. Shannon's theory builds on a model depicted in figure 5.

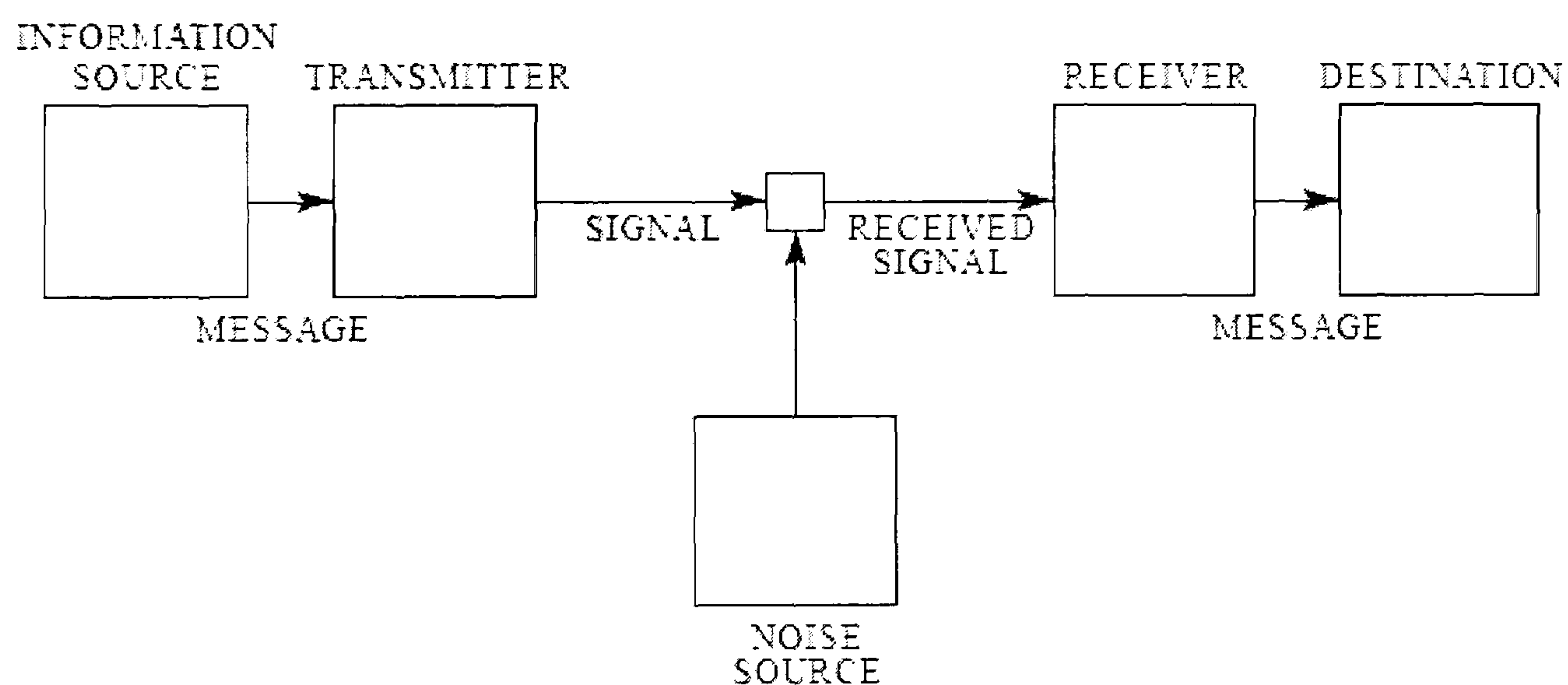


Figure 5: The communication model<sup>20</sup>

While Shannon's (1948) and Shannon & Weaver's (1949) mathematical theory of communication was frequently employed by scholars to build theoretical models of transfer effectiveness, the many studies on communication that enrich the understanding of the process with human, collective, and social aspects (e.g. Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954) were seldom employed or referred to in knowledge transfer scholars' frameworks.

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communication described in this chapter are applicable to reverse communication too. See the limitation section in chapter 11 for a more elaborate discussion.

<sup>20</sup> Source: Shannon (1948, 2)



Table 2 shows the reviewed empirical knowledge transfer studies, their research setting, sample size, employed variables and their measurements, and the research findings.

No.	Study	Setting	Sample size & Unit of analysis	Dependent Variable(s) & Measurement(s)	Independent Variable(s) & Measurement(s)	Main evidence provided in the analysis
1	Björkman, Barner-Rasmussen & Li 2004	Intra-organisational setting	134 subsidiaries	<b>Outward knowledge transfer from focal subsidiary</b> (Degree to which the subsidiary's distinctive competences had been used by other units, measured on a 7-point Likert scale)	<p><b>1. Performance evaluation criteria</b> (Importance of knowledge transfer in evaluating subsidiary performance measured on a 7-point Likert scale)</p> <p><b>2. Subsidiary management compensation</b> (The impact of individual, subsidiary, and MNC performance on top-management's compensation measured on a 4-point scale)</p> <p><b>3. Number of expatriate managers</b> (Number of foreign employees in the subsidiary's top management team)</p> <p><b>4. Corporate socialisation mechanisms</b> (Relative number of managers participating in inter-unit trips and visits; international committees, teams and task forces; training involving participants from multiple units)</p>	<ul style="list-style-type: none"> <li>- The higher the importance of knowledge transfer in evaluating subsidiary performance, the higher outward knowledge transfers</li> <li>- The more subsidiary managers interact with managers from other MNC units through corporate socialisation mechanisms, the higher outward knowledge transfers</li> </ul>
2	Cohen & Levinthal 1990	Organisation's absorbing external information	1719 business units of 318 firms in 151 lines of business	<b>R&amp;D spending</b> (company-financed business-unit research as a percentage of business unit sales)	<p><b>1. Technological opportunity</b> (Relevance &amp; importance for technological progress)</p> <p><b>2. Appropriability</b> (Maximum value of the effectiveness scores attained by Levin <i>et al.</i>'s (1983, 1987) survey of mechanisms to capture and protect the competitive advantages of new processes and products)</p> <p><b>3. Demand conditions</b> (Levin's (1981) industry estimates of price and income elasticity and a demand time-shift parameter)</p>	<ul style="list-style-type: none"> <li>- Investment in basic research may be conducted less for direct results but to achieve general knowledge that allows the deeper understanding and better exploitation of new knowledge in the future</li> <li>- The ability to assimilate and exploit such new, external knowledge (labelled absorptive capacity) increases with R&amp;D spending</li> <li>- R&amp;D thus both generates innovation and facilitates learning</li> </ul>

3	Collins & Smith 2006	Intra-organisational setting	136 US-based high- technology firms	<p><b>1. Knowledge exchange/combination</b> (Sharing, learning, idea exchanging and combination among knowledge workers)</p> <p><b>2. Firm performance</b> (A. Revenue from new products and services, B. One-year sales growth)</p>	<p>(All measured on 5-point scales)</p> <p><b>1. Commitment-based HR practices</b> (Selection, incentive, and training &amp; development policies)</p> <p><b>2. Organisational social climate</b> (A. Trust (Ability, benevolence, and integrity dimensions of trust), B. Cooperation, C. Shared codes and language (Work-related agreement, trouble in understanding when cooperation))</p>	<p>- Commitment-based HR practices are positively related with an organisational social climate of trust, cooperation, and shared codes and language, and with knowledge exchange/combination</p> <p>- An organisational social climate of trust, cooperation, and shared codes and language is positively related to knowledge exchange/combination</p> <p>- Knowledge exchange/combination is positively related to firm performance</p> <p>- Combined analysis of the effects reveals that commitment-based HR practices are positively, but indirectly related to firm performance, via their effects on the organisational social climate and on knowledge exchange/combination</p>
4	Dhanaraj, Lyles, Steensma & Tihanyi 2004	Inter-organisational & setting	138 International joint ventures	<p><b>1. Explicit knowledge</b> (5-point scale measuring the extent to which written knowledge about technology, procedural or technical manuals, and written knowledge about management techniques were learned)</p> <p><b>2. Tacit knowledge</b> (5-point scale measuring the extent to which new marketing expertise, knowledge about foreign cultures and tastes, and</p>	<p><b>1. Parent-IJV tie strength</b> (5-point Likert scale measuring parent's support received regarding managerial resources, emotional support, and time)</p> <p><b>2. Trust</b> (5-point Likert scale measuring understanding, trust, etc.)</p> <p><b>3. Shared systems</b> (5-point Likert scale measuring shared procedures, systems, and philosophy)</p>	<p>- Embeddedness (tie strength, trust, and shared systems) has a significant and positive impact on the transfer of tacit knowledge and no impact on the transfer of explicit knowledge in mature IJV's</p> <p>- There is a positive relationship between tacit and explicit learning</p> <p>- Tacit learning has a negative impact on IJV performance</p> <p>- Explicit learning has a positive impact on IJV performance</p>

	Foss & Pedersen 2002	Intra-organisational setting	2107 subsidiaries from seven countries	<p>managerial techniques were learned)</p> <p><b>3. IJV performance</b> (5-point scale measuring the JV's performance from the Hungarian and foreign parent's, and the JV-manager's point of view)</p> <p><b>Knowledge Transfer</b> (7-point Likert-scale questionnaire item measuring the extent to which subsidiary knowledge has been of use to other MNC units)</p>	<p>(All measured on 7-point Likert-type scales)</p> <p><b>1. Internal knowledge</b> (subsidiaries' own effort of knowledge production)</p> <p><b>2. Network knowledge</b> (importance of customers and suppliers as sources of knowledge creation)</p> <p><b>3. Cluster knowledge</b> (assessment of the business environment according to Porter's (1990) model)</p> <p><b>4. Interdependence</b> (measures the subsidiary's dependence on the MNC and the MNC's dependence on the subsidiary)</p> <p><b>5. Intra-MNC trade</b> (breadth of internal trade (semi-products and final goods and services) links)</p> <p><b>6. Autonomy</b> (level at which decisions such as hiring top subsidiary management, entering new markets, changes to subsidiary organisation, etc., are made)</p>	<p>- Internal, network, and cluster knowledge are all positively related to knowledge transfer (internal knowledge at a much larger extent than the other two)</p> <p>- Interdependence between receiving and sending unit is positively related to the level of internal knowledge</p> <p>- Autonomy is positively related to the level of cluster knowledge</p>
6	Gupta & Govindarajan 2000	Intra-organisational setting	374 subsidiaries within 75 MNCs headquartered in the US, Europe & Japan	<p><b>1. Knowledge outflows to peer subsidiaries</b> (Marketing know-how, distribution know-how, packaging design/technology, product design, process design,</p>	<p><b>1. Value of source unit's knowledge stock</b> (Mode of entry, subsidiary size, relative economic level)</p> <p><b>2. Motivational disposition of the source unit</b> (Presidents' network-focused bonuses)</p>	<p>- Knowledge outflows to peer subsidiaries are higher in larger and in acquired subsidiaries that have stronger transmission channels</p> <p>- Knowledge outflows to the</p>

				<p>purchasing management systems &amp; practices)</p> <p>2. <b>Knowledge outflows to the parent</b> (see 1.)</p> <p>3. <b>Knowledge inflows from peer subsidiaries</b> (see 1.)</p> <p>4. <b>Knowledge inflows from the parent corporation</b> (see 1.)</p>	<p>3. <b>Existence and richness of transmission channels</b> (Liaison personnel, task forces, permanent committees to integrate the subsidiary; lateral socialization of subsidiary president)</p> <p>4. <b>Motivational disposition of the target unit</b> (Presidents' network focused bonuses, relative economic level, degree of decentralization)</p> <p>5. <b>Absorptive capacity of the target unit</b> (Mode of entry, local nationals in top-management team)</p>	<p>parent corporation is higher for larger subsidiaries in countries with a higher level of economic development (relative to the country of the parent) and richer transmission channels</p> <ul style="list-style-type: none"> <li>- Knowledge inflows from peer subsidiaries is higher when transmission channels are stronger</li> <li>- Knowledge inflows from the parent corporation are higher when transmission channels are stronger, when the motivational disposition is higher, and when units are established from scratch rather than acquired</li> </ul>
7	Hansen, Mors & Løvås 2005	Intra-organisational setting	121 project teams in different subsidiaries of one industrial electronics company	<p>1. <b>Sought knowledge</b> (1,0 variable; 1 if the team sought knowledge in other subsidiaries, 0 if not)</p> <p>2. <b>Search costs</b> (Number of engineering months that the team spent searching for the knowledge)</p> <p>3. <b>Transfer costs</b> (Number of engineering months the team spent transferring the knowledge)</p>	<p>1. <b>Within-team network density</b> (0 to 1 scale ranging from "no relations exist" to "all possible relations exist" based on the number of contacts of a team-member divided by all possible contacts there are)</p> <p>2. <b>Within-team relation strength</b> (7-point scale measuring frequency and closeness of the relation)</p> <p>3. <b>Intersubsidary network size</b> (Number of subsidiaries from which knowledge was sought)</p> <p>4. <b>Intersubsidary relation strength</b> (7-point scale measuring frequency and closeness of the relation)</p> <p>5. <b>Intersubsidary perceived competition</b> (7-point scale measuring the perceived competitive nature of the relation)</p> <p>6. <b>Perceived competition in transfer</b> (7-point scale measuring the perceived</p>	<ul style="list-style-type: none"> <li>- More dense teams seek less knowledge across subsidiaries</li> <li>- Teams with stronger internal relations seek less knowledge across subsidiaries</li> <li>- Teams with larger intersubsidary network size seek more knowledge across subsidiaries</li> <li>- Stronger average relation strength in a focal team's intersubsidary network lead to higher perceived search costs</li> <li>- Higher perceived competition of a subsidiary leads to higher search costs for the subsidiary</li> <li>- The higher perceived competition of a focal subsidiary by a knowledge-providing subsidiary, the higher the focal subsidiary's transfer costs</li> </ul>

					<p>competition from the sender's view)</p> <p><b>7. Dyadic transfer relation strength</b> (Same scale as for 4.)</p> <p><b>8. Tacitness of knowledge</b> (7-point scale measuring the degree to which knowledge was documented)</p>	<p>- The negative relationship between dyadic relationship strength and the focal team's transfer costs is moderated by knowledge tacitness: Higher (lower) knowledge tacitness strengthens (weakens) the effect</p> <p>- There are at least three phases in knowledge sharing that future research should distinguish: deciding to seek knowledge, searching for knowledge, transferring knowledge</p> <p>- There are at least three subsets of networks that need to be paid attention to in knowledge transfer research: within-team, intersubidiary, and transfer networks</p>
8	Jensen & Szulanski 2004	Intra-organisational setting	271 questionnaires from 110 source units, 101 recipient units, and 60 third parties	<p><b>Stickiness in the transfer of organisational practices</b> (Difficulties in communicating knowledge, assessing requirements of knowledge and the expertise of the source, implementing knowledge, achieving performance, ...)</p>	<p><b>1. Adaptation</b> (Degree to which practices were modified measured on 5-point Likert-type scales)</p> <p><b>2. Institutional distance</b> (Kogut &amp; Singh Cultural Distance Index)</p> <p><b>3. Recipient motivation</b> (Recipients perception of benefits measured on a binary scale)</p>	<p>- Recipient motivation decreases stickiness</p> <p>- Adaptation increases stickiness</p> <p>- Institutional distance is negatively related to stickiness</p>
9	Kotabe, Martin & Domoto 2003	Inter-organisational setting	105 Japanese & 97 US based automotive suppliers	<p><b>Supplier performance improvement</b> (Performance relative to 2-3 years earlier measured on a 5-point scale)</p>	<p><b>1. Technical exchanges</b> (Common, informal communication between engineers measured on a 5-point scale)</p> <p><b>2. Technology transfer</b> (Transfer of higher-level technological capabilities measured on a 5-point scale)</p> <p><b>3. Link duration</b> (A. Number of years since the beginning of the business relationship between buyer and supplier, samples)</p>	<p>- More frequent technical exchanges between supplier and buyer improve supplier performance (US-sample)</p> <p>- Longer link duration strengthens the positive effect between technology transfer and supplier performance (US &amp; Japanese samples)</p>

10	Lane & Lubatkin 1998	Inter-organisational setting	31 learning dyads (R&D alliances between biotechnology (teacher) and pharmaceutical (student) firms)	<p><b>Learning partner's success at inter-organisational learning within the alliance</b> (Degree to which the alliance helped learning new skills, capabilities, technology or developments, knowledge spillovers, measured on 5-point Likert-type scale)</p>	<p>B. A's natural logarithm)</p> <p><b>1. Overlap between student's and teacher's dominant logics</b> (Number of research communities that both alliance partners had published in)</p> <p><b>2. Overlap between student's and teacher's basic knowledge</b> (Standardised percentage of research communities with a biochemistry discipline in which a learning partner was active, weighted by the square root of the number of research communities, multiplied with the percentage of research communities with a biochemistry discipline in which a teaching partner was active)</p> <p><b>3. Overlap between student's and teacher's specialised knowledge</b> (same as 2. but for research communities with neurology, endocrinology, etc. disciplines)</p> <p><b>4. Overlap of alliance partners' organisational structures</b> (Partner similarity scores using a 7-point Likert-type scale measuring the formalization of management practices and the extent to which decisions are centralized)</p> <p><b>5. Similarity of partners' compensation practices</b> (Partner similarity scores using a 7-point Likert-type scale measuring algorithmic and experiential compensation practices)</p>	<p>Shared dominant logics are positively related to learning</p> <ul style="list-style-type: none"> <li>- Shared basic knowledge is positively related to learning</li> <li>- Shared specialised knowledge is not related to learning (neither positively nor negatively)</li> <li>- Two items of shared organisational structures, similarity of lower management formalisation and research centralisation, were positively related to learning</li> <li>- Two items of shared organisational structures, similarity in upper management formalisation and management decision centralisation, were negatively related to learning</li> <li>- The similarity of partner's compensation practices is positively related to learning</li> <li>- For the sample, the traditional measure of absorptive capacity (R&amp;D spending) explains only 4% of the variance in learning, while the five measures employed by Lane &amp; Lubatkin explain 55%.</li> <li>- Thus, the ability of a firm to learn from another is jointly determined by the relationship between the teacher's and partner's knowledge, knowledge processing systems, and dominant logics</li> </ul>
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11	Lane, Salk & Lyles 2001	Inter-organisational setting	78 small/medium sized IJVs in Hungary (as in Lyles & Salk 1996)	<p><b>1. Learning</b> (Current knowledge (technological, managerial, marketing, product development, manufacturing) measured on a 7-point Likert-type scale)</p> <p><b>2. Performance</b> (5-point Likert-type scale measuring IJV performance (increasing business volume &amp; market share, achieving planned goals, making profits) in 1996)</p>	<p><b>I. The IJV's ability to understand external knowledge</b> (1. Trust (Overall confidence in another's trustworthiness measured on a 5-point scale), 2. Relative absorptive capacity (Multiple items measuring cultural compatibility with parents, prior knowledge from parents, and relatedness of IJVs and parents' businesses on multiple scales)</p> <p><b>II. The IJV's ability to assimilate foreign parent's knowledge</b> (Multiple items (3. Flexibility &amp; adaptability; 4. Management support by parents, 5. Trainings received from parents, 6. Formal goals for the IJV, 7. Specialisation of the parents) measured on multiple scales)</p> <p><b>III. The IJV's ability to apply external knowledge</b> (Multiple items (8. IJV's strategy, 9. Training and development competence) measured on multiple scales)</p>	<p>- All measures of an IJV's ability to understand knowledge are positively associated with learning</p> <p>- All measures of an IJV's ability to assimilate knowledge are positively associated with learning (with the exception of management support by parents, which shows no relationship with learning)</p> <p>- Prior relevant knowledge only facilitates learning when accompanied by a high level of training by parents</p> <p>- All three abilities are related to IJV performance</p>
12	Levin & Cross 2004	Intra-Organisational setting	118 mid-level professionals from 3 firms, located in 3 different industries, and 3 different countries	<p><b>Perceived receipt of useful knowledge</b> (Contribution to project efficiency and effectiveness measured on 1-7 Likert scales)</p>	<p>(All measured on Likert scales)</p> <p><b>1. Tie strength</b> (Closeness of relationship and frequency of communication)</p> <p><b>2. Benevolence-based trust</b> (Care about the other party)</p> <p><b>3. Competence-based trust</b> (Professionalism, dedication, competence and preparation)</p> <p><b>4. Knowledge tacitness</b> (Type of information, degree of documentation)</p>	<p>- Strong ties have a positive effect on both benevolence-based trust and competence-based trust</p> <p>- Benevolence-based trust positively effects the receipt of useful knowledge</p> <p>- Competence-based trust positively effects the receipt of useful knowledge, especially when the knowledge is tacit</p> <p>- After controlling for trustworthiness, weak ties have a stronger effect on the receipt of useful knowledge than strong ties</p>



13	Lord & Ranft 2000	Intra-organisational setting	104 divisional entries of from 41 diversified US-based parent corporations into China, India and Russia	<p><b>Transfer of local market knowledge</b> (7-point Likert-type scale measuring the extent to which knowledge had been transferred to the respondent's division from other divisions)</p>	<p><b>1. Tacitness</b> (7-point Likert-type scale measuring the codifiability, complexity, and teachability of knowledge)</p> <p><b>2. Corporate HQ office</b> (1, 0 variable depending on the existence of a corporate HQ office)</p> <p><b>3. Corporate centralisation</b> (7-point Likert-type scale measuring corporate-level executives' monitoring, coordination, and involvement in strategy formulation and implementation)</p> <p><b>4. Linkage of incentives</b> (Square root of percentage of rewards and incentives for key divisional personnel that was linked to overall corporate performance)</p>	<p>- Tacitness of knowledge is negatively related with its internal transfer</p> <p>- The use of corporate country headquarters is positively linked with knowledge transfer</p> <p>- The use of corporate centralisation is positively linked with knowledge transfer</p> <p>- The cross-divisional linkage of incentives is positively related to knowledge transfer</p>
14	Lyles & Salk 1996	Inter-organisational setting	201 small/medium sized IJVs in Hungary	<p><b>1. Knowledge acquisition from foreign parent</b> (7-point Likert-type scale measuring the extent to which technological, managerial, and marketing expertise, product development, cultural, and manufacturing knowledge were acquired)</p> <p><b>2. General IJV performance</b> (Likert-type scale measuring the IJV's performance from both parents' and the IJV manager's point of view)</p> <p><b>3. Business performance</b> (Likert-type scale measuring increased business volume and market share, achieving planned goals and making profits)</p> <p><b>4. Competency based / HR</b></p>	<p><b>1. Capacity to learn</b> (7-point Likert-type scale measuring flexibility, adaptation to change, creativity, and superiors' knowledge about employee performance)</p> <p><b>2. Articulated goals</b> (0, 1, or 2 variable indicating no written goals (0), either written objectives or written plan (1), or both (2))</p> <p><b>3. Active involvement of the foreign parent</b> (Multiple variables measuring the agendas for knowledge transfer, the division of labour between both parents, and the amount of training provided on 7-point Likert-type scales)</p> <p><b>4. Culture-conflict</b> (7-point Likert-type scale measuring the degree to which differences and misunderstandings influenced the IJV organisation)</p> <p><b>5. Parent conflict</b> (7-point scale measuring the extent of mistrust and conflict between the parents)</p>	<p>- A capacity to learn is positively associated with knowledge acquisition</p> <p>- Written goals are positively associated with knowledge acquisition</p> <p>- Goal articulation and the active involvement of the foreign parent (clear division of labour, contribution of managerial know-how, and provision of trainings) lead to higher levels of knowledge acquisition</p> <p>- Managerial (tacit) knowledge acquisition has a greater impact on perceived IJV performance than technical knowledge acquisition</p> <p>- Knowledge acquisition in shared management IJVs is more directly affected by cultural differences and written goals than in the other</p>

15	McFayden Cannella 2004	& Scientists	173 scientists	<p><b>management performance</b> (Likert-type scale measuring improved management skills and the provision of adequate worker trainings)</p> <p><b>Knowledge created</b> (Institute of Scientific Information's impact factor)</p>	<p><b>6. Ownership</b> (Three dummy variables indicating IJV's with shared management (Dummy 1), IJV's with a dominant parent (Dummy 2), and IJV's with multi-parent but no single dominant one (Dummy 3))</p> <p><b>1. Number of relations</b> (Sum of scientists' co-authors during a five-year period)</p> <p><b>2. Strength of relations</b> (Average number of times published with the same co-author during a five-year period)</p>	<p>ownership types</p> <ul style="list-style-type: none"> <li>- Knowledge acquisition from the foreign parent is significantly related to performance</li> <li>- It appears that parental and culture-related conflicts impact knowledge acquisition most strongly in combination with the type of ownership structure</li> </ul> <ul style="list-style-type: none"> <li>- There are diminishing benefits to both the number of direct ties between scientists and the strength of their direct ties</li> <li>- The strength of direct ties has a higher marginal effect on knowledge creation than the number of direct ties</li> <li>- The initially positive, then negative, impact on knowledge creation of both the number of ties and their strength illustrates that the costs of developing relationships at some point outweighs the benefits of the relationship</li> </ul>
16	Minbaeva, Perdersen, Björkman, Fey & Park 2003	Intra-organisational setting	169 subsidiaries in the US, Russia, and Finland of MNCs from Finland, Germany, Japan, Sweden, and the US	<p><b>Transfer of knowledge</b> (5-point Likert scale measuring the extent to which subsidiaries utilize knowledge from the parent company and from other MNC units)</p>	<p><b>1. Employee ability</b> (7 point scale measuring overall ability, job-related skills, and educational level of employees compared to its competitors)</p> <p><b>2. Employee motivation</b> (7 and 5 point scales measuring motivation, work effort, and contribution of employees compared to its competitors)</p> <p><b>3. Training</b> (number of days of formal training managerial and non-managerial employees receive annually)</p>	<ul style="list-style-type: none"> <li>- Training has a significantly relationship with employee's ability</li> <li>- Performance appraisal has a marginally significant relationship with employee's ability</li> <li>- Performance based compensation and internal communication have a significantly relationship with employees' motivation</li> </ul>

					<p>4. <b>Competence/performance appraisal</b> (Proportion of the workforce that regularly receives a formal evaluation of their performance; proportion of jobs where a formal job analysis has been conducted; ...)</p> <p>5. <b>Merit-based promotion</b> (5-point scale measuring internal promotion opportunities, the importance placed on merit for promotion decisions, and in-house promotion to upper-level vacancies)</p> <p>6. <b>Performance-based compensation</b> (5-point scales measuring the proportion of employees who can earn bonuses and the extent to which compensation is performance-based)</p> <p>7. <b>Internal communication</b> (5-point scale measuring communication flows between different departments and hierarchical and functional levels)</p>	<p>- Neither employee ability nor motivation has a significant positive impact on knowledge transfer, but there is a significant interaction of motivation and ability, showing that knowledge transfer needs both elements</p>
17	Mowery, Oxley & Silverman 1996	Inter-organisational setting	792 US-based (mainly international) alliances	<p><b>Firm-learning</b> (Cross-citation rate of patents (Citations to firm1 patents in firm2 patents divided by total citations in firm2 patents))</p>	<p>1. <b>Allies</b> (1, 0 dummy showing whether two firms in the citation index are alliance partners or not)</p> <p>2. <b>Equity</b> (1,0 dummy indicating whether the alliance is equity-based or not)</p> <p>3. <b>Unilat</b> (1,0 dummy distinguishing between unilateral and bilateral agreements)</p> <p>4. <b>US-nonUS</b> (1,0 dummy showing if the alliances involves a non-US partner)</p> <p>5. <b>SameSIC</b> (1, 0 dummy indicating partner similarity at the 4-digit SIC code level)</p> <p>6. <b>Foreign company</b> (1,0 dummy</p>	<p>- Alliance-participation relates positively to a change in firms' cross-citation rate of patents (i.e. increases learning)</p> <p>- Knowledge transfer is higher for equity-based alliances than for contractual alliances</p> <p>- Knowledge transfer is higher for contract-based (non-equity) alliances than for 'unilateral' alliances (e.g. licensing agreements)</p>

18	Reagens & McEvily 2003	Intra-organisational setting	104 employees of an American contract R&D firm	<b>Ease of transfer from a source to a recipient</b> (Ease of explaining to a person or someone in his area an idea, concept, or theory from one's own area measured on a 7-point scale)	showing if the alliance partner is non-U.S. or not) <b>7. Japanese company</b> (1,0 dummy showing if the alliance partner is Japanese or not)	- Common knowledge is positively related to ease of knowledge transfer - Tie strength is positively related to ease of knowledge transfer - Tacitness (low codifiability) of the knowledge being transferred increases the positive effect of tie strength of knowledge transfer - Network cohesion is positively related to ease of knowledge transfer - Network range is positively related to the ease of knowledge transfer
19	Simonin 1999	Inter-organisational setting	151 strategic alliances of US-based MNEs	<b>Ambiguity</b> (Ease of transferring and understanding the partner's marketing skills and know-how measured on a 7-point interval scale)	(All measured on 7-point scales) <b>1. Knowledge codifiability</b> (Extent to which expertise can be standardised, codified, documented, and to which documentation describing the expertise exists in the company/industry) <b>2. Social cohesion</b> (Strength of a network connection from one person a to person b via person c) <b>3. Network range</b> (Measure of the number of network connections across expertise areas and the strength of the connections within those areas) <b>4. Common knowledge</b> (Common experience and knowledge measured by similarity of race, sex, educational level, and tenure in the organisation) <b>5. Tie strength</b>	- Tacitness is positively related to ambiguity - For subsets of the full sample (Split half way): - Experience displays a negative relationship with ambiguity in smaller firms - Cultural distance displays a positive relationship with ambiguity in firms with lower collaborative experience

20	Simonin 2004	Inter-organisational setting	147 large & medium US based companies	<p><b>Knowledge transfer</b> (Technology/process how transferred from one partner to the other)</p>	<p>degree of protectiveness and mechanism to protect know-how)</p> <p>6. <b>Cultural distance</b> (Degree to which partner's national culture differs and language differences inhibit communication and understanding)</p> <p>7. <b>Organisational distance</b> (Similarity of business practices, mechanisms, corporate culture and management style of the partner)</p>	<p>- Specificity displays a positive relationship with ambiguity when alliance duration is shorter</p>
				<p>(All on a 7-point interval scale)</p> <p>1. <b>Ambiguity</b> (Clearness of processes, easiness of transfer)</p> <p>2. <b>Resource-based learning capacity</b> (Quantity and quality of personnel, and physical, financial, organizational and logistical resource support committed to the alliance)</p> <p>3. <b>Incentive-based learning capacity</b> (Establishment and communication of a reward system, clear incentives, and a learning agenda)</p> <p>4. <b>Cognitive-based learning capacity</b> (Alliance staff that believes it has less to learn from than to teach a partner)</p> <p>5. <b>Partner protectiveness</b> (Partner protectiveness of technology/process know-how)</p> <p>6. <b>Tacitness</b> (Explicitness and codifiability of partner's knowledge)</p> <p>7. <b>Learning intent</b> (Desire, determination, and willingness to learn from a partner; Degree to which the alliance is viewed as a learning vehicle as opposed to a know-how rent vehicle)</p>	<p>- Learning intent positively effects knowledge transfer</p> <p>- Learning intent is positively related to both resource-based and cognitive-based learning capacity and at equal magnitudes (but not incentive-based learning)</p> <p>- Only incentive-based learning capacity is positively related to knowledge transfer (but not resource-based and cognitive-based learning capacity)</p> <p>- The positive effect of incentive-based learning capacity and learning intent on knowledge transfer are of the same magnitude</p> <p>- High degrees of tacitness are related to higher ambiguity</p> <p>- Knowledge ambiguity and partner protectiveness negatively affect knowledge transfer (Partner protectiveness directly negatively effects knowledge transfer, and not indirectly as a moderator on ambiguity (i.e. it has no effect on ambiguity))</p>	

21	Subramaniam & Venkatraman 2001	Intra-organisational setting	90 divisions and product categories in 45 MNEs	<p><b>Transnational new product development capability</b> (Multiple items (new product introduction frequency and ability) measured on a 7-point scale)</p>	<p>1. <b>Extent of tacitness in overseas information</b> (7-point scale measuring the degree and ease of codifiability of knowledge acquired from overseas)</p> <p>2. <b>Cross-national teams</b> (1, 0 dummy variable; Overseas team members in the team = 1, none = 0)</p> <p>3. <b>Teams with domestic members having prior overseas experience</b> (1, 0 dummy variable; Team has domestic members who worked in overseas offices for one year or more = 1, otherwise = 0)</p> <p>4. <b>Frequency of communication</b> (Frequency of telephone conversations with, and faxes and emails to and from, overseas managers measured on a 7-point scale)</p>	<p>- The negative effect of ambiguity on knowledge transfer is stronger than the negative effect of partner protectiveness</p> <p>- Double-loop organisational cultures transfer more knowledge than single-loop cultures</p> <p>- While none of the dependent variables directly influences transnational new product development capability, their 'fit' does</p> <p>- The fit (interaction) between the degree of tacitness in overseas information and the use of cross-national teams relates positively to transnational new product development capability</p> <p>- The fit (interaction) between the degree of tacitness in overseas information and the use of teams with members that have overseas experience relates positively to transnational new product development capability</p> <p>- The fit (interaction) between the degree of tacitness in overseas information and the use of teams with members that have overseas experience relates positively to transnational new product development capability</p>
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22	Szulanski 1995	See Szulanski (1996)	See Szulanski (1996)	(for measurements see Szulanski 1996) Stickiness-outcome based measure	(All measured on 5-point Likert-type scales) <b>1. Causal ambiguity</b> (Recipient's depth of knowledge of the practice) <b>2. Unproven knowledge</b> (Degree of conjecture on the utility of the transferred knowledge) <b>3. Source lacks motivation</b> <b>4. Source is not perceived as reliable</b> <b>5. Recipient lacks motivation</b> <b>6. Recipient lacks absorptive capacity</b> (Recipient's ability to identify, value and apply new knowledge) <b>7. Recipient lacks retentive capacity</b> (Recipient's ability to routinise the use of new knowledge) <b>8. Barren organisational context</b> (Degree to which the organisational context supports the development of transfers) <b>9. Arduous relationship</b> (Ease of communication and intimacy of the relationship)	frequency of communication of team members with overseas managers positively relates to new product development capability
23	Szulanski 1996	Intra-organisational setting	122 transfers of 38 practices based on 101 source units, 101 recipient units, and 60 third parties in 8	(All measured on 5-point Likert-type scales) <b>1. Stickiness-outcome based measure</b> (A. delay, B. budget overrun, C. satisfaction gaps))	See Szulanski (1995)	- A lack of absorptive capacity and motivation of the recipient, and an arduous relationship between source and recipient are all positively related with the dependent variables 1-3, i.e. they reduce stickiness - A lack of source motivation and a lack of retentive capacity of the recipient are negatively related with the consequences of stickiness, i.e. they lead to higher difficulties to knowledge transfer (these findings are put into perspective by the author in a discussion of his sample's characteristics)
23	Szulanski 1996	Intra-organisational setting	122 transfers of 38 practices based on 101 source units, 101 recipient units, and 60 third parties in 8	(All measured on 5-point Likert-type scales) <b>1. Stickiness-outcome based measure</b> (A. delay, B. budget overrun, C. satisfaction gaps))	See Szulanski (1995)	- Barriers to transfer identified are the lack of absorptive capacity, causal ambiguity, and an arduous relationship between source and recipient partner

			companies	<p><b>2. Initiation-stage stickiness</b> (Difficulties experienced prior to the transfer)</p> <p><b>3. Implementation-stage stickiness</b> (Difficulties experienced between the decision to transfer and start of actual use)</p> <p><b>4. Ramp-up-stage stickiness</b> (Unexpected problems from the start of actual use until satisfactory performance obtains)</p> <p><b>5. Integration-stage stickiness</b> (Difficulties experienced after satisfactory performance is achieved)</p>		<p>- These barriers account for much more of the variance in stickiness than motivational factors</p> <p>- Retentive capacity lowers stickiness</p>
24	Szulanski, Cappetta & Jensen 2004	Intra-organisational setting	See Jensen & Szulanski (2004)	<p><b>&amp; Accuracy of reproduction of the practice</b> (Degree to which practices were completely transferred and modified, measured on 5-point Likert-type scales)</p>	<p><b>1. Causal ambiguity</b> (5-point Likert-type scale measuring the limits, outcomes, reasons for failure, component interaction, and tacitness of practices)</p> <p><b>2. Trustworthiness</b> (5-point Likert-type scale measuring perceived ability of the source)</p>	<p>- Causal ambiguity is negatively related to accuracy</p> <p>- Trustworthiness is positively related to accuracy</p> <p>- Causal ambiguity moderates the effect of trustworthiness on accuracy: The positive impact of trustworthiness weakens as causal ambiguity increases, and eventually turns negative</p>
25	Tsai 2002	Intra-organisational setting		<p><b>Intra-organisational knowledge sharing of technology or know-how</b> (Number of a maximum of 24 organisational units from which knowledge was received, and number of organisational units with which knowledge was shared)</p>	<p><b>1. Centralisation</b> (individual dyad (Headquarter-subunit) relationship in respect to the degree that headquarters approves, is reported to, and has the power to make collaboration-decisions for the subunit measured on a 7-point Likert scale)</p> <p><b>2. Social interaction</b> (Number of a maximum of 24 organisational units with</p>	<p>- Centralisation is negatively related to knowledge-sharing</p> <p>- Social interaction is positively related to knowledge-sharing</p> <p>- External market competition moderates the effect of centralisation on knowledge sharing; in the presence of external competition, the effect of</p>



	Yli-Renko, Autio & Sapienza 2001	Inter-organisational setting	180 young (1-10 year-old), independent, technology-based firms in the UK	<p>(All measured on 7-point scales)</p> <p><b>1. New product development</b> (Technologies developed as a result of the key customer relationship)</p> <p><b>2. Technological distinctiveness</b> (Investment in R&amp;D, competitiveness due to technological advantage)</p> <p><b>3. Sales costs efficiency</b> (Logarithm of percentage cost of total sales revenue)</p>	<p>(All measured on a 7-point scale)</p> <p><b>1. Knowledge acquisition in the relationship</b> (Market knowledge and technical know-how obtained from relationship with key-customer)</p> <p><b>2. Social interaction</b> (Closeness of social relationships)</p> <p><b>3. Relationship quality</b> (Fairness and trustworthiness of the relationship)</p> <p><b>4. Customer network ties</b> (New customer contacts achieved through key-customer)</p>	<p>which the unit interacted frequently during social occasions)</p> <p><b>3. Interunit competition</b> (A. Internal resource competition (Number of a maximum of 24 organisational units from which resources were obtained), B. External market competition (Number of a maximum of 24 organisational units which is competed with in marketplaces))</p>	centralisation becomes more negative
26	Yli-Renko, Autio & Sapienza 2001	Inter-organisational setting	180 young (1-10 year-old), independent, technology-based firms in the UK	<p>(All measured on 7-point scales)</p> <p><b>1. Knowledge acquisition in the relationship</b> (Market knowledge and technical know-how obtained from relationship with key-customer)</p> <p><b>2. Social interaction</b> (Closeness of social relationships)</p> <p><b>3. Relationship quality</b> (Fairness and trustworthiness of the relationship)</p> <p><b>4. Customer network ties</b> (New customer contacts achieved through key-customer)</p>	<p>(All measured on a 7-point scale)</p> <p><b>1. Knowledge acquisition in the relationship</b> (Market knowledge and technical know-how obtained from relationship with key-customer)</p> <p><b>2. Social interaction</b> (Closeness of social relationships)</p> <p><b>3. Relationship quality</b> (Fairness and trustworthiness of the relationship)</p> <p><b>4. Customer network ties</b> (New customer contacts achieved through key-customer)</p>	<p>- Social interaction &amp; Customer network ties are positively related to knowledge acquisition</p> <p>- Relationship quality is negatively related to knowledge acquisition</p> <p>- Knowledge acquisition is related positively to the number of new products developed and to technological distinctiveness, and negatively to sales costs</p> <p>- Knowledge acquisition serves as a moderator between social capital (independent variables 2-4) and knowledge exploitation (dependent variables 1-3)</p>	centralisation becomes more negative
27	Zander & Kogut 1995	Intra-organisational setting	35 major Swedish innovations	<p><b>1. Probability of early transfer</b></p> <p><b>2. Risk of early imitation</b></p>	<p>(All measured on a 7-point scale)</p> <p><b>1. Codifiability</b> (Extent to which the knowledge could be articulated in documents &amp; software)</p> <p><b>2. Complexity</b> (Importance of different types of manufacturing processes)</p> <p><b>3. Teachability</b> (Ease by which knowledge can be formally articulated)</p> <p><b>4. System dependence</b> (Degree to which imitation of a capability depends on many different (groups of) people)</p>	<p>- The more codifiable and teachable a capability, the higher the probability of early transfer</p> <p>- The higher technology competition (parallel development), the higher the probability of early transfer</p> <p>- None of the characteristics of the manufacturing capability affect the risk of early imitation</p>	centralisation becomes more negative

					<b>5. Parallel development</b> (Number of competitors engaged in parallel efforts to develop a similar product at the same time) <b>6. Product observability</b> (Degree to which capability can be acquired from reverse engineering or published reports)	
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Table 2: Review of empirical studies on knowledge transfer effectiveness

## TOWARDS A CHOICE OF A THEORETICAL FRAMEWORK

As outlined above and can be seen from table 2, all approaches to build a theoretical framework of knowledge transfer effectiveness are valid. Each theory can contribute unique insights into knowledge transfer effectiveness. However, as stated in objective one, it is the intention of this research project to choose the most conclusive theory for this thesis' theoretical framework. The theory which accounts for more findings than any other will be considered the most conclusive theory. We therefore reviewed table 2 again in respect to each of the four theories and how many of the independent variables could be explained by each theory.

By employing a resource-based theory, a theoretical framework can be built in which some of the variables shown can be integrated. Resource possession is indicated in the independent variables “number of expatriates” (Björkman *et al.*, 2004), “value of knowledge stock”, “local nationals in top management team” (Gupta & Govindarajan, 2000) or “common knowledge” (Reagans & McEvily, 2003). However, many other variables that have an effect on the process cannot be explained from a resource-possession point of view, such as trust, network ties or cultural differences. As such, the strength of the resource-based view is to explain nodal-level determinants and its weakness is the explanation of dyad-level determinants.

Transaction cost economies can explain some of the variables employed, too. Transaction costs are higher when levels of trust are low and there is a danger of volatile behaviour of the partner involved in the transaction. Hence, independent variables such as “institutional distance” (Jensen & Szulanski, 2004), “cultural distance” or “organisational distance” (Simonin, 1999) can be explained by this view. It becomes more challenging to integrate variables such as learning capacities and management resources into a transaction-cost derived theoretical framework, but also these variables have been show to impact the process (see table 2). Hence, a transaction-cost view helps in particular to explain and account for dyad-level determinants, but is of limited use when explaining nodal-level determinants.

Social network theory also explains some aspects of the previous research agenda. Gupta & Govindarajan (2000) found that “communication channels” impact transfer effectiveness, Hansen *et al.* (2005) established the importance of “network size” and “relation strength” and McFayden & Cannella (2004) that of the “number of relations” and the “strength of

relations”. Social network theory thus explains the dyad-level aspects of knowledge transfer very well. The shortcoming<sup>21</sup> of social network theory in a knowledge transfer setting is that the focus is on the dyad, but many determinants of effective knowledge transfers are found at the nodal level, such as the possession of knowledge (Foss & Pedersen, 2002; Gupta & Govindarajan, 2000), employee ability (Minbaeva *et al.*, 2003) and knowledge characteristics (Zander & Kogut, 1995). These cannot be explained with social network theory.

In contrast to all other theories, communication theory covers nodal-level and dyad-level aspects of the transfer process (see figure 5). To examine whether or not this theory is the most comprehensive one that can possibly be used to build a theoretical framework, we systematically integrated the findings of the reviewed studies (table 2) in a communication-theory-derived framework (table 3). Table 3 shows on the horizontal axis the elements of the communication process as found in the literature (Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954; Shannon & Weaver, 1949). Studies on knowledge transfer are listed on the vertical axis. For each knowledge transfer study, we took the variables from table 2 and placed them study by study in the horizontal communication theory grid of table 3.<sup>22</sup> Every “x” indicates that the study on knowledge transfer effectiveness has dealt with an aspect of effective communication.<sup>23</sup> The remarkable result was that all variables found in table 2 can be transferred into the communication grid in table 3.

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<sup>21</sup> We do not mean ‘shortcoming’ in a general sense, but purely in respect to the theory’s ability to account for a large number of determinants of knowledge transfer effectiveness.

<sup>22</sup> To assure the validity of the comparison, studies from table 2 were only included in table 3 when they investigate an aspect of transfer effectiveness as the dependent variable. Studies 2 and 27 listed in table 2 were removed because no aspect of effectiveness was employed. Study 26 listed in table 2 was removed because the measure of transfer effectiveness (knowledge acquisition) is used as an independent variable rather than a dependent variable.

<sup>23</sup> Variables whose place could not be clearly identified in the grid were given a number rather than “x” and additional explanations for the variable are provided in the key in table 3. In particular in case of ‘hard’ measures, placing the variables was subject to our own interpretation; e.g. if ‘experience’ is a reflection of knowledge or of a capability. Another reason is that their location in the grid could sometimes not be clearly identified because the measurements chosen by the researchers combine several elements discussed in communication theory in one variable, e.g. the ‘capacity to learn’, comprising elements of knowledge reception and decodation.

#	Authors	Message Characteristics				Sender				Channel		Receiver						Noise sources		Outcome	
		Characteristics	Understand the receiver	Analyse own purposes and intentions	Encode messages	Toward self	Toward subject	Toward receiver	Characteristics	Position	Knowledge stock	Message vehicle	Message carrier	Skills	Attitudes	System	Knowledge stock	Partner distance/relationship	Individual-level partner distance/relationship	Knowledge transfer effectiveness (e.g. speed, amount, accuracy of transfers)	Financial performance, (cost efficiency, innovativeness)
1	Björkman, Barner-Rasmussen, & Li, 2004					x						x								x	
2	Collins & Smith, 2006						x	1												x	
3	Dhanaraj, Lyles, Steensma, & Tihanyi, 2004	x																		x	
4	Foss & Pedersen, 2002																				
5	Gupta & Govindarajan, 2000					4							2	4				3			
6	Hansen, Mors & Lovas, 2005	x																			
7	Jensen & Szulanski, 2004	x																			
8	Kotabe, Martin & Domoto, 2003																				
9	Lane & Lubatkin, 1998																				
10	Lane, Salk, & Lyles, 2001																				
11	Levin & Cross, 2004	x																			
12	Lord & Ranft, 2000	x																			
13	Lyles & Salk, 1996																				
14	McFayden & Cannella, 2004																				



Communication theory enables us to explain more independent variables used in any of the empirical studies reviewed than any other theory. Communication theory offers the most comprehensive theoretical framework for our purposes. Maybe even more striking than the fact that we could include all the variables we found in any study in the grid was the fact that, even though we reviewed studies comprising of an accumulated 130+ independent variables, communication theory offered additional determinants of transfer effectiveness that had not yet received any attention in empirical investigations. These are the empty columns shown in table 3, showing the research gaps in the area of the communication skills of the sending unit and the sender's and the receiver's attitudes toward self. Such research gaps provide additional opportunities for knowledge generation in the field of knowledge transfer and international business. Basing our theoretical framework on communication theory, we are thereby not only able to integrate previous findings (objective 1), but also to extend the research agenda.

## DISCUSSION

The first objective of this thesis is to find the most suitable theoretical framework for knowledge transfer effectiveness. This framework shall help us understand the previous research agenda in the field and thereby contribute towards the integration of the dispersed research output in international business. It should secondly help us to strengthen the research agenda into knowledge transfer effectiveness, by theoretically furthering the existing understanding of the field. By outlining the major theories that were employed previously and theoretically assessing their power to explain and account for the previous research agenda, we have shown that both of these points can be achieved using communication theory. While each of the other three theories has its strength in explaining either nodal-level or dyad-level determinants, communication theory can explain both (table 4).

Theoretical approach	Strengths	Weaknesses
Resource-based view	Nodal-level determinants	Dyad-level determinants
Transaction-cost economics	Dyad-level determinants	Nodal-level determinants
Social network theory	Dyad-level determinants	Nodal-level determinants
Communication theory	Nodal-level determinants Dyad-level determinants	

Table 4: Strengths and weaknesses of different theoretical approaches

Having found the most conclusive theoretical framework for research into knowledge transfer (objective 1), we are now able to use it to outline the determinants of knowledge transfer effectiveness (objective 2). In order to achieve this objective and to answer the main research question, chapter 3 will outline communication theory in depth and integrate previous research output on knowledge transfer into the outlined theory.

It should be pointed out at this stage that communication theory was drawn upon by many knowledge transfer researchers before (e.g. Gupta & Govindarajan, 2000; Hansen *et al.*, 2005; Kogut & Zander, 1996; Szulanski, 1995, 1996). The uniqueness of this research is to conduct an in-depth study of communication theory to achieve a deeper understanding of how MNEs transfer know-how within their organisational networks. The analysis in chapter 3 will go beyond Shannon & Weaver's (1949) mathematical theory of communication, by extending it with theories of effective human communication (e.g. Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953) and mass communication (Schramm, 1954). It thereby outlines a more comprehensive framework of communication effectiveness, which, based on the insight generated in this chapter, is believed to explain knowledge transfer effectiveness better than any other theory.

## **CONCLUSION**

This research project explores the determinants of effective knowledge transfers. Attempts to explain effectiveness can, for example, build on theoretical frameworks derived from transaction-cost theory, the resource-based view, social network theory, or communication theory. If one of the failures in international business research is the lack of integration of the discipline, an attempt should be made to look for an integrative theory that does not need to be amended by other theories in order to explain the subject of the investigation. It was pointed out in this chapter that communication theory provides this theory. It accounts for any aspect that we found in antecedent empirical knowledge transfer studies investigating the determinants of knowledge transfer effectiveness. In addition, it also reveals at least two new areas for investigation: the communication skills of the sending unit, and both the sender's and the receiver's attitudes toward self – all of which appear to have been neglected in previous research. Hence, we have achieved objective one of this thesis. Communication theory is used in this thesis to unite and to expand research into



knowledge transfer effectiveness. Chapter 3 will outline the communication-theory-derived model of knowledge transfer effectiveness in detail in order to achieve objective 2.

# Chapter 3: Establishing the determinants of transfer effectiveness

*A theoretical overview of the causes of knowledge transfer effectiveness<sup>25</sup>*

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## **ABSTRACT**

In this chapter we harness communication theory to critically evaluate the conceptual underpinnings of the extant literature on knowledge transfer. Communication theory is used to provide a stronger and more integrated theoretical basis for knowledge transfer investigations, to diagnose deficiencies in the current literature on knowledge transfer, and finally to construct a conclusive framework for the study of knowledge transfer effectiveness. By analogical reasoning, we specify the determinants of knowledge transfer effectiveness as derived from communication theory. By doing so, we also identify three discrepancies between the two fields. Firstly, communication theory describes the eloquence of the source as an important aspect of effective communication. Secondly, it suggests that the perceived self-efficacy of the source and of the recipient influence effective communication. Thirdly, it argues that partner differences influence the source, the channel and the recipient, which is different to many knowledge transfer studies that view partner differences as having a direct impact on the transfer outcome. We combine the views of communication theory to suggest a new theoretical framework for the analysis of knowledge transfer effectiveness that integrates all previously investigated constructs and the three underresearched aspects.

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<sup>25</sup> A paper similar to this chapter entered the conference proceedings of the 2008 Annual Meeting of the Academy of Management in Anaheim, CA. The paper was written in cooperation with my three supervisors Peter Buckley (CIBUL), Jeremy Clegg (CIBUL) and Elko Klijn (Rotterdam School of Management), who made important contributions to content and phrasing.

## INTRODUCTION

*A leading reason why the claim that “process is important” is so difficult to disprove (or even contest) is that the process mechanics are rarely displayed.*

- Williamson (1988: 76)

The previous chapter has shown that knowledge transfer scholars have extensively borrowed ideas from communication theory (e.g. Gupta & Govindarajan, 2000; Kogut & Zander, 1996; Hansen *et al.*, 2005; Szulanski, 1995, 1996) and that there is widespread consensus that knowledge transfer is similar to, or a result of, inter- and intra-organisational communication. The factors that have been selectively chosen from communication theory are for example the message characteristics (e.g. Dhanaraj *et al.* 2004; Hansen *et al.* 2005; Kotabe *et al.* 2003; Levin & Cross 2004; Lord & Ranft 2000; Simonin 1999a, 1999b, 2004; Subramaniam & Venkatraman 2001; Zander & Kogut 1995), the source<sup>26</sup> (e.g. Foss & Pedersen 2002; Gupta & Govindarajan 2000; Lord & Ranft 2000), the recipient (e.g. Cohen & Levinthal 1990; Gupta & Govindarajan 2000; Lord & Ranft 2000; Minbaeva *et al.* 2003; Simonin 2004; Szulanski 1995, 1996; Tsai 2002), the channel (e.g. Appleyard 1996; Dhanaraj *et al.* 2004; Gupta & Govindarajan 2000; Hansen 1999; Hansen *et al.* 2005; Levin & Cross 2004; McFayden & Cannella 2004; Subramaniam & Venkatraman 2001; Reagans & McEvily 2003), and partner differences/noise sources (e.g. Dhanaraj *et al.* 2004; Jensen & Szulanski 2004; Lane & Lubatkin 1998; Lane *et al.* 2001; Minbaeva *et al.* 2003; Mowery *et al.* 1996; Szulanski *et al.* 2004), the latter being measured at the dyad-level.

Communication scholars often refer to Shannon and Weaver's (1949) work as the starting point of modern communication theory. While Shannon and Weaver's approach epitomizes communication theory, there exist other alternative contributions to effective communication (e.g. Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Schramm, 1954). So far, influential knowledge transfer scholars have chosen to use Shannon & Weaver's (1949) rather technical theory of communication to build models of knowledge transfer effectiveness (e.g. Jensen & Szulanski, 2004; Szulanski, 1995; Szulanski, Cappetta, & Jensen, 2004), but other communication theories can also provide additional insights, in particular those who have added more insight on the human and social dimensions of communication to Shannon and Weaver's (1949) mathematical theory of communication.

As such, some “obvious opportunities for cross-fertilization” (Weber *et al.*, 1996: 1216) have been missed. In this chapter, we systematically compare all “ingredients of communication” (Berlo, 1960: 41) and all determinants of effective knowledge transfers identified in previous empirical studies. We build a theoretical framework of knowledge transfer effectiveness based on antecedent empirical studies, extended by other determinants found in communication theory.

By identifying determinants of transfer effectiveness based on two different literatures, we are not only able to draw upon more sources of information, but also to identify significant disjoints between the two research streams that signal promising avenues for research into knowledge transfer. Indeed it will be shown in this chapter that the comparison shows three important transfer-process characteristics identified in communication theory that are neglected or misrepresented in the knowledge transfer literature. These are i) the eloquence of the source, ii) the perceived self-efficacy of the source and the recipient, and iii) the treatment of ‘noise sources’ that create barriers to knowledge expression, transmission, and absorption (e.g. societal or organisational cultural differences (Jensen and Szulanski, 2004; Minbaeva *et al.*, 2003; Szulanski *et al.*, 2004), differences in structure (Mowery *et al.*, 1996; Lane *et al.*, 2001), systems (Dhanaraj *et al.*, 2004; Lane and Lubatkin, 1998; Reagans and McEvily, 2003), values, knowledge, logics and language (Collins and Smith, 2006; Lane and Lubatkin, 1998)).

In the following section, we justify the use of analogical reasoning as a means of discriminating between the communication theory literature and the knowledge transfer literature. This leads to a comprehensive listing of the determinants of knowledge transfer effectiveness from the perspective of communication theory.

By providing a holistic view based on multiple sources in two different streams of literatures, this chapter contributes to a more complete theory of knowledge transfer. The goal is to display the process mechanics of knowledge transfer. By combining communication theory and knowledge transfer, we seek to display all process mechanics (Williamson, 1988) or process ingredients (Berlo, 1960) that can possibly be found.

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<sup>26</sup> In different communication studies, the terms source and sender are used to refer to the actor/unit initiating the transfer. We use the terms interchangeably in this chapter. The actor/unit receiving the message is referred to as the recipient or receiver.

## METHODOLOGY OF COMPARISON: ANALOGICAL REASONING

The two knowledge domains, communication theory and knowledge transfer, share a high degree of similarity. This resemblance of the concepts employed and process-variables utilized, suggests a *prima facie* case that the two domains are sufficiently close to enable a structured comparison. Analogical reasoning is the methodology of comparing a base domain (communication theory) and a target domain (knowledge transfer) and reporting on the number of attributes and relations that can be 'mapped' from base to target (Gentner, 1983; Tsoukas, 1993). The domain that the ideas are drawn from is referred to as the base domain, while the domain that those notions are applied to is referred to as the target domain. The similarity of two domains can be categorised into four groups, depending on the number of attributes and relations that they share. The highest degree of similarity is 'literal similarity', which is achieved when many attributes and relations can be mapped from base to target domain. An 'analogy' or 'abstraction' describes two domains that share many relations but few attributes. An 'anomaly' shows that there are only few attributes and few relations that can be mapped to the target domain (Gentner, 1983). We start the discussion with the attributes of effective communication and map them to the study of effective knowledge transfers. Then, we analyse the relations between the attributes and map them to the target domain.

We use communication theory as the base domain from which the notions about transfer effectiveness are obtained for three reasons. First, communication theory is an established stream of research that has existed for over 2,000 years (Roberts, 1946) and contains multiple models of communication (Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954; Shannon, 1948; Shannon & Weaver, 1949). Second, communication theory exhibits high coherence among its proponents about the elements of the transfer process (Krone *et al.*, 1987). Third, knowledge transfer has extensively borrowed ideas from communication, but communication theory has borrowed few ideas from knowledge transfer. Thus, communication theory is an established stream of research with widely accepted process elements that can facilitate the identification of research gaps in the knowledge transfer literature.

Knowledge transfer is used as the target domain because it is the younger and less extensively researched school of thought. In order to further this relatively young stream of research and to develop a theory of knowledge transfer, profoundly grounded theoretical frameworks are needed. One such framework is offered in this chapter by presenting a

communication-theory-derived framework of knowledge transfer effectiveness. The systematic comparison of communication theory and the knowledge transfer literature therefore enables us to put the empirical findings on knowledge transfer in a theoretical framework derived from communication theory. This not only permits an assessment of the similarity of the concepts in both knowledge domains, but facilitates the identification of neglected research areas for knowledge transfer studies. The similarity of two domains is assessed in terms of the equivalence of the attributes and the relations between the attributes of the two knowledge domains (Gentner, 1983). The comparison of the attributes leads to the finding of research gaps and structural differences which are discussed in the next section.<sup>27</sup>

## COMPARISON OF ATTRIBUTES

The communication process comprises five elements i) the message, ii) the sender, iii) the channel, iv) the recipient, and v) noise (Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954; Shannon, 1948; Shannon & Weaver, 1949).<sup>28</sup> All elements simultaneously determine the effectiveness of communication (Berlo, 1960). We use the elements of the process found in communication studies to identify the attributes of the base domain. The base domain comprises influential communication models developed during the 1950s, 60s, and 70s, which remain largely unchallenged and are frequently cited and employed in modern communication studies. A systematic literature review on the knowledge transfer process serves as a basis for the target domain. In some cases we did not find any research output in knowledge transfer studies addressing the identified elements of the communication process. We therefore treat these as unaddressed research gaps.

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<sup>27</sup> In order to focus on the relation elements of the transfer process, we employ a 'classical' communication model in explaining the similarity of relations between the two knowledge domains. In communication theory, we find the classical models that are more static and one-directional (e.g. Shannon 1948) and others which are interactive and recursive (e.g. De Fleur 1970; Schramm 1954). In the latter, many relations and correlations between the message, the sender, the recipient and the channel can be depicted too. The elaboration on these additional relations is beyond the scope of this thesis, but represents an interesting research area for future studies further integrating communication theory and knowledge transfer studies. Future research is encouraged to use more interactive models. For this first, in-depth comparison of communication theory and knowledge transfer studies, we employ Shannon's (1948) and Shannon and Weaver's (1949) static model.

<sup>28</sup> More interactive models frequently include a sixth component 'feedback', the reverse communication from the recipient to the sender. This reverse recipient-source communication underlies the same rules as the 'initial' source-recipient communication (De Fleur 1970; Schramm 1954). Hence, the notions about the initial communication described in this chapter are applicable to reverse communication too. See the limitation section in chapter 11 for a more elaborate discussion.

Table 5 shows the results of the comparison of the two literatures.<sup>29</sup> Column I shows the five elements of the transfer process. For each element, communication scholars have identified multiple attributes (column II) that determine transfer effectiveness. Examples of these attributes of effective communication are shown in column III. The empirical knowledge transfer literature employs very similar attributes (column IV), yet the attributes of these elements often differ in respect to phrasing. In the cases where the content differs, this is discussed in the paper and illustrated by the components given (column V).

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<sup>29</sup> Table 5 shows only quantitative, empirical studies. We include several conceptual and qualitative studies in the discussion, but only used hard, quantitative findings to determine the state of the research agenda into knowledge transfer effectiveness.

	Communication theory		Knowledge transfer	
	Attribute	Example	Attribute	Example
Transfer subject	Elements	Data, isolated pieces of information (Berlo, 1960)	Knowledge type	Managerial, technological, marketing, market & product knowledge (Dhanaraj <i>et al.</i> 2004; Gupta & Govindarajan 2000; Lyles & Salk 1996)
	Structure/Dimensions	(1) Complexity (Fearing, 1953) (2) Contextuality (Fearing, 1953)	Knowledge characteristics/dimensions	(1) Complexity (Kotabe <i>et al.</i> 2003; Simonin, 1999a, 1999b; Zander & Kogut, 1995) (2) System dependence (Zander & Kogut, 1995) (3) Tacitness (Dhanaraj <i>et al.</i> , 2004; Hansen <i>et al.</i> , 2005; Levin & Cross, 2004; Lord & Ranft, 2000; Simonin 1999a, 1999b, 2004; Subramaniam & Venkatraman, 2001)
	Communication skills	(1) Ability to analyse own purposes and intentions (Berlo, 1960) (2) Ability to understand the recipient (Braddock, 1958; Schramm, 1954) (3) Ability to encode messages (Berlo, 1960; Johnson, 1953)	Eloquent capacity	(1) - (2) - (3) -
Sender	Attitudes	(1) Attitudes toward self (Berlo, 1960) (2) Attitude toward subject matter (Berlo, 1960) (3) Attitude toward recipient (Berlo, 1960; Braddock, 1958; Fearing, 1953)	Willingness to express	(1) - (2) Motivation (Gupta & Govindarajan, 2000; Lord & Ranft, 2000; Szulanski, 1995), Protectiveness (Simonin, 1999a, 1999b, 2004) (3) Trust (Dhanaraj <i>et al.</i> , 2004; Lane <i>et al.</i> , 2001; Yli-Renko <i>et al.</i> , 2001)
	Knowledge level	Amount of knowledge known (Berlo, 1960; Braddock, 1958; Johnson, 1953)	Knowledge stock	(1) Value of knowledge stock (Gupta & Govindarajan, 2000) (2) Internal, network, and cluster knowledge (Foss & Pedersen, 2002)
	Socio-cultural system	(1) Cultural characteristics (Berlo, 1960; Fearing, 1953; Johnson, 1953) (2) Position in a social system (Berlo, 1960; Braddock, 1958)	Socio-cultural system	(1) Cultural characteristics (Simonin, 2004; Szulanski, 1995) (2) Structural embeddedness (Lord & Ranft, 2000)
Channel	Coupling mechanism	(1) Ear, eye, mouth (Berlo, 1960)	Coupling mechanisms	(1) -
	Message vehicles	Vehicle, media (Berlo, 1960; Johnson, 1953)	Transfer channels	(1) Number & frequency of formal & informal channels (Gupta & Govindarajan, 2000; Subramaniam & Venkatraman, 2001) (2) Public & private channels (Appleyard, 1996)
	Message	Medium (Berlo, 1960; Braddock, 1958; De Fleur, 1970)	Network	(1) Network strength (Dhanaraj <i>et al.</i> , 2004; Hansen, 1999; Hansen <i>et al.</i> , 2005;



	carriers		embeddedness	Levin & Cross, 2004; McFayden & Cannella, 2004; Reagens & McEvily, 2003) (2) Network range (McFayden & Cannella, 2004; Reagens & McEvily, 2003; Tsai, 2002; Yli-Renko <i>et al.</i> , 2001)
Recipient	Communication skills	(1) Ability to receive (Berlo, 1960; Johnson, 1953) (2) Ability to decode (Berlo, 1960; Schramm, 1954) (3) Ability to perform suggested behaviour (Braddock, 1958)	Absorptive capacity	(1) Recognize the value of knowledge (Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000) (2) Assimilate knowledge (Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000) (3) Apply knowledge (Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000; Lane <i>et al.</i> , 2001)
	Attitudes	(1) Attitude toward self (Berlo, 1960) (2) Attitude toward subject matter (Berlo, 1960; Fearing, 1953) (3) Attitude toward sender (Berlo, 1960; Braddock, 1958)	Learning intent	(1) - (2) Motivation (Minbaeva <i>et al.</i> , 2003; Simonin, 2004; Szulanski, 1995, 1996)) (3) Trust (Dhanaraj <i>et al.</i> , 2004; Lane <i>et al.</i> , 2001; Levin & Cross, 2004)
	Knowledge level	Amount of knowledge known (Berlo, 1960; Braddock, 1958)	Knowledge stock	(1) Common/shared knowledge (Lane & Lubatkin, 1998; Reagens & McEvily, 2003) (2) Resource-based learning capacity (Simonin, 2004)
Noise sources	Socio-cultural system	(1) Cultural characteristics (Berlo, 1960) (2) Position in a social system (Berlo, 1960; Braddock, 1958)	Socio-cultural system	(1) Cultural characteristics (Simonin, 2004; Szulanski, 1995) (2) Hierarchical position (Lord & Ranft, 2000; Tsai, 2002)
	Communication across social systems	Differences in expectations, prediction, norms, values, beliefs, experience, methods of thinking, language, approaches to problem solution, and conclusion (Berlo, 1960; De Fleur, 1970; Schramm, 1954)	Partner differences	(1) Differences in societal culture (Jensen & Szulanski, 2004; Minbaeva <i>et al.</i> , 2003; Szulanski <i>et al.</i> , 2004) (2) Differences in industrial background (Mowery <i>et al.</i> , 1996) (3) Differences in business background (Lane <i>et al.</i> , 2001) (4) Differences in organisational culture, structure, and systems (Dhanaraj <i>et al.</i> , 2004; Lane & Lubatkin, 1998; Lane <i>et al.</i> , 2001; Simonin 1999a, 1999b) (5) Differences in knowledge (Lane & Lubatkin, 1998; Reagens & McEvily, 2003) (6) Differences in logics & language (Collins & Smith, 2006; Lane & Lubatkin, 1998)

Table 5: Comparison of communication theory and knowledge transfer studies

## **Transfer subject**

There exists an overlap between communication theory and knowledge transfer with respect to the transfer subject, referred to as the 'message' in communication studies and as 'knowledge' in knowledge transfer studies. In the communication literature the message is the subject that is transferred from sender to recipient and reflects the sender's "ideas, purposes, and intentions" (Berlo, 1960: 30). In knowledge transfer, the subject being transferred is knowledge. Although the terminology differs, both 'message' and 'knowledge' describe the same process element. Communication theory distinguishes between the elements and the structure of the message. The elements describe the ideas that are communicated and the structure describes the ways in which they are organised. For instance, a professor of strategic management can communicate ideas to his students about the attractiveness of an industry for an entering firm (competition, bargaining power of buyers and suppliers, barriers to entry and to exit) using a specific structure (5-forces model, Porter, 1980) that enhances students' understanding. In this particular case, each element of the message matters in determining industry attractiveness, but the structure shows the systematic nature of the information communicated. This structure can for example be characterised by its complexity and its contextuality (Fearing, 1953). A road-sign is a fairly simple and independent message, while a journal article is more complex and contextual. In communication theory the message requires both elements and a structure (Berlo, 1960; Fearing, 1953).

It is possible to identify a similar pattern in the knowledge transfer literature. Scholars have distinguished between knowledge types and knowledge characteristics. Such types are the elements that firms seek to communicate, e.g. their managerial, technological, marketing, market, or product knowledge. These were investigated in a number of empirical projects (e.g. Dhanaraj *et al.*, 2004; Gupta & Govindarajan, 2000; Lyles & Salk, 1996). Each of these elements has distinct structural characteristics. Scholars have investigated knowledge characteristics to explain the importance of the structure of knowledge. Knowledge that consists of sparse information is referred to as simple, whereas knowledge that encapsulates rich amounts of information is referred to as complex (Bhagat *et al.*, 2002; Zander & Kogut, 1995). In the case that knowledge comprises ideas from a particular area it is termed independent. It is referred to as contextual or system-dependent knowledge when it is structurally embedded with other knowledge 'vectors' (Garud & Nayyar, 1994). When knowledge is organised in a structure that can be articulated it is labelled explicit knowledge, and when it cannot be articulated it is referred to as tacit knowledge (Polanyi,

1958). Tacitness, complexity, and contextuality are dimensions without interactive effects (Winter, 1987) implying that all knowledge that is transferred can be uniquely located on each of the tacit vs. explicit, complex vs. simple and contextual vs. independent dimensions. Empirical tests conclude that knowledge tacitness influences knowledge transfer (Lord & Ranft, 2000), the speed of transfer (Zander & Kogut, 1995), knowledge transfer efficiency and effectiveness (Levin & Cross, 2004), the ease of transfer (Reagan & McEvily, 2003), product development capability (Subramaniam & Venkatraman, 2001), and the degree of knowledge ambiguity (Simonin, 1999, 2004). Other empirical tests comprised complexity (Kotabe *et al.*, 2003; Simonin, 1999; Zander & Kogut, 1995) and contextuality<sup>30</sup> (Zander & Kogut, 1995). Notions of communication effectiveness (elements and the structure of the message) have found application in the knowledge transfer literature, indicating a match of attributes in the two domains (Gentner, 1983).

### **Source (Sender)**

In communication theory, encoding the message represents the process of an agent articulating the ideas of the source in a message (Berlo, 1960). Often the source and the agent are the same unit, but this does not necessarily have to be the case. Essentially, four factors within the sending unit affect communication effectiveness: i) communication skills, ii) attitudes, iii) knowledge level, and iv) its social-cultural system (Berlo, 1960: 41). By taking into account these attributes of the sender, it is possible to identify a similar pattern in the knowledge transfer literature. Different labels for similar notions are identified, namely the i) willingness to express, ii) knowledge stock, and iii) the socio-cultural system. However, we find that the communication skills of the source have been largely ignored in knowledge transfer research.

#### *Communication skills*

Communication skills can be distinguished as i) the ability to understand own purposes and intentions, ii) the ability to understand the recipient, and iii) the ability to encode this understanding in a message. Good communication skills include the sender's ability to analyse own purposes and intentions. The sender's communication skills are also determined by an ability "to encode messages which express what we intend" (Berlo, 1960: 42). In respect to the ability to understand the recipient, Schramm (1954) notes that "the message must be so designed and delivered as to gain the attention of the intended

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<sup>30</sup> Zander & Kogut (1995) use the term system dependence.

destination” (p. 13). Similarly, Braddock (1958) identifies issues of style used and the choice of common ground between sender and the recipient as fundamental to the communication between the two transfer partners. Fearing (1953) postulates that the sender must be capable of anticipating how the recipient will react. Hence, a better understanding of the recipient improves the communicative skills of the sender. The ability to encode understanding in a message is fundamental to the quality of the message that the sender can encode. This ‘adroitness’ in basic communication skills can comprise reading/listening or speaking/writing (Johnson, 1953). Only “a very small part of the lush abundance of possible verbalizations” (Johnson, 1953: 53) which is available to a sender can be chosen to enter the message. Similarly, Berlo (1960) acknowledges that encoding skills, such as vocabulary and grammar, are essential to the communication process.

Although communication theory has highlighted the importance of the sender’s communication skills, the knowledge transfer literature lags behind in this area. A conceptual study by Martin & Salomon (2003) suggested that source transfer capacity should be understood as a determinant of effective knowledge transfers. The three dimensions they suggest were not derived from communication theory but management studies, but closely reflect our above analysis. Based on qualitative data, Wang *et al.* (2004) suggested that the skills of expatriates (representing the source) facilitate knowledge transfers to the recipient. This study did not specify any sub-dimensions of the source’s communication skills and does not provide conclusive understanding of the multiple skills that represent the communicative capacity of the source. To the best of our knowledge, Klijn’s (2006) unpublished doctoral research is the only conclusive, empirical research that has been conducted in this area.

Our methodological approach thus reveals a structural deficiency that needs to be addressed in the knowledge transfer literature. Communication theory and knowledge transfer studies both acknowledge the importance of the recipient’s communication skills (referred to as absorptive capacity in knowledge transfer studies), but communication theory also suggests that the sender’s communication skills determine the effectiveness of the transfer process. Here, communication theorists have suggested that three elements determine the sender’s communication skills. These are the sender’s i) ability to analyse own purposes and intentions (Berlo, 1960); ii) ability to understand the recipient (Braddock, 1958; Schramm, 1954); and iii) ability to encode messages (Berlo, 1960; Johnson, 1953). Despite the implications of communication theory, the sender’s communication skills have hardly been addressed in empirical knowledge transfer research. It can be seen from table 5

that knowledge transfer scholars have identified several determinants of transfer effectiveness on the sender's side (attitudes, value of knowledge stock, and socio-cultural system), but an assessment of the sender's communication skills is absent.

According to communication theory, research on the sender's capacity to transfer knowledge should focus on three aspects. Firstly, firms that successfully express knowledge will have an ability to analyse their own purposes and intentions (Berlo, 1960). This ability determines the capacity "to encode messages which express what we intend" (Berlo, 1960: 42) and contributes to effective communication between sending and receiving unit. It is strong when internal communication between the members of the sending unit is intensive, when they share a common vision of what their businesses' mission and strategy are, when they know what can be achieved with the know-how and the technology of their organisation, and when they have the skills necessary to collect information on each others' know-how. Furthermore, successful knowledge transfer will depend on the sender's ability to understand the recipient (Braddock, 1958; Fearing, 1953; Schramm, 1954). Schramm (1954) notes that "the message must be so designed and delivered as to gain the attention of the intended destination" (p. 13). Thus, an understanding of the intended destination will improve the appropriate design of the message. Similarly, Braddock (1958) identifies issues of style used and the choice of common ground between sender and the recipient as fundamental to the communication between the two transfer partners. Fearing (1953) postulates that the sender must be capable of anticipating how the recipient will react. Hence, a better understanding of the recipient improves the communicative skills of the sender. Finally, the ability to encode messages according to intention (Berlo, 1960; Johnson, 1953) will impact effective knowledge transfer. Encoding skills, such as understanding vocabulary and grammar (Berlo, 1960) and having adequate reading/listening or speaking/writing skills (Johnson, 1953) are essential to the adroitness of the sending unit. Since only "a very small part of the lush abundance of possible verbalizations" (Johnson, 1953: 53) which is available to a sender unit can be chosen to enter the message, the appropriate choice of how knowledge is expressed will impact transfer effectiveness. Organisations whose members can adequately express their know-how and time knowledge transfers accurately will have a better ability to express knowledge than others.

### *Attitudes*

The sending unit's attitudes toward communication are categorized as "attitude toward self", "attitude toward subject matter", and "attitude toward recipient" (Berlo, 1960: 46).

Attitude toward self is the self-evaluation of the sender and determines if and how communication is initiated. Stage-fright and distrust in one's own ability can impact the sender's attitude toward communication (Berlo, 1960). Attitude toward subject matter determines the communication process as well. In this respect it is important to analyse whether the sender believes "in the value of his subject matter" (Berlo, 1960: 47) and what the purpose is to pass on the information (Braddock, 1958). The sender's attitude toward recipient (Berlo, 1960) and the sender's perception of the recipient (Fearing, 1953) further determine effective communication. This includes attitudes toward both present and absent recipients (Braddock, 1958).

Similar attributes have been researched by knowledge transfer scholars. As depicted in table 5, willingness to express knowledge (Wang *et al.*, 2004) has been measured using the concepts of protectiveness (Simonin, 1999, 2004), motivation (Gupta & Govindarajan, 2000; Lord & Ranft, 2000; Szulanski, 1995), and trust (Dhanaraj *et al.*, 2004; Lane *et al.*, 2001; Yli-Renko *et al.*, 2001). Protectiveness describes the degree to which a unit acts to defend its know-how. Motivation describes the degree to which the source perceives value in expressing knowledge to a partner and is often measured via financial reward-systems (Gupta and Govindarajan, 2000; Lord and Ranft, 2000; Szulanski, 1995). Attitudes toward subject matter in communication theory contain protectiveness and motivation, which are the two attributes picked up and used in the knowledge transfer literature. Levels of trust determine opportunistic behaviour by a partner that is a subset of attitude toward recipient. When trust is low and opportunistic behaviour by the recipient is assumed, little knowledge will be transferred (Dhanaraj *et al.*, 2004), because a "negative attitude toward the recipient affects the source's message" (Berlo, 1960: 47). Berlo (1960) suggests that the initiation of communication is dependent upon the sender's self-evaluation. However, no single empirical knowledge transfer study could be found investigating this matter. A gap remains in the knowledge transfer literature with respect to the attitude toward self, which can be described for organisations by the concept of perceived organisational self-efficacy (Bandura, 1982).

Knowledge transfer scholars have established that the attitudes of the sending and receiving unit determine, in addition to abilities, the success of knowledge transfers. High degrees of trust (Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Lane *et al.*, 2001; Levin & Cross, 2004; Szulanski, Cappetta, & Jensen, 2004; Yli-Renko, Autio, & Sapienza, 2001), motivation (Gupta & Govindarajan, 2000; Jensen & Szulanski, 2004; Minbaeva, Pedersen, Björkman, Fey, & Park, 2003; Szulanski, 1995, 1996), and low degrees of protectiveness

(Simonin, 1999a, 1999b, 2004) generally have a positive impact on knowledge transfer. When comparing these findings with communication theory, we find that the knowledge transfer literature puts too little emphasis on the 'attitude towards self', which also determines effective communication (Berlo, 1960). Attitude toward self describes the self-evaluation of the sender and the recipient and determines if and how communication is initiated. Stage-fright and distrust in one's own ability can impact the sender's attitude toward communication (Berlo, 1960). The belief in one's own ability will positively impact the effectiveness of the process accordingly.

In a knowledge transfer setting, those firms and organisational units whose members think of themselves as being able to make a difference to organisational success and show high self-confidence are more likely to engage in knowledge transfer than those units whose members 'hide' or are reluctant to participate in knowledge transfer activities because of their negative self-attitudes. This can be described as perceived self-efficacy, which is "concerned with the judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982: 122). Bandura further points out that "those who judge themselves inefficacious in coping with environmental demands dwell on their personal deficiencies and imagine potential difficulties as more formidable than they really are" and "in contrast, persons who have a strong sense of efficacy deploy their attention and effort to the demands of the situation and are spurred to greater effort by obstacles" (p. 123). In respect to knowledge transfer, we are mostly concerned with perceived organisational self-efficacy, which is the organisational members' judgment of collective efficacy. Collective efficacy influences the group's behaviours, exerted efforts, and its reaction to failure (Bandura, 1982). High organisational self-efficacy will raise the source's engagement in knowledge expression because its members feel confident that they have the necessary skills to initiate and perform the transfer. High organisational self-efficacy will raise the recipient's engagement in knowledge absorption because its members have a higher tendency to expose themselves to new external information and have more drive to succeed.

#### *Knowledge level*

Knowledge level is the next attribute that influences the encoding/expression of the sending unit. "It is obvious that the amount of knowledge a source has about his subject matter will affect his message" (Berlo, 1960: 48). Johnson (1953) similarly notes that "what enters into this final draft is determined, in a positive sense, by the speaker's available

knowledge of fact and relationship” (p. 54). Braddock (1958) mentions that the “intellectual background” of the sender influences communication. We find a parallel in the knowledge transfer literature where Gupta & Govindarajan (2000) found that the value of knowledge stock influences knowledge outflow.

#### *Socio-cultural system*

The next factor is the sender’s socio-cultural system. The sender’s communicative behaviour is influenced by the local socio-cultural system in which the sender is embedded and the sender’s position within it. Influences upon the sender include the roles assumed, other people’s expectations, cultural beliefs, values, behaviours, and its position in a social and cultural context (Berlo, 1960). Johnson (1953) notes that the ‘symbolic conditioning’ of the sender determines the verbalisation of the message. Such conditioning stems from responses to stimuli in the environment or system. Braddock (1958: 89) notes that the sender’s “personal power, prestige, wealth, position” and the “groups he is a member of” determine communicative behaviour. Furthermore the purposes, backgrounds, relations, and symbols of these groups influence the sender.

We found three examples in the knowledge transfer literature that discuss the impact of the sender’s embeddedness and position on knowledge transfer. Bhagat *et al.* (2002) and Kedia & Bhagat (1988) explain how socio-cultural characteristics determine the choice of preferred knowledge characteristics (tacit/contextual knowledge for collectivistic transfer partners and explicit/independent knowledge for individualistic transfer partners). Simonin (2004) and Szulanski (1995) show how organisational culture characteristics impact knowledge transfer. Lord & Ranft (2000) illustrate that both corporate centralisation and the existence of a corporate country headquarters are positively related to knowledge transferred to other units. The characteristics of a social and organisational system and the position of the sender impacts transfer effectiveness. Both communication theory and the knowledge transfer literature argue similarly.

The concept of encoding the message translates into knowledge expression in the knowledge transfer domain. This comprises of the ability and willingness to express knowledge, the value of knowledge stock and the characteristics of (position in) the socio-cultural system of the sender. In conclusion, most of the attributes of the sender found in communication theory can be mapped to the field of knowledge transfer, but the omissions are significant. Two particular research gaps identified were the communication



skills of the sender, which we termed eloquent capacity and the attitude towards self, labelled organisational self efficacy.

### **Channel**

The transfer of the message takes place via channels. Berlo (1960) distinguishes three aspects of communication channels: i) coupling mechanisms, ii) message-vehicles, and iii) message-carriers. When we speak, the mouth is the coupling mechanism. When a colleague sends an email to another colleague, the computer is the coupling mechanism between him/her and the channel. It enables the message to travel from sender to channel and thereby works as the connector of the two (Berlo, 1960). Sound waves (for the spoken word) often serve as the message-vehicle (Berlo, 1960). Johnson (1953: 54) explains that “the words, phrases, and sentences [...] are changed into air waves”. This becomes the message vehicle. For the employee seeking to communicate with a colleague, email would represent the message-vehicle. In the case of the spoken word, air through which information moves is the message-carrier (Berlo, 1960; De Fleur, 1970). Similarly, the employee communicating with his colleague via email would use the internet as his message-carrier. The choice of the carrier will impact the recipient’s ability to see and question the sender and to engage in dispute. It further determines whether or not different recipients of the message can (physically) see each other and interpret their group-reaction (Braddock, 1958).

In knowledge transfer, the notions of vehicles and carriers have been extensively discussed. Vehicles have been described as resembling transfer channels. For instance, scholars investigated formal and informal transfer channels (Björkman *et al.*, 2004; Gupta & Govindarajan, 2000; Lord & Ranft, 2000; Subramaniam & Venkatraman, 2001; Tsai, 2002) or private and public channels (Appleyard, 1996). The existence (number) and use (frequency) of channels is generally found to positively impact effectiveness of knowledge transfer. The message-carrier has been researched in knowledge transfer using the concepts of network embeddedness, comprising network strength and network range (Hansen, 1999; Hansen *et al.*, 2005; Reagans & McEvily, 2003). While messages can travel through the air, knowledge can only be transferred between units when there is a medium which allows this transfer to happen. There must be some kind of communicative ties between the sender and the recipient in order for knowledge transfer to occur. Network strength describes the amount of knowledge that a message-carrier can transport. This concept has been measured by support received (Dhanaraj *et al.*, 2004), relation closeness and frequency

(Hansen, 1999; Reagan & McEvily, 2003) and the number of interactions (McFayden & Cannella, 2004) between source and recipient. Network range describes the scope of the network a unit has. This has been investigated by means of the number of direct relations (McFayden & Cannella, 2004; Tsai 2002), indirect relations (Yli-Renko *et al.*, 2001), and the combination of direct and indirect network relations (Reagan & McEvily, 2003).

Essentially, knowledge transfer notions of channels and network ties are borrowed from the idea of message vehicles and carriers in communication theory. Coupling-mechanisms have received little research attention in the knowledge transfer area. In most studies, researchers have assumed that the message-vehicles employed are unequivocally connected to one specific coupling-mechanism. Computer is coupling mechanism to email, ear is to spoken word, eye is to written text. Distinguishing the two seems more of a theoretical idea, and to be of little importance in an empirical context. Berlo (1960) actually points out that coupling-mechanism can be perceived to be primarily part of the sender, the recipient, or the message-carrier. By changing the transfer channel from email to spoken word, the coupling mechanism automatically changes from eye to ear. We find this univocal and mutually exclusive relationship between coupling mechanisms and message vehicles true for most channels that have been researched in knowledge transfer (computer and email, ear and spoken word, eye and written text). It is probably because of their unequivocal affiliation that knowledge transfer scholars have paid little attention to coupling-mechanisms and focused on investigating transfer channels. As such, it remains a research gap, which is likely to be of little importance to the study of knowledge transfer effectiveness.

In conclusion, concepts of transmission channels and network ties in the knowledge transfer literature represent those ingredients of communication theory encapsulated with the notions of message vehicles and message carriers. In respect to knowledge transfer, the number and strength of channels and network ties determine how often and how intensive knowledge is transmitted from sender to recipient.

### **Recipient (Receiver)**

The recipient in the communication process receives and decodes the message. Berlo (1960) describes four factors that influence the degree to which a message will be received and decoded i) communication skills, ii) attitudes, iii) knowledge level and iv) the socio-cultural

system. In knowledge transfer, scholars speak of four similar items labelled i) absorptive capacity, ii) learning intent, iii) knowledge level, and iv) the socio-cultural system.

### *Communication skills*

Three abilities determine the recipient's communication skills in communication theory. Firstly, the recipient must be able to receive the message (Berlo, 1960). Johnson (1953: 52) believes this process to be "a kind of filter through which facts [...] must pass before they can become known to him". Secondly, an ability to decode the message is required (Berlo, 1960). This comprises of intellectual ability and linguistic understanding. Schramm (1954) refers to this as the "ability to understand something explained quickly" (p. 5). Thirdly, the recipient must be able to perform the suggested behaviour (Braddock, 1958). He further posits that essential to the communication process is the "facility or difficulty [...] the audience [has] for performing the suggested behaviour" (p. 93).

In knowledge transfer, these three abilities have been mirrored by the concept of absorptive capacity. Absorptive capacity comprises "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990: 128). The concepts of recognising new and valuable information and assimilating it parallel the ideas of receiving and decoding messages as identified in the communication literature. The commercial application or replication of knowledge confirms the statement by Braddock (1958) in that the recipient's ability to perform the suggested behaviour matters to effective knowledge transfer. Hence, the abilities to 'receive', 'decode', and 'perform' (communication theory) show a high degree of similarity with those abilities to 'recognise', 'assimilate', and 'apply' (knowledge transfer).

### *Attitudes*

Three attitudes of the recipient determine the process of communication. These are "attitudes toward himself, toward the source, toward the content of the message" (Berlo, 1960: 51). Similar to the encoding by the sender, the attitude toward self determines the decoding by the recipient. Braddock (1958) highlights the importance of the recipients' attitude toward the sender. For example, it matters whether they are sympathetic, antagonistic, apathetic or captive. Fearing (1953) finds that the attitude toward the content of the message impacts effective communication because "the perception of such content brings communicators and interpreters into dynamic relationships" (p. 74).

Knowledge transfer scholars have investigated the recipient's learning intent (Simonin, 2004; Wang *et al.*, 2004). The idea of motivation (Minbaeva *et al.*, 2003; Simonin, 2004; Szulanski, 1995, 1996) resembles Berlo's (1960) notion of the attitude toward subject matter. Trust (Dhanaraj *et al.*, 2004; Lane *et al.*, 2001) resembles an attitude towards the sender. The attitude toward self seems to have received little attention in research on knowledge transfer. As for the sender, the organisational self-efficacy of the receiver must be regarded an integral part of the knowledge transfer process. This has been largely neglected in empirical investigations of knowledge transfer effectiveness.

#### *Knowledge level*

Another ingredient in effective message decoding is the possession of knowledge. The level of knowledge that the recipient has determines the degree to which he can understand the code and the content of the transferred message as well as the nature of the communication process (Berlo, 1960). Braddock (1958: 90) found that the "knowledge and interest groups" that comprise the audience impact the communication process. Knowledge transfer research has focused on the knowledge of the recipient under labels such as common or shared knowledge (Lane & Lubatkin, 1998; Reagan & McEvily, 2003) and resource-based learning capacity (Simonin, 2004). All of them have in common that they assess the extent to which knowledge possession at the recipient influences the degree to which additional knowledge is absorbed. In both communication theory and knowledge transfer, the level of knowledge possessed impacts effectiveness.

#### *Socio-cultural system*

The socio-cultural system affects the recipient of a message via the characteristics of the system of which it is part and the position within the system (Berlo, 1960). The arguments presented above regarding the socio-cultural system of the source can be applied to the recipient. Braddock (1958: 90) identifies the effect of "mass emotions" of the recipient. Fearing (1953) recognises the importance of the "role in the power-structure of the groups, subcultures, or class in which he [the sender] has membership" (p. 77). The impact of such systems on the transfer of knowledge has been discussed by scholars of knowledge transfer too, for instance by assessing characteristics of the societal culture (Bhagat *et al.*, 2002; Kedia & Bhagat, 1988), organisational culture (Simonin, 2004; Szulanski, 1995) or within-unit communication (Minbaeva *et al.*, 2003). Other studies investigated the position within

such systems, for example the degree to which units were involved in strategy formulation and implementation (Lord & Ranft, 2000) and decision approval by headquarters (Tsai, 2002). The position of the recipient in this environment and its nature has been described in both the communication literature and in the knowledge transfer literature.

Overall, receiving and decoding the message have been applied by knowledge transfer scholars using concepts such as the ability to absorb knowledge, the learning intent, the recipient's level of prior knowledge, and the socio-cultural system. The four attributes of the recipient can be mapped to the target domain, knowledge transfer.

### **Noise sources**

Noise describes the factors that reduce effectiveness (Berlo, 1960), such as misunderstanding or misinterpretation (De Fleur, 1970). Noise is related to communication effectiveness, because "eliminating noise increases fidelity; the production of noise reduces fidelity" (Berlo, 1960: 41). In a discussion of the inefficiency of the carriers of information, Johnson (1953: 54) notes that "the reasons for this inefficiency lie both in the speaker and in the listener, of course, as well as in the air waves themselves". Noise can be interpreted as a lack of any of the determinants discussed in the above sections. For example, misunderstanding and misinterpretation can be the result of a lack of communication skills. Similarly, noise can be a lack of motivation or trust, thereby influencing the communicative behaviours of the sender and the recipient. As such, "the basic concern related to noise and fidelity is the isolation of those factors *within* each of the ingredients of communication which determine the effectiveness of communication" (Berlo, 1960: 41; italics added).

However, under specific circumstances it is only possible to fully understand their effects by tracing the root cause of noise in external effects (noise sources). External effects can strengthen the level of noise inherent in the sender or recipient. It has been suggested that 'communication breakdowns' (Berlo, 1960) result from the sender's and recipient's different role prescriptions, expectations and descriptions. Different conclusions drawn about the message by the sender and the recipient can lead to misunderstanding (De Fleur, 1970). Assumptions and expectations of how the other party should behave can result in role, norm and behavioural conflicts. As such, communication breakdowns are more likely when communication takes place across social systems (Berlo, 1960). The sender and recipient must have similar systems or have similar experience for communication to occur (Berlo, 1960; Schramm, 1954). When communication takes place across systems,

differences in expectations, predictions, norms, values, and beliefs will cause a lack of understanding, conflict, and other issues of language and thought (Berlo, 1960). Cross-system communication therefore contains an additional noise source that communication between similar systems does not include.

In the knowledge transfer literature, we find an immense interest in investigating the impact of noise sources on the outcome of knowledge transfer, particularly in the area of partner or system differences. Scholars have conducted research on how differences in societal culture (Jensen & Szulanski, 2004; Minbaeva *et al.*, 2003; Szulanski *et al.*, 2004), industrial background (Mowery *et al.*, 1996), business background (Lane *et al.*, 2001), organisational culture, structure and systems (Dhanaraj *et al.*, 2004; Lane & Lubatkin, 1998; Lane *et al.*, 2001; Simonin, 1999), knowledge (Lane & Lubtakin, 1998; Reagan & McEvily, 2003) and logics and language (Collins & Smith, 2006; Lane & Lubtakin, 1998) impact the outcome of knowledge transfers. Both streams seemingly agree that transfers between dissimilar partners have a negative effect on the process' effectiveness.

## COMPARISON OF RELATIONS

As shown in table 5, in communication (knowledge transfer), effectiveness is the result of the attributes of the message (knowledge), message encoding (knowledge expression), transfer channels (channels and network ties), message receiving and decoding (knowledge absorption) and noise sources (partner differences). We have introduced the notion that the attributes found in each element in both literatures show high degrees of similarity. The second step in analogical reasoning is to compare the level of similarity between the two domains in respect to the relations between their attributes. In communication theory, we find models that are more static and one-directional (e.g. Shannon, 1948) and others which are more interactive and multi-directional (e.g. De Fleur, 1970; Schramm, 1954). In the latter, many relations between the message, the sender, the recipient, and the channel can be depicted. We employ the 'classic' communication model to explain the similarity of relations between the two literatures in order to focus on the relation between noise and the other elements of the transfer process.<sup>31</sup> Shannon (1948) introduced noise as the distortion of the electronic signal that can occur "during transmission or at one or the other of the terminals" (p. 406). Similarly, Berlo (1960) argued that noise should be integral

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<sup>31</sup> Both the classic as well as the interactive models are representative for knowledge transfer. The former applies to one-directional knowledge transfers (e.g. technological or management know-how transfer from developed to developing markets). The latter applies to interactive knowledge transfers, such as research collaborations. For the sake of simplicity, we chose the classic model in this first attempt to conceptually integrate communication theory and knowledge transfer literature.

part of the ingredients of communication. Hence, if noise is inherent in the sender, the channel, and the recipient, an important relation that needs to be described is that of the impact of noise sources on the sender, the channel, and the recipient. The possible stages in which interruption can occur, are i) encoding and sending the message, ii) transmitting the message and iii) receiving and decoding the message.

Surprisingly, this aspect has received little attention in the knowledge transfer area. The barriers to transfer were seldom distinguished in the knowledge transfer literature but have been investigated via their impact on the knowledge transfer outcome (table 6). As can be seen from the description of the dependent variables employed in such studies, they intermix the three stages of the transfer process. For example, several studies investigate the impact of cultural differences on knowledge transfer outcomes such as stickiness (Jensen & Szulanski, 2004), the transfer of knowledge (Minbaeva *et al.*, 2003), or the accuracy of reproduction (Szulanski *et al.*, 2004). This is in sharp contrast to the ideas in communication theory, where noise sources have a separable and separate impact on each of the three stages. In using only one composite outcome variable, knowledge transfer studies do not show which stage of the transfer process is interrupted by partner differences/noise sources (table 6).

Study investigating partner differences (noise sources) as an independent variable	Dependent variable employed to measure the effect of partner differences	Description of dependent variable
Collins & Smith 2006	Knowledge exchange/combination	“workers’ beliefs that exchange and combination would yield personal or organizational value (motivation) and the extent to which they believed that employees could exchange and combine information (ability)” (p. 551)
Dhanaraj <i>et al.</i> 2004	Tacit and explicit knowledge transfer	“the learning of tacit knowledge from the foreign parent” (p. 434)
Jensen & Szulanski 2004	Implementation and ramp-up stickiness	Difficulty in transferring knowledge covering “the time from when the source begins transferring to the recipient until the recipient achieves comparable results” (p. 512)
Lane & Lubtakin 1998	Success at inter-organizational learning within the alliance	Degree to which “the alliance has helped the pharmaceutical firm in terms of learning new skills or capabilities and technology or research developments [...] as well as which partner benefited most from knowledge spillovers” (p. 468)
Lane <i>et al.</i> 2001	Knowledge learned from foreign parent	Extent to which the Joint-venture learned from “foreign parent (a) new technological expertise, (b) new marketing expertise, (c) product development, (d) managerial techniques, and (e) manufacturing process” (p. 1148)
Minbaeva <i>et al.</i> 2003	Transfer of knowledge	Extent to which subsidiary “utilize[s] knowledge from the parent company and from other MNC units” (p. 592)
Mowery <i>et al.</i> 1996	Firm learning	Cross-citation rate of patents: Citations to firmj patents in firmi patents divided by total citations in firmi patents (p. 83)
Reagans & McEvily 2003	Ease of knowledge transfer from a source to a recipient	5 questionnaire items measuring the ease by which knowledge could be explained to a person (p. 250)
Simonin 1999a	Ambiguity	Degree to which “marketing skills and know-how of the partner [are] easily transferable back to the company” and the “association between causes and effects, inputs and outputs, and actions and outcomes related to the marketing skills and know-how of the partner is clear” (p. 476)
Szulanski <i>et al.</i> 2004	Causal ambiguity	5 questionnaire items measuring the degree to which the practice can be understood in terms of its causes and effects, limits, components, outputs, and 3 questionnaire items measuring the degree of tacitness (p. 604)

Table 6: Treatment of noise sources in previous knowledge transfer studies

Almost all the ingredients of communication were found in knowledge transfer studies, but, as shown with the analysis of noise in both research streams, the relations describing “the ways in which each of the ingredients operates in a given situation” (Berlo, 1960: 41) differ. This should be considered as “mere appearance match” (Gentner, 1983: 161), indicating that the domains described appear similar but are fundamentally different in function. In other words, if the nature of the relation of noise sources and the other attributes of knowledge transfer as assumed in the extant knowledge transfer literature is valid, we would have to conclude that knowledge transfer is fundamentally different from communication theory. However, this conclusion does not fit with other conceptual



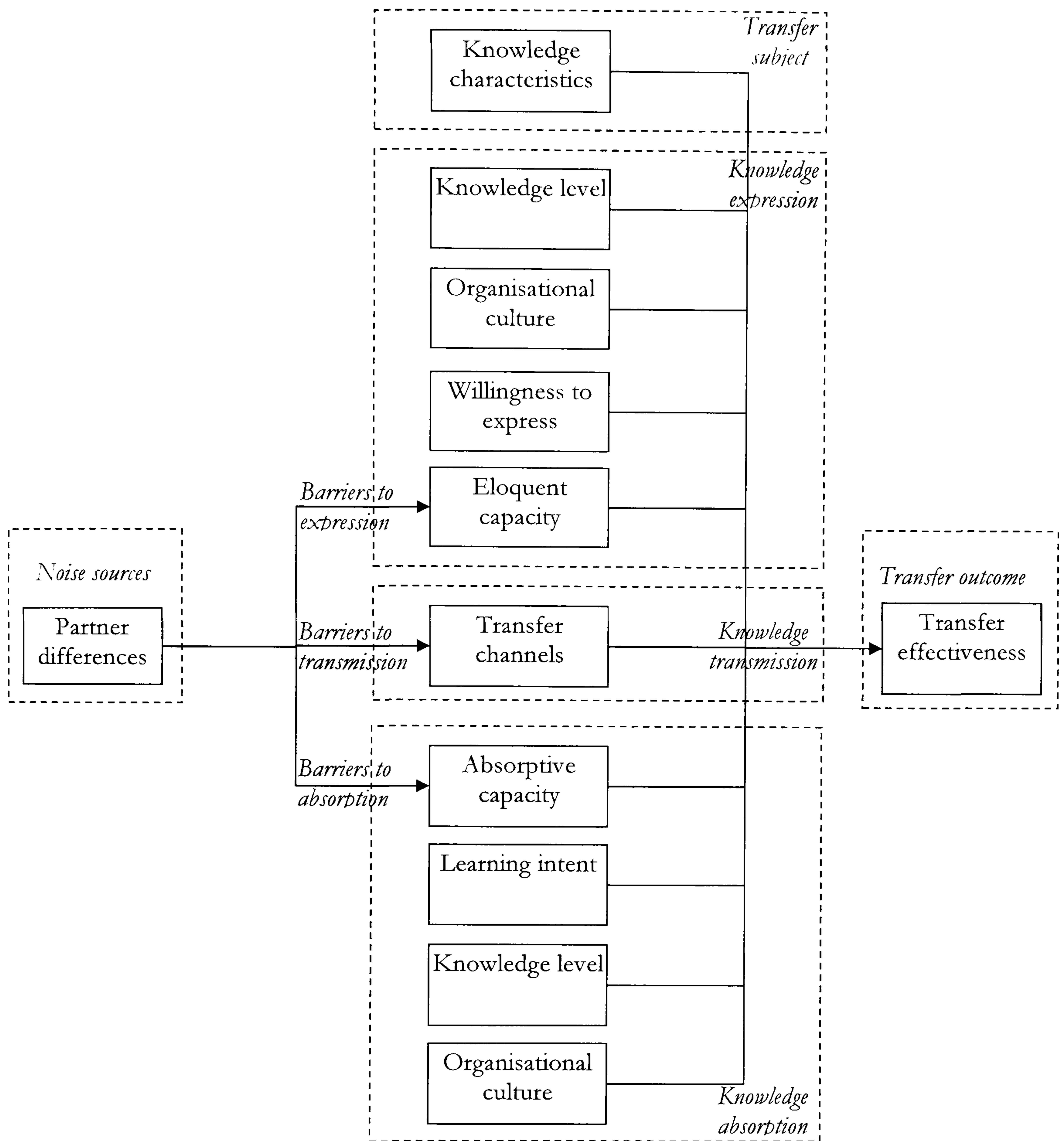
studies and studies in areas related to knowledge transfer. These studies give some insights that partner differences (such as cultural dissimilarities) impact the three stages of the knowledge transfer process. Bhagat *et al.* (2002) predict that cultural distance will inhibit both the expression and the absorption of knowledge, because different societies have different ways of “articulating and absorbing knowledge” (p. 213) and of “absorbing and transferring knowledge” (p. 214). Hence, members of societies differ systematically in their “field of experience” (Schramm, 1954: 6) and logics. This means that from the sender’s perspective, there are many uncertainties about the recipient’s understanding and behaviour that can influence meaningful encoding of the message (barriers to expression). Vice versa, the recipient will encounter similar problems when facing a sender that is different, unpredictable, possesses different norms, takes an unanticipated role or expresses himself in ambiguous language (barriers to absorption). Unfortunately, we are unable to find such a dynamic process in the knowledge transfer literature. Prior studies have depicted noise as a single moderating (e.g. Bhagat *et al.*, 2002) or causal (e.g. Simonin, 1999a) effect.

The comparison of the relations suggests that when analyzing noise sources as independent variables (e.g. partner differences), the dependent variables employed should be the sender, the channel, and the recipient, which mediate the negative effect of partner differences on transfer effectiveness. The potential stages for interruption of the effective transfer process are the individual attributes of i) the sender, ii) the channel, and iii) the recipient. In other words, communication theory suggests that there are three different barriers to transfer, namely the i) barriers to expression, ii) barriers to transmission, and iii) barriers to absorption. Barriers to expression for example reduce the sender’s ability to communicate understanding accurately. These communication skills will suffer under circumstances with high partner differences (Bhagat *et al.*, 2002). Barriers to transmission are caused by partner differences because they lead to weaker expressive ties and embeddedness between transfer partners (Hakanson & Nobel, 2001; Manev & Stevenson, 2001). Barriers to absorption are caused by partner differences because when differences are large, an unfamiliar learning environment reduces the recipient’s ability to identify and absorb knowledge (e.g. Bhagat *et al.*, 2002; Kostova, 1999).

Scholars in knowledge transfer have found significant relationships between noise sources and transfer effectiveness because they did not introduce in their models the ‘natural mediators’ that arbitrate the impact of noise sources on transfer effectiveness. It can be posited that according to communication theory, barriers to transfer comprise barriers to expression, transmission, and absorption (figure 6). Future research should take this

distinction into consideration because it delivers further insight into the reasons for knowledge transfer to fail. It can reveal to the researcher the degree to which the sender, the channel, and the recipient are 'responsible' for the failure of transfer, or success in overcoming the barriers to transfer.

We can infer that the reason we could not find an overlap in relations is not because the domains are not similar, but because knowledge transfer scholars have not yet distinguished barriers to expression, barriers to transmission, and barriers to absorption. Therefore, it is deemed appropriate to change the existing knowledge transfer framework to a communication-theory-derived, integrative framework that portrays knowledge transfer as a process in which noise resides at the level of each attribute (figure 6). We will address this issue in the next section and further explain how a change in research methodology can improve our understanding of knowledge transfer.



(Adapted from: Berlo, 1960; Braddock, 1958; De Fleur, 1970; Fearing, 1953; Johnson, 1953; Lasswell, 1948; Maletzke, 1963; Schramm, 1954; Shannon, 1948; Shannon & Weaver, 1949 )

Figure 6: Proposed model of knowledge transfer

## DISCUSSION

Our application of analogical reasoning to communication theory and knowledge transfer studies reveals that most of the ideas and notions that exist about effective communication have been applied by knowledge transfer scholars attempting to investigate the determinants of effective knowledge transfer. Most “ingredients to communication” were applied and the reason for the neglect of the other ingredients seems to be a lack of awareness rather than a lack of transferability of the notions from one domain to the other. Given that scholars have validated the use of communication theory notions as determinants of the effectiveness of knowledge transfer, the continued presence of gaps identified by our comparison is unjustified.

The chapter has also shown that absorptive capacity, which has become one of the most widely accepted concepts in knowledge transfer research, is merely a transliteration of the ideas of the recipient’s communication skills found in communication theory. These communication skills have not yet been investigated for the sending unit in empirical attempts. This lack of acknowledgement of the ‘teaching organisation’ has led to a focus on the ‘learning organisation’ which, according to communication theory, can only explain half of what is happening when two partners transfer knowledge. The ingredients to knowledge transfer are not stand-alone concepts, but part of a system from which they cannot be separated:

‘It is all too easy to look at this or any other communication model as a “click-click–push-pull” system. This is not the way communication works. All the communication ingredients and factors that we have mentioned and discussed are intertwined. When we engage in communication as a process, we cannot pull any one of them out– or the whole structure collapses.’ (Berlo, 1960: 69)

We agree with Berlo that only the separate but simultaneous analysis of the message, the sender, the recipient, the channel, and noise sources can lead to meaningful insight into why knowledge transfer is effective or ineffective. It is also an opinion shared by research methodologists, who are worried about the validity of research which is subject to omitted variables:

“...should the researcher be concerned with excluding relevant variables? The answer is definitely yes, because the exclusion of relevant variables can seriously bias the results and negatively affect any interpretation of them.” (Hair *et al.* 2006: 193/194)

Organisational self-efficacy, the eloquence of organisational units to express knowledge and noise sources are all essential aspects of effective knowledge transfers that have been largely ignored and need to receive knowledge transfer scholars' full attention if we are to take the field further in the future.

The dominance of the recipient (as compared to the source) in the knowledge transfer literature has also led to the concept of relative absorptive capacity (Lane & Lubatkin, 1998). Undoubtedly, partners that are similar can transfer meaning better than dissimilar partners (c.f. Berlo, 1960). The terminology of relative absorptive capacity however suggests that it is knowledge absorption which is relatively more difficult under such circumstances, rather than knowledge expression. In fact, both absorption and expression are inhibited by noise sources, and so is transmission (Berlo, 1960; Shannon, 1948). Given that we know more than we can tell (Polanyi, 1958), and listening to a speech is easier than giving one, it is reasonable to assume that partner differences cause much higher barriers to expression than barriers to absorption. Due to our relatively low ability to express (new) knowledge as compared to absorb (new) knowledge, we can argue that partner dissimilarity in learning dyads leads to lower transfer effectiveness primarily via the relative eloquent capacity of organisations, and secondarily via their relative absorptive capacity. Although it is likely that knowledge expression, knowledge transmission, and knowledge absorption are influenced by partner dissimilarities in a negative way, current research still lacks an analysis of how much of the learning in dyads is the result of the quality of the sender, the recipient and their communicative ties. In some 'noisy' transfer situations, the sender will have the highest "burden of adaptation" (Hofstede, 1986: 301); in others, the recipient of knowledge will struggle with absorbing what the sender expressed; and in some cases a lack of communicative ties caused by partner differences will inhibit the physical transmission of the body of knowledge.

Our comparison of communication theory and knowledge transfer studies has addressed this issue in suggesting that there are barriers to expression, barriers to transmission, and barriers to absorption. Weaver (in Shannon & Weaver, 1949) similarly identified multiple problems in the transfer of meaning labelled the 'technical problem', the 'semantic problem', and the 'effectiveness problem'. The technical problem is concerned with the accuracy by which the symbols of communication can be transmitted (barriers to transmission). The semantic problem is concerned with the degree to which the transmitted symbols convey the desired meaning (barriers to expression/absorption). The

effectiveness problem is concerned with the degree to which the received meaning affects conduct in the desired way (barriers to absorption).

## **CONCLUSION**

By analogical reasoning, we find high similarity between the attributes of communication theory and the knowledge transfer literature. Despite the fact that the relation between noise sources and transfer outcome has been depicted differently in both research streams, and that some elements of effective communication have not yet been investigated in empirical knowledge transfer research, our structured comparison of the two knowledge domains has shown that knowledge transfer scholars, knowingly or unknowingly, have built on the notions of effective communication.

However, while communication theory treats these attributes as a system of relationships, we find that most studies in knowledge transfer treat these elements in isolation. No empirical knowledge transfer study could be found that, as suggested by Berlo (1960), investigates all ingredients simultaneously, so that the structure does not collapse. In this chapter, we have carefully outlined the communication process and compared it to the findings of knowledge transfer scholars. By systematically comparing the two knowledge domains and thereby systematically outlining the determinants of effective knowledge transfers, a conclusive model of knowledge transfer effectiveness was derived. Hence, we have achieved objective two of this research project.

The validity of the claims derived from communication theory will be investigated in the empirical chapters 6 to 9 (objective three). Chapter 4 will specify the relations between the three novel concepts and transfer effectiveness in testable research hypotheses. Chapter 5 will explain the research methodology and methods of data collection and analysis.

# Chapter 4: Research hypotheses

*Formal relationships proposed for the novel concepts*

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## **ABSTRACT**

This chapter outlines research hypotheses for the under-researched aspects of knowledge transfer effectiveness identified in the previous chapter. Chapter 3 highlighted the high degree of similarity of the study of effective communication and effective knowledge transfers. Despite this similarity, knowledge transfer research has revealed some important additional characteristics and nuances that need to be outlined and specified before the empirical analyses start. This chapter addresses this need by developing testable hypotheses that respond not only to our communication-theory-derived research model but also the special characteristics and features of cross-border knowledge transfer settings. Another central feature of the chapter is to break down effectiveness into its three dimensions velocity, viscosity, and value, and to hypothesize how each of the under-researched aspects influences them.

## INTRODUCTION

This chapter outlines formal research hypotheses for the quantitative investigation (chapters 7, 8 and 9) conducted in this thesis. It builds on the theoretical framework derived in chapter 3, but deepens the discussion by focusing in-depth on the three research gaps identified (eloquent capacity, organisational self-efficacy, and the mediating effect of transfer capacities on the impact of noise sources on transfer effectiveness) and their impact on each of the identified measures of effectiveness: velocity, viscosity, and value.

The objective of this chapter is to suggest testable hypotheses for the previously derived concepts. Since these concepts remain largely unexplored in the knowledge transfer context, it is necessary to explore in more depth how they relate to the concept of transfer effectiveness. The chapter connects the theory (chapter 3) with the empirical reality (chapters 6, 7, 8 and 9), and thereby provides the starting ground for the quantitative analyses.<sup>32</sup> The chapter will first address eloquent capacity, then organisational self-efficacy, and finally noise sources.

## THE IMPACT OF ELOQUENT CAPACITY ON TRANSFER EFFECTIVENESS

### Introduction

In a globalised economy, organisations have to build and maintain competitive advantages in the form of irreproducible skills in order to survive (Porter, 1980; Prahalad and Hamel, 1990). Such skills often take the form of knowledge (Jansen *et al.*, 2005), and represent previous investment undertaken by the organisation (Johnson, 1970). When this knowledge can be shared across geographically dispersed units and markets, the returns organisations get on their knowledge-investments increase. Hence, the capacities to transfer knowledge are of essential importance to strategic management and corporate success (Zahra & George, 2002).

In the past, scholars investigating the capacities to transfer knowledge have focused on the capacity of the recipient unit to absorb new knowledge (e.g. Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000). Studies found that an organisation's ability to acquire, assimilate, transform and apply new knowledge determines transfer success (Zahra &

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<sup>32</sup> As will be discussed in chapter 5 in more detail, the qualitative investigation (chapter 6) follows a largely inductive research methodology. We therefore only make research hypotheses for the quantitative investigation (chapters 7, 8 and 9).



George, 2002). Since the knowledge transfer process consists of a source unit and a recipient unit, the study of absorptive capacity addresses only the recipient unit's capacity to transfer knowledge. Although studies have included differences between the source and the recipient unit (e.g. Lane & Lubatkin, 1998; Lane *et al.*, 2001) the *ability* of the source unit to disseminate knowledge (labelled eloquent capacity) remains largely unexplored. Several suggestions to investigate this capacity have been made by Martin & Salomon (2003), but an empirical investigation remains to be carried out. Due to the complementary nature of the source and recipient unit in the knowledge transfer process (Szulanski, 1996), a research gap exists in respect to the source unit's capacity to transfer knowledge. Another shortcoming in antecedent studies is that not all aspects of transfer success are simultaneously investigated. Some scholars have investigated transfer velocity, i.e. the speed of knowledge transfers (Zander & Kogut, 1995). Others have investigated transfer viscosity, i.e. the amount of knowledge transferred (Dhanaraj *et al.*, 2004; Gupta & Govindarajan, 2000; Tsai, 2002). Yet others have investigated the value of knowledge transfers, i.e. the extent to which knowledge transfers improve performance (e.g. Collins & Smith, 2006). The simultaneous analysis of all three aspects of transfer success is important because competitive advantages do not only derive from accurately addressing market needs, but also from timely addressing them (Cordero, 1991). To build lasting competitive advantages, firms have to transfer a sufficient amount of knowledge (viscosity), to transfer it at a speed that allows the firm to compete in any market with local rivals (velocity), and to ensure that such knowledge is transferred that has the potential to create value. When the velocity, the viscosity or the value of knowledge transfers is insufficient, there is a potential danger that the firm will not optimally employ the knowledge-resources it has previously invested in.

The source's and the recipient's skills are conceptually different constructs. However, previous discussions with academics have shown that due to its novelty, the concept of eloquent capacity can often be confused with that of absorptive capacity.<sup>33</sup> In an attempt to reduce the likelihood of this confusion, we propose formal relationships not only for eloquent capacity, but also for absorptive capacity.

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<sup>33</sup> Eloquent capacity, with the three dimensions as understood by Klijn (2006), was discussed at the Academy of International Business meeting in Beijing (2006). Eloquent capacity, as derived from communication theory, was discussed at the 4<sup>th</sup> PhD Students Consortium at Texas A&M International University in April 2008. Discussions with panelists indicated the potential confusion and the helpfulness of clearly distinguishing the role of each capacity in the transfer process.

## **Absorptive capacity**

Absorptive capacity can be described as a firm's capability to learn new knowledge. Several definitions and measurements of the concept exist (e.g. Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000; Lane & Lubatkin, 1998; Lane *et al.*, 2001; Mowery & Oxley, 1995; Szulanski, 1995, 1996; Zahra & George, 2002), and many proxies were used to capture it. Cohen & Levinthal (1990) defined absorptive capacity as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (p. 128). In their study, they used a firm's investment in research & development (R&D) to measure a firm's absorptive capacity. Gupta & Govindarajan (2000) used entry-modes, top-management team composition and levels of economic development as proxies for the ability to learn new know-how. Based on Cohen & Levinthal's (1990) study, Lane & Lubatkin (1998) and Lane *et al.* (2001) distinguish between aspects of knowledge reception, knowledge assimilation, and knowledge application, but used many dyad-level measures for each to reflect the idea that absorptive capacity depends on the similarity of partners. Among all empirical studies, there is evidence and widespread agreement that all aspects of absorptive capacity facilitate knowledge transfers.

Recently, Zahra & George (2002) enriched the discussion on absorptive capacity by re-conceptualizing absorptive capacity as the recipient's potential absorptive capacity (PACAP) and its realized absorptive capacity (RACAP). PACAP comprises the ability to acquire and assimilate knowledge, and RACAP constitutes the ability to transform and exploit knowledge. Here, transformation "denotes a firm's capability to develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge" (Zahra & George, 2002: 190). This fourth aspect of absorptive capacity is useful because the abilities to receive, assimilate and apply knowledge do not suggest that knowledge often needs to be adapted to local needs. We did not find evidence for this concept in communication theory because communication theory is largely concerned with the communication process, which ends with successful knowledge absorption. Transforming and applying knowledge are actions beyond the transfer process and are solely carried out by the recipient. Also, effectiveness in communication can be measured by the accuracy of transfers (Berlo, 1960), but the effectiveness of knowledge transfers often cannot, because it is essential to value-creating knowledge transfers that the knowledge applications realised in a market respond to local market needs. As such, they will often have to be adapted, purposefully reducing the 'accuracy' of reproduction and introducing the ability to transform knowledge as an additional, essential aspect of effective knowledge transfers. In order to understand the effectiveness (in particular, the value) of

knowledge transfers, including knowledge transformation and application in investigations on knowledge transfer effectiveness is inevitable. In order to adapt communication theory to the empirical realities of a knowledge transfer setting, we include knowledge transformation in the following discussion and our empirical investigation. According to Zahra & George (2002), it is useful to think about absorptive capacity as PACAP and RACAP, because they have unique roles in the knowledge transfer process. PACAP measures how well an organisational unit can learn new knowledge, but not how well it applies this knowledge to commercial ends. To understand why such firms create better value from knowledge transfers, an organisation's RACAP needs to be considered (Zahra & George, 2002). This capacity comprises knowledge transformation and knowledge exploitation, which has a direct effect on the competitive advantage of the firm (Zahra & George, 2002). As acknowledged by the authors, none of the two aspects of absorptive capacity should be looked at in isolation, because they "fulfill a necessary but insufficient condition to improve firm performance" (p. 191). In other words, knowledge can only be transformed and exploited after it is learned, but knowledge that is learned is only exploited if the firm has a sufficient level of realized absorptive capacity. Jansen *et al.*'s (2005) study confirmed the usefulness of distinguishing between potential and realized absorptive capacity by showing that each dimension has unique organisational antecedents.

### **Eloquent capacity**

Another group of scholars has suggested that absorptive capacity by itself cannot sufficiently explain knowledge transfers. Martin & Salomon (2003) have suggested that the knowledge source has a transfer capacity that influences how well knowledge can be transferred. Compared to absorptive capacity, the capacity to disseminate knowledge represents a "separate and orthogonal skill dimension" (p. 363). The two scholars' suggestion was to decompose such an ability into three abilities: i) the ability of a firm or business unit to articulate uses of its own knowledge, ii) the ability to assess the needs and capabilities of the recipient, and iii) the ability to transmit knowledge so that it can be employed in another location. The lack of empirical evidence of a source unit's ability to disseminate knowledge led us to look for further evidence in research areas related to knowledge transfer. Antecedent studies have extensively borrowed ideas from communication theory (e.g. Gupta & Govindarajan, 2000; Kogut & Zander 1996; Hansen, Mors, & Løvås, 2005; Szulanski, 1995, 1996). The two disciplines show high similarity, for example in respect to a recipient's absorptive capacity. According to communication theory, the receiver of a message (read: recipient) needs to possess the ability to receive and filter new information (e.g. Berlo, 1960; Johnson, 1953), the ability to decode and understand

(e.g. Berlo, 1960; Schramm, 1954), and the ability to perform suggested behaviour (e.g. Braddock, 1958). These abilities closely reflect Cohen & Levinthal's (1990) initial definition. Hence, communication theory and knowledge transfer scholars closely agree on the abilities that form absorptive capacity. In addition to the ability of the recipient, communication theory also suggests the importance of the sender's (read: source's) abilities. According to communication theory, the sender of a message must have the ability to understand own purposes and intentions, the ability to understand the recipient, and the ability to encode this understanding in a message (see chapter 3 for details). Given the many ideas in the knowledge transfer literature that were derived from communication theory (see Gupta & Govindarajan, 2000; Kogut & Zander 1996; Hansen *et al.*, 2005; Szulanski, 1995, 1996), we propose that the communication skills of the source provide a suitable starting ground to develop the concept of eloquent capacity. For the organisational context, we label the three dimensions of the source's communication skills: i) the understanding of own purposes and intentions, ii) the understanding of the recipient, and iii) the ability to express knowledge accurately. In total, these three skills reflect the source's eloquent capacity. It is useful to think of this concept as potential and realized eloquent capacity, too. The source's understanding of the own purposes and intentions and of the recipient reflect the potential eloquent capacity (PECAP). Taken together, they limit the latent expressiveness of the source. The ability to encode knowledge according to this understanding (of the own purposes and intentions and the recipient) can be understood as realised eloquent capacity (RECAP), because it determines how much benefit a source can realize from its understanding. RECAP determines how well the PECAP can be translated into knowledge expression. Distinguishing between the potential/latent and the actual/realised capacity, the division of roles of the three abilities to express knowledge is similar to the division of roles of the four abilities to absorb knowledge. As such, it is useful to apply Zahra & George's (2002) idea to the concept of eloquent capacity. Figure 7 illustrates Zahra & George's (2002) concept of absorptive capacity extended by the concept of eloquent capacity as we derive it from communication theory.

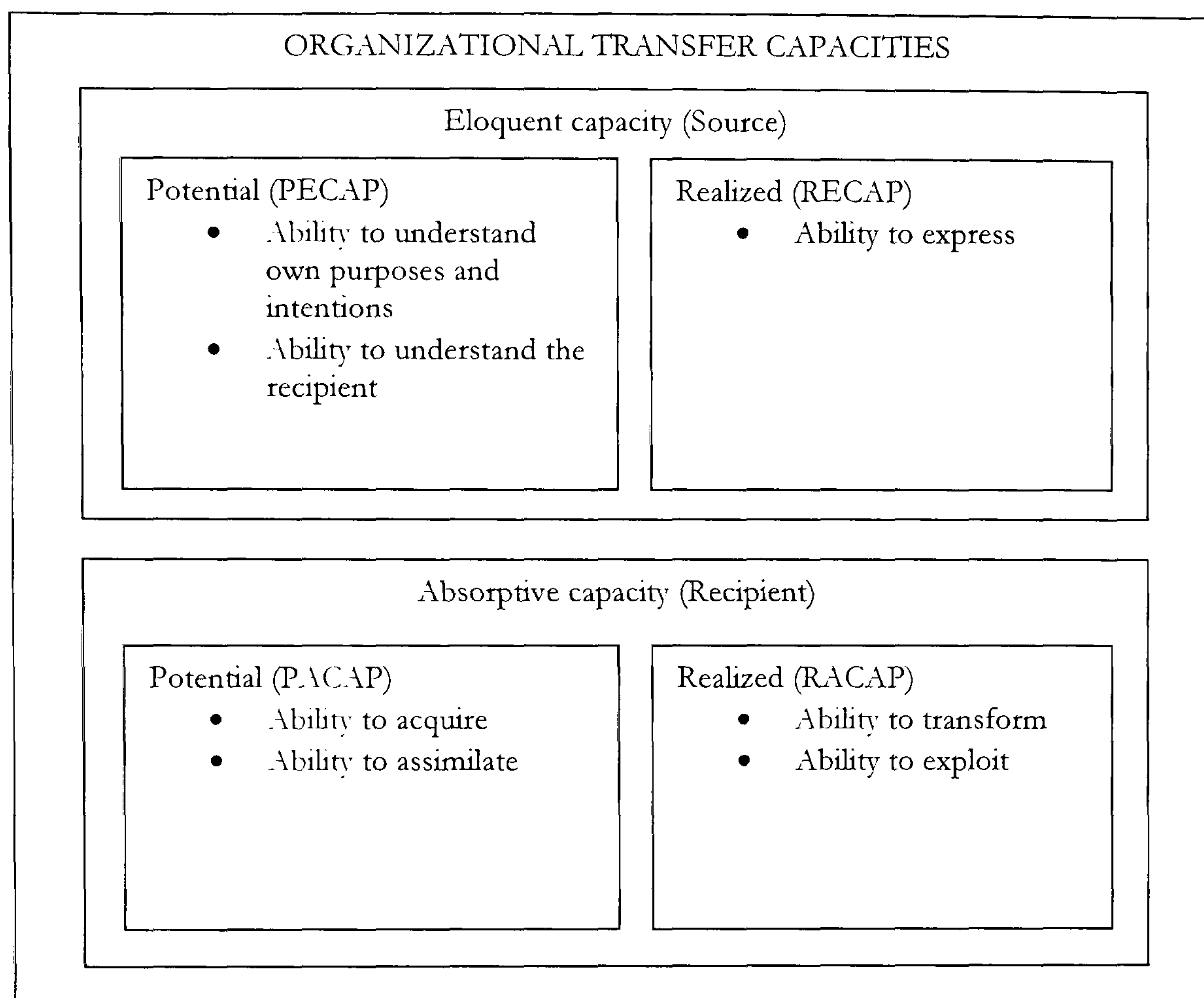


Figure 7: Overview of transfer capacities that influence transfer effectiveness<sup>34</sup>

### **The impact of potential absorptive capacity on transfer velocity, viscosity and value**

A recipient organisational unit that is able to acquire and assimilate new external information can build new knowledge stocks more quickly because less time is needed to absorb aspects of the knowledge when understanding is high. For example, Zander & Kogut (1995: 79) argue that “the facility to communicate and understand the relevant knowledge [...] should [...] speed the time to transfer”. Szulanski (1995) finds that a lack of absorptive capacity leads to delays in knowledge transfers. Zahra & George (2002) review the literature on absorptive capacity to find that the ability to acquire knowledge is interlinked with the speed of learning. As such, we specify that for transfer velocity:

Hypothesis 1a: A recipient unit’s potential absorptive capacity has a positive impact on transfer velocity.

In addition, an important role of the ability to acquire and assimilate knowledge is to facilitate learning, comprehension and the quality of learning (Zahra & George, 2002). The possession of this ability enables the recipient unit to absorb more information, because each knowledge aspect that is transferred from the source requires a relatively smaller

<sup>34</sup> Based on Zahra & George (2002), extended.

amount of the available capacity. Many prior empirical tests have shown the link between PACAP and transfer viscosity (e.g. Gupta & Govindarajan, 2000; Lane & Lubatkin, 1998; Lane *et al.*, 2001). Hence we posit the same relationship for transfer viscosity:

Hypothesis 1b: A recipient unit's potential absorptive capacity has a positive impact on transfer viscosity.

A recipient's unit ability to acquire and assimilate knowledge does not influence transfer value directly. Zahra & George (2002) argue that "despite the importance of PACAP, RACAP is the primary source of performance improvements" (p. 191). We therefore do not propose a relationship between PACAP and transfer value.

### **The impact of realized absorptive capacity on transfer velocity, viscosity and value**

A recipient unit that has a high ability to transform and exploit knowledge faces fewer problems in harvesting its resources and has a better understanding of which knowledge it should acquire from the source unit because this ability "facilitates the recognition of opportunities" (Zahra & George, 2002: 190). Since it can better recognise knowledge opportunities that the source provides, knowledge transfers will be accompanied by lower levels of primary uncertainty, leading to fewer problems with acquiring information and coordination of activities (Buckley & Carter, 2002). On the other hand, a recipient unit that has little understanding of how the source unit's knowledge can be exploited will face information overflow when trying to look for knowledge and will face additional difficulties in implementing the knowledge. Thus, the ability to transform and exploit knowledge creates an understanding of the usefulness of different types of know-how (Zahra & George, 2002), enabling the recipient to make a quicker choice as to what kind of knowledge should be absorbed and how it should be implemented. Hence,

Hypothesis 2a: A recipient unit's realized absorptive capacity has a positive impact on transfer velocity.

An important role of realized absorptive capacity is to create synergies and to develop core competencies (Zahra & George, 2002). The larger the realized absorptive capacity of a firm, the more value the firm will be able to create from the knowledge it has acquired previously. While potential absorptive capacity influences how quick and rich knowledge transfers will be, the existence of such a capacity does not necessarily lead to successful value creation for the firm. Value will only be created when the transferred knowledge can be applied to

local market conditions. Lane *et al.* (2001) for example found that the ability to apply knowledge leads to significant performance improvements. Hence, value creation from knowledge transfers is superior when the firm possesses the ability to internalize, convert, use and implement the knowledge it has previously acquired (Zahra & George, 2002).

Hypothesis 2b: A recipient unit's realized absorptive capacity has a positive impact on transfer value.

RACAP describes the ability to work with the knowledge base that has been built via PACAP. As such, RACAP is not responsible for the knowledge absorption stage, but the knowledge application stage. RACAP does not influence how much knowledge is transferred and we therefore do not propose a formal relationship between RACAP and transfer viscosity.

### **The impact of potential eloquent capacity on transfer velocity, viscosity and value**

A source unit with good understanding of its own purposes and intentions and good understanding of the transfer recipient can purposefully choose know-how that is digestible for the recipient (Berlo, 1960; Braddock 1958; Schramm, 1954). It can also identify the most effective transfer channels that the recipient assesses most frequently or has the most experience with. Furthermore, this understanding improves the setting of appropriate expectations regarding the transfer (Berlo, 1960) and enables the source to anticipate how the recipient will react (Fearing, 1953), leading to less information-overload for the knowledge assimilator and thereby quicker and more comprehensive digestion of new information.

Hypothesis 3a: A source unit's potential eloquent capacity has a positive impact on transfer velocity. The understanding of the own purposes and intentions has a positive impact (H3a') and the understanding of the recipient has a positive impact, too (H3a'').

Hypothesis 3b: A source unit's potential eloquent capacity has a positive impact on transfer viscosity. The understanding of the own purposes and intentions has a positive impact (H3b') and the understanding of the recipient has a positive impact, too (H3b'').

Given a better understanding of the knowledge at hand, of the recipient, and of its business environment, the source can shape knowledge transfers to maximise the benefits that can be achieved with it, because they ensure that the knowledge provided matches the implementation environment (Martin & Salomon, 2003). Causal ambiguity – a barrier to

effective transfers – on the other hand can result from knowledge being put in a new (inappropriate) context (Szulanski, 1996). The understanding of own purposes and intentions and the recipient will help to accurately judge the implementation environment/new context and enable the source to choose relevant know-how for the transfer based on the recipient's strength and weaknesses (Martin & Salomon, 2003). The source's understanding thus represents a quality filter that 'cleans' knowledge transfers of unimportant elements. In sum, understanding own purposes and intentions and understanding the recipient improve the value creation from knowledge transfers because only (or at least mostly) relevant, useful and important knowledge is transferred.

Hypothesis 3c: A source unit's potential eloquent capacity has a positive impact on transfer value. The understanding of the own purposes and intentions has a positive impact (H3c') and the understanding of the recipient has a positive impact, too (H3c'').

### **The impact of realized eloquent capacity on transfer velocity, viscosity and value**

The source's ability to express knowledge makes it act as a "proficient sender, transmitting the underlying information in proper form, duly arrayed and timed, and targeted to the proper recipient(s)" (Martin & Salomon, 2003: 363). It is this expressive ability that facilitates the speed and richness of knowledge transfers because strong encoding skills (Berlo, 1960) facilitate clear and unambiguous knowledge expression that eventually makes each transfer easier to understand. As much as the quality of a teacher in a classroom environment influences the learning outcome (McKinseyQuarterly, 2007a), the quality of corporate teaching influences the knowledge transfer outcome. When the knowledge at hand is explained very well by the source, more knowledge can be transferred to the recipient and it can be transferred more quickly.

Hypothesis 4a: A source unit's realized eloquent capacity has a positive impact on transfer velocity.

Hypothesis 4b: A source unit's realized eloquent capacity has a positive impact on transfer viscosity.

Furthermore, the "adroitness" (Johnson, 1953: 50) of the source will also facilitate the creation of value from the knowledge transferred because it reduces "secondary uncertainty" (Buckley & Carter, 2002). In the absence of this ability, "managers are unable to combine their knowledge in ways that are beneficial to the firm" (Buckley & Carter,



2002: 31). As such, the better the ability to express knowledge, the more value can be created from knowledge transfers.

Hypothesis 4c: A source unit's realized eloquent capacity has a positive impact on transfer value.

### **The impact of transfer velocity and transfer viscosity on transfer value**

It should be noted here that despite we suggest that transfer velocity, viscosity and value are independent dimensions of transfer effectiveness, we assume several interactions between them. It was shown that transfer viscosity leads to performance improvements (e.g. Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Kotabe *et al.*, 2003; Lane *et al.*, 2001; Yli-Renko *et al.*, 2001). The more knowledge that is transferred, the better the opportunities for value creation from knowledge transfer.

Hypothesis 5a: Transfer viscosity has a positive impact on transfer value.

Furthermore, global forces have changed competitive environments and speed has become a central objective of the firm (Cordero, 1991) because proper market timing creates multiple competitive advantages (Lilien & Yoon, 1990; Porter, 1985). As such, earlier market presence gives firms additional choices and opportunities for value creation.

Hypothesis 5b: Transfer velocity has a positive impact on transfer value.

Figure 8 illustrates the proposed relationships that will be tested empirically in chapter 7.

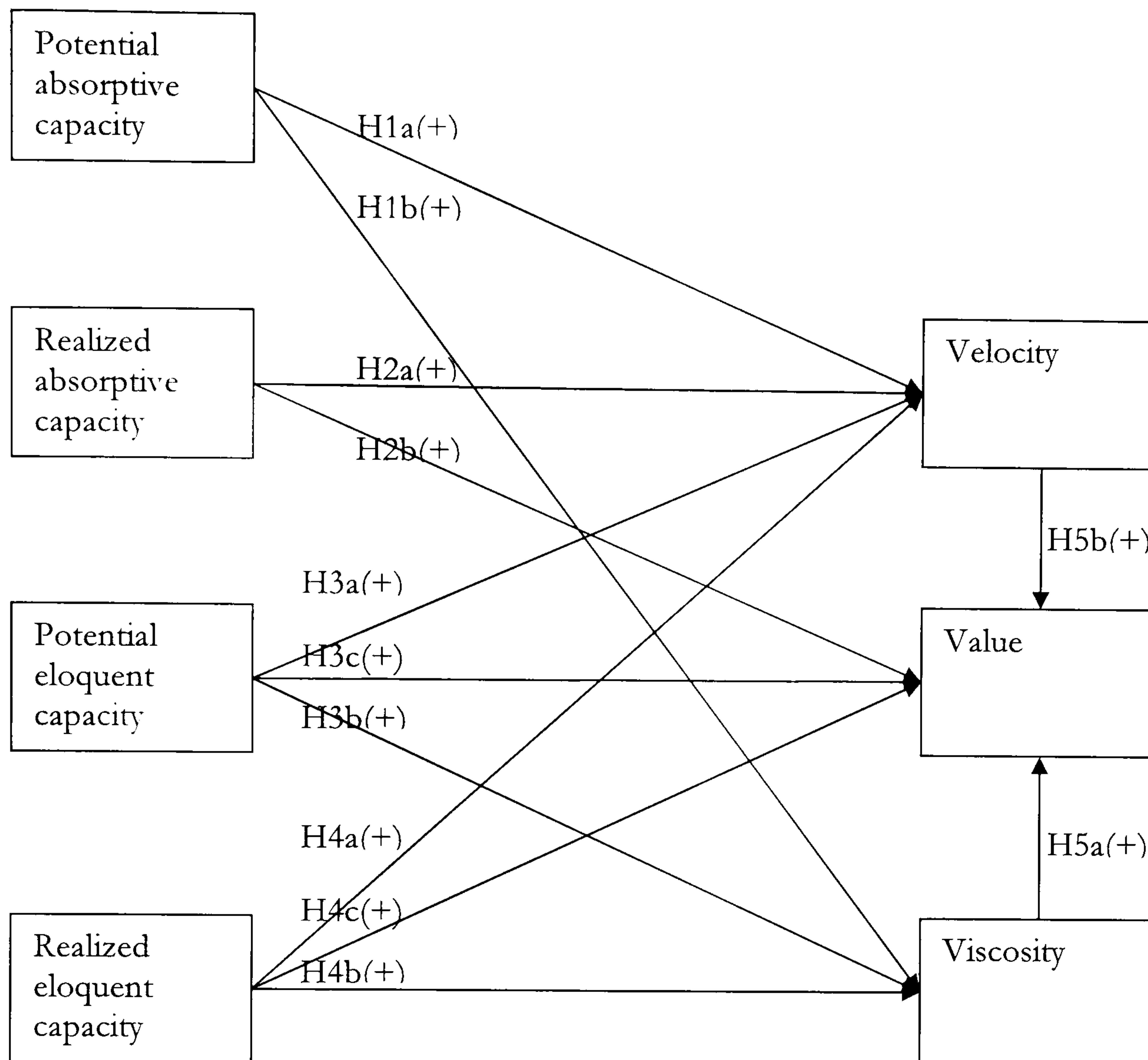


Figure 8: Proposed relationships for eloquent capacity and transfer effectiveness

## THE IMPACT OF ORGANISATIONAL SELF-EFFICACY ON TRANSFER EFFECTIVENESS

### The impact of the source unit's self-efficacy on transfer effectiveness

It has been suggested by communication theory that the 'attitude towards self' determines if and how communication is initiated. Stage-fright and distrust in one's own ability can negatively impact the attitude toward communication (Berlo, 1960), reducing the effectiveness of the process. In the organisational (and knowledge transfer) context, this can be described as perceived self-efficacy, which is "concerned with the judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982: 122). When self-efficacy is low, transfers of knowledge can appear more difficult than they are in fact, leading to fear, frustration and fewer attempts to actively transfer a message (Berlo, 1960). Hence, the lower the self-efficacy of the source unit, the less effective knowledge transfers will be. Firstly, a lack of self-efficacy will lower transfer velocity, because it reduces its members' commitment to the transfer. In the absence of

self-efficacy, employees' fears and uncertainty will cause them to double check their input and to verify that what they are expressing makes sense.

Hypothesis 6a: The source unit's self-efficacy has a positive impact on transfer velocity.

The relationship between self-efficacy and human performance is further indicated in research showing that high levels of self-efficacy corresponds to social activism, while low levels relate to despondency (Bandura, 1982). A lack of self-efficacy will therefore cause passiveness (Berlo, 1960) and employees will find it challenging to face the demands of the situation (Bandura, 1982). As such, a lack of self-efficacy reduces transfer viscosity because the source will be less active, make fewer suggestions for improvement and give less feedback to the recipient(s).

Hypothesis 6b: The source unit's self-efficacy has a positive impact on transfer viscosity.

By causing such passive behaviour, self-efficacy reduces the value of knowledge transfers because a large part of the source's experience will not be actively transferred to the recipient. The recipient has to put additional efforts into the search for the knowledge of the source, but will fail in areas where knowledge is difficult to observe like complex or contextual knowledge (Bhagat *et al.*, 2002). Hence, when the self-efficacy of the source is weak, the transfer is likely to be short of tacit knowledge (Polanyi, 1958), which has strong potential to influence the performance of the recipient (Lyles & Salk, 1996). Therefore:

Hypothesis 6c: The source unit's self-efficacy has a positive impact on transfer value.

### **The impact of the recipient unit's self-efficacy on transfer effectiveness**

The knowledge-recipient's level of self-efficacy influences transfer effectiveness in a similar way. Knowledge transfers are interactive processes that require a recipient who responds to the source (De Fleur, 1970). For knowledge transfers to take place, the recipient has to change, or achieve a new, 'state of being informed'.<sup>35</sup> However, self-efficacy is of fundamental importance to (milieu) change (Bandura, 1982) and in its absence, change is more difficult to achieve. Self-efficacious recipients on the other hand can more easily cause change because they act in a more confident way (Berlo, 1960) and can thereby actively engage with the source in order to maximise the effectiveness of the process. Given these difficulties in the transfer process, a lack of self-efficacy will reduce the speed

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<sup>35</sup> Knowledge was defined in chapter one as the 'state of being informed'.

of knowledge transfers, because a lack of self-efficacy leads to insecurity and slower adaptation to new knowledge.

Hypothesis 7a: The recipient unit's self-efficacy has a positive impact on transfer velocity.

While a lack of self-efficacy is also related to resignation (Bandura, 1982), self-efficacy leads to higher levels of persistence (Gist & Mitchell, 1992), indicating that high levels of self-efficacy at the recipient's side will lead to more attempts to absorb knowledge. As such:

Hypothesis 7b: The recipient unit's self-efficacy has a positive impact on transfer viscosity.

Bandura (1988) argued that "human accomplishments and positive well being require an optimistic and resilient sense of personal efficacy" (p. 49). Indeed, research into self-efficacy and performance suggests that higher self-efficacy leads to better work performance (Brief & Aldag, 1981; Gist & Mitchell, 1992). As such, the value created from knowledge transfers depends on the self-efficacy of the recipient.

Hypothesis 7c: The recipient unit's self-efficacy has a positive impact on transfer value.

Figure 9 summarises the two sets of research hypotheses which will be tested empirically in chapter 8.

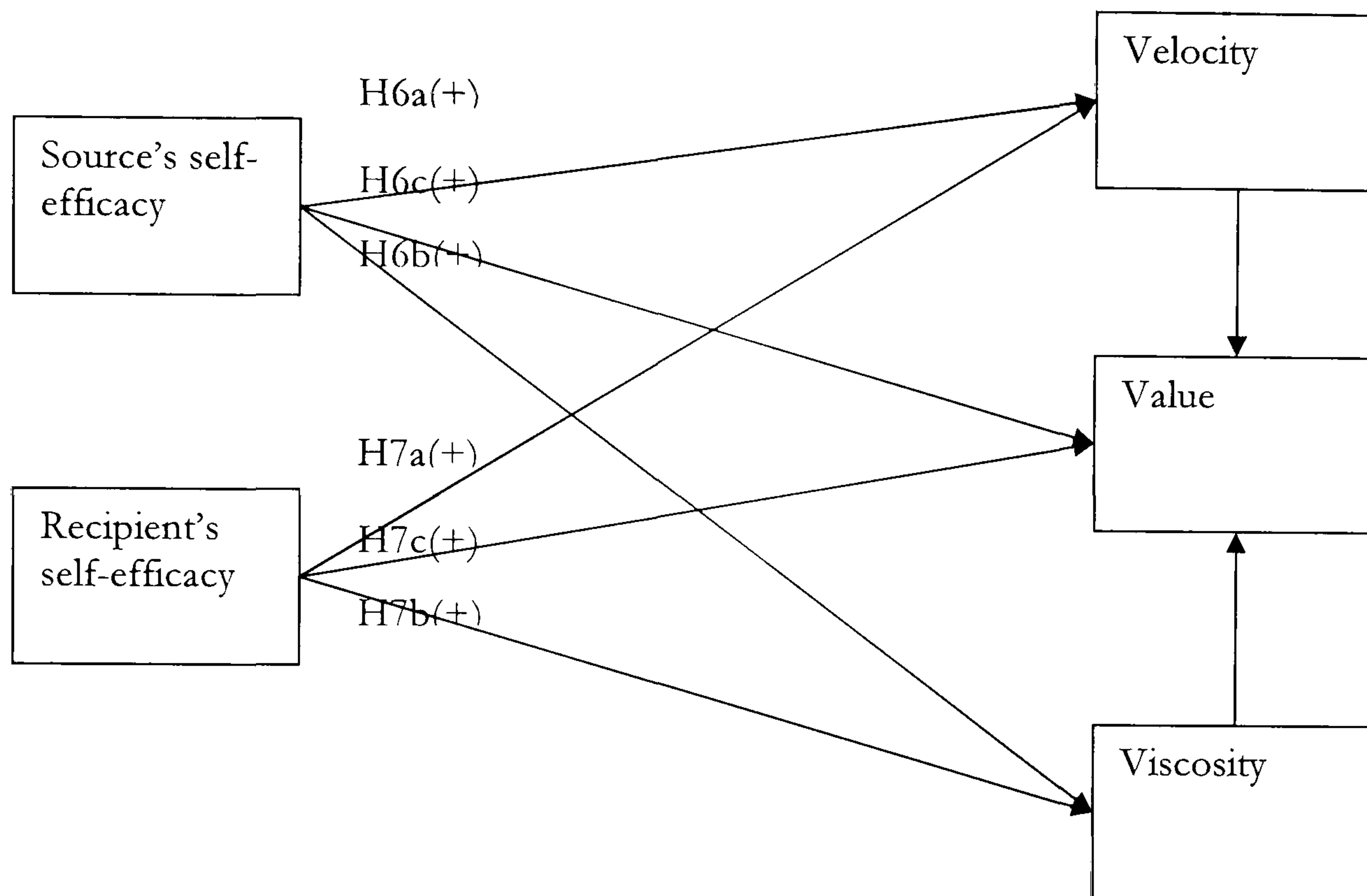


Figure 9: Proposed relationships for self-efficacy and transfer effectiveness

## THE IMPACT OF NOISE SOURCES ON TRANSFER EFFECTIVENESS

### The negative impact of partner differences on transfer effectiveness

Communication across social systems or between dissimilar partners is likely to be less effective than communication between similar systems (Berlo, 1960). While communication between similar systems can fail due to misunderstanding, misinterpretation or other aspects that interrupt the smooth transfer of a message from a source to a recipient, communication across social systems faces additional challenges. When facing a distant partner, both the source and the recipient of communication have to face additional uncertainty deriving from new, unknown, or unfamiliar situations, habits, thinking, behaviour, use of language, symbols, etc. (c.f. Berlo, 1960; Hofstede, 1980, 1986). Under such circumstances, the source and the recipient are required to adapt their thinking, communication, and behaviour, representing potential barriers to effective transfer.

According to an important study in the field of communication theory, “it can be argued [...] that the model of learning is itself similar or equivalent to the model of communication” (Berlo, 1960: 99). Several important notions about the effectiveness of communication that takes place across systems can be summarised from Berlo’s (1960) work:

1. The effectiveness of communication depends on the message (p. 54), the source-encoder (p. 41), the channel (p. 63), and the decoder-receiver (p. 50)
2. The social-cultural system of the source impacts the source (p. 49)
3. The social-cultural system of the recipient impacts the recipient (p. 52)
4. The channel needs to be chosen by the source (p. 64, 66) and sensed by the recipient (p. 67)
5. Additional problems arising from communication across social systems (p. 161) relate to methods of structuring role behaviours (p. 161), methods of allocating authority (p. 161), kinds of goal interdependence (p. 162), differences in norms, values, beliefs (p. 163), and language and thought (p. 164)

In chapter 3, we translated this model of communication to that of knowledge transfer/organisational learning, which can be summarised as:

1. The effectiveness of international knowledge transfer is impacted by i) knowledge characteristics, ii) knowledge expression, iii) knowledge transmission, and iv) knowledge absorption
2. The source’s social-cultural characteristics impact knowledge expression
3. The recipient’s social-cultural characteristics impact knowledge absorption
4. The source’s and recipient’s social-cultural characteristics determine knowledge transmission
5. Given that there are differences between source’s and recipient’s social-cultural characteristics, whenever either of them engages in knowledge expression, transmission, or absorption, at least one of them faces artefacts of new, unfamiliar systems, behaviour, values, language, etc. The additional uncertainty that is created by this unfamiliarity leads to unfavourable changes in the behaviour of the source, the recipient, and their interaction. As such, partner differences create barriers to expression, transmission and absorption.

## **The role of the mediators eloquent capacity, transfer channel richness, and absorptive capacity**

Other communication theorists support Berlo's argument that communication (learning) across social systems creates problems with knowledge expression, transmission and absorption. Weaver's (see Shannon & Weaver, 1949) elaborations on effective communication show that communication can fail due to semantic problems, technical problems and effectiveness problems. The semantic problem deals with "the interpretation of meaning by the receiver, as compared with the intended meaning of the sender" (p. 4). In a knowledge transfer process, both the source and the recipient make assumptions about the other party, its actions and reactions. "The way they [transmitters and receivers] encode a certain symbol of the message depends not only upon this one symbol, but also upon previous symbols of the message and the way they have been encoded" (p. 17). Robbins (2001) describes the source's manipulation of the message as filtering. Here, "the personal interests and perceptions of what is important by those doing the synthesizing are going to result in filtering" (p. 287). Hence, the characteristics of the source influence how it encodes a message. When knowledge is transferred across similar systems, both source and recipient are familiar with previous symbols. However, the more distant the source's characteristics are to those of the recipient, the more difficult it will be for the source to "select[s] a desired message out of a set of possible messages" (Shannon & Weaver, 1949: 7), creating barriers to knowledge expression. Here, any kind of differences (e.g. in logics and language, but also in culture, systems, structures or industry) can create these barriers. Hence, the ability of a source to express knowledge to a recipient will be negatively influenced by differences between source and recipient.

H8: Partner differences negatively influence the source's eloquent capacity.

The source's ability to understand the recipient is likely to suffer when partner differences are high, because of fundamental differences in prior experience, logics and sense-making (Hofstede, 1986); the greater the differences between two partners, the less likely it is that the source is familiar with the values and practices of the recipient (Hofstede, 1980; House *et al.*, 2004; Lane & Lubatkin, 1998), reducing the source's ability to understand the recipient.

H8a: Partner differences negatively influence the source's ability to understand the recipient.

Noise negatively influences how well a source can identify and use the best set of many possible verbal expressions to convey a desired understanding (Johnson, 1953). Research has shown that the source's ability to communicate in the recipient's language is an important, 'desirable' attitude in a functioning source (Wang *et al.*, 2004). Partner differences create ambiguity and uncertainty, thus negatively influencing how well the source can encode a message (Berlo, 1960; Shannon & Weaver, 1949). Under circumstances of high partner differences, the source's ability to express ideas that are understandable for the recipient will be negatively affected:

H8b: Partner differences negatively influence the source's ability to express knowledge.

We are not proposing any effect of partner differences on the first dimension of eloquent capacity (the ability to understand own purposes and intentions). The negative impact of partner differences on eloquent capacity is only relevant to those dimensions that relate to the recipient. The ability to understand the recipient and the ability to express knowledge (to the recipient) involve the source and the recipient and are therefore influenced by partner differences. The first dimension is solely related to the source. No logical argument can be derived from communication theory as to why this dimension should be influenced by partner differences. In the absence of causality, no relationship should be depicted.

The next problem arising in cross-system knowledge transfers is related to the question "how accurately can the symbols of communication be transmitted" (Shannon & Weaver, 1949: 24). This relates to the fact that noise cannot only occur at the source and recipient of communication, but also "during transmission" (Berlo, 1960: 41). Scholars found that cultural differences lead to less frequent use of expressive ties in organisational networks (Manev & Stevenson, 2001) and a lower level of embeddedness and integration between host company and affiliates (Hakanson & Nobel, 2001). These findings suggest that the more similar the partners, the more likely it is that they engage in frequent communication and maintain communication ties. Partner differences on the other hand reduce the likelihood of communication to occur. For many, new situations that are different from their own experience are considered dangerous (Hofstede & Hofstede, 2005). Hence, communication is likely to be less frequent when the differences between partners are large.

H9: Partner differences negatively influence transfer channel richness.<sup>36</sup>

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<sup>36</sup> Transfer channel richness is defined as the frequency of interaction between source and recipient.



For the sender, all kinds of unpredictabilities about the understanding and behaviour of the receiver can distort the meaningful decodation of the message. Similarly, the receiver will face the same problems when facing a sender that is different, unpredictable, not behaving according to own norms, taking a role he should not, or expressing himself using ambiguous language (Berlo, 1960). The likelihood of observing such behaviour is higher when partner differences are great because the symbols used to reflect the intended meaning of the source can be falsely interpreted by the recipient. Symbols, logics, and language represent different meaning to a source and a recipient from different backgrounds; the recipient's "memory" (Shannon & Weaver, 1949: 17) influences knowledge decodation. It will be more difficult for the recipient to absorb knowledge if there is a high degree of difference between it and the source.

H10: Partner differences negatively influence the recipient's absorptive capacity.

The logic by which information is presented differs between cultural contexts (Bhagat *et al.*, 2002; Hofstede, 1980, 1986). Hence, the recipient will face difficulties in decoding and understanding new ideas and thoughts that were encoded by a source that is embedded in a different social-cultural system.

H10a: Partner differences negatively influence the recipient's ability to acquire and assimilate knowledge (PACAP).

Partner differences increase the likelihood of misunderstanding. Since "knowledge is perception" (Burnyeat, 1990: 7) and partner differences negatively influence the clearness and accuracy of communication, knowledge that is transferred between different partners is more likely to contain misperception than when the transfer partners are similar. Such misperception creates false knowledge, defined as "beliefs that are not true and that are not questioned" (Gambrill, 2001). In addition, uncertainty about the potential applications of the transferred knowledge is likely to remain because of the residual, source-specific information it contains. With false knowledge and high levels of remaining uncertainty, partner differences reduce the recipient's ability to transform and exploit knowledge.

H10b: Partner differences negatively influence the recipient's ability to transform and exploit knowledge (RACAP).

Partner differences impact the source, the channel, and the recipient. We proposed three relations between partner differences and the source, recipient, and the transfer channels. A

higher chance for unpredictabilities, misunderstanding, and conflict arises with larger differences between the partners of a learning dyad. In communication, partner differences can impact the encodation, transmission, and decodation of the message (figure 10). Given the similarity of communication and learning/knowledge transfer, we suggested that the same relations can be assumed for knowledge transfer effectiveness. Partner differences affect all three sub-processes of knowledge transfer, i) knowledge expression, ii) knowledge transmission, and iii) knowledge absorption (figure 11).

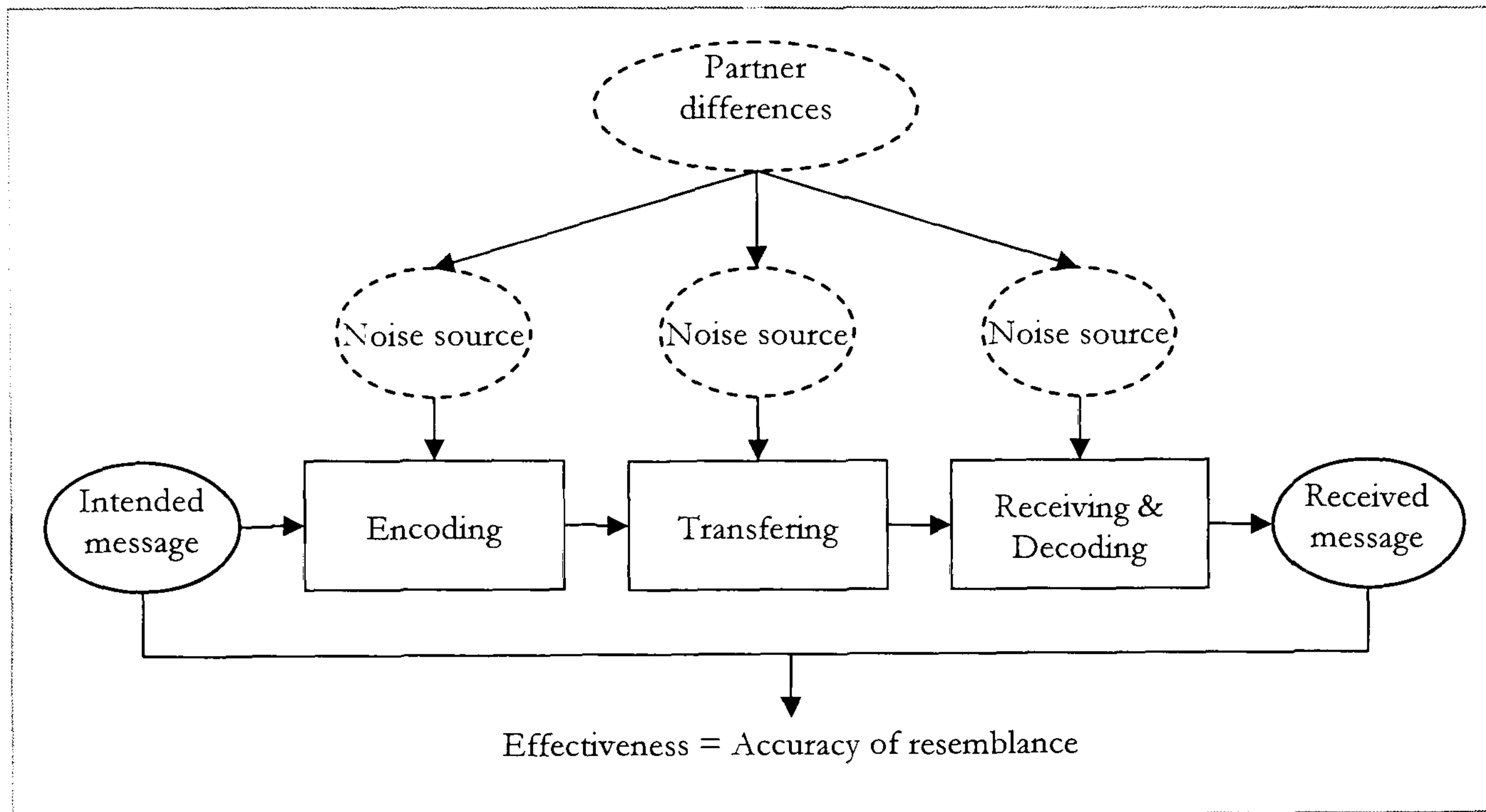


Figure 10: Problems with communication across social systems

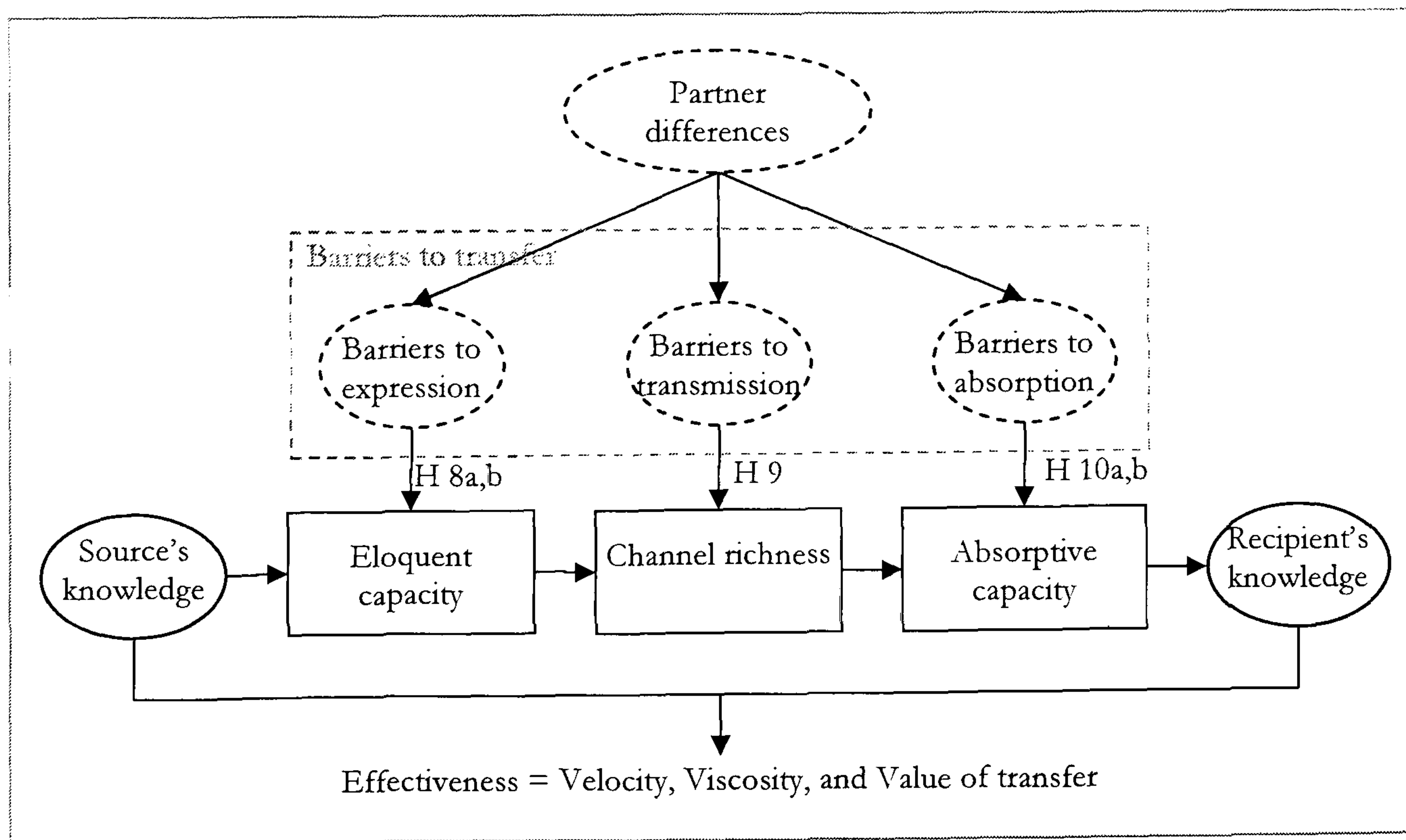


Figure 11: Problems with international knowledge transfer

## **The mediating effect**

Our model extends existing models in that it shows that the negative effect of partner differences on knowledge transfer effectiveness that was discussed in conceptual (Bhagat *et al.* 2002; Kedia & Bhagat 1988) and empirical (Jensen & Szulanski 2004; Lane *et al.* 2001; Lyles and Salk 1996; Minbaeva *et al.* 2003; Simonin 1999a, 1999b; Szulanski *et al.* 2004) studies should be characterised as an indirect effect. The negative effect of partner differences on knowledge transfer effectiveness is mediated by eloquent capacity, transfer channel richness, and absorptive capacity.

The mediating relationship suggested by communication theory suggests that the negative effect of partner differences on transfer effectiveness should be reduced or diminished after the mediators are introduced into the model.

H11: Absorptive capacity, eloquent capacity and transfer channel richness fully mediate the negative effect of partner differences on knowledge transfer effectiveness. After introducing these mediators into the model, the negative effect of partner differences on transfer velocity (H11a), transfer viscosity (H11b), and transfer value (H11c) becomes insignificant.

The strength of the communication-theory-derived argument above can further be illustrated by a recently published conceptual study. This study suggests that absorptive capacity and social integration mediate the negative effect of cultural differences on the transfer of capabilities in cross-border acquisitions (Björkman *et al.*, 2007). This study does not build on communication theory and was published while we conducted our pilot study in May 2007. The researchers make propositions that are similar to those that we derive from communication theory, but do not take into account the mediating role of eloquent capacity that we also introduce in this chapter. The study shows that the discussion on partner differences and transfer effectiveness is a very recent and important one.

## **CONCLUSION**

This chapter has specified the assumptions underlying this research in testable research hypotheses. It has outlined that it is useful to consider another dimension of absorptive capacity that is discussed in the knowledge transfer literature. As will be shown in later chapters, this reconceptualisation represents the empirical reality of our data set in the best possible way. All “novel” ideas from communication theory were combined with insight from knowledge transfer studies and the derived hypotheses will be assessed in chapters 7, 8, and 9.



# Chapter 5: Research methods

*Choice of research techniques and sample*

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## **ABSTRACT**

This chapter outlines techniques and a setting in which the theoretical framework described in the previous chapters can be tested. The research philosophy, approach, strategy, choice, time horizons, techniques and procedures are described. It is explained that any research method has its own strengths and weaknesses. Therefore the most appropriate approach builds on a combination of qualitative and quantitative data. The sample is depicted and its suitability for the empirical assessment of the research question and the theoretical framework examined. The results of the data collection and analysis processes are outlined.

## INTRODUCTION

Multiple research methods are common in social studies. In knowledge transfer research, both conceptual studies (e.g. Bhagat *et al.*, 2002; Buckley & Carter, 2002) and empirical studies have been conducted. Empirical works comprise of some studies using qualitative data (e.g. Buckley *et al.*, 2005; Wang *et al.*, 2004), but the vast majority of research output is generated using quantitative data (see table 5 in chapter 2 for an overview). Given that knowledge transfer is an established field of research, the most recent research in this area is of an explanatory nature, justifying the dominance of quantitative research.

To determinate the most appropriate method for conducting this research, we reviewed previous knowledge transfer studies as well as several works on research methodology and data analysis (Campion *et al.*, 1994; Cooper & Schindler, 2003; Dick, 2002; Dillman, 2000; Hair *et al.*, 2005; Hollowitz & Wilson, 1993; Hussey & Hussey, 1997; Saunders *et al.*, 2006; Ticehurst & Veal, 2000; Yin, 2003). We use Saunders *et al.*'s (2006) approach to research methodology (figure 12) to systematically derive a research methodology for our purposes.

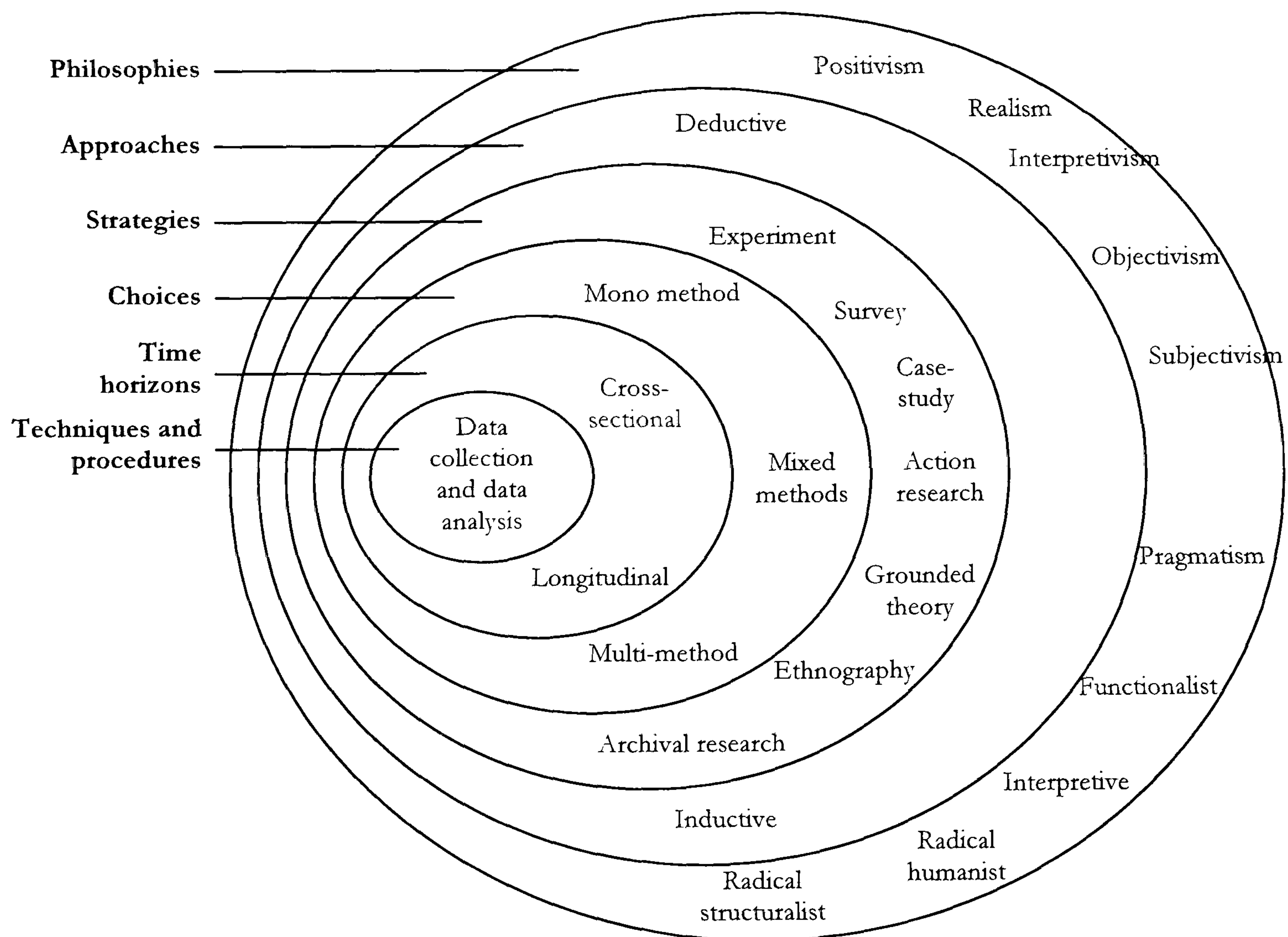


Figure 12: The research 'onion'<sup>37</sup>

<sup>37</sup> Source: Saunders *et al.* (2006, 102)

## METHODOLOGICAL CONSIDERATIONS AND CHOICES

### Research philosophy

Research is the systematic and methodical process of creating knowledge (Hussey & Hussey, 1997: 1). Epistemology describes what research treats as acceptable knowledge (Saunders *et al.*, 2006: 8). It describes if the researchers believe in the observability and generalisability of the findings in their area, or whether they take a critical distance by assuming that each researcher-research setting is unique and findings cannot be generalised in the same way as they are in natural sciences. Positivistic studies treat knowledge as observable in the research environment, and develop theories and research hypotheses by which the suggested theories are examined and verified (Saunders *et al.*, 2006).

This study follows a positivistic research philosophy. The study is looking for determinants (within stated degrees of confidence) of knowledge transfer effectiveness that are observable independently of the researcher, and generalisable across similar research contexts.<sup>38</sup> We seek to ensure independence and to maximise generalisability by using multiple research methods (interviews and questionnaires). When the questionnaire was developed (appendix 1), as many different sources (from communication and knowledge transfer studies) as possible were employed to develop individual questionnaire items. This way the researcher was excluded from the individual scale development to a large degree. As will be described later, the same philosophy is followed in the conduction and design of the semi-structured interviews, where firstly interviewees were given the freedom to freely discuss any topic that they found relevant in respect to knowledge transfer effectiveness, and secondly where the additional topics prepared for discussion afterwards closely reflect what the vast majority of communication theorists and knowledge transfer authors regard as the fundamental determinants of knowledge transfer effectiveness.

### Research approach

Deductive research approaches are undertaken when there is enough information on which the research can be based (Saunders *et al.*, 2006). In communication theory and knowledge transfer studies, ample information was found to build an eclectic framework for effective knowledge transfer (see chapter 3). The deductions were used to design a questionnaire (appendix 1). In order to ensure that the information on which the research builds (communication theory) is appropriate for the empirical setting, preliminary interviews

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<sup>38</sup> Whenever there is limited generalisability, this will be acknowledged in the thesis.

were conducted with 8 managers from companies similar to our sample. All questionnaire items were discussed (further elaborated on below).

Inductive research is undertaken when the researcher is seeking “a feel of what was going on, so as to understand better the nature of the problem. [...] The result of this analysis would be the formulation of a theory” (Saunders *et al.*, 2006: 88). This approach allows the researcher to find “competing reasons” that serve as explanations for the research problem at hand. Some of the emphasises of inductive research are gaining a closer understanding, the collection of qualitative data, and having a more flexible structure (Saunders *et al.*, 2006: 91). It is the last emphasis in particular that caused us to think about employing a second research approach in addition to the deductive one. Communication theory provides a strong framework for knowledge transfer effectiveness (see chapters 2 and 3). Despite its holistic and comprehensive nature, there might be factors that explain knowledge transfer effectiveness that are beyond a communication-theory-derived framework. This issue can be addressed using inductive research. Interviews were conducted with managers from the same sample as employed for the questionnaire. The interviews were conducted following an inductive approach (convergent interviewing, Dick, 2002). Further details of this technique are discussed later in this chapter. Inductive research is data driven rather than theory driven. As such, the hypotheses from chapter 4 do not apply to the inductive part of the empirical research (chapter 6). Rather than that, chapter 6 will conclude with propositions (“formulation of a theory”).

### **Research purpose**

The study has multiple purposes. The purposes are i) to integrate previous studies and extend their coverage by employing a communication-theory-derived framework, ii) to specify the individual determinants of effective knowledge transfer effectiveness according to communication theory, and iii) to explore in an empirical setting which elements of the communication process impact knowledge transfer effectiveness and how.

### **Research strategy**

The benefits of different research strategies have been described in the literature. Qualitative and quantitative research strategies have strengths; qualitative research generally provides in-depth, contextual insight while quantitative research provides hard, measurable facts. Similarly, both research strategies have weaknesses and drawbacks (Cooper &



Schindler, 2003; Hussey & Hussey, 1997; Saunders *et al.*, 2006; Ticehurst & Veal, 2000; Yin, 2003).

In accordance with Penrose's (1959) observation (see chapter 1), many theoretical approaches are appropriate for researching the knowledge transfer phenomenon. Given that knowledge transfer is a research area that comprises different social, technological, economic and psychological phenomena, no single 'best' research strategy can be identified. Clearly, some aspects of this research area require contextual insight, but in order to shed a more accurate light on the many possible relations between different elements of the communication process, quantitative analysis becomes equally necessary. Multiple methods, and in particular the combination of them in data triangulation, can provide important, novel insight based on various observations on the same phenomenon (Jick, 1979; Webb *et al.*, 1966). It is therefore evident that due to the complex nature of knowledge transfer, one single research strategy is unlikely to shed sufficient light on this complex phenomenon. Given such complexity and the individual drawbacks associated with each research strategy, only an approach of employing multiple strategies can provide new insight and prevent deriving inaccurate conclusions. Through combining the two strategies, we are enabled to build on each of their strengths while addressing their weaknesses.

In addition, the qualitative investigation enables us to address the issue of reduced sample size, which will restrict the complexity of our quantitative models. Several of the 23 possible determinants, but unfortunately not all of them, can be included in our regression models. Assessing these variables in a single regression model is impractical. Due to the high number of causal variables, multicollinearity and model overspecification, restricting the number of determinants is an unavoidable step (Hair *et al.*, 2006). The simultaneous analysis of all determinants can therefore be conducted most meaningfully by use of qualitative data. Only in the qualitative investigation, will we be able to include *all* elements of the knowledge transfer process (see chapter 6 for details).

In sum, choosing the combination of qualitative and quantitative data has many advantages. Perhaps more importantly, it has no disadvantages. Many of the insights we built in chapter 3 were based on quantitative studies, but novel insights on 'relations between attributes' were only provided by combining quantitative insights with qualitative/conceptual studies. We believe that many important insights can be derived from the combined analysis of qualitative and quantitative data, and chapter 10 will provide another example of the opportunities resulting from the combined analysis.

## **Research choice**

This thesis follows a multi-method approach (Saunders *et al.*, 2006: 145) comprising interviews and a questionnaire. Some of the drawbacks of the survey method are sampling issues, limited informative nature of the data and the impossibility for the researcher to intervene or explain (Cooper & Schindler, 2003; Saunders *et al.*, 2006). Therefore, the survey-design was discussed with scholars and practitioners and was tested with 8 managers before being sent out.

## **Time horizon**

Most researchers in business and management studies conduct a qualitative investigation (interviews), followed by a quantitative investigation (questionnaire). Similarly, pilot-interviews with managers in Beijing were conducted for this project before the quantitative investigation took place, but the final qualitative data collection took place after the quantitative data collection had been initiated.

Given the richness of the literature in the field of communication studies and knowledge transfer, it was not deemed necessary to conduct the entire qualitative investigation to support the questionnaire item development. The majority of questionnaire items (whenever having been under research before) were developed from A and A\* journal article research. Whenever they were new to the knowledge transfer literature, questionnaire items were developed based on the elaborations found in communication theory.

The practical advantage of starting with the quantitative investigation is that it supplied the interview partners for the qualitative investigation. More than 30 managers who responded to the questionnaire also agreed to be interviewed and most of them served as informants for the qualitative investigation.

The quantitative data was collected during September and December 2007, and the qualitative data during November 2007 and December 2007. We are not interested in observing or explaining knowledge transfer over time, but what the determinants of knowledge transfer effectiveness are. As such this study is cross-sectional.

## SAMPLE & SAMPLE CHARACTERISTICS

One of the core contributions of this PhD thesis is the investigation of noise sources (partner differences). Therefore, the first criterion for the sample was that the learning dyad potentially accommodates large partner differences. As discussed in chapter 3, such differences could be found in societal culture (Jensen & Szulanski 2004; Minbaeva *et al.* 2003; Szulanski *et al.* 2004), industrial background (Mowery *et al.* 1996), business background (Lane *et al.* 2001), organisational culture, structure, and systems (Dhanaraj *et al.* 2004; Lane & Lubatkin 1998; Lane *et al.* 2001; Simonin 1999a, 1999b), knowledge levels (Lane & Lubtakin 1998; Reagans & McEvily 2003), and logics and language (Collins & Smith 2006; Lane & Lubtakin 1998). The second criterion for the sample was being of sufficient size to allow for the statistical analyses.

After an extensive period of online research during February and March 2007, both criteria were found to be best matched in a sample of German companies with subsidiaries in China. Many studies have shown that China and Germany differ from a socio-cultural perspective (Chinese Culture Connection, 1987; Hofstede, 1980, House *et al.*, 2004; Schwartz, 1999; Trompenaars, 1993; World Values Survey, 2005). Given that societal culture influences organisational culture (Hayes & Prakasam, 1989; Hofstede *et al.*, 1990; Shane, 1995), the organisational cultures of German headquarters and Chinese subsidiaries should reveal differences too. So should organisational structure and systems, because of the direct link between organisational culture and other corporate characteristics, such as organisational structure, management, ownership, control, formalisation and workforce demographics (Hofstede *et al.*, 1990). Chinese and German languages are very different in terms of grammar, script, and pronunciation, representing another potential noise source. As a result of different languages and cultural backgrounds, logics were assumed to differ for individual companies too, so that the sample perfectly fulfils the first criterion.

When accessed in August 2007, the directory listed 3080 companies. 3011 postal addresses were available for the listed companies, complemented by email addresses for a further 2717 of these. The 3011 companies (for which we had postal addresses) consisted of Wholly Foreign Owned Enterprises (31%), Representative offices (28%), Joint-ventures (16%) and Branch companies (8%).<sup>39</sup> Most of the companies were located in Shanghai (34%), Beijing (18%), Jiangsu (13%) and Guangdong (5%), reflecting the fact that most FDI is attracted by China's more developed coastal regions. All other provinces accounted

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<sup>39</sup> For 17% the company type was not specified.

for less than 4% of the total. The entire list (updated on a daily basis) is publicly available, supplied by the German Foreign Chamber of Commerce in China (<https://www.german-company-directory.com/home>).<sup>40</sup>

The Chinese setting not only allows the researcher to investigate noise sources, but also has high practical relevance. China's importance to the world economy encourages an investigation into the effectiveness of knowledge transfers to the country. With China becoming one of the largest FDI-receiving nations worldwide (UNCTAD 2005), foreign investors have a particular interest in how they can streamline and improve their (knowledge transfer) activities in China. Secondly, there is a need to better understand how knowledge can be transferred to China more effectively, because recent research indicates that the knowledge gap is one of the strongest threats to continuous economic growth. The results of a survey show that 70% of all Asian executives regard education and training as a key challenge in China's further economic development (McKinseyQuarterly, 2007b). With two important economies in world trade and investment being at the core of this investigation, the Sino-German sample provides an excellent opportunity for the research to make important practical recommendations.

Clearly, samples other than the one chosen would have been theoretically suitable for this investigation because they inhibit significant partner differences as well. Most European or US companies in Asian countries would have provided a sample/setting with this characteristic. The final choice of the sample was therefore driven by *data availability*. Given that we sought to test a "holistic" model that comprises as many different aspects of the communication process as possible, and that response rates in similar investigations conducted by PhD students stood at just 5%, we concluded that only a sample size of +/- 3000 companies would provide sufficient responses for our purposes. Apart from the sample of German companies, there were two further possible samples. Firstly, that of China-based US companies, which was not available to the researcher for financial reasons. Secondly, that of European companies available from the European Chamber of Commerce in Beijing, which was not suitable to our purposes because here, the knowledge-disseminating units' cultural backgrounds were heterogeneous. In knowledge transfer research, controlling for cultural backgrounds is important (Bhagat et al., 2002). Thus, choosing the European companies sample would have further increased the number of variables required for our model, making the need for data even bigger. As such, the Sino-German sample we decided upon was one of many possible choices from both theoretical-

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<sup>40</sup> Accessed last on 18.07.2008.

match and practical-relevance perspectives, but the only possible one in terms of the data-availability perspective.

It was described in chapter two that by drawing on communication theory as a theoretical framework, this research project investigates determinants of transfer effectiveness that can be found at either the nodal or dyad-level. Research on partner differences (dyad-level) has one fundamental challenge when it comes to operationalising the project. For a perfect study, two interview partners/ questionnaire respondents are required per dyad. As a result, such studies typically have very low sample sizes. For example, although achieving extremely high response rates, Lane & Lubatkin (1998) only had 31 R&D alliances to analyse. Pothukuchi *et al.*'s (2002) study collected data on 127 IJVs but only the data received from 61 IJVs could be employed in their comparison of the impact of cultural differences on performance because only in these cases responses were received from both partners. Such low numbers are insufficient for investigations like this one because of the large number of independent variables and the need to include as many of them as possible.

The solution lies in the assessment of the dyad via one contact person in each company who is familiar with both the sending as well as the receiving unit of knowledge. We identified the head of each Chinese subsidiary of a German company to be the most knowledgeable person in the company, with regard to understanding both German and Chinese colleagues. The information provided by the German Chamber of Commerce covered these contact persons. Based upon their last name, we concluded that the listed representatives split about equally into Chinese and German names (with a few Anglo-Saxon sounding names), giving us an even distribution of the sample with respect to the national background of the targeted respondents.<sup>41</sup> Being at the head of the subsidiary and therefore familiar with the people, operations and business model in Germany and China, these respondents would consequently be the most suitable informants of our study. The job titles of the contact persons to whom we sent the questionnaire were General Manager (31%), country/office/area/department manager or similar (20%), Chairman/CEO/President/Vice President or similar (18%), Chief Representative (16%) and Managing Director (5%), clearly indicating that the targeted respondents held the most senior role in the Chinese organisation. Despite the method of relying on a single respondent having its limitations, previous research has investigated partner differences, features of sending and receiving units, and knowledge characteristics, using just a single respondent per dyad (e.g. Simonin, 1999a, 1999b). Due to data restrictions and

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<sup>41</sup> We followed a similar strategy in the qualitative investigation (see table 7 in chapter 5).

requirements, this methodology was regarded the only possible one for our investigation. The limitations will be pointed out in more detail in chapter 11.

In sum, the sample identified fits the research framework developed in chapter three. The respondents will be knowledgeable about the operations in Germany and China, making them experts for all questions asked in the questionnaire (see appendix 1).

## **TECHNIQUES AND PROCEDURES OF DATA COLLECTION**

### **Interview data**

For exploratory purposes, qualitative research is a suitable method (Saunders *et al.*, 2006). 30 firms that received our questionnaire said they were willing to be interviewed. Only those 20 firms found in the area of Greater Shanghai and Greater Beijing were interviewed for logistical reasons. Interviews were conducted in German (with German and some Chinese managers) or in English (with most Chinese and one French manager). All interview partners were General Managers (8), Division Managers (6), or Project Managers (6). 6 were Chinese nationals, 12 were German nationals, one manager was US-American and one was French. The interviews were prepared according to suggestions in the literature, comprising of a choice of a convenient location and appropriate setting (company office, restaurant or tea-house, as per the interviewee's choice), providing contact data by email and handover of a personal business card, explaining the background of the researcher and the study, explaining the interview purpose and format, and addressing issues of data recording and confidentiality (Campion *et al.*, 1994; Dick, 2002; Hollowitz & Wilson, 1993). 13 interviewees agreed to be tape recorded, comprising of eight senior German managers (G1 – G8) and five senior Chinese managers (C1 – C5). A review of the notes taken in the 7 non-taped interviews revealed that the information obtained was similar but much less extensive. Since there was no assistant helping the interviewer taking notes while interviewing, important information potentially also might have been lost. Hence, we only use the 13 tape-recorded interviews in this chapter. Interviewees' job titles ranged from project manager to CEO. Interviews lasted an average 67 minutes. Since the established determinants of knowledge transfer effectiveness have been validated across industries, we conducted interviews with representatives of firms from different industrial backgrounds (table 7).

	Name	Nationality	Job-title	Industry	Interview duration (minutes)
1	C1	Chinese	Administration Manager	Building technology	85
2	C2	Chinese	Region Manager	Chemical engineering	60
3	C3	Chinese	CEO	Consulting	60
4	C4	Chinese	Region Manager	Electric components	60
5	C5	Chinese	General Manager	Electric components	60
6	G1	German	Senior Manager	Industrial manufacturing	75
7	G2	German	Project Manager	Automotive	60
8	G3	German	Managing Director	Industry solutions	60
9	G4	German	Division Manager	Industrial manufacturing	85
10	G5	German	Project Manager	Electronics manufacturing	75
11	G6	German	Project Manager	Electronics manufacturing	65
12	G7	German	Project Manager	Automotive	60
13	G8	German	General Manager	Electronics manufacturing	60
					Ø 67

Table 7: Overview of interviews employed

To ensure that interviewees' views were at the centre of the interviews, they were conducted using a 5-step convergent interviewing approach (Dick, 2002). This approach allows the interviewee to dominate the discussion with his or her ideas in the beginning, but gives the interviewer the opportunity to steer the conversation into a desired area whenever the interviewee has concluded his views. This represents an opportunity for the interviewee (and in particular the research project) to explore both the interviewee's immediate awareness (explicit knowledge) of the topic and his or her passive awareness (tacit knowledge), which is the experience one has but that one is largely unaware of. Instead of preparing a list with all previously found determinants and those derived from communication theory, carton cards were prepared. Each of the potential determinants of transfer effectiveness derived from communication theory was written on a carton card. The advantage of such cards is that they do not force interviewees to answer questions in a fixed order. Rather than that, the order by which the determinants are discussed can be imposed by the interviewee. All carton cards were placed on pile one before the interview started. After an explanation of the study and what is understood as effective transfers (i.e. quick, large and value-creating transfers) in step 1, the interviews started with an open question on the determinants of transfer effectiveness in the interviewee's company (step 2). In this stage, we asked "What determines the effectiveness of knowledge transfers from

the German head office to the Chinese subsidiary?”, “What are the problems related to knowledge transfers from the German head office to the Chinese subsidiary?”, or “What factors facilitate knowledge transfers from the German head office to the Chinese subsidiary?”. Whenever the interviewee had elaborated extensively on a determinant from pile one, the card was taken from pile one and put on pile two. Whenever the interviewee stopped talking, the interviewer repeated the question by asking for other factors that influence (positively or negatively) the transfer of knowledge in the organisation until the interviewee ran out of ideas (step 3). The agreed time for each interview was 60 minutes. In case there was time left or the interviewee agreed to extend the discussion, the interviewer then used the remainder of the time to discuss the residual determinants on pile one. This helped the interviewee to explore areas beyond his or her own immediate awareness and to give both interviewer and interviewee a more complete understanding of transfer effectiveness (step 4). All questions asked in step 4 were open questions that did not force the interviewee into having to elaborate on a specific aspect of the determinant. For example we asked “How do the skills of the employees in the German head office influence the transfer of knowledge from the head office to your subsidiary?” or “How does the trust of the colleagues in the German head office in the colleagues of the Chinese subsidiary influence the transfer of knowledge from the head office to your subsidiary?”. When no card was left on pile one (or just before the interview was completed), the interview finished with a last open question on anything that might affect transfer effectiveness in addition to all topics discussed and a summary of the discussion (step 5). Figure 13 shows the process and how the interviewee’s control changes in favour of the interviewer over time.



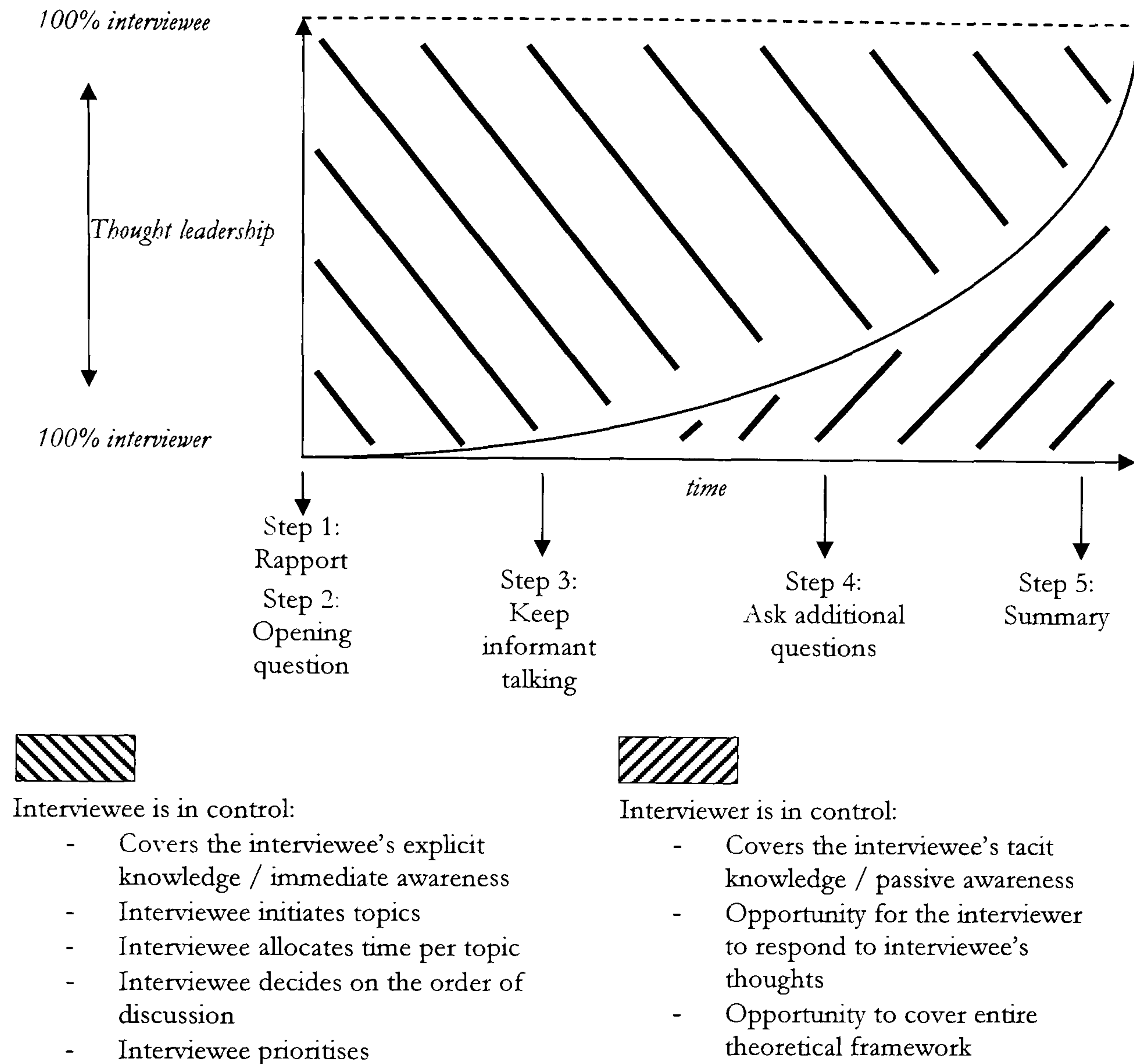


Figure 13: Strengths of the convergent interviewing technique<sup>42</sup>

Before and after conducting an interview, we also consulted several other sources of information to validate aspects discussed in the interviews. Among them were company brochures and web pages, information about the company available from the German Chamber of Commerce, as well as a questionnaire in which we asked the respondents to quantitatively assess their company's knowledge transfer success and the role of each determinant specified in communication theory. We used these sources to triangulate and validate our findings from the semi-structured interviews. No significant differences between the interviewees and any other source were identified. Time and location can influence a respondent's answers (Creswell & Miller, 2000; Lincoln & Guba, 1985). Hence, we conducted a member-check (Erlandson *et al.*, 1993). The recorded transcripts were triangulated to the managers for an examination of the accuracy and validity of the

<sup>42</sup> Source: Sef-developed, based on Dick (2002)

statements made. Minor changes to phrasing were made by two managers in a total of three sentences.

### **Questionnaire data**

The questionnaire (appendix 1) is employed to collect quantitative data. A hard copy of the questionnaire was sent out to all companies in the sample (described later in this chapter). To maximise the response rate, Dillman's (2000) suggestions were followed in designing the questionnaire. To achieve maximum construct validity, all questionnaire items were developed using the best sources that could be identified in the knowledge transfer literature (table 2 in chapter 2). Additional questionnaire items were derived from communication theory. The questionnaire was available in English, German and Chinese. We first derived the questions from the English version from previous studies and amended them for comprehensiveness during a pilot study with eight practitioners in Beijing during May 2007. The English version was then translated into German by the doctoral student and back-translated by a German, post-doctoral researcher of the Centre for International Business at the University of Leeds. The Chinese version was translated using a professional translation services company in Beijing and back-translated by a Chinese doctoral student in our centre. Whenever the back-translated English versions differed from the original questions, the phrasing was again reviewed by the doctoral student and the back-translators to derive a final phrasing for the German and the Chinese version.

Effectiveness outcomes are measured by use of three variables. Using different effectiveness outcomes is common in research into organisational effectiveness (Cohen *et al.* 1996) but only applied by a few studies on knowledge transfer effectiveness (see figure 2, chapter 1). The three variables are the amount of knowledge transferred (transfer viscosity), the speed of knowledge transfers (transfer velocity), and transfer value (positive business impact). Measuring the amount of knowledge transfer is common in knowledge transfer research and enables the researcher to investigate which independent variables (process ingredients) are responsible for a large amount of knowledge transfer. Measuring the speed of transfers is important since reacting quickly to market opportunities and threats is a key skill of successful enterprises. The measurement is included as a dependent variable in the research to establish which independent variables (process ingredients) are responsible for quick knowledge transfers. Thirdly, we included the business impact of knowledge transfers in the research scope. Even when large amounts of knowledge are transferred quickly, the

impact the knowledge has on the business situation of the receiving unit might be large or small, depending on the employability of the know-how. The measurement is included as a dependent variable in the research to establish which independent variables (process ingredients) are responsible for economic (value-creating) knowledge transfers.

Determinants of effectiveness were largely measured using the scales available in previous studies. Table 8 gives an overview of the sources used to develop the questionnaire shown in appendix 1.

Part	Item	Description	Source(s)
Part I (noise sources)	1-5	System differences	Dhanaraj <i>et al.</i> 2004 (JIBS) Lane & Lubatkin 1998 (SMJ)
	6-10	Business differences	Self-developed (based on Lane <i>et al.</i> 2001 (SMJ))
	11-15	Differences in language and logics	Collins & Smith 2006 (AMJ)
	16-20	Structural differences	Miller <i>et al.</i> 1988 (AMJ)
	-	Organisational cultural differences	Calculated based on the answers to part II (39-44) and III (31-36)
Part II (receiver and transfer outcome)	1-5	Ability to identify knowledge	Szulanski 1996 (SMJ)
	6-10	Ability to assimilate knowledge	Szulanski 1996 (SMJ)
	11-15	Ability to apply knowledge	Szulanski 1996 (SMJ)
	16-20	Transfer velocity	Davenport & Prusak 1998
	21-23	Transfer costs	Hansen <i>et al.</i> 2005 (AMJ)
	24-28	Attitude toward subject matter / motivation	Szulanski 1996 (SMJ)
	29-33	Attitude towards self	Berlo 1960
	34-38	Attitude toward sender / trust	Dhanaraj <i>et al.</i> 2004 (JIBS)
	39-44	Organisational culture	O'Reilly <i>et al.</i> 1991 (AMJ)
	45-49	Social Networks (of the Chinese)	Hansen 1999 (ASQ) Reagans & McEvily 2003 (ASQ) Gupta & Govindarajan 2000 (SMJ)
Part III (sender and know-how characteristics)	1-5	Ability to understand own purposes and intentions	Berlo 1960
	6-10	Ability to understand the recipient	Berlo 1960
	11-15	Ability to encode messages	Berlo 1960
	16-20	Attitude toward subject matter / motivation	Szulanski 1996 (SMJ)
	21-25	Attitude toward receiver / protectiveness	Simonin 1999 (JIBS)
	26-30	Attitude toward self	Berlo 1960
	31-36	Organisational culture	O'Reilly <i>et al.</i> 1991 (AMJ)
	37-41	Social Networks (of the Germans)	Hansen 1999 (ASQ) Reagans & McEvily 2003 (ASQ) Gupta & Govindarajan 2000 (SMJ)
	42-43	Tacitness	Hansen <i>et al.</i> 1999 (ASQ)
	44-45	Contextuality	Zander & Kogut 1995 (OS)
46-47	Complexity	Simonin 1999 (JIBS) Bhagat <i>et al.</i> 2002 (AMR)	
Part IV (communication channels and transfer outcome)	1-5	Nature of communication channels	Subramaniam & Venkatraman 2001 (SMJ) Self-developed
	6-10	Transfer richness	Gupta & Govindarajan 2000 (SMJ)
	11-12	Transfer costs	Hansen <i>et al.</i> 2005 (AMJ)
	13-17	Transfer impact	Self-developed, based on Collins & Smith 2006 (AMJ), Dhanaraj <i>et al.</i> 2004 (JIBS)
Part V (sender and receiver)	4-5	Knowledge stock	Gupta & Govindarajan 2000 (SMJ)

Table 8: Sources for questionnaire items<sup>43</sup>

<sup>43</sup> AMJ = Academy of Management Journal; AMR = Academy of Management Review; ASQ = Administrative Science Quarterly; JIBS = Journal of International Business Studies; OS = Organization Science; SMJ = Strategic Management Journal.

While executives are considered good sources of information for knowledge transfer investigations, they are also very busy people, usually having very little interest and time resources to participate in academic investigations. Although a questionnaire allows them to make statements while remaining anonymous, executives' time-concerns remain a major factor that reduces any research's response rate. Hence, the questionnaire design was guided by Dillman's (2000) suggestions to improve the response rate to surveys. Table 9 shows in a systematic way which recommendations were followed by which means. The entire questionnaire is shown in appendix 1.

Element	Item suggested	Item employed
Respondent-friendly questionnaire	Clear and easy to comprehend questions	- Questions were reviewed with supervisors and in a pilot study with 8 managers and amended for comprehensiveness - Questionnaire was available in three language versions (English, German and Chinese)
	Question order that suggests high salience to the respondent	Questions were grouped in respect to information on partner differences (similarities), the headquarter, subsidiary, communication, and effectiveness
	Questionnaire layout that is in accordance with visual principles of design for comprehension and easy response	- 5-point Likert scales and visual reference lines were employed - The order of the three language versions in the envelope sent on 09.09.07 was individually arranged for each respondent, with the native language version of the respondent being seen first upon receipt
	Shortening the questionnaire	Questions with similar beginning were grouped to shorten overall length
Multiple contacts	Prenotice letter	Email sent on 09.09.07
	Questionnaire	Hardcopy sent on 09.09.07
	Thank you postcard	Not employed
	Replacement questionnaire	Email sent on 12.10.2007
	Final contact	Email sent on 01.12.2007
Return envelopes	Return envelope with real first-class stamps	Hardcopy sent on 09.09.07 included a stamped return envelope with colourful stamps
Personalisation of correspondence	High quality paper	High quality paper and ink was used for questionnaires to look professional and appealing
	Real names	The doctoral student's name was shown on the letter and a business card with full contact details (in China and the UK) was attached
	Real signatures	All three language versions included in each letter sent on 09.09.07 were personally signed by the doctoral student (the Chinese version using the Chinese name of the student)
	Replacement mailings	All electronic reminders specified the address of the online-questionnaire and repeated the user's personal log-in
Financial incentive	Financial token	Not employed <sup>44</sup>

Table 9: Overview of employed recommendations<sup>45</sup>

<sup>44</sup> The average cost of sending a questionnaire was 26 RMB, or almost 2 GBP. A reasonable financial token is 1-5 dollars (Dillman, 2000). Including the token would have boosted the costs of the research. Furthermore, the managers interviewed during the pilot study indicated that a small financial token would not cause them to respond to the questionnaire. Rather, they would respond if i) the topic is interesting and ii) the dependence of the student on the very respondent is communicated clearly.

The data collection started on 09.09.2007. A hardcopy of the questionnaire was sent to the Chinese addresses of the companies (3011 letters in total).<sup>46</sup> On the same date, an email was sent to those companies that had provided an email contact address in the database (2712 emails in total).<sup>47</sup> The email contained a link to the website where questionnaire as shown in appendix 1 could be filled in.<sup>48</sup> A first reminder was sent by email on 12.10.2007 (2712 emails).<sup>49</sup> The final electronic reminder was sent on 01.12.2007 (2712 emails).<sup>50</sup> The deadline for participation was stated as 24.12.2007. The webpage accepted submissions until 31.12.2007 and the last reply was received on 14.12.2007.

514 letters were returned undeliverable. Upon our inquiry, the German Foreign Chamber of Commerce in China explained that some of the addresses were out of date, although they are frequently updated and no address employed had been updated longer than two years before the letters were sent out. Among the 2712 emails sent as invitation / first reminder / final reminder, 765 / 769 / 771 were returned undeliverable, 184 / 173 / 191 out-of-the-office emails were received, 5 / 2 / 3 managers replied that they were too busy to participate<sup>51</sup>, and 3 / 0 / 4 replied that they could not participate for company-policy reasons. Many of the managers receiving our emails reported that they receive questionnaires on a daily basis, since the database is used by other doctoral and post-graduate students as well as universities (mostly from Germany). 10 of the 20 people that were interviewed reported that they never received the hardcopy of the questionnaire, which is most likely because secretaries filter “important” and “unimportant” work for them. 9 reported they had never received the email, which can be explained by the same reason.<sup>52</sup> While we cannot specify the exact number of questionnaires and emails that reached our intended respondents, we can state that (3011 – 514 =) 2497 hardcopies were successfully delivered to the registered postal address, and (2712 – 765 =) 1947 emails were delivered to the registered recipient. Until 31.12.2007, 139 responses were received (70 via the internet site; 69 via returned hardcopy), for a 5.6% response rate (139 out of 2497).

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<sup>45</sup> Compiled from Dillman (2000: 150-153)

<sup>46</sup> Letter and questionnaire are shown in appendix 1.

<sup>47</sup> The email is shown in appendix 3.

<sup>48</sup> See appendix 2 for the wording shown on the webpage. The online questionnaire contained the same questions as the hardcopy questionnaire. However, due to software problems, the online questionnaire was only available in English and German language.

<sup>49</sup> See appendix 4.

<sup>50</sup> See appendix 5.

<sup>51</sup> The respondents indicated that they receive university questionnaires via their registered email address on a daily to weekly basis. All 20 interviewees that the researcher met personally reported an average of 3-4 questionnaires per week.

<sup>52</sup> Many of the email addresses were not personal email addresses but corporate addresses, e.g. [sales@comapnyname.com](mailto:sales@comapnyname.com), [Beijing@comapnyname.com](mailto:Beijing@comapnyname.com) or [info@comapnyname.com.cn](mailto:info@comapnyname.com.cn).

Figure 14 shows the responses over time. In particular, it shows the positive effect of the electronic reminders on the online response rate. The final reminder led to 34 new replies, probably because of the excuses, positive wishes, and explanations that this was the final opportunity to participate (see appendix 5).

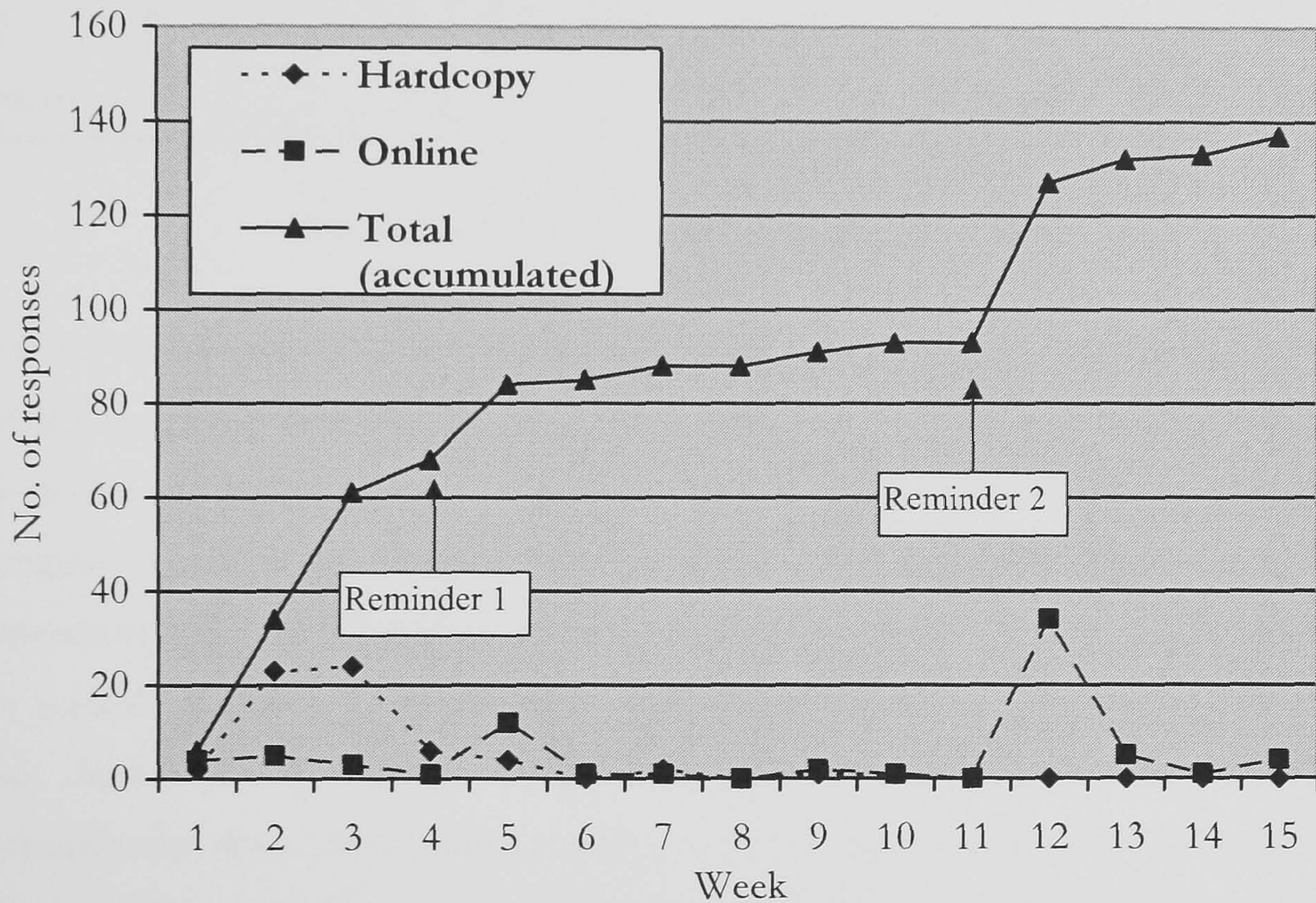


Figure 14: Overview of the data collection process

As indicated earlier, the study is conducted across multiple industries. Table ten gives an overview of the industrial background of the companies in the sample. The reason we conduct the investigation across industries is that there is a need for a large data set that allows for as many variables as possible to be included. Previous knowledge transfer studies (see table 2) that were conducted in multiple different industries have (re-)produced similar results for the most important determinants of effectiveness (e.g. absorptive capacity or knowledge tacitness). Similarly, communication theory does not describe the determinants laid out in chapter 3 to be subject to the research setting. As such, the determinants of knowledge transfer effectiveness seem to be universally applicable.



Industry	Architecture	Automotive	Banking, Insurance, Real estate	Basic materials	Biotechnology, Medical	Building technology	Chemical engineering	Consulting	Education	Electric/electronic equipment/manufacturing	Energy generation & distribution	IT	Logistics	Machines and tools	Nonelectronic equipment	Trade/Wholesale	Wastewater recycling	Total
No. of companies	4	10	6	2	3	6	11	14	6	22	6	5	6	6	23	6	3	139

Table 10: Industrial background of investigated companies

There are several reasons why the response rate is lower compared to antecedent studies. The data is publicly available and made use of by many researchers. Executives reported they receive questionnaires on a daily to weekly basis, heavily reducing the willingness to participate in any of the studies. Secondly, due to the holistic research framework, 23 independent and four dependent variables had to be included in the questionnaire, and each variable needed to be covered by several questionnaire items to reduce potential biases. Adding several questions on the respondent and the company, the questionnaire contained more than 140 questions, making it quite lengthy compared to previous studies and participation a great personal sacrifice. The quality of the email and postal addresses and the fact that many secretaries and assistants filtered out our questionnaire are other factors contributing to a low response rate.

## UNIT OF ANALYSIS

Knowledge transfer research can take place at the individual-level or at the firm-level. The best unit of analysis for the questionnaire is the firm level. The success of knowledge transfer will not only depend on the abilities of the respondent to the questionnaire (i.e. top management), but also the employees in the subsidiary (middle management, engineers, researchers, marketers, etc.). By investigating firm-level knowledge transfer, the investigation includes all the members of the Chinese and German entities that are involved in knowledge transfers. All questionnaire items were phrased accordingly (see appendix 1).

The best approach for the interviews is not to enforce a particular unit of analysis. A pilot study was conducted during May 2007 by the doctoral student with 8 managers in Beijing.<sup>53</sup> During these discussions it was found that some managers had better insight on knowledge transfer at the individual level (typically the project managers), while others provided great examples of determinants at the firm level. Hence, we allowed managers to elaborate on their own area of expertise, strengthening the quality of the data. In most interviews, determinants at all levels were discussed.

## **DATA ANALYSIS**

### **Quantitative data**

All quantitative data is analysed using ordinary least squares (OLS) regression models and SPSS software. Techniques of the data analysis vary depending on the aspect investigated (e.g. eloquent capacity, organisational self-efficacy, noise sources). Details of the data analysis can be found in chapters 7, 8 and 9.

### **Qualitative data**

All qualitative data is analysed using NVivo software. The NVivo functions used were coding and queries. Details can be found in chapter 6.

## **CONCLUSION**

This chapter has outlined the theoretical grounds for the empirical investigation. A choice of research methods was made that suits the research at hand in the best way. A sample was identified that has theoretical and practical relevance to the investigation. As such, the chapter has provided the tools needed for the empirical investigation. The next four chapters of the thesis will investigate the extent to which the theory described in chapters 3 and 4 holds valid in the sample. Chapter 6 will provide in-depth insight on knowledge transfer effectiveness and simultaneously investigate the proposed determinants. Chapters 7 and 8 will provide empirical tests for the concepts of eloquent capacity and self-efficacy. Chapter 9 will investigate the direct and indirect effect of noise sources on transfer effectiveness.

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<sup>53</sup> None of these managers were interviewed during the final data collection.

# Chapter 6: Qualitative findings

*A holistic assessment of the determinants of knowledge transfer effectiveness*

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## **ABSTRACT**

It was suggested before that a more systematic use of communication theory can provide new and important insight into how effective organisations transfer knowledge within their organisational networks. In this chapter, we use communication theory and interview data to explore what determines the effectiveness of knowledge transfers by German organisations to their Chinese subsidiaries. We find that many knowledge-related, source-related, recipient-related, channel-related, and noise-source-related determinants have to be simultaneously analysed in order to fully understand knowledge transfer effectiveness. While the majority of these factors were investigated in previous studies, two of them have been under-researched. Managers report that their subsidiaries' learning success does not only depend on the ability of the Chinese colleagues to absorb new knowledge (absorptive capacity), but also on the ability of the German employees to express knowledge (termed eloquent capacity). Furthermore, they observe that their colleagues' self-confidence determines how well knowledge is transferred (termed organisational self-efficacy). Additionally, the managers explain the multiple effects partner differences have on the source, the channel and the recipient, indicating that the effect of partner differences on transfer effectiveness is of indirect nature. The study makes four contributions to the literature: it empirically introduces two new determinants of knowledge transfer effectiveness; it shows that knowledge transfer can be better understood when simultaneously analysing all transfer-related factors; it illustrates the three barriers to transfer created by partner differences; and it sheds new light on the dyad-level and nodal-level nature of absorptive and eloquent capacity.

## INTRODUCTION

It was recently suggested that knowledge transfer research should make more extensive use of communication theory to explain knowledge transfer effectiveness. In previous studies, communication theory was used to explain how organisations share and learn knowledge (Gupta & Govindarajan, 2000; Kogut & Zander 1996; Hansen *et al.*, 2005; Szulanski, 1995, 1996), but a structured comparison of the two research areas showed that discrepancies still exist in respect to the determinants of knowledge transfer effectiveness and their interrelationship. In particular, it was noted that future research needs to explore the extent to which an organisation's capacity to teach knowledge and its level of self efficacy influence how effectively it can disperse knowledge through its intra-organisational networks. It was also suggested that when analyzing the knowledge transfer process, all possible determinants should be simultaneously investigated, because neglecting any potential determinants can falsify the understanding of the process (Berlo, 1960) and bias research results (Hair. *et al.*, 2006).

The objectives of this chapter are to address the two shortcomings of i) not having identified all potential determinants and ii) not having simultaneously investigated these determinants. We use interview-data from German organisations that transfer knowledge to their Chinese subsidiaries for this investigation. By using a convergent interviewing approach (Dick, 2002), we are able to identify these determinants. This allows for the emergence of a managerial perspective on all potential determinants of knowledge transfer effectiveness *and* (subsequently) the inclusion of the notions derived from communication theory *and* previous knowledge transfer studies. This threefold and supplementary approach ensures that no potential determinant is left out from our investigation. The second objective is achieved via the assessment of the research findings in a computer-aided model (NVivo Query, table 11) that shows that the identified determinants need to be simultaneously investigated in order to fully understand the process underlying knowledge transfer effectiveness.

By employing the methodology of convergent interviewing, we gave managers the freedom to discuss whatever aspect of effectiveness (velocity, viscosity and value) that they wanted to discuss. An analysis of the data suggests that most managers focused on transfer viscosity, and only a few elaborations on velocity and value could be detected. Since the number of interviews that were conducted is limited, it was not possible to individually assess how the determinants of effectiveness influence transfer velocity, transfer viscosity,

and transfer value. Due to this data shortage, the three dimensions of effectiveness are looked at and reported collectively.

The chapter is structured as follows. In the next section, we briefly outline the research methodology. We then compare the findings of antecedent knowledge transfer studies and the field interviews to explain existing determinants and to explore novel determinants of transfer effectiveness, before looking at them simultaneously.

## **METHODOLOGY**

### **Sample and data collection**

For information on sample and data collection please see chapter 5.

### **Techniques**

We used NVivo software to manually code the interview transcripts. Each determinant of transfer effectiveness found in the interview transcripts was assigned a unique Node. Nodes are an NVivo tool via which the researcher can consolidate all statements made in all interviews in respect to a particular subject. In our case, Nodes represent determinants, for example the ability to receive knowledge or the attitude towards the source. Each interview was coded twice, once after all interviews were conducted and once two months later. In case the two codes differed, we reviewed the transcripts again to derive a final code. NVivo's Node function helps the researcher to look at and compare all statements made by all managers in respect to the discussed determinant. This way, we were able to collectively assess the managers' ideas about every single determinant of effectiveness and derive appropriate conclusions. NVivo's query tool enables us to assess all determinants simultaneously. A query is a matrix with all Nodes on the vertical axis and all sources (interviews) on the horizontal axis (see table 11). This matrix provides us with an assessment of the relative importance of each determinant when at the same time being put into context with all other determinants. In the following we first discuss each determinant one by one before simultaneously analyzing their relative importance. Such determinants that are already established in the knowledge transfer literature are discussed first. This way, it is proven that the two novel determinants (eloquent capacity and organisational self-efficacy) that are discussed afterwards are fundamentally different from previously researched determinants.

In the following, letters and numbers behind quotes identify the interviewee from which the quote was obtained. The overview of all interviewees can be found in table 7 (chapter 5). Whenever the quotes were derived from an interview conducted in German, they were translated into English and the original text is shown in a footnote.

## THE DETERMINANTS OF EFFECTIVE KNOWLEDGE TRANSFER

### Knowledge characteristics

Previously, knowledge transfer scholars have tested several aspects of knowledge characteristics and their effect on transfer effectiveness. Many of them build on Polanyi's (1958) classification of explicit and tacit knowledge. When knowledge is organised in a structure that can be articulated it is labelled explicit knowledge and when it cannot be easily articulated it is referred to as tacit knowledge (Polanyi, 1958). Zander & Kogut (1995) for example found that knowledge that is more codifiable and teachable will have a higher probability of being transferred quickly. Simonin (1999) found that tacitness is positively related to ambiguity, thereby inhibiting an effective knowledge transfer process. Other scholars (such as Kotabe *et al.*, 2003; Levin & Cross, 2004; Lord & Ranft, 2000; Reagan & McEvily, 2003; Subramaniam & Venkatraman, 2001) have used similar measures of knowledge explicitness. Overall, antecedent findings support the notion of human communication theory that knowledge characteristics impact effectiveness, with contextual/complex/tacit knowledge being more difficult to transfer than independent/simple/explicit knowledge (see also Bhagat *et al.*, 2002).

From the managers' perspective, the key problem in respect to knowledge characteristics was knowledge explicitness/ documentation. Documenting knowledge was considered a tool to enable knowledge transfers.

We employ several methods to transfer knowledge, for example markings on the floor, putting down processes in writing, posting bills in English and Chinese, visualizing a lot.<sup>54</sup> – G4

The first advantage of documented knowledge (explicit knowledge) is that it is always accessible, while tacit knowledge exists in the human brain and often cannot be assessed upon request.

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<sup>54</sup> G4: Da gibt es ein paar Methoden mit denen wir Wissen vermitteln, z.B. Bodenmarkierungen, den Prozess nieder schreiben, die Prozesse auf Englisch und Chinesisch aushängen, viel visualisieren.

They [the German headquarters] also provide great tools, like this handbook. Anybody has access to it here, and there is so much German knowledge in there that our employees can learn. [...] The brochure is one way of transferring our knowledge to our local employees. – C5

I have to admit that we face challenges in the transfer of knowledge, too. The problem is that knowledge in Germany has grown over the decades, 30 or 40 years. It simply exists, but it is not written down. Somebody [in Germany] looks at a complicated spare-part and knows how it has to be manufactured. But [here in China] you cannot open a book and look on page 44 for complicated spare-part. The knowledge simply exists in people's brains.<sup>55</sup> – G1

The second advantage is that documented knowledge is easier to understand. Understanding non-documented knowledge requires a different skill set than understanding documented knowledge.

All the Chinese are strong in reading. Manuals, emails, etc. That is good for us. Oral English remains a challenge for many. – C1

Hence, it is validated that more explicit knowledge has a higher chance of being successfully transferred than tacit knowledge. This confirms the established view that knowledge characteristics impact knowledge transfer effectiveness. Two advantages of documented knowledge are accessibility and understandability. Documented knowledge enables knowledge-seekers to look for and learn know-how whenever it suits their demand. This way it can improve both the amount of knowledge that is transferred (Gupta & Govindarajan, 2000) and the speed at which it is transferred (Zander & Kogut, 1995). At the same time, knowledge documentation improves the understandability of new know-how in the same way as subtitles facilitate understanding a movie in a language other than the own mother-tongue. Written know-how is easier to grasp than spoken know-how, because the knowledge-seeker can choose the pace of digestion. When understandability is low, the knowledge-seeker can read more slowly or look up unknown terms and expressions, while this method cannot be applied in conversations. Summarizing the above, knowledge documentation improves accessibility and understandability, making the transfer of knowledge faster and more likely to occur.

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<sup>55</sup> G1: Aber ich muss auch sagen das wir Probleme in der Vermittlung von Wissen haben. Das Problem ist, dass das Wissen welches in Deutschland über Jahrzehnte, also, 30 oder 40 Jahre gewachsen ist, einfach da ist, aber nicht niedergeschrieben. Jemand guckt sich ein kompliziertes Teil an und er weiß, so muss ich das herstellen. Man kann aber nicht im Buch auf Seite 44 unter kompliziertes Teil nachschlagen. Das Wissen ist nur in den Köpfen der Leute.

## Noise sources

In the discussion on knowledge characteristics, it was already suggested that language also determines how well knowledge can be transferred. In this respect, knowledge transfer scholars have paid a lot of attention to ‘noisy’ transfer settings, e.g. those that involve dissimilar partners (Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Lane & Lubtakin, 1998; Lane *et al.*, 2001; Simonin, 1999a, 1999b). According to communication theory, noise sources can be external effects that reduce effectiveness (Berlo, 1960) by causing problems such as misunderstanding or misinterpretation (De Fleur, 1970) between the source and the recipient involved in the transfer. It has been suggested that communication breakdowns result from the source’s and recipient’s different role prescriptions, assumptions, expectations and descriptions (Berlo, 1960), leading to misunderstanding and different conclusions drawn (De Fleur, 1970). Hence, communication breakdowns are more likely when communication takes place across social systems (Berlo, 1960). Here, knowledge transfer scholars have not only investigated how differences in logics & language affect the effectiveness of the transfer process (Collins & Smith, 2006; Lane & Lubtakin, 1998), but also how differences in business background (Lane *et al.*, 2001) and in organisational culture, structure, and systems (Dhanaraj *et al.*, 2004; Lane & Lubatkin, 1998; Lane *et al.*, 2001; Simonin, 1999a, 1999b) do so. The vast majority of studies concludes that partner differences reduce transfer effectiveness.

Similar to these findings, the interviewed managers observed the influence of several aspects of partner differences on knowledge transfer effectiveness. One problem in transferring knowledge from Germany to China are language differences, because they make it difficult for the Chinese employees to understand their German colleagues (barriers to absorption).

Another problem is that the drawings of the tools are all in German. The German engineers have never translated them, nor have they given us trainings in this area. – C2

Another manager explained how language differences can be overcome to improve effectiveness.

The brochure is one way of transferring our knowledge to our local employees. Here, look at this English brochure [...]. And here is the Chinese version. [...] it is about how [company name] thinks about [industry]. Everything is the same, the photographs, the products, the pictures, the design, they all tell the same [company name]-story, in all the 15 language versions we have. The only thing that changes is the language – the local tone – everything else stays the



same. [...] That helps our employees worldwide to achieve the same understanding of the company and its products. It is one item that helps us transfer knowledge all around the world.  
[...] – C5

Hence, despite different languages (German and Chinese) were used in the headquarters and the subsidiary of this organisation, all employees benefited from a shared product and design language. The language problem was also frequently reported by the German managers (see table 11). The example below shows that in case language differences do not impede knowledge transfer, they can reduce the speed and quality of the transfer. It also illustrates that partner differences can trouble the knowledge source in expressing itself (barriers to expression).

[...] we often have Chinese negotiators who cannot speak any foreign language. The German colleagues only speak German and English, so we have to rely on an interpreter. [...] In this process, a lot [of knowledge] gets lost and it takes incredibly long. Because of this slow process and because people are busy, they can only discuss one third of the agenda. The process is very, very inefficient.<sup>56</sup> – G2

We find a similar pattern for differing logics. They result in misunderstandings and less efficient knowledge transfers. A German manager whose company focused on hiring German-speaking, Chinese staff, explained how differing logics lead to fewer attempts to communicate (barriers to transmission).

Despite this common language, despite this connection, a whole bunch of information is not exchanged. It is because we are different people, because we think differently and because adjusting one's thinking is exhausting.<sup>57</sup> – G2

The Chinese managers' views reflected the challenge of differing logics.

The communication is good, but of course, a long way from perfect. Every person has a different point of view on the same thing, the same issue, the same product. Many Chinese

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<sup>56</sup> G2 In Verhandlungen gibt es sehr häufig die Situation, dass wir wichtige chinesische Verhandlungsführer haben die keine Fremdsprache können. Aus Deutschland kommen dann Leute dazu die nur Deutsch und Englisch sprechen. In solchen Situationen haben wir Dolmetscher dazwischen. Aber nur auf Ebenen die wirklich wichtig sind. Und es geht in diesem Prozess wahnsinnig viel verloren, es dauert wahnsinnig lange. Die Leute haben meist auch nur wenig Zeit, und sprechen aufgrund der Prozessdauer oft nur über ein Drittel der Themen die sie eigentlich besprechen wollten. Der Prozess ist einfach sehr ineffizient.

<sup>57</sup> Interessant, dass wir, trotz einer gemeinsamen Sprache (Deutsch), trotz einer Verbindung die geschaffen ist, soviel Informationen trotzdem nicht ausgetauscht werden. Einfach weil wir andere Menschen sind. Weil wir anders denken und weil andere Denkstrukturen anstrengender sind.

engineers who are aware of the local market will think that a particular aspect of the product is the most important one. For the German engineers it might be different priorities. – C1

The same manager further elaborated on the reason why logics differ, when asked for the single most important issue that affects knowledge transfer in his company. His elaborations reinforce the fact that partner differences create barriers to transmission.

German and Chinese cultures are too different. If you have the same culture, it means that you have the same social attitudes, social value attitudes, similar logical thinking, similar backgrounds, and fewer barriers to communication. If there are these similarities, then there is common understanding. You will understand what I mean or what I am saying. A similar culture helps getting done all the tasks, the speed of the process, and the efficiency of communication. Good communication means that we can transfer knowledge very well. – C1

For one manager, the important aspect reducing effectiveness was the fact that no common business model could be employed in both countries.

We cannot do business here in China in the same way as we do in Germany. [...] Since the market here is not suitable for the German business model, it makes communication with Germany difficult. – C4

In respect to differing systems, there was a consensus that shared systems improve the effectiveness of knowledge transfers.

Our head office has a huge database with all previous projects. It comprises an overview of all projects ever done, including all positive and negative experiences [...]. It is a knowledge pool, which is accessible for everyone.<sup>58</sup> – C3

We also share one intranet, the [company name]-space. All the marketing programs and related knowledge is stored there. [...] Any [company name] employee has access to it. You can go to the intranet and download anything you want to. [...] [Company name] is very open with its knowledge, both to employees and to the customer. – C5

When structures of the German head office and the Chinese subsidiary differ, additional challenges are imposed on the knowledge transfer process.

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<sup>58</sup> Unser Mutterhaus hat eine riesige Datenbank mit allen abgeschlossenen Projekten. Das ist eine Übersicht aller Projekte die je gemacht wurden, mit allen positiven und negativen Erfahrungen. [...] Es gibt einen Wissenspool, auf den jeder zugreifen kann.

The structure [of the Chinese subsidiary] is not similar at all to the German one. In some ways it is a problem. The biggest problem is the communication process and the reporting process. How do you interlink two organisations when you don't know your contact person? – C2

When the structures are similar, compatibility is high and managers saw an important advantage. The two quotes represent an example of how reducing partner differences minimise barriers to expression and transmission.

Due to the organisational similarity we have clearly defined contact persons. For example, our employees in proposal management know that the same department exists in the German organisation. You get a contact-list for each department, even indicating the colleagues who speak English, so you can easily give one of them a call. That is totally different from a situation where you have a bunch of people without any structure. You would not know whom to talk to [...].<sup>59</sup> – G1

We have the same organisational structure as any other [company name]-plant worldwide. [...] The advantage is that it is easier to transfer methodological skills. [...] Thereby, the interfaces and channels inside the organisation are precisely defined and standardized. The organisational chart helps you understand who is responsible for what and where. In case the structures differed, nobody would know whom to contact, neither in Germany nor in China. A similar structure facilitates knowledge transfers, that is, the communication. If communication translates into knowledge transfer, that is a different story.<sup>60</sup> – G4

Overall, the findings indicate that the similarity (distance) of a source and a recipient involved in the transfer of knowledge positively (negatively) impact the transfer process (Lane & Lubatkin, 1998; Lane *et al.*, 2001). Partner differences in language and logics create noise by reducing understanding. Dissimilar systems strengthen noise levels by reducing the accessibility of knowledge. Dissimilar structures create noise by leaving the transfer partners with little awareness of where knowledge is located and how it can be accessed. Thus, dissimilarities reduce effectiveness because they create new, unfamiliar and confusing situations for the involved actors that make them less likely to interact with one another

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<sup>59</sup> G1: Durch die organisatorische Ähnlichkeit sind die Ansprechpartner klar. Z.B. wissen unsere Mitarbeiter in China im Angebotswesen genau, dass es dieselbe Truppe in Deutschland auch gibt. D.h. ich habe eine Telefonliste für den Bereich, 2 von denen sprechen sogar Englisch, dann kann ich da ja mal anrufen. Das ist etwas anderes als wenn ich einen großen Haufen habe der anders strukturiert ist. Dann weiß man nicht mit wem man reden soll, man kennt sich nicht.

<sup>60</sup> G4: Wir haben grundsätzlich dieselbe Organisationsstruktur wie jedes andere [Firmenname]-Werk weltweit auch. [...] Der Vorteil ist das man Methodenwissen besser transferieren kann. [...] Dadurch sind die Schnittstellen und Kanäle in der Organisation klar definiert und vereinheitlicht. Man hat ein Organigramm und weiß sofort wer wo für was zuständig ist. Hätten wir zwei unterschiedliche Organisationsstrukturen dann wüsste niemand an wen er sich wenden muss, weder auf deutscher noch auf chinesischer Seite. Eine einheitliche Struktur vereinfacht den Wissenstransfer, oder zumindest die Kommunikation. Ob daraus dann Wissenstransfer wird ist die nächste Frage.

(barriers to transmission), that make it more difficult for them to express what they think (barriers to expression) and to understand and absorb what the partner is expressing (barriers to absorption). Such barriers to transfer can reduce the pace by which transfers take place, how much knowledge is transferred, and overall transfer success. In accordance with the indirect relationship between noise sources and transfer effectiveness that was suggested in communication theory, the interview data indicates that partner dissimilarities make it more difficult for both the source and the recipient to express, transmit, and absorb know-how.

### **Channels & Networks**

Several scholars have also argued that knowledge can only be effectively transferred when communication channels or social networks provide a vehicle or medium for the transfer (e.g. Gupta & Govindarajan, 2000; Kogut & Zander 1996; Hansen *et al.*, 2005; Szulanski, 1995, 1996). The same logic was found in communication theory, where it was stated that transfer effectiveness depends on the message-vehicle (channel) and the message-carrier (network). The message vehicle transports the message (e.g. a speech or an email) and the message-carrier enables the vehicle to transport the message from source to recipient (e.g. the internet which enables the email to be sent from source to recipient or a social network that enables two transfer partners to address each other). The choice of the message-vehicle and the quality of the message-carrier influence how well a message can be transferred (Berlo, 1960; Braddock, 1958; De Fleur, 1970). Knowledge transfer scholars have shown empirically that the effectiveness of the process via that two organisations exchange knowledge depends on the richness and frequency of communication channels as well as the range and strength of social networks. Gupta & Govindarajan (2000) show that more knowledge flows into and away from a subsidiary when formal and informal integration mechanism are strong. Hansen and colleagues (2005) find that networks increase the probability that knowledge is sought at all. Szulanski (1996) show that an arduous relationship is one of the most important determinants of sticky (i.e. ineffective) transfers. Thus, channels (knowledge-vehicles) and networks (knowledge-carriers) enable and facilitate communication, thereby improving the effectiveness of the transfer process.

Similarly, the managers reported that frequent communication (the use of knowledge-vehicles) is indeed supportive of knowledge transfer. One of the Chinese managers explained what happens when the vehicle for communication is not available.

There were a lot of problems with our IT-equipment and as a result we could not get in touch with Germany efficiently, basically because our budget received from Germany was too low to buy all the necessary equipment. Hence we did not have email exchanges for some months. – C2

The German manager who noted earlier that there is little documented knowledge in his organisation complemented this observation by explaining the importance of verbal communication.

We do have departments that cannot work without verbal communication. If this communication cannot take place, no knowledge transfer will take place.<sup>61</sup> – G1

Closely related to the vehicle of communication (email, conversation) are the networks and contacts between the employees of the German headquarters and the Chinese subsidiary (knowledge-carrier), which provide the foundation of successful communication and knowledge transfer. The managers noted that networks in particular facilitate the identification of contact persons.

Whenever they [networks] exist and communication can be held up, more and better information can be received than when communication is infrequent and people do not know each other.<sup>62</sup> – G2

Due to misunderstandings between the organisations in Germany and China not only technical know-how needs to be transferred, but also personal contacts. People have to go for a beer together and get to know each other. Then, colleague [typical German surname] from Germany is no longer an email address, but also has a face and a telephone number. And the same is true for Mr [typical Chinese surname] from China. The colleagues just get along much better afterwards.<sup>63</sup> – G3

Knowledge transfer will not succeed until people get to know each other. [...] it is also because of the [German colleagues'] fear of China, the fear that knowledge will be immediately passed on by us here in China. This problem can only be solved by bringing together the people [from Germany and China]. I have plenty of examples for this. For example, I took some [Chinese]

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<sup>61</sup> G1: Es gibt bei uns z.B. Bereiche, da geht es gar nicht ohne die verbale Kommunikation. Wenn diese Kommunikation nicht stattfindet, kann auch kein Wissenstransfer stattfinden.

<sup>62</sup> G2: Aber wenn sie vorhanden sind, und man Kommunikation regelmäßig aufrecht erhält, dann kriegt man mehr Informationen und auch qualitativ hochwertigere, als wie wenn man seltener kommuniziert und sich nicht kennt.

<sup>63</sup> G3: Aufgrund solcher Verständnisprobleme zwischen den zwei Organisationen in Deutschland und China muss nicht nur technischen Wissen vermittelt werden, sondern auch persönliche Kontakte, man muss mal ein Bier trinken gehen, sich gegenseitig kennen lernen. Dann ist der Kollege Meier in Deutschland nicht mehr nur eine Emailadresse, sondern ein Gesicht hat und eine Telefonnummer, und Herr Wang umgekehrt genauso. Dadurch verstehen sich die Kollegen im Anschluss einfach besser.

people to Germany for a week, who got to know some of our project managers. Today, they address each other by their first names, “[typical German first name], I need this”, and it works out. Knowing each other helps in two ways: Knowing whom to ask and daring to ask.<sup>64</sup> – G1

Who should talk to whom? If our Chinese engineers need information from Germany, whom should they talk to? We need Ansprechpartner<sup>65</sup> to link the two organisations [...]. – C2

[Name of the company] is not a big company. We have around 60 consultants in Germany and 10 in China. Almost everybody knows everybody. [...] The only reason for knowledge transfer not to take place is in case we have disclosure agreements with clients [...]. – C3<sup>66</sup>

As such, the managers’ views reflect both what is found in human communication theory and antecedent knowledge transfer studies. For effective knowledge transfer, the employees in the source organisation and the recipient organisation need to know each other to initiate and maintain communication. Personal networks enable the transfer partners to identify each other and reduce personal inhibitions to initiate and respond to knowledge transfers. Effective knowledge transfers also depend on a channel (vehicle) that enables the transport of the knowledge from the source to the recipient. Technical support systems (e.g. IT and telecommunication infrastructure) are in particular needed when geographical distance is high and meetings cannot be held in person.

### **Knowledge stock**

It has been suggested that previously possessed knowledge facilitates the outflow and inflow of additional knowledge (Zander & Kogut, 1995). The more knowledge about a certain technology or skill one possesses, the easier it will be to acquire new knowledge about it. In a study of knowledge transfer in alliances, Simonin (1999) found that the experience with the partners’ skills and know-how reduces ambiguity and therefore positively influences knowledge transfer. Foss & Pedersen (2002) found that internal knowledge, network knowledge and cluster knowledge positively impact knowledge

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<sup>64</sup> G1: Ich kriege keinen Wissenstransfer hin, wenn die Leute sich nicht kennen. Ich wiederhole mich hier, aber es liegt einfach an der Angst vor China, die Angst das Wissen sofort von uns in China aus weitergegeben wird. Das Problem überwinde ich nur, indem ich die Leute persönlich zusammenbringe. Da gibt es ganz viele Beispiele bei uns. Ich habe manche Leute eine Woche mit nach Deutschland genommen, die jetzt die Projektleiter kennen. Die reden sich jetzt mit dem Vornamen an, sagen „Dieter, ich brauche das“, und das funktioniert. Man muss sich kennen, um zu wissen wen man fragen muss, und um sich überhaupt zu trauen zu fragen.

<sup>65</sup> German word for contact persons

<sup>66</sup> C3: [Firmenname] ist keine große Firma, wir haben in Deutschland etwa 60 und in China etwa 10 Berater. Da kennt fast jeder jeden. Wir haben kaum Sprachprobleme und jeder kann mit jedem reden. In Bereichen in denen wir keinen Wissenstransfer durchführen liegt das an vertraglichen Vereinbarungen mit dem Kunden, Geheimhaltungsklauseln. Aber es gibt keine internen Probleme in dem Sinne.

transfer. Gupta & Govindarajan, (2000) used a more general measure of knowledge stock by employing the mode of entry, the subsidiary size, and the relative economic level as proxies. They found that they are positively related to outward knowledge transfers.

The managers largely confirmed that a recipient of new knowledge can build on existing experience to facilitate the learning of new knowledge. Both German and Chinese managers noted that a lack of knowledge and experience inhibits knowledge transfers.

Our Chinese staff has little technical experience. Therefore they cannot understand a lot of the German know-how. Even drawings can be quite difficult to understand. We lack the technical background. – C2

A German manager noted that at the core of his subsidiary's learning problems is a lack of basic knowledge, which forms the foundation for the acquisition of specialized knowledge.

What we lack here is basic education; we lack background knowledge that is needed to assimilate more complex know-how. Take a basic knowledge of chemistry for example. It is needed to understand the applications our products offer. This [lack of basic knowledge] hinders knowledge transfers in more complex areas.<sup>67</sup> – G3

One Chinese manager of a subsidiary also noted that the knowledge stock of the German organisation can facilitate knowledge transfers.

Our Chinese people want to learn, and foreign knowledge can assist us in learning. It can add value especially in the long-term. [...] In our case, the German company has a lot of valuable knowledge, and I think it is 100% suitable for the Chinese market. – C5

It can be confirmed that the more knowledge a recipient has, the easier it will be for it to absorb additional, related knowledge (Foss & Pedersen, 2002; Gupta & Govindarajan, 2000; Simonin, 1999). Previous knowledge provides experience and familiarity with new technologies, situations, products, applications, and processes. In particular, basic knowledge is important to learn additional advanced knowledge and skills. The effectiveness of the process can also be influenced by the amount of knowledge accumulated in a source unit. The more knowledge is known, the more likely it is that (some of) it is suitable and usable for a recipient. Hence, the knowledge stock of both the

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<sup>67</sup> G3: Es fehlt uns hier an grundlegender Ausbildung, es fehlt teilweise Grundlagenwissen, um komplexeres Wissen zu verarbeiten. Z.B. chemisches Grundlagenwissen, mit dem Produktfunktionen erst verstanden werden können. Das verhindert auf der komplexeren Ebene weiteren Wissenstransfer.

employees in the knowledge-possessing unit and the knowledge-assimilating unit influence how effective knowledge is transferred.

### **Motivation**

Motivation is an attitude that can influence the effectiveness of the knowledge transfer process. For the partner expressing know-how, motivation describes the perceived benefit associated with the transfer of knowledge. For the partner receiving know-how, motivation is the perceived benefit of learning the knowledge of the partner. Many scholars have found that motivation is generally positively related to knowledge transfer effectiveness (Minbaeva *et al.*, 2003; Simonin, 2004; Szulanski 1995, 1996).

As found in the above studies, motivation is an additional factor that influences the effectiveness of knowledge transfers in the Sino-German transfer setting. The advantage of having a motivated source was pointed out during different interviews.

[In our company,] all employees like participating in the knowledge transfer process, including those of the German organisation. Take training courses for example – here they act very motivated. We can define the topics, and Germany appoints an expert for us.<sup>68</sup> – C3

If you want to transfer knowledge to [name of the subsidiary], first of all you have to get the support from the German parent to supply this knowledge. [...] Most of the driving forces come from the German management. They see [name of the subsidiary] and knowledge transfers to [name of the subsidiary] as quite important for our overall strategy. They push the issues and put some pressure on the engineers. – C2

Another manager focused on the importance of having motivated employees in China, when explaining the benefits of the many documents and trainings provided by the German head office.

This is how we make our employees fall in love with the industry, with our product and our company. It is an essential aspect of knowledge transfer. [...] That way people become interested in it, and love it, and then they want to learn more about the details. – C5

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<sup>68</sup> C3: Alle Mitarbeiter nehmen gerne am Wissenstransferprozess teil, auch die Mitarbeiter von deutscher Seite. Schulungen machen sie z.B. sehr motiviert. Wir können die Inhalte bestimmen, und Deutschland bestimmt den benötigten Experten.



A German manager noted that the motivation of the Chinese and the German is likely to differ, depending on the type of knowledge involved.

The German colleagues are very motivated to share their know-how in areas that the Chinese do not want to learn about. Organisation of processes or financial management for example [...]. In other areas the German organisation does not want to transfer know-how, for example in Research & Development, technology [...], but the Chinese subsidiary is very motivated to learn. This knowledge is deemed too sensitive for transfers.<sup>69</sup> – G2

The interviews confirm that when there is no motivation to engage in knowledge transfer, less transfer will take place (Minbaeva *et al.*, 2003; Simonin, 2004; Szulanski 1995, 1996). They also show that *both* the source's and the recipient's motivation are important to an effective transfer, because knowledge transfer is a function of both the source and the recipient of knowledge. We find that the level of motivation is likely to differ depending on the type of knowledge that is transferred, because the source and the recipient of knowledge have different natural preferences. Unless additional incentives are created, effective knowledge transfers are thus inhibited by the partner that “naturally” has the lower level of motivation to transfer the knowledge at hand.

## Trust

Trust differs from motivation in that it describes an attitude towards a person (or organisation), rather than an attitude towards an activity. Although an organisation's employees might be motivated to transfer know-how to a partner (e.g. via an incentive system), a lack of trust could inhibit the transfer. When opportunistic behaviour by the partner is assumed, a lack of trust will negatively impact the transfer of knowledge, for example when an organisation was misled by a partner during prior cooperation. Several scholars have investigated the effect of trust on knowledge transfer effectiveness. For example, Dhanaraj *et al.* (2004) find that trust positively impacts the transfer of tacit knowledge and Lane *et al.* (2001) discover the positive effect of trust on learning. In general, trust is positively related to transfer effectiveness (Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Lane *et al.*, 2001; Levin & Cross, 2004; Szulanski *et al.*, 2004).

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<sup>69</sup> G2: Die deutschen sind sehr motiviert Wissen zu teilen in Bereichen, die die Chinesen gar nicht haben wollen. Z.B. wie man Prozesse organisiert, mit Finanzen umgeht, überall da, wo wir glauben einen Mehrwert bieten zu können, und auch Kontrolle ausüben wollen. In vielen dieser Bereiche wollen die Chinesen den Wissenstransfer aber gar nicht haben. In anderen Bereichen in denen wir die Situation haben das Deutschland nicht senden möchte, Entwicklung, Technologie, Lieferanten-Know-how wie Preise, da wollen wir nicht senden, aber China ist sehr motiviert in diesen Bereichen zu lernen. Da es oft um sensibles Wissen geht wollen wir das aber nicht rausgeben.

Similar to these research findings, both Chinese and German managers saw the importance of trust. The source unit's (German head office's) trust into the recipient unit (Chinese subsidiary) was mentioned more often than the importance of the subsidiary's trust into the source unit. Fears about unintended knowledge-spillovers lead to a lack of trust of the German colleagues into their Chinese colleagues. Improving trust, e.g. via rotation of employees, improved the situation.

You do not want to transfer knowledge because you fear it might get lost. [...] Trust is the most important aspect, while problems in communication can be resolved by use of a dictionary.<sup>70</sup> – G5

The longer our production managers stay in Germany, the better will be the level of trust. It reduces the fear that the Chinese colleague takes you for a ride, leaves the company and takes the know-how with him.<sup>71</sup> – G6

The trust of the Chinese was influential too, in particular when looking at the long-term impact it has on the transfer process.

[...] colleagues who do not trust the German colleagues are more likely to leave the company. Whatever we have taught them, they will take it with them, leaving a gap in our organisation, and bringing the knowledge to a competitor in many cases. – C1

In my opinion, trust is even more important than motivation. Trust does not only influence know-how transfers, but also the result. Without trust you will not have any impact.<sup>72</sup> – G7

The general positive relationship between trust and knowledge transfer effectiveness (Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Lane *et al.*, 2001; Levin & Cross, 2004; Szulanski *et al.*, 2004) can thus be confirmed. To initiate transfers, it is important for the source to trust the recipient – it is the source's know-how that is at stake. Trust triggers the source to share know-how with the recipient. The trust of the recipient in the source at this stage is less important than its motivation – the recipient is learning, not teaching, and

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<sup>70</sup> G5: Man möchte kein Wissen transferieren weil man Angst hat es geht verloren. [...] Aber Vertrauen ist das wichtigste, denn Probleme mit rein fachlicher Kommunikation kann man überwinden indem man ein Wörterbuch dazuholt.

<sup>71</sup> G6: Je länger der Produktionsmanager in Deutschland bleiben wird, desto besser wird diese Vertrauensbasis. Dadurch baut sich die Befürchtung ab, dass der chinesische Mitarbeiter uns übers Ohr haut, die Firma wechselt und das Wissen mitnimmt.

<sup>72</sup> Ich würde das zumindest gleich gewichten, oder sogar sagen das ist noch wichtiger als Motivation. Vertrauen beeinflusst nicht nur den Wissenstransferprozess an sich, sonder auch was dabei rauskommt. Ohne Vertrauen gibt es keinen Impact. – G7

therefore takes a lower risk. In case there is no trust by the recipient into the source however, companies are more likely to face challenges with knowledge transfer in the long-run.

### **Socio-cultural system**

Knowledge transfer scholars have also shown that the characteristics of a social and organisational system impact transfer effectiveness. In respect to organisational culture, Simonin's (2004) study shows that a learning culture positively influences knowledge transfer. Lucas (2005) and Pérez Lopez *et al.* (2004) show that a collaborative culture has a positive impact on knowledge transfer. Also, corporate centralization and the existence of a corporate country headquarters are positively related to knowledge transferred to other units (Lord & Ranft, 2000), showing that the system in which the source or the recipient of knowledge are embedded influences transfer effectiveness, too.

Several of our interviewees suggest that the characteristics of the system in which the source is embedded influences the transfer of knowledge. Such systems define the possibilities and limits for the source or the recipient to engage in knowledge transfer. The managers in particular focused on aspects of organisational flexibility.

You need a sufficient level of flexibility and a willingness to experiment. The inflexible processes that multinationals develop over time [...] do not facilitate knowledge transfers. You have to find a way to go round this.<sup>73</sup> – G3

A lack of flexibility can also be the result of path dependency. Inflexible sources are more likely to act in a way that reflects its past behaviour.

Even worse [than deliberately holding back knowledge] is doing it automatically. That is when you stop thinking about what you are doing. You have done it in a certain way for decades and you are reluctant to change anything about this.<sup>74</sup> – G8

Similarly, the recipient's socio-cultural system can impose a barrier to transfer effectiveness. Again, the core of the problem is inflexibility and rule-adherence.

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<sup>73</sup> Die nötige Flexibilität und Experimentierfreudigkeit muss man schon haben. Die relativ starren Prozesse die so ein Konzern über die Zeit entwickelt hat – das Thema hatten wir eben auch angesprochen – machen Wissenstransfers nicht unbedingt leichter. Da muss man gucken wie man drum herum kommt. – G3

<sup>74</sup> A: Und es scheitert, auch in Ihrem Falle, daran, dass Wissen bewusst zurück gehalten wird...  
G: ...oder unbewusst. Was eigentlich noch schlimmer ist. Denn dann macht man sich schon gar keine Gedanken mehr darüber. Es ist einfach so, dass man etwas seit Jahrzehnten auf eine bestimmte Art und Weise macht, und daran nichts ändern kann oder will. – G8

Here in China, everyone is completely compliant. People will even follow the rules if this results in a disadvantage. In Germany, people chose the easier way, even if it means to breach the rules. In China, it took me nine months to change the Chinese colleagues' habit of exactly adhering to hierarchies. [...] Clearly, this impedes effective cooperation with each other [...].<sup>75</sup>

– G1

As can be seen from the managers' elaborations, the socio-cultural system is a very complex construct, but the most important issue derived from the interviews was that organisations (both the source and the recipient) can develop systems and habits that inhibit the actors involved in knowledge transfer to effectively exchange know-how with each other. At the core of the problem is flexibility, which was found an aspect of organisational culture in influential studies before. Hofstede *et al.* (1990) for example found a dimension named "normative vs. pragmatic" which describes the extent to which organisations are pragmatic, focusing on customer needs and results rather than procedures. O'Reilly *et al.*'s (1991) Organisational Culture Profile revealed one dimension called innovation, which is representative of organisations that innovate, take opportunities and risks, experiment and are not rule oriented. Hence, the socio-cultural system, and in particular the aspect of flexibility, is another factor influencing knowledge transfer effectiveness.

### **Absorptive capacity**

Absorptive capacity (Cohen & Levinthal, 1990) describes an organisation's capability to learn new knowledge. Absorptive capacity comprises 'the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends' (Cohen & Levinthal 1990, 128). Others have extended it to include another ability to transform knowledge (Zahra & George, 2002). Many scholars have investigated how an ability to learn influences the success of knowledge transfer. Gupta & Govindarajan (2000) used the mode of entry and the proportion of local nationals in the subsidiary's top management team as proxies of absorptive capacity. They showed that absorptive capacity positively impacts knowledge inflows. Szulanski (1996) showed that a lack of absorptive capacities makes transfer stickier (i.e. less effective). In sum, findings indicate that the effectiveness of

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<sup>75</sup> Man ist hier in China absolut regeltreu. Selbst wenn massivste Nachteile entstehen, werden Regeln genauestens befolgt. In Deutschland hätte man es schon lange auf die einfachere Art und Weise gemacht, auch wenn es einen Regelbruch darstellt. Es hat mich hier in China ein Dreivierteljahr Zeit gekostet, den Mitarbeitern die strikte Befolgung von Hierarchien abgewöhnt hat. [...] Das verhindert natürlich ein effektives Zusammenarbeiten miteinander [...].

knowledge transfers is positively influenced by the receiving organisation's ability to receive, assimilate and apply new knowledge.

The observations made by the managers reflect the importance of all aspects of absorptive capacity. In respect to the ability to receive knowledge, one manager mentioned:

The cleverness of the Chinese colleagues is more than an ability to listen, but also an ability to actively pull know-how, an ability to search information. I believe it is extremely important that the recipient has this ability to meet the source halfway, to collect the information at the source [...].<sup>76</sup> – G7

The majority of managers considered the ability to assimilate knowledge the all-important factor.

I would call this a learning capability. You have to be very careful in selecting those employees who have high learning capability. For example, we consider their background, their former jobs, the potential they show during the first months, whether they have or develop a common language with the [company name]-team they work in. [...] These factors represent the potential an employee has. The potential is very important. It determines the learning curve an employee will show. Our employees need to have this potential because we push them to learn more. Communication skills, management skills, time management skills, all of these represent very important learning potential. – C5

For people with university-background, understanding these issues [company values and principles] should not be a problem. But whenever we try to communicate these issues, questions and feedback indicate that the essential content was not understood.<sup>77</sup> – G5

Others pointed out the importance of the ability to apply know-how.

The Chinese colleagues need to learn how to adopt knowledge about one process to another one. [...] This ability to apply knowledge, to apply a method without someone else having to point it out. To work independently.<sup>78</sup> – G4

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<sup>76</sup> Ich definiere die Cleverheit der chinesischen Mitarbeiter aber auch nicht nur als gute Zuhörfähigkeit, sondern auch ganz gezielt zu saugen. Das er die Fähigkeit hat nach Informationen zu suchen. Ich halte es für ganz wichtig das der Receiver diese Fähigkeit mitbringt, also den halben Weg zum Sender schon von sich aus geht, die Informationen von der Quelle abholt [...].

<sup>77</sup> Für studierte Menschen ist es eigentlich kein Problem, diese Dinge zu verstehen. Aber immer wenn wir versuchen diese Dinge zu vermitteln kommt nach Rückfragen immer das Feedback das wesentliche Inhalte nicht angekommen sind.

<sup>78</sup> G4: Zu sagen, ich habe gelernt wie ich Material 1 plane. Jetzt weiß ich auch wie ich Material 2 planen muss. Diese Abstraktionsfähigkeit. Eine Methode anzuwenden, ohne darauf hingewiesen werden zu müssen. Eigenständiges arbeiten.

Our problem is to find people locally that can implement the know-how [...], well educated engineers. Ideally with a background in our market niche. Here in China, we have to fight for such people with two to three dozen large companies.<sup>79</sup> – G3

Our interviews confirm that the ability of the recipient to receive, assimilate, and apply has a positive impact on knowledge transfer effectiveness (Cohen & Levinthal, 1990). We did not find evidence for the ability to transform knowledge (Zahra & George, 2002). A likely reason for this is that transforming knowledge is a process that follows the knowledge transfer process and is solely conducted by the recipient. As such, many managers might not have included it in their thinking. The ability to receive knowledge gives the recipient an advantage in the amount of knowledge that it can access. Recipients with an ability to assimilate knowledge show larger learning potential – and can therefore potentially acquire more knowledge than others. Recipients with an ability to transform know-how improve effectiveness because they need less advice and can work independently. Recipients with an ability to apply knowledge are important for value creation, because knowledge transfers can only become profitable once they have been applied to commercial ends. Hence, all aspects of a recipient's absorptive capacity facilitate an aspect of knowledge transfer effectiveness.

### **Eloquent capacity**

Recently, scholars have also elaborated on the concept of relative absorptive capacity (Lane & Lubatkin, 1998; Lane *et al.*, 2001). Their claim is that the ability to understand new knowledge must be seen as a dyad-level construct, rather than a construct that is fixed for any transfer setting. Hence, this construct takes partner differences into consideration (which was discussed in the “noise sources” section above). The finding is that partner similarity positively impacts the learning success. Another test showed that the similarity explains learning success much better than Cohen & Levinthal's (1990) proxy R&D spending. As such, the scholars claim that the dyad-level measure partner similarity is a better indicator of absorptive capacity than any nodal-measure of absorptive capacity that remains constant even in different transfer settings. Another group of scholars has suggested that the source's transfer capacity influences how well knowledge can be transferred (Martin & Salomon, 2003). Their suggestion was to decompose such an ability

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<sup>79</sup> G3: Unser Problem ist es lokal Leute zu finden die das Wissen anwenden können.

Andreas: Das heißt Ingenieure?

G3: Ja, gut ausgebildete Ingenieure. Idealerweise mit Background aus unserer Marktnische. Da gibt es hier in China 2-3 Dutzend große Player, und mit denen müssen wir uns um die Leute streiten.

into three abilities: “We define source transfer capacity (STC) as the ability of a firm (or the relevant business unit within it) to articulate uses of its own knowledge, assess the needs and capabilities of the potential recipient thereof, and transmit knowledge so that it can be put to use in another location.” (p. 363). The same idea can be found in communication theory, where the source’s communication skills are described as an ability to understand the recipient, to understand own purposes and intentions and to encode this understanding in a message will all benefit the transfer process (Berlo, 1960; Braddock, 1958; Fearing, 1953; Johnson, 1953; Schramm, 1954). However, in respect to knowledge transfer, there is no empirical evidence for the source's transfer capacity yet.<sup>80</sup>

Despite the lack of empirical findings in the antecedent literature on knowledge transfer, we find strong evidence that the quality of the source influences the transfer outcome. While the antecedent literature has focused on the attitudes and the knowledge stock of the source, we find that skills are another aspect of a well-functioning source.

Another large problem – in particular in medium-sized crafts enterprises that have just started internationalization like ours – is the lack of fundamental skills [...]. You cannot dispatch German employees here who have no command of English. [...] The German organisation lacks fundamental skills.<sup>81</sup> – G6

The skills discussion can be clearly differentiated from the prior discussion of the source's motivation or trust. In detail, we find support for all three abilities/ skills suggested by communication theory. The ability to understand own purposes and intentions was mentioned by one manager. He explained the negative impact that a lack of understanding of the overall knowledge transfer strategy has on the source unit’s willingness to express knowledge. We can see from this case that an increased ability to understand own (company’s) purposes and intentions would have led to a more active engagement in knowledge transfers and thereby increased the likelihood that the German employees transfer more knowledge to their Chinese colleagues.

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<sup>80</sup> We label the capacity of the source unit to express knowledge eloquent capacity (not source transfer capacity) because we approach the topic from a communication theory perspective. In this stream, a transfer is considered a three-stage process of a message travelling from (1) a source via (2) a channel to (3) a recipient. The source sends, the channel transmits, and the recipient absorbs the message. The word transfer is used to consolidate and integrate all three stages of the process. Similarly, a knowledge transfer process consists of knowledge expression, knowledge transmission, and knowledge absorption. Knowledge transfer is the sum of all three. Using it as a term that solely describes the quality of knowledge expression, the word transfer is only misleading.

<sup>81</sup> Das ist auch ein Riesenproblem in Deutschland. Speziell in solchen mittelständischen Handwerksbetrieben die jetzt erst anfangen sich zu internationalisieren. Da fehlen einfach fundamentale Qualifikationen, in einem Unternehmen das sich noch nie internationalisiert hat. Sie können ja nicht deutsche Mitarbeiter die keine Englischkenntnisse haben nach hier schicken. [...] Wir sind kein internationales Unternehmen, wodurch uns fundamentale Fähigkeiten auf deutscher Seite fehlen.

On top of what is required of them, the German employees do not show any initiative to transfer knowledge. This is often the case for subsidiaries or employees who lack the big picture. [...] A good deal of what we establish here in China is additions to our German value creation, not replacements of it. [...] There are many industries that offshore jobs to China, but the [name of the company] top-management has clearly defined that the investments in China are additions and will not come at the expense of the German colleagues. But in case these employees do not know about this, they develop fears. Hence you have a lack of motivation.<sup>82</sup> – G4

There is also strong evidence that the ability of the German colleagues to understand the Chinese subsidiary has (would have) a positive impact on the process.

They should learn English I think. And also, try to understand China better. This will help in communicating aspects that are important for our business. – C4

Another aspect is China-comprehension. In one of our businesses it is going well [...]. The German person in charge has closed many deals in China [...]. You can tell that in his communication, knowledge is transferred much better.”<sup>83</sup> – G6

For one type of employee – those who have been here for 3 years and still do not speak a word Chinese – the attitude gets worse. After having been here for three years, they still believe that here in China, the problem is the capability of the Chinese colleagues. For the other kind you can observe that with an increasing comprehension of China, the attitude towards communication changes too. This benefits the transfer of knowledge in the end.<sup>84</sup> – G5

Next, the ability of the source unit to express know-how influences the effectiveness knowledge transfers.

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<sup>82</sup> Es endet damit, dass Dinge die Vorschrift sind gemacht werden, aber darüber hinaus, etwa aus Eigeninitiative, kein Wissen transferiert wird. Das ist häufig der Fall bei Werken oder Mitarbeitern die den Gesamtüberblick nicht haben. [...] Vieles was wir hier in China aufbauen sind Ergänzungen, aber keine Ersetzungen der deutschen Wertschöpfung. Es geht hauptsächlich um den lokalen Markt. Es gibt viele Branchen die Arbeitsplätze nach China auslagern, aber von [Firmenname]-Top Management Ebene ist ganz klar definiert, dass unser China Engagement zusätzlich ist und nicht auf Kosten von deutschen Arbeitnehmern geschieht. Aber wenn man dies nicht weiß, kann man Ängste entwickeln. An Motivation kann es also schon fehlen.

<sup>83</sup> G6: Hinzu kommt das China-Verständnis. In einem Bereich klappt es ganz gut, da kennen wir auch den deutschen Verantwortlichen. Der hat vorher schon viele Geschäfte in China abgeschlossen und war für Großunternehmen tätig. Man merkt in der Kommunikation mit diesem Mitarbeiter, dass Wissen viel besser transferiert wird.

<sup>84</sup> Andere Mitarbeiter, etwa die die nach 3 Jahren immer noch kein Wort Chinesisch können, werden eher schlimmer in ihrer Haltung. Sie versteifen sich noch mehr und denken nach 3 Jahren immer noch dass wir es in China mit einem Fähigkeitsproblem von chinesischer Seite aus zu tun haben. Bei der einen Art von Mitarbeiter merkt man, dass sich im Laufe der Zeit mit dem China-Verständnis auch die Kommunikationshaltung ändert, was den Wissenstransfer schlussendlich begünstigt. – G5



We only dispatch internationally and inter-culturally experienced personnel. We pay a lot of attention to the fact that the people being dispatched here are people with an ability to explain things.<sup>85</sup> – G4

The problem is that the German colleagues cannot impart knowledge, rather than that the Chinese cannot absorb it.<sup>86</sup> – G8

[...] for technical issues it is not an expression problem. It is mostly data, graphs, technical things. [...] You can draw supply chains, etc. There, we have few problems with proper knowledge expression. If misunderstandings occur, it is at the recipient's side [...]. It gets more difficult when we discuss business issues. [...] Here it is firstly about expression. If expression goes wrong, receiving can be as good as it wants to; it won't be a successful process. Expression is the most important thing. Once it gets going, receiving becomes important too.  
– C1

The concept of the source unit's communication skills is strongly supported. One explanation for the fact that the first dimension was only elaborated on by one manager is that this dimension is the only one that does not involve the recipient (subsidiary). Interviewees in the subsidiary might have been much less exposed to this phenomenon than the other two dimensions. In sum, a source unit's eloquent capacity describes how well it can teach another organisational unit. Unmistakably, it is a different capacity than absorptive capacity because it is concerned with organisational skills to express knowledge rather than to absorb knowledge. We can compare eloquent capacity to the teaching-skills a teacher or professor has, while absorptive capacity compares to his or her students' learning-skills. Eloquent capacity enables the source to make an informed and appropriate choice from "the lush abundance of possible verbalizations" (Johnson, 1953: 53). An appropriate choice facilitates learning for the recipient – and thereby makes the process of knowledge transfer more effective.

### **Organisational self-efficacy**

Our previous analyses of the literature and our interview transcripts showed that trust and motivation are two important attitudes in the knowledge transfer process. In addition to the source's and the recipient's attitudes toward the transfer partner (trust) and the transfer

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<sup>85</sup> G4: Nur international und interkulturell erfahrene Mitarbeiter werden auf solche Projekte entsendet. Wir achten sehr darauf, dass die Menschen die nach hier geschickt werden vom Typus her Menschen sind die erklären können.

<sup>86</sup> G8: Ja, und wiederum liegt es eher daran das die Deutschen Wissen nicht vermitteln können als das die Chinesen es nicht aufnehmen könnten.

subject (motivation), communication theory also elaborates on a third attitude, the attitude toward self (Berlo, 1960). When this self-evaluation of the source or the recipient is positive, communication is deemed more effective than when it is negative. We found no empirical evidence for this construct in the knowledge transfer literature. In a study on human agency, Bandura (1982) labelled a concept similar to the attitude described by Berlo (1960) organisational self-efficacy. This can be described as perceived self-efficacy, which is “concerned with the judgments of how well one can execute courses of action required to deal with prospective situations” (Bandura, 1982: 122). Bandura further points out that “Those who judge themselves inefficacious in coping with environmental demands dwell on their personal deficiencies and imagine potential difficulties as more formidable than they really are” and “in contrast, persons who have a strong sense of efficacy deploy their attention and effort to the demands of the situation and are spurred to greater effort by obstacles” (p. 123). His study showed that induced self-efficacy leads to higher performance accomplishments.

The reports of the managers indicate that organisational self-efficacy has an impact on knowledge transfer effectiveness. One manager summarized the problems related to knowledge transfer in her organisation as follows.

First of all, the Chinese colleagues do not know our tools well enough [...]. Secondly, they do not know whom in Germany to contact [...]. Or they are afraid to initiate the communication. I believe this is a very important topic; the Chinese’s lack of self-confidence. Often, they do not dare to ask. They simply accept things and do not dare to disagree. This lack of self-confidence impedes knowledge transfer too [...].<sup>87</sup> – G5

When asked if this problem exists for the German organisation too, she replied:

The German colleagues have high self-confidence. [...] The Chinese face the Germans in a very under-confident way. I always wish they didn’t, because they are smart, very smart people, often overqualified for their jobs. But they are immediately intimidated and make mistakes as a result. [...].<sup>88</sup> – G5

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<sup>87</sup> Erstens kennen unsere chinesischen Mitarbeiter unsere Tools nicht so gut [...] Zweitens wissen sie auch nicht immer, wen sie ansprechen können in Deutschland. [...] Oder sie haben Angst die Leute anzusprechen. Gerade das ist ein wichtiges Thema aus meiner Sicht. Das fehlende Selbstbewusstsein der Chinesen. Sie trauen sich oft nicht etwas nach zu fragen. Sie nehmen Dinge einfach hin und trauen sich nicht, dagegenzuhalten. Dieses fehlende Selbstbewusstsein hindert den Wissenstransfer auch. [...]

<sup>88</sup> Auf deutscher Seite ist Selbstbewusstsein sehr stark vorhanden. ... Die Chinesen stehen sehr unselbstbewusst vor den Deutschen. Da wünscht man sich oft, dass sie mehr aus sich machen, denn es sind kluge Leute, sehr kluge Leute, oft überqualifiziert für das was sie bei uns machen. Sie sind aber sofort eingeschüchtert und machen dadurch dann auch Fehler. [...]

Other managers made the same observation for their Chinese colleagues:

What I realized from day one here in China is that the majority of the employees are very passive. Few of them are assertive and know that they have to actively search for things in order to get them. It is a “Wait-and-see” mentality that impedes the transfer of knowledge, or slows it down at least.<sup>89</sup> – G3

The prime example is that you have someone who explains something very well, but it was not understood [by the Chinese colleagues]. Then you observe the typical Chinese situation that people look at each other, nod and say “Yes, yes, yes”, although they did not understand. We have this situation all the time.<sup>90</sup> – G2

A general problem is that Chinese do not easily open up. Rarely, someone will actively approach another person to say “I did not get it, please explain this once more”. But I can tell from their faces that things were not understood. [...] There is no feedback. That is the problem.<sup>91</sup> – G1

Feedback is an important part of the communication process (De Fleur, 1970). However, it appears that asking questions (an important source of feedback) requires a certain level of self-efficacy. The Chinese managers reported another downside of a lack of self-confidence that they had to experience in person. It explains why under circumstances of low self-confidence, knowledge transfers can be less complete and slower.

[...] the typical Chinese person is shy. We have to remove this blockade, by telling people that speaking up is essential. [...] This is another reason why knowledge transfers often happen via the GM [General Manager]. A shy receiver will not be a good one, and the GM typically is someone who will let the other person know in case he does not understand. Self-confidence enables the Chinese GM to give the same feedback to the German source. – C1

Our Chinese production leader is excellent, he thinks a lot, but does not express himself in front of the German colleagues. There is no direct communication between him and the German side. Any issue has to be communicated via me. He is too passive, too afraid that something might be misunderstood, so he tells me about his opinion [...]. I communicate the

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<sup>89</sup> Was mir hier in China von Anfang an in diesem Zusammenhang aufgefallen ist, ist dass der Großteil der Mitarbeiter sehr zurückhaltend ist. Die wenigsten sind offensiv und wissen das sie sich etwas aktiv holen müssen um es zu bekommen. Eine „Wait-and-see“ Mentalität, die dazu führt das Wissenstransfer nicht oder zumindest langsamer abläuft. – G3

<sup>90</sup> Das typische Beispiel ist das du jemand hast der etwas relativ gut erklärt, es aber trotzdem nicht verstanden wurde. Du hast hier oft die typisch chinesische Situation das die Leute sich dann nett angucken, nicken, und „ja, ja, ja“ sagen, obwohl doch nichts verstanden wurde. Die Situation haben wir relativ häufig.

<sup>91</sup> Ein Problem ist aber generell auch das die Chinesen sich nicht so leicht öffnen. Es gibt nur selten den Fall das sie aktiv auf jemand zugehen und sagen, „das habe ich nicht verstanden, bitte erklär mir das noch einmal“. Ich sehe aber oft an den Mienen das Dinge nicht verstanden wurden. [...] Es gibt kein Feedback. Das ist ein Problem. – G1

issues to the German engineers. [...] The real problem is that Chinese culture does not support people to disagree, especially in front of other people. Other cultures are more open and direct, like American culture. We are closed and indirect. We have experienced a lot in this country, we have a long history, and a less direct and passive behaviour is central to our value system. – C2

As it can be seen from the managers' elaborations, self-efficacy is another determinant of effective knowledge transfers, and the root-cause of a lack of self-efficacy can be found in Chinese culture. Low levels of self-efficacy can therefore be described as a determinant of knowledge transfer effectiveness that stems from Chinese belief and values. Indeed, there might be a correlation between organisations' levels of self-efficacy and their societies' level of assertiveness (House *et al.*, 2004; Triandis, 1995). As described in the methodology (chapter 5), we gave managers the opportunity to summarize their views and to explain how knowledge transfers could be made more effective in the fifth step of the interviews. Several of them included the concept of self-efficacy in their statements when describing the showpiece-employee in respect to knowledge transfer.

He [the perfect Chinese employee] systematically asks questions in areas where he lacks know-how. But to do this, you have to be self-confident enough to say "I do not know this, I have never heard of this, please explain this to me". In case he does not have this self-confidence, he will interpret his lack of knowledge as a weakness and hides it. I believe self-confidence is a very important aspect. Only this way can a dialog be created. Only this way knowledge will be transferred.<sup>92</sup> – G5

They [the perfect Chinese employees] ask a lot. They are insisting, and do not settle for the first answer.<sup>93</sup> – G4

And they [the perfect German employees] can admit mistakes and assume responsibility. If something goes wrong they will turn to their colleagues to say "Hey, my mistake". They let their colleagues feel about it.<sup>94</sup> – G7

In sum, organisational self-efficacy can be regarded as another condition of successful knowledge transfers. A recipient unit with a sufficient level of self-efficacy will be more

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<sup>92</sup> Er kann gezielt Fragen stellen in Bereichen in denen er Lücken hat. Dazu muss man aber selbstbewusst genug sein um sagen zu können „Das kenne ich nicht, da habe ich nie von gehört, bitte erklär mir das mal“. Hat er dieses Selbstbewusstsein nicht, dann nimmt er seine Unkenntnis als Schwäche hin und versteckt diese. Selbstbewusstsein halte ich für sehr wichtig, denn nur so kann ein Dialog zu Stande kommen. Nur so kann Wissen transferiert werden. – G5

<sup>93</sup> O: Sie fragen sehr viel. Sie sind beharrlich, d.h. nicht mit der erstbesten Antwort zufrieden. – G4

<sup>94</sup> C: ... und man muss auch die Fähigkeit besitzen, Fehler einzugestehen. Und Verantwortung übernehmen. Wenn etwas schief läuft, dann muss man, eventuell im kleinen Kreis, sagen, „Hey, das war mein Fehler“. Das muss man die anderen spüren lassen. ...

successful in absorbing knowledge, because it can actively communicate its knowledge gaps. This increases effectiveness, because it helps the source unit to address knowledge gaps more accurately by transferring adequate know-how. A sending unit benefits from self-efficacy because it supports active communication and interaction. In the absence of a sufficient level of self-efficacy, the source acts in a more passive way, resulting in a slower exchange of information.

We have used managers' views, communication theory and knowledge transfer studies to explain and confirm previously found determinants of knowledge transfer effectiveness. We have also explored how two additional determinants (eloquent capacity and organisational self-efficacy) influence the effectiveness of the transfer process. As such, the determinants of transfer effectiveness have been outlined. We next focus on the second objective of this chapter, the simultaneous assessment of the transfer determinants.

### **Simultaneous assessment**

The goal of a simultaneous assessment of the individual transfer determinants is to establish and explain their importance in the overall context. While we have looked at each transfer determinants in isolation before, the remainder of the chapter is concerned with explaining how many and which of these determinants should be simultaneously analysed because of their explanatory power in respect to knowledge transfer effectiveness.<sup>95</sup> The simultaneous analysis is therefore concerned with the (relative) importance of every single determinant. Previously, knowledge transfer scholars have simultaneously analysed the importance of each item by use of quantitative data and multivariate regression models. Given that communication theory suggests 23 different determinants (see table 3 in chapter 2), finding significant relationships between most of the determinants and a dependent variable measuring knowledge transfer effectiveness is a challenging task, even when data on all determinants would be available. For example we can see that in antecedent studies that have used a large number of determinants, e.g. Szulanski's (1996), which had 9 determinants, scholars faced the same challenge. Findings were put into perspective by the author by comparing their relative importance.

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<sup>95</sup> Another attempt to simultaneously assess different determinants will be made in chapters 7-9. However, due to sample size restrictions, we will not be able to analyse all determinants simultaneously there.

We use the Nvivo Query tool to put individual findings in perspective. TABLE 11 summarizes the findings of our research. The last column shows the cumulated frequency by which each determinant was mentioned by the managers.

Location	Determinant of effectiveness (NVivo-Node)	Chinese					German								Frequency
		C1	C2	C3	C4	C5	G1	G2	G3	G4	G5	G6	G7	G8	
Knowledge	Characteristics	x				x	x	x	x	x	x	x	x		9
Noise sources	Differences in language and logic	x	x	x	x	x	x	x		x			x	x	11
	Differences in industry and business					x									1
	System differences	x	x	x		x	x	x	x	x			x		10
	Structural differences		x				x	x			x	x			6
Channels & Networks	Channels (knowledge-vehicle)		x				x		x						3
	Networks (knowledge-carrier)	x	x	x	x		x	x	x	x	x	x	x		12
Recipient	Knowledge stock	x	x				x		x		x				6
	Motivation (Attitude toward subject)	x		x		x		x							4
	Trust (Attitude toward partner)	x										x			2
	Socio-cultural system						x								1
	Absorptive capacity: Ability to receive												x		1
	Absorptive capacity: Ability to assimilate	x	x					x		x					5
	Absorptive capacity: Ability to apply				x				x	x					3
	Self-efficacy (Attitude toward self)	x	x	x			x	x	x	x	x	x	x		10
Source	Knowledge stock					x									1
	Motivation (Attitude toward subject)	x	x	x	x		x	x	x		x				9
	Trust (Attitude toward partner)	x	x		x		x	x	x	x	x	x	x		11
	Socio-cultural system							x						x	2
	Eloquent capacity: Understand own purposes								x						1
	Eloquent capacity: Understand the recipient	x				x	x	x		x	x				6
	Eloquent capacity: Express know-how						x	x		x	x			x	6
	Self-efficacy (Attitude toward self)									x			x		2

Table 11: Determinants of transfer effectiveness as discussed by practitioners

By use of our Nvivo Query, we can assess the determinants simultaneously in two ways. Firstly, we can assess the importance of the determinants suggested by communication theory by judging their *detectability* in our interview transcripts. Whenever a determinant can be detected in the table, it provides explanatory power for the study of transfer effectiveness. For each determinant, we find at least one manager who explained its importance in the knowledge transfer context (indicated by “x”). Hence, every single

determinant influences transfer effectiveness at least in a subset of the investigated organisations.

At the same time, we can see that some determinants were mentioned more often than others, indicating that some of them are more important to transfer effectiveness than others. Another way of simultaneously assessing the determinants is to assess their *relative importance* by comparing the frequency by which they were mentioned. The maximum frequency by which a determinant can be mentioned in our sample is 13 (in case it is mentioned by all managers). The last column in table 11 shows how often each determinant was mentioned. The seven most frequently discussed determinants can be found in the area of transfer networks, the source's trust and motivation, differences in language and logics, differences in systems, the recipient's self-efficacy and knowledge characteristics. All of these items were mentioned by at least two thirds (9+) of our interview partners. Five further items were mentioned less frequent, but still by at least one third of all interviewed managers (5+). They comprise aspects of eloquent capacity (ability to understand the recipient and to express knowledge), absorptive capacity (ability to assimilate knowledge), structural differences and the recipient's knowledge stock. All other items were deemed determinants of transfer effectiveness by less than one third of all managers. It can thus be stated that overall, some of the determinants suggested in communication theory were observed as important in a large number of organisations, while others were only observed as important in a few of them. Our results suggest that the more important determinants cannot be clearly attributed to any specific area. While Szulanski (1996) found that “knowledge-related barriers dominate motivation-related barriers” (p. 37), we find a mix of factors influencing the effectiveness of the process, comprising knowledge-related, source-specific, recipient-specific, channel-specific and noise-related characteristics.

The most conservative conclusion drawn from the two analyses is that all determinants need to be simultaneously investigated because of each variable's unique effect on transfer effectiveness. This would suggest that Berlo's (1960) claim for communication theory that “we cannot pull any one of them [the determinants] out– or the whole structure collapses” (p. 69) holds true in a knowledge transfer setting as well. A more tolerant and practical conclusion would be to argue that some of them can be left out, in particular those that were not mentioned by more than a few managers because, from a contextual perspective, their individual influence is not significant enough. Clearly, knowledge transfer effectiveness is the result of a process that is simultaneously determined by the

characteristics of the knowledge, the source, the recipient, the channel, and noise sources. Including all of the factors found in this study in empirical tests using quantitative data poses a number of analytical and data-collection challenges, but excluding any of the determinants “can seriously bias the results and negatively affect any interpretation of them” (Hair *et al.*, 2006: 193/194). Practical reasons might force researchers to exclude some of the possible determinants from their research frameworks, but given that effective communication and effective knowledge transfer “share” so many determinants (table 2), leaving a number of them out requires strong theoretical or practical arguments. Each factor found in communication theory has a unique impact on transfer effectiveness. Hence, the more determinants that are included in the framework, the better its explanatory power can be.

## **DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH**

This study has made several contributions to the knowledge transfer literature. We have shown empirically that communication theory is a strong framework for research into knowledge transfer effectiveness. Communication theory is a holistic theory in which, when applied to the knowledge transfer context, many other sociological, economic, organisational, and psychological constructs can be embedded. Our study shows that the knowledge transfer process is even more complex than previous studies have explored. Most of the determinants suggested by communication theory had already been researched in previous knowledge transfer studies and were confirmed in our interviews (table 12). While none of the existing determinants of transfer effectiveness were challenged by our findings, we extended several of the determinants with additional qualitative insights. For example, we found that researchers do not need to invent new organisational culture dimensions like learning culture or collaborative culture to conduct research into how organisational culture influences knowledge transfer effectiveness. Instead, they can increase the external validity of their research by relying on established measures like Hofstede *et al.*'s (1990) or O'Reilly *et al.*'s (1991). These studies offer independently researched organisational dimensions that represent organisational flexibility – the same aspect that the managers in our sample identified as a determinant of transfer effectiveness. However, as can be seen from table 12, confirming and extending the understanding of established determinants is only one aspect of this study. The most important implications for future research derive from such determinants that have not yet been investigated empirically in the literature (table 12) and from the potentially indirect effect of noise sources on transfer effectiveness.



		Communi- cation theory	Antecedent knowledge transfer studies	Field interview findings
Knowledge	Characteristics	+	+	+
Noise sources	Differences in language and logics	-	-	-
	Business differences	-	-	-
	Differences in systems	-	-	-
	Differences in structure	-	-	-
Channel & networks	Communication channels (vehicles)	+	+	+
	Communication networks (carriers)	+	+	+
Recipient	Knowledge stock	+	+	+
	Motivation	+	+	+
	Trust	+	+	+
	Transfer capacity (Absorptive capacity)	+	+	+
	Self-efficacy	+		+
Source	Knowledge stock	+	+	+
	Motivation	+	+	+
	Trust	+	+	+
	Transfer capacity (Eloquent capacity)	+		+
	Self-efficacy	+		+

+ = positive impact on transfer effectiveness; - = negative impact on transfer effectiveness

Table 12: Summary of the determinants found in theory and practice

### **Eloquent capacity**

In respect to the abilities of the partners taking part in knowledge transfers, scholars in the past have largely focused on the recipient's ability, i.e. absorptive capacity. Communication theory suggests that this is a single-sided view at a two-sided coin – the communication skills of both the source and the recipient influence effectiveness (Berlo, 1960). Furthermore, in educational research, there is support for the notion that the quality of the teacher heavily impacts the learning outcome (McKinseyQuarterly, 2007). Our research of Sino-German knowledge transfer suggests that eloquent capacity, the ability of an organisation to teach knowledge, is an integral part of any successful organisational learning process. An eloquent organisation affects organisational learning as much as an eloquent teacher affects learning in the classroom. Eloquent capacity can be described as a multidimensional capacity that comprises three different communicative abilities.

Communication theory suggests that one dimension is the ability to understand own purposes and intentions. We find that the understanding and awareness of the own organisation's know-how and corporate goals enables employees to act in accordance with the corporate strategy. This ability enables all employees to act in concert and to actively support the knowledge transfer that top management deems necessary. It therefore positively influences the effectiveness of knowledge transfers. The communication literature furthermore suggested that the ability to understand the recipient supports an effective communication process. We found that such an ability enables a source to choose know-how, channels and other methods that are appropriate for the recipient. The better the source's ability to understand the recipient, the more knowledge can be transferred and the choice of appropriate know-how will also cause this transfer to be achieved at a quicker pace. The ability to understand the recipient thereby positively impacts knowledge transfer effectiveness. The third ability of the source suggested by communication theory is its ability to express knowledge. Our findings suggest that an ability to express knowledge improves the quality of knowledge outflows. The know-how that is expressed by an eloquent teacher can be more easily absorbed than that of an ineloquent teacher, because accurate expression reduces ambiguity. Hence, the third ability also positively influences knowledge transfer effectiveness. We therefore suggest that

Proposition 1: A source-organisation's ability to i) analyse own purposes and intentions, ii) understand the recipient, and iii) express knowledge positively impact the effectiveness of knowledge transfers.

### **Noise sources**

It was suggested in chapter 3 that noise sources can influence the source, the channel and the recipient. In communication theory, similar effects are described as the 'technical problem', the 'semantic problem', and the 'effectiveness problem' (Shannon & Weaver, 1949). We 'translated' them for the knowledge transfer context as barriers to expression, barriers to transmission, and barriers to absorption. The interview data confirms that partner differences negatively influence their abilities to express (barriers to expression) and absorb (barriers to absorption) ideas, and that they reduce the overall chance of communication taking place (barriers to transmission). Knowledge transfer studies had previously extensively elaborated on the negative effect of partner differences on transfer effectiveness. As such, the negative nature of the effect can be confirmed, but the path it takes is via the mediators source, channel and recipient. Explaining this mediated

relationship (see also figure 6 in chapter 3 and figure 11 in chapter 4) is central to creating a better understanding of why knowledge transfers fail. We posit:

Proposition 2: Partner differences create barriers to knowledge expression, knowledge transmission, and knowledge absorption by reducing the ability of the sender to express knowledge, by weakening the communicative ties between a sending and a receiving unit, and by reducing the ability of the recipient to absorb knowledge.

### **The nature of transfer capacities**

The more different partners are, the more likely it is that they cannot understand each other (Lane & Lubatkin, 1998). However, other effects, for example inter-cultural skills and international experience influence partner understanding. International job-rotation and inter-cultural trainings are given to managers to bridge and deal with cultural differences. Inter-culturally and internationally experienced managers from one country are as different to a foreign partner as their inexperienced counterparts are. However, they have learned to deal with such differences. While the (formal) differences still exist (different languages, cultural and institutional distance, etc.), the level of understanding has increased. Hence, there are circumstances under which two learning dyads (combination of source and recipient) show equal partner differences but different transfer effectiveness. The ability to understand a recipient is likely to be higher when partner differences are small and future research might detect that two items relate to each other. Despite this, they do not reflect the same construct. Accordingly, we suggest that absorptive capacity comprises both absolute (read: fixed for any transfer setting) and relative (read: depending on the similarity of recipient and source) parts. The interviews show that some organisations have more talent than others, and thereby a better 'absolute' capacity to absorb knowledge from different sources than others. Given these insights, Lane & Lubatkin's (1998) claim that absorptive capacity is "inherently relative and therefore best measured at a dyadic unit of analysis" (p. 473) must be questioned. This claim builds on the comparison of partner similarity with Cohen & Levinthal's (1990) measure of absorptive capacity (R&D expenditure per sales), in which their measures explained 72% of the variance in learning, but R&D expenditure only explained a negligible 4%. However, recent studies have shown better measures for absolute absorptive capacity (e.g. Gupta & Govindarajan, 2000; Szulanski, 1996) than Cohen & Levinthal's (1990) proxy. Such measures can reveal that the absolute aspect of absorptive capacity is not negligibly small. Hence, we agree with Lane & Lubatkin (1998) that the dyad-level measure of relative absorptive capacity has the stronger effect on the learning outcome. We do not agree that the impact of the absolute measure is

negligible, when measured correctly. Our research findings support this claim because more than two thirds of all managers elaborated on the importance of common language, logics and systems (dyad-level measure of absorptive capacity), and one third of the managers focused on the general abilities of the Chinese colleagues to absorb knowledge (nodal-level measure of absorptive capacity). If absorptive capacity was inherently relative, any kind of training for employees in the subsidiary or other investments that encourage the development of absolute absorptive capacity would be superfluous. The ability of an organisation to learn knowledge is the sum of its absolute, 'natural' talent and partner similarity. Absorptive capacity comprises a nodal-level (absolute) and a dyad-level (relative) aspect. Since it was introduced in this study that the transfer capacities comprise both teaching and learning capacities, absorptive capacity and eloquent capacity are, in part, relative (dyad-level) constructs. Clearly it will be more difficult for two organisational units to learn from each other when they are not alike and it has been suggested that differences moderate the effectiveness of transfers (Bhagat *et al.*, 2002). This supports the relative nature of absorptive capacity. However, it will also be more difficult to express knowledge in a distant source-recipient relationship compared to a relationship characterized by high partner similarity. The fact that we know more than we can tell (Polanyi, 1958) suggests that partner differences make it particularly difficult to express ideas in an unfamiliar environment. If all of us were facing the choice of either writing or reading a paper in a foreign language, most of us will choose to read a paper, because here we can also rely on our passive vocabulary and reason the meaning of unfamiliar words from their similarity to our mother tongue. When expressing knowledge, we cannot easily rely on such passive intelligence. Another example that can be reproduced by anyone who has taught international students before is the fact that their performance in written exams is often comparable to that of domestic students, while they perform much poorer in oral exams. Despite the challenges that the unfamiliar environment imposes on them, their capacity to assimilate (in lectures) and apply (in written exams) knowledge is quite high. When it comes to knowledge expression (in oral exams), linguistic differences inhibit these students' abilities. Hence, our prediction is that eloquent capacity is particularly vulnerable to partner differences. From the communication theory view, it is the sum of both effects that lead to lower effectiveness. Differences influence effectiveness via their impact on the source's ability to express knowledge (relative eloquent capacity) *and* the recipient's ability to receive knowledge (relative absorptive capacity).

Proposition 3: Eloquent and absorptive capacities have nodal-level *and* dyad-level antecedents.

## **Organisational self-efficacy**

In respect to the attitudes of the student and the teacher, there has been a focus on levels of motivation and trust, and a sheer ignorance of organisational self-efficacy, the extent to which the members of an organisation believe in their own capabilities. The fact that it has not been elaborated on extensively in the knowledge transfer literature might be because of misinterpretation by scholars. Researchers might have misread their results, as did the colleagues of one of the German managers we interviewed. When the employees in a subsidiary “are immediately intimidated and make mistakes as a result” (G5), they might show difficulties to assimilate or apply knowledge, which can be mistaken for a lack of absorptive capacity. In fact it is not a lack of a capacity to learn – “they are smart, very smart people, often overqualified for their jobs” (G5) – but a lack of self-assurance. We found strong evidence that whenever levels of self-efficacy are high, knowledge transfer effectiveness improves. The managers’ statements show that the ability of their employees needs to be accompanied by self-efficacy. Self-efficacy leads to better knowledge transfers via enabling a more interactive dialog. Due to the Chinese subsidiary’s lack of self-efficacy, knowledge transfer effectiveness was low. Hence, dialogues did not emerge and knowledge transfer effectiveness suffered.

Proposition 4: Organisational self-efficacy has a positive effect on transfer effectiveness.

## **CONCLUSION**

This chapter shed new light on the determinants of knowledge transfers effectiveness. In combining insights from communication theory, antecedent knowledge transfer studies and interview data collected in China, we verified, reassessed and extended the research agenda into knowledge transfer effectiveness. Two under-researched areas were identified as the ability of an organisation to express knowledge (eloquent capacity) and its collective self-confidence (organisational self-efficacy). Our data indicates that both constructs are determinants of knowledge transfer effectiveness. Eloquent capacity improves the quality of organisational teaching, which is the basic requirement for organisational learning, as much as a good teacher is for a good learning outcome. The effectiveness of knowledge absorption *and* expression is reduced but not diminished by partner differences, suggesting that both absorptive capacity and eloquent capacity consist of an absolute (nodal-level) and a relative (dyad-level) aspect. Organisational self-efficacy make transfer partners more active and creates feedback loops in between them that improve organisational learning by allowing organisational teaching to focus on the fundamental requirements of the learning

organisation. The research results indicate that overall, knowledge transfer effectiveness is the result of many determinants that can be found in the characteristics of the knowledge, the source, the recipient, the channel, and noise sources. Future research that seeks to provide a more holistic understanding of international knowledge flows should use as many aspects as possible, including those of eloquent capacity and organisational self-efficacy.

# Chapter 7: Quantitative findings on eloquent capacity

*The impact of eloquent capacity on knowledge transfer effectiveness*

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## **ABSTRACT**

A key question on the strategic management and research agenda is how organisational capacities determine the effectiveness of knowledge transactions between organisational units. Many studies have shown that successful knowledge transfers depend on the recipient unit's absorptive capacity. In this chapter, we empirically test the impact of the source unit's ability to disseminate knowledge (eloquent capacity) on transfer effectiveness. We hypothesize that the success of intra-organisational knowledge transfer is a function of *both* the recipient unit's absorptive capacity *and* the source unit's eloquent capacity. We simultaneously assess both capacities' influence on transfer viscosity (the amount of knowledge transfer), transfer velocity (the speed of knowledge transfer), and transfer value (the value that knowledge transfers create). Contrary to our assumptions, results show that the two capacities do not act in concert to determine transfer velocity and viscosity. Transfer velocity is solely determined by the recipient's absorptive capacity and transfer viscosity exclusively depends on the source's eloquent capacity. As predicted, transfer value is determined by both capacities. The contributions of the chapter are to show that transfer success is a multidimensional construct; that each dimension has unique determinants; and that research focusing on absorptive capacity misses a central aspect of what makes some organisations better knowledge transferors than others. An important implication is that investment into transfer capacities should take into consideration aspects of organisational learning *and* organisational teaching.

## INTRODUCTION

Many studies have addressed the fact that knowledge transfers are enhanced by transfer capacities. The abilities to acquire, absorb, transform, and exploit knowledge have been shown in many conceptual and empirical studies to positively influence knowledge transfer effectiveness (e.g. Cohen & Levinthal, 1990; Lane *et al.*, 2001; Szulanski, 1995, 1996; Zahra & George, 2002). Previously, some suggestions were made that these capabilities should be strengthened by including the source unit's capability to disseminate knowledge. For example, Martin & Salomon (2003) suggested that the source's transfer capacity influences knowledge transfers. Wang *et al.* (2004) used interview data to establish that the skills that expatriates have influence knowledge transfers. The only study, to the best of our knowledge, that empirically addresses the concept of the source's capacity to disseminate knowledge is Klijn's (2006) unpublished work that showed how the source's eloquent capacity influences the recipient's absorptive capacity in strategic alliances. Our conceptual framework (chapters 2, 3 and 4) has not only extended the views of the above scholars and proposed unique dimensions, but also provided a strong theoretical foundation for the concept of the source's capacity to disseminate knowledge. By relying on analogical reasoning, it was possible to derive eloquent capacity as one of the few concepts in communication theory that have not yet been investigated in knowledge transfer settings. By relying on communication theory, it was specified that eloquent capacity is a determinant of transfer effectiveness and that it has three unique dimensions that differentiate effective sources from ineffective sources (chapter 3). It was also conceptually outlined how absorptive capacity and eloquent capacity influence transfer velocity, viscosity, and value (chapter 4).

In the present chapter, we simultaneously assess the source unit's eloquent capacity and the recipient unit's absorptive capacity and their impact on all three measures of transfer effectiveness. The objective is to test hypotheses 1-5 developed in chapter 4. By use of regression analyses, it is shown that – contrary to our expectations – the two capacities do not act in concert to determine transfer velocity and viscosity. Each of them is responsible for a particular aspect of transfer success. Absorptive capacity determines transfer velocity; eloquent capacity determines transfer viscosity; and together, they determine transfer value, approving the assumption that value-creating knowledge transfers depend on a functioning source and recipient. The contribution of the chapter is to show that organisations' success in knowledge transfers depends on two different capacities, and that those organisations



that seek to transfer knowledge in large amounts, quickly, and with the desired value creation need to invest into both capacities.

The following structure is applied. In the next section, we introduce the control variables and why they were selected. Next, the research procedures are explained. We then show the results of the quantitative analyses. In the discussion, we outline the implications of our findings.

## **THEORETICAL BACKGROUND**

The relationship between transfer capacities and transfer effectiveness was outlined in detail in chapter 4. Based on previous studies in the communication and knowledge transfer fields, it was argued and hypothesised that eloquent and absorptive capacity positively influence transfer velocity, transfer viscosity, and transfer value.

However, previous studies have also shown a number of determinants of transfer effectiveness in addition to transfer capacities. One important variable that needs to be controlled for is the recipient unit's knowledge stock, because it facilitates the assimilation of new knowledge and skills (Gupta & Govindarajan, 2000). Previous studies have shown that the value of knowledge stock has a positive effect on knowledge transfer (Foss & Pedersen, 2002; Gupta & Govindarajan, 2000). Our first control variable is the number of employees working in a unit, which was used as a proxy to measure knowledge stock before (Gupta & Govindarajan, 2000). By including eloquent capacity, absorptive capacity, and the recipient's knowledge stock, our framework so far covers aspects of the source and the recipient. In accordance with the elaborations in chapters 2 and 3, we need to control for the other two elements discussed in communication theory (e.g. Berlo, 1960; Shannon & Weaver, 1949) and knowledge transfer studies (e.g. Gupta & Govindarajan, 2000; Szulanski, 1996).<sup>96</sup> The second control variable therefore measures the characteristics of the knowledge itself. It was shown that the nature of the knowledge being transferred influences the effectiveness of the process (Lord & Ranft, 2000; Zander & Kogut, 1995). The more independent and simple the knowledge, the easier it is assumed to be transferred (Bhagat *et al.*, 2002; Zander & Kogut, 1995). The second control variable assesses the characteristics of the knowledge being transferred in terms of its independence and simplicity. In addition to knowledge characteristics, the source, and the recipient, the channel also influences the transfer of knowledge. A third control was included for the

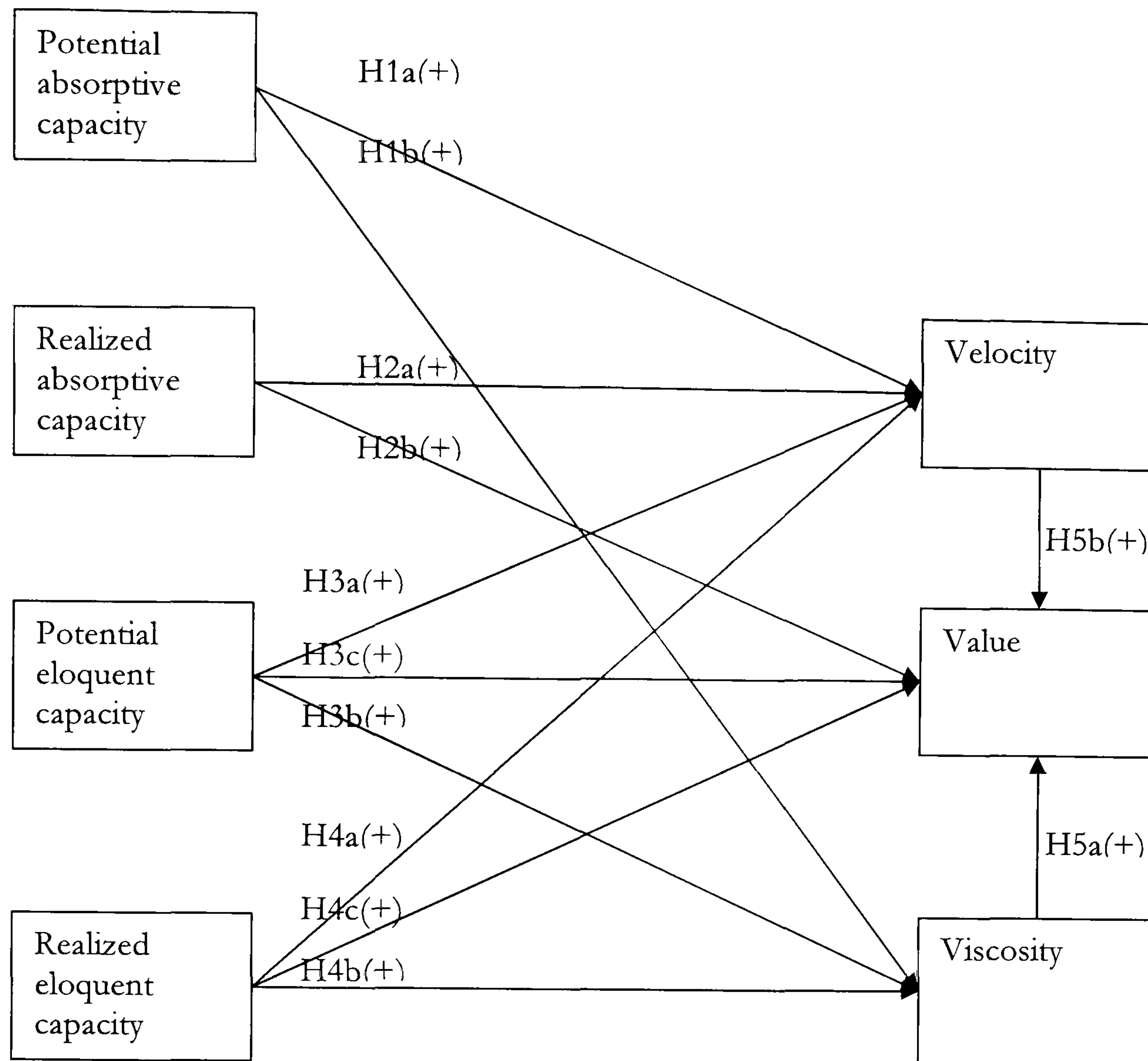
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<sup>96</sup> The fifth and final element (noise sources) will be included in the models in chapter 9.

richness of communication channels between the two units, because rich communication channels and continued communication and collaboration lead to more effective knowledge transfers (Gupta & Govindarajan, 2000; Szulanski, 1996). The fourth control variable distinguishes between manufacturing and service firms, because the nature of the two industries and how value is created in them differ significantly (Sasser *et al.*, 1983). Figure 3 illustrates summarises hypotheses 1-5 from chapter 4 and the above discussion in the research model.<sup>97</sup>

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<sup>97</sup> We have argued throughout this thesis that leaving out important determinants of transfer effectiveness can bias research results. Due to issues of multicollinearity and sample size, a selection from all possible determinants of effective knowledge transfers had to be made for the quantitative analyses. A minimum of 10 observations per investigated variable must be respected, leading to a maximum of 13 dependent variables in our model. The first eleven variables are investigated in this chapter, the 12<sup>th</sup> and 13<sup>th</sup> are measures of self-efficacy that will be added to the model in chapter 8. We selected the included variables based on their theoretical importance. It was inevitable to include absorptive capacity in an investigation of eloquent capacity. After selecting absorptive and eloquent capacity, we chose to include a measure of channel richness and knowledge characteristics to capture all aspects of the communication process. Knowledge stock was included because it is one of the most frequently used determinants of transfer effectiveness (see table 2, chapter 2). The eleventh variable was chosen to be a dummy variable for industry because due to the knowledge-intensive nature of their industry, service firms are likely to show significant differences from manufacturing firms, an effect that needs to be controlled for.



#### Controls

- Recipient unit's knowledge stock
- Knowledge simplicity
- Richness of transfer channels
- Industry-dummy (Manufacturing vs service)

Figure 15: The impact of transfer capacities on knowledge transfer effectiveness

## METHODOLOGY

### Sample and data collection

For information on sample and data collection please see chapter 5.

### Measures

All questionnaire items that were employed for the analyses in this chapter are shown in table 16. We derived most measures from antecedent knowledge transfer studies. When previous scales were not available, we derived the scales from conceptual works in knowledge transfer and communication theory and tested each scale for comprehensibility in a pilot test (see chapter 5). Several minor changes in wording were made after the

conduction of the pilot study. We measure absorptive capacity with items derived from Szulanski's (1996) study. The measures of eloquent capacity comprise a range of questions reflecting the three skills described in Berlo's (1960) work. Knowledge independence and simplicity was measured using two items from Zander & Kogut's (1995) measure of system dependence and one item from Simonin's (1999) measure of complexity. Answers to these items were reverse-coded. 5 measures for transfer channel richness were adopted from Subramaniam & Venkatraman (2001). The value of knowledge stock is assessed using the number of employees working in the subsidiary (Gupta & Govindarajan, 2000). The measure was positively skewed, so that our final measure became the natural logarithm of the number of employees working in the Chinese subsidiary. Knowledge viscosity was adapted from Gupta & Govindarajan (2000). A study investigating the speed of knowledge transfers in an inter-organisational setting used the hazard rates of innovations to measure the speed of knowledge transfers (Zander & Kogut, 1995), a measure that was not applicable in our case. We therefore developed a scale that reflects the speed aspect, in which transfer velocity was assessed using the terms "quickly", "promptly" and "rapidly". In designing the scale, we followed Davenport & Prusak's (1998) elaborations on transfer velocity. Measures for the value of a knowledge transfer employed previously were considered (Kotabe *et al.*, 2003; Dhanaraj *et al.*, 2004) to design 5 items that assess the strategic/ financial benefits of knowledge transfers in the Sino-German sample. The dummy variable distinguishes service firms (0) and manufacturing firms (1).

## **DATA ANALYSIS**

### **Item reliability and correlations**

To identify whether or not the scales derived from the literature are reliable and independent, we initially ran one exploratory factor analysis for the 15 questionnaire items comprising absorptive capacity; another one for the 15 items comprising eloquent capacity; and one for the 15 items assessing transfer effectiveness. Several cross-loadings existed in the case of absorptive capacity. After exclusion of these items, 8 items, representing two unique factors were left (table 13). Factor one represents the ability to acquire and assimilate (PACAP) and factor two represents the ability to transform and exploit (RACAP). For eloquent capacity, only one item cross-loaded on two factors when exploring the factors of the construct. The 14 remaining items represent three factors, reflecting the three abilities identified in communication theory (table 14). An assessment of the three items of transfer effectiveness revealed that they are independent from each other, with 13 items loading almost uniquely on either transfer velocity, viscosity, or value

(table 15). Two items were deleted due to cross-loadings. Taken together, the exploratory factor analysis suggests that the data fits our theoretical model (tables 13 – 15).

	Component	
	Ability to acquire & assimilate	Ability to transform & exploit
<b>The members of our Chinese entity...</b>		
...have the necessary skills to <i>gather information</i> on the German organization's know-how	<b>.834</b>	.076
...have the skills necessary to <i>identify relevant know-how</i> of the German organization	<b>.774</b>	.220
... <i>understand</i> the state-of-the-art knowledge <i>practices</i> of the German organization	<b>.773</b>	.287
...have the necessary skills to <i>assimilate</i> the German organization's knowledge	<b>.752</b>	.093
... <i>have a vision</i> of what we are trying to achieve with the German organization's know-how	<b>.750</b>	.159
...know who can best <i>exploit</i> the newly acquired knowledge of the German organization	.196	<b>.872</b>
...know who can help to <i>solve problems</i> associated with newly acquired knowledge of the German organization	.108	<b>.834</b>
...periodically meet to discuss how to <i>incorporate</i> the German organization's know-how	.194	<b>.780</b>
Eigenvalues	3.816	1.527
Percentage of variance explained	47.70%	19.09%
Cumulative variance explained	47.70%	66.79%

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

Table 13: Rotated Component Matrix for Absorptive Capacity

	Component		
	Understanding the recipient	Understanding the own purposes and intentions	Ability to express
<b>The members of the German organization...</b>			
... <i>understand how we use their know-how in China</i>	<b>.847</b>	.182	.179
... <i>know our Chinese company's strengths and weaknesses</i>	<b>.800</b>	.207	.089
... <i>have suitable expectations of our ability to assimilate their know-how</i>	<b>.744</b>	.299	.218
... <i>know how we run our business in China</i>	<b>.711</b>	-.163	.380
... <i>have a good understanding of how we can best absorb their know-how</i>	<b>.671</b>	-.114	.332
... <i>have information on the state-of-the-art of their knowledge</i>	.014	<b>.889</b>	.123
... <i>have the necessary skills to identify the potential uses of their know-how</i>	.033	<b>.870</b>	.072
... <i>understand the benefits of their own know-how</i>	.091	<b>.823</b>	-.049
... <i>understand the conditions under which their know-how can be effectively used</i>	.245	<b>.769</b>	.294
... <i>have experience in articulating their knowledge</i>	.161	.180	<b>.780</b>
... <i>have all the skills necessary to express their know-how to us</i>	.175	.093	<b>.731</b>
... <i>duly array and time the transfers of know-how to members of our Chinese entity</i>	.265	-.054	<b>.701</b>
... <i>are able to express their knowledge in proper form</i>	.208	.083	<b>.698</b>
... <i>address the right recipient(s) at our Chinese entity when expressing know-how</i>	.131	.115	<b>.678</b>
Eigenvalues	5.170	2.617	1.456
Percentage of variance explained	36.93% <sup>o</sup>	18.69% <sup>o</sup>	10.40% <sup>o</sup>
Cumulative variance explained	36.93% <sup>o</sup>	55.62% <sup>o</sup>	66.02% <sup>o</sup>

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations.

Table 14: Rotated Component Matrix for Eloquent Capacity

	Component		
	Value	Viscosity	Velocity
As a result of the transfer of German know-how to China, our Chinese operations have become more <i>profitable</i>	<b>.846</b>	.161	-.018
As a result of the transfer of German know-how to China, our <i>turnover has increased</i>	<b>.819</b>	.118	.096
As a result of the transfer of German know-how to China, we <i>achieved planned goals/ objectives</i>	<b>.809</b>	.173	.164
As a result of the transfer of German know-how to China, our Chinese operations have become more <i>effective/ efficient</i>	<b>.796</b>	.207	-.076
As a result of the transfer of German know-how to China, we have become more <i>competitive</i>	<b>.792</b>	.300	-.022
We have learnt from the German organization a lot about <i>managerial techniques</i>	.172	<b>.826</b>	.007
We have learnt from the German organization a lot about <i>product/ service development</i>	.251	<b>.744</b>	.043
We have learnt from the German organization a lot about <i>new marketing expertise</i>	.045	<b>.710</b>	-.059
We have learnt from the German organization a lot about <i>manufacturing/ servicing processes</i>	.206	<b>.690</b>	-.008
We have learnt from the German organization a lot about <i>new technological expertise</i>	.216	<b>.647</b>	.178
The members of our Chinese entity <i>used applications</i> of the German organization's know-how <i>quickly</i>	.077	.002	<b>.900</b>
The members of our Chinese entity <i>promptly absorbed</i> the knowledge that was passed from the German organization into our entity	-.030	.176	<b>.824</b>
The members of our Chinese entity <i>rapidly understood</i> how we can use the German organization's know-how	.043	-.078	<b>.806</b>
Eigenvalues	4.669	2.178	1.742
Percentage of variance explained	35.91%	16.76%	13.40%
Cumulative variance explained	35.91%	52.67%	66.07%

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 4 iterations.

Table 15: Rotated Component Matrix for Transfer Effectiveness



To derive measurable items for each determinant, scales were created from all items representing unique factors, and from the two measures of transfer channels and knowledge characteristics. All scales have 3 to 5 items. In general, any Cronbach alpha value above .7 (for confirmatory research) or .6 (for exploratory research) is acceptable (Hair *et al.*, 2006). Only one scale shows a Cronbach alpha value below .7 (knowledge simplicity), with a value of .671. To check for normality in distribution, we assessed skewness and kurtosis levels. Levels of skewness and kurtosis were investigated and all results show acceptable values that are lower than 1.96 (Field, 2005). Table 16 gives an overview of all questionnaire items, the corresponding scales, their Cronbach alphas, means, and skewness and kurtosis levels. Initially, subsidiary size (knowledge stock) was positively skewed, which caused us to employ the natural logarithm of the initial measure.

Variable	Measure: 5 point Likert-scales ranging from strongly disagree to strongly agree	Cronbach's alpha	N	Mean	Skewness	Kurtosis
Effectiveness: Velocity	3 items: The members of our Chinese entity... ... promptly absorbed the knowledge that was passed from the German organization into our entity ... rapidly understood how we can use the German organization's know-how ... used applications of the German organization's know-how quickly	.810	139	9.9	-.358	-.515
Effectiveness: Viscosity	5 items: We have learnt from the German organization a lot about... ... new technological expertise ... new marketing expertise ... product/service development ... managerial techniques ... manufacturing/servicing processes	.803	136	17.1	-.450	.326
Effectiveness: Value	5 items: As a result of the transfer of German know-how to China... ... our turnover has increased ... we have become more competitive ... we achieved planned goals/objectives ... our Chinese operations have become more profitable ... our Chinese operations have become more effective/efficient	.894	139	18.6	-.823	1.584
Potential absorptive capacity: Ability to acquire and assimilate knowledge	5 items: The members of our Chinese entity... ... have the necessary skills to gather information on the German organization's know-how ... have the skills necessary to identify relevant know-how of the German organization ... understand the state-of-the-art knowledge practices of the German organization ... have the necessary skills to assimilate the German organization's knowledge ... have a vision of what we are trying to achieve with the German organization's know-how	.816	138	17.7	-.553	.284
Realized absorptive capacity: Ability to transform and exploit knowledge	3 items: The members of our Chinese entity... ... know who can best exploit the newly acquired knowledge of the German organization ... know who can help to solve problems associated with newly acquired knowledge of the German organization ... periodically meet to discuss how to incorporate the German organization's know-how	.809	139	9.5	-.520	-.057
Eloquent capacity: Understanding the own purposes and intentions	4 items: The members of the German organization... ... understand the benefits of their own know-how ... have information on the state-of-the-art of their knowledge ... have the necessary skills to identify the potential uses of their know-how ... understand the conditions under which their know how can be effectively used	.875	137	14.8	-.923	1.022

Eloquent capacity: Understanding the recipient	5 items: The members of the German organization... ...know our Chinese company's strengths and weaknesses ...understand how we use their know-how in China ...have suitable expectations of our ability to assimilate their know-how ...have a good understanding of how we can best absorb their know-how ...know how we run our business in China	.858	138	15.3	-.322	-.436
Eloquent capacity: Ability to express knowledge	5 items: The members of the German organization... ...are able to express their knowledge in proper form ...duly array and time the transfers of know-how to members of our Chinese entity ...address the right recipient(s) at our Chinese entity when expressing know-how ...have experience in articulating their knowledge ...have all the skills necessary to express their know-how to us	.808	139	16.5	-.395	.584
Knowledge stock	Natural logarithm of the number of employees in the Chinese subsidiary	n.a.	137	10.6	.738	.319
Knowledge simplicity (& independence), <i>reverse scored</i>	3 items: The know-how of the German organization ... ...can only be absorbed by those of our employees that have long experience in cooperating with the organization ...is spread over multiple units of our Chinese entity ...is the product of many interdependent techniques, routines, individuals and resources	.671	138	10.5	-.451	1.009
Transfer channel richness	5 items: Employees of our Chinese entity and the German organization frequently ... ...contact each other to exchange ideas on work-related projects ...exchange e-mails or faxes ...exchange ideas on the phone or in joint telephone conferences ...meet in person for work-related projects ...contact each other to exchange ideas on non work-related issues	.810	138	16.1	-.300	-.337
Dummy industry	Primary business activity being service provision (0) or manufacturing (1)	n.a.	138	.63	-.546	-1.727

Table 16: Scales employed and their reliability

We assessed the relationship between all scales by means of a correlation analysis shown in table 17. As expected, transfer viscosity is positively related to transfer value ( $p < .01$ ) and all independent variables (including three of the control variables) show several correlations with the dependent variables. Within the independent variables, several interesting correlations can be observed as well. The first logical observation is that the source's ability to express knowledge correlates with both potential absorptive capacity ( $p < .01$ ) and realized absorptive capacity ( $p < .01$ ), indicating that better knowledge expression facilitates knowledge absorption and exploitation for the recipient (as found in Klijn, 2006). Similarly, the source's understanding of the recipient is related to the recipient's realised absorptive capacity ( $p < .01$ ). The source's understanding of own purposes and intentions is related to the industry dummy ( $p < .01$ ). This indicates that due to the more tangible nature of their business and products, manufacturing firms have better understanding of their own knowledge bases than service firms. The recipient's potential absorptive capacity correlates with its knowledge stock ( $p < .01$ ), demonstrating that larger knowledge bases improve the ability to learn (Lane *et al.*, 2001). Furthermore, the dummy variable (manufacturing vs. service firms) correlates with the measure of knowledge stock ( $p < .01$ ), which could be interpreted as manufacturing firms having larger knowledge bases, but should rather be interpreted as manufacturing firms having established larger subsidiaries than service firms.<sup>98</sup> Transfer channels correlate with 4 out of 5 measures of transfer capacities, indicating that communication frequency between organisational units increases with better transfer capacities. To detect possible issues of multicollinearity, additional tests were performed. According to Hair *et al.* (2006), problems with multicollinearity can arise whenever correlations show values higher than .55. No single correlation between any of the independent variables shows this level. Since the discussion about the threshold or cut-off point indicating multicollinearity is ongoing, we entered the independent variable with the highest correlation with another variable (RECAP, variable 12) into a new regression model and assessed the level of multicollinearity via an analysis of tolerance and variance inflation factor (VIF) values (Hair *et al.*, 2006) for all other independent variables (3-11) shown in table 17. Tolerance values lower than .1 and VIF values higher than 10 should be further inspected (Hair *et al.*, 2006). Tolerance values ranged from a minimum 0.71977 to a maximum 0.918684, with an average of 0.799082. VIF values ranged from a minimum 1.088513 to a maximum 1.389332, with an average of 1.260571. Neither measure showed any item close to the critical values. Despite this test showing that the levels of collinearity are acceptable and the exploratory factor analysis showing unique loadings for each scale, problems of collinearity (or even multicollinearity) between absorptive capacity, eloquent

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<sup>98</sup> Chapter 11 will discuss the nature and the limitation of this variable in more detail.

capacity and the control variables can arise. To address this potential issue, we enter these variables stepwise (Hair *et al.*, 2006), so that effects of one independent variable on another can be detected.

It is deemed important to maintain all items in the regression analysis, because it is the goal of this research to simultaneously assess the source's and the recipient's capacities and how they influence transfer effectiveness. The literature on communication theory (Berlo, 1960) clearly suggests that the source, the recipient, the channel and the message (knowledge characteristics) are "intertwined" (p. 69). While this explains the correlation of several of the items we measured, none of the items should be excluded, "or the whole structure collapses" (p. 69). Indeed, excluding any variable can "seriously bias the results" (Hair *et al.*, 2006: 194).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Velocity	1											
(2) Viscosity	.083	1										
(3) Value	.090	.449(**)	1									
(4) Knowledge stock (I.N)	.215(*)	.232(**)	.164	1								
(5) Simplicity	.083	.324(**)	.238(**)	.167	1							
(6) Channels	.160	.305(**)	.312(**)	.069	.145	1						
(7) Dummy variable (industry)	.077	.006	.125	.255(**)	.115	.001	1					
(8) Recipient's ability to acquire and assimilate (PACAP)	.516(**)	.107	.108	.255(**)	-.038	.197(*)	-.013	1				
(9) Recipient's ability to transform and exploit (RACAP)	.361(**)	.259(**)	.246(**)	.027	-.058	.352(**)	-.111	.398(**)	1			
(10) Source's ability to understand own purposes and intentions (PECAP)	-.008	.309(**)	.330(**)	.140	.145	.162	.276(**)	.102	.037	1		
(11) Source's ability to understand the recipient (PECAP)	.050	.411(**)	.370(**)	.011	.054	.466(**)	.001	.144	.329(**)	.249(**)	1	
(12) Source's ability to express (RECAP)	.165	.431(**)	.260(**)	-.014	.061	.296(**)	-.046	.235(**)	.443(**)	.273(**)	.535(**)	1

\* p < .05; \*\* p < .01; \*\*\* p < .001

Table 17: Correlation matrix

## Findings

Tables 18-20 show the results of our analyses. Table 18 assesses transfer velocity. The control variables were entered into model 1 to show that the speed of knowledge transfers is positively influenced by the recipient unit's knowledge stock ( $p < .05$ ) and by transfer channel richness ( $p < .1$ ). Absorptive capacity is introduced in model 2. Both PACAP and RACAP influence transfer velocity (significant at the .001 and .05 level, respectively). The positive effect of transfer channel richness and knowledge stock become insignificant, while the overall model has much better explanatory power (adjusted  $R^2$  of .295 in model 2 as compared to .035 in model 1). Hence, the ability of the recipient explains knowledge transfer velocity better than the level of knowledge stock and richness of communication channels do. In the final model, eloquent capacity is introduced. Contrary to our expectations in hypotheses 3a and 4a, neither PECAP nor RECAP influence knowledge transfer velocity and the explanatory power of the model remains largely unchanged. At the same time, we see that transfer velocity is still influenced by PACAP and RACAP (significant at the .001 and .1 level, respectively). Hence, hypotheses 1a and 2a are largely supported.

Table 19 shows the impact of the two capacities on transfer viscosity. The control variables in model 1 show that the amount of knowledge transfer depends on the existing knowledge stock ( $p < .01$ ), rich transfer channels ( $p < .001$ ), and knowledge simplicity ( $p < .01$ ). When absorptive capacity is introduced in model 2, only realized absorptive capacity shows a significant impact on transfer viscosity ( $p < 0.05$ ). All control variables remain unchanged. The final model extends model 2 by eloquent capacity. In accordance with hypotheses 3b and 4b, transfer viscosity is positively influenced by the source unit's understanding of its own purposes and intentions ( $p < .1$ ), its understanding of the recipient ( $p < 0.5$ ), and its ability to express knowledge ( $p < 0.5$ ). The previously positive effect of the recipient unit's ability to apply knowledge becomes insignificant, which is due to the moderate correlation between RACAP and the measures of eloquent capacity. At the same time, the adjusted  $R^2$  improves by more than 50%, indicating a much better model fit once eloquent capacity is introduced. As observed for transfer velocity, the formerly positive effect of rich communication channels becomes insignificant in the final model, too. PACAP does not show any significant effect on transfer viscosity, rejecting hypothesis 1b. PECAP and RECAP show significant correlations in the predicted directions, approving hypotheses 3b and 4b.

Table 20 shows the results for transfer value. Model 1 shows that the value of knowledge transfers is determined by transfer channel richness ( $p < .001$ ) and knowledge simplicity ( $p < 0.05$ ). Introducing absorptive capacity in model 2 leads to a slightly improved model fit, and as predicted in hypothesis 2b, RACAP has a significant impact on transfer value. PACAP remains insignificant. The model fit is significantly improved in model 3 when eloquent capacity is introduced. Significant effects on transfer value are found for PECAP, i.e. the understanding of own purposes and intentions ( $p < 0.1$ ) and the understanding of the recipient ( $p < 0.5$ ). RECAP does not have any significant impact on transfer value. Again, as for velocity and viscosity, the effect of transfer channels on transfer value becomes insignificant once all transfer capacities (absorptive and eloquent capacity) are introduced. The final model shows that transfer viscosity positively influences transfer value (approving hypotheses 5a) but transfer velocity does not (rejecting hypothesis 5b). The positive effects of potential eloquent and realized absorptive capacity remain unchanged. A summary of all of our predictions and findings is shown in table 21.



Hypotheses	Model 1		Model 2		Model 3	
	Beta	t	Beta	t	Beta	t
<b>ELOQUENT CAPACITY</b>						
Ability to understand own purposes and intentions (PECAP)						
Ability to understand the recipient (PECAP)						
Ability to express knowledge (RECAP)						
<b>ABSORPTIVE CAPACITY</b>						
Ability to acquire and assimilate (PACAP)						
Ability to transform and exploit (RACAP)						
<b>CONTROLS</b>						
Knowledge stock (LN)	.186*	2.099				
Knowledge simplicity	.021	.239				
Transfer channel richness	.143+	1.664				
Dummy variable (industry)	.021	.237				
R2	.064		.316		.333	
Adjusted	.035		.284		.283	
Δ Adjusted			.249		-.001	
F-value	2.217+		9.873***		6.758***	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 18: The determinants of transfer velocity

	Hypotheses	Model 1		Model 2		Model 3	
		Beta	t	Beta	t	Beta	t
<b>ELOQUENT CAPACITY</b>							
	Ability to understand own purposes and intentions (PECAP)					.137+	1.684
	Ability to understand the recipient (PECAP)					.201*	2.150
	Ability to express knowledge (RECAP)					.221*	2.402
<b>ABSORPTIVE CAPACITY</b>							
	Ability to acquire and assimilate (PACAP)			-.036	-.407	-.076	-.908
	Ability to transform and exploit (RACAP)			.192*	2.106	.069	.772
<b>CONTROLS</b>							
	Knowledge stock (LN)	.187*	2.275	.188*	2.228	.216**	2.730
	Knowledge simplicity	.273***	3.368	.288***	3.560	.249***	3.292
	Transfer channel richness	.255**	3.196	.191*	2.255	.069	.819
	Dummy variable (industry)	-.076	-.931	-.056	-.683	-.088	-1.120
	R2	.211		.239		.375	
	Adjusted	.187		.203		.328	
	Δ Adjusted			.016		.125	
	F-value	8.512***		6.556***		7.933***	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 19: The determinants of transfer viscosity

	Hypotheses	Model 1		Model 2		Model 3		Model 4	
		Beta	t	Beta	t	Beta	t	Beta	t
<b>KNOWLEDGE TRANSFER</b>									
Viscosity	H15a(+)							.263**	2.712
Velocity	H15b(+)							.025	.273
<b>ELOQUENT CAPACITY</b>									
Ability to understand own purposes and intentions (PECAP)	H3c(+)					.205*	2.383	.149+	1.716
Ability to understand the recipient (PECAP)	H3c''(+)					.244*	2.451	.211*	2.090
Ability to express knowledge (RECAP)	H4c(+)					-.054	-5.49	-.112	-1.123
<b>ABSORPTIVE CAPACITY</b>									
Ability to acquire and assimilate (PACAP)	None (0)			-.055	-606	-.073	-830	-.072	-.740
Ability to transform and exploit (RACAP)	H2b(+)			.219*	2.372	.186+	1.953	.162+	1.670
<b>CONTROLS</b>									
Knowledge stock (LN)		.097	1.144	.103	1.189	.107	1.265	.066	.758
Knowledge simplicity		.184*	2.211	.201*	2.429	.175*	2.166	.094	1.121
Transfer channel richness		.268***	3.280	.200*	2.307	.086	.948	.061	.677
Dummy variable (industry)		.070	.841	.095	1.141	.045	.542	.076	.909
R2		.151		.187		.273		.314	
Adjusted		.125		.149		.219		.250	
Δ Adjusted				.024		.070		.031	
F-value		5.785***		4.916***		5.086***		4.877***	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 20: The determinants of transfer value

		Prediction	Finding
H1(a)	PACAP → Velocity	(+)	(+)
H1(b)	PACAP → Viscosity	(+)	(0)
H2(a)	RACAP → Velocity	(+)	(+)
H2(b)	RACAP → Value	(+)	(+)
H3(a)	PECAP (Understand own purposes & intentions; recipient) → Velocity	(+; +)	(0; 0)
H3(b)	PECAP (Understand own purposes & intentions; recipient) → Viscosity	(+; +)	(+; +)
H3(c)	PECAP (Understand own purposes & intentions; recipient) → Value	(+; +)	(+; +)
H4(a)	RECAP → Velocity	(+)	(0)
H4(b)	RECAP → Viscosity	(+)	(+)
H4(c)	RECAP → Value	(+)	(0)
H5(a)	Viscosity → Value	(+)	(+)
H5(b)	Velocity → Value	(+)	(0)

Table 21: Overview of results on transfer capacities

## DISCUSSION

In this chapter, we set out to explore the importance of an organisational capacity to effectively express knowledge. More specifically, we tested the degree to which such a capacity influences knowledge transfer velocity, viscosity and value while controlling for other essential determinants of transfer effectiveness that have dominated the literature. By introducing the concept of eloquent capacity into the established frameworks, and by simultaneously investigating three different measures of effectiveness, this chapter followed a more comprehensive approach than previous studies in the field. Our empirical findings largely support the theory of eloquent capacity and provide important insight on the role different capacities play in an effective knowledge transfer process, advancing the existing body of literature in multiple ways.

Unlike most previous studies, this chapter tested the effect of absorptive capacity (and eloquent capacity) on transfer velocity. We found that transfer velocity is indeed triggered by the recipient's potential and realized absorptive capacity. This confirms that organisations with better absorptive capacity learn more quickly (Zahra & George, 2002). However, the eloquent capacity of the source unit did not influence transfer velocity significantly. We do not believe that the source-unit's capacity to express knowledge is entirely irrelevant to learning pace (transfer velocity), but interpret the findings as showing

that the source has few opportunities to influence how quickly the recipient learns. It seems that the cognitive challenges imposed on the recipient unit in high velocity environments effectively have to be managed by the recipient itself. The source/teacher can assist the recipient/student in its learning pace by providing the most adequate information in a timely manner, but this effect cannot be detected as significant in the regression analysis. As such, we conclude that the recipient unit most strongly influences transfer velocity. Future research should provide more insight on this phenomenon, and in particular on this and other substitution-effects of the two transfer capacities.

Our findings show that transfer viscosity on the other hand is determined by the source's eloquent capacity, implying that organisations with better eloquent capacity can manage larger knowledge flows than those without. This opens up the knowledge transfer field for an entire new research effort into the impact of organisational teaching skills on transfer effectiveness.<sup>99</sup> Another finding that provides new insight for the field is that absorptive capacity influences transfer viscosity (as also found in Gupta & Govindarajan, 2000; Lane & Lubatkin, 1998 for example), but only until eloquent capacity is introduced in the model. Again, this does not imply that absorptive capacity is entirely irrelevant for transfer viscosity, but that eloquent capacity is a better predictor of transfer viscosity than the established concept of absorptive capacity. Empirical tests in other research settings can shed additional light on this proposition in the future.

The value created by knowledge transfers is determined by the potential eloquent capacity of the source and the realized absorptive capacity of the recipient. This implies that lasting value creation from knowledge exploitation is a matter of an effective interaction between both the knowledge source and the recipient. While until date the research evidence largely suggests to organisations to maximise their absorptive capacity to effectively manage knowledge flows, we have shown that the most effective knowledge transferring organisations show high levels of absorptive capacity *and* eloquent capacity. Most value is created from knowledge transfers when the recipient has adequate skills to implement the knowledge (Zahra & George, 2002) *and* the source has adequate understanding of both itself and the recipient. Future research on organisational learning and knowledge transfer needs to include the notion that eloquent and absorptive capacities jointly determine transfer value.

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<sup>99</sup> Detailed directions for future research into eloquent capacity can be found in chapter 11.

Overall, empirical research on absorptive capacity has become one of the most widely accepted concepts in knowledge transfer research and needs to be complemented by research into eloquent capacity. Research in other areas supports the notion that the quality of the teacher heavily impacts the learning outcome (McKinseyQuarterly, 2007). In knowledge transfer research, this lack of acknowledgement of the ‘teaching organisation’ has led to a focus on the ‘learning organisation’ which, according to communication theory, is an insufficient and invalid simplification.

The main objective of the chapter was to explore the role of eloquent capacity; however, we have made further findings that need to be mirrored against established research outcomes. The interaction between the measures of effectiveness shows that more value is created from knowledge transfers when larger amounts of knowledge are transferred (as also found in Collins & Smith, 2006 and Dhanaraj *et al.*, 2004). However, the speed at which knowledge is transferred does not influence how much value is generated from the transfers, which contradicts some of the assumptions in the literature (Lilien & Yoon, 1990; Porter, 1985). We propose that the explanation for this finding can be found in the research setting. Transfer velocity does not lead to transfer value in China because the benefits of quick transfers are offset by the accompanying high employee turnover rates. It was shown that the pace of learning (transfer velocity) solely depends on the talent employed in the Chinese subsidiary (absorptive capacity).<sup>100</sup> In this respect, China’s “looming talent shortage” (McKinseyQuarterly, 2005) has caused turnover rates to become much higher in China than in Europe, with some research indicating employee turnover rates having grown to two-digit levels (Hewitt, 2008).<sup>101</sup> This competition leads to the loss of the most talented employees, who, via their absorptive capacity, determine transfer velocity. In other words, particularly in environments where knowledge is quickly learned (those with high absorptive capacity), knowledge is often lost shortly after it was acquired when highly talented (and highly sought-after) employees leave the organisation. As such, the subsidiary’s talent (represented by absorptive capacity) improves transfer velocity, but (due to unintended employee turnover) early transfers do not translate into value creation because knowledge-possessing employees leave the organisation before the benefits of early knowledge transfers can be reaped. Another explanation supports the proposition that high employee turnover rates offset the benefits of high transfer velocity. High

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<sup>100</sup> As can be seen from table 18, after absorptive capacity is introduced in the model, all previously significant results (knowledge stock, transfer channel richness) become insignificant, leaving absorptive capacity as the only significant influence of transfer velocity.

<sup>101</sup> Some of our interview partners from the previous chapter even indicated that in their subsidiaries, yearly turnover rates can reach up to 30%.

velocity environments are more demanding than low velocity environments, because more knowledge needs to be absorbed in a shorter time. Therefore, everything else being equal, high velocity environments must be assumed to be more volatile to unintended employee turnover than low velocity environments. Both explanations go along well with the findings that transfer viscosity does lead to transfer value, because transfer viscosity is determined by the talent employed in the German headquarters (eloquent capacity)<sup>102</sup>, which exhibits much better employee-turnover rates. In the Chinese-German setting, transfer value is not determined by transfer velocity, because velocity is mainly determined by the Chinese talent, which, given the high employee-turnover rates, is not a sustainable resource for value creation.

## CONCLUSION

We derived from communication theory the notion that the absorptive capacity of the recipient unit and the eloquent capacity of the source unit jointly determine the effectiveness of intra-organisational knowledge transfers. The results show that absorptive capacity is a significant determinant for the speed at which knowledge is dispersed through the intra-organisational networks of multinational enterprises. Eloquent capacity on the other hand determines how much knowledge is transferred. Together, they determine how much value knowledge transfers create. To fully understand knowledge transfer effectiveness, future research should extend the discussion on absorptive capacity to that on eloquent capacity. Since transfer velocity, viscosity and value have unique determinants, future research should also use multiple measures of transfer effectiveness to detect other unique contributions of the determinants under investigation.

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<sup>102</sup> See table 19.

# Chapter 8: Quantitative findings on self-efficacy

*The impact of self-efficacy on transfer effectiveness*

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## **ABSTRACT**

In this chapter, we extend the discussion on transfer capacities to that of organisational self-efficacy. Organisational self-efficacy is predicted to enhance knowledge transfer effectiveness because it reduces the fears the source and recipient might encounter when facing a transfer situation and it makes them more active participants in the knowledge transfer process. The previous test of transfer capacities is re-performed to include the additional influence of organisational self-efficacy. Findings do not support that self-efficacy is a determinant of transfer effectiveness; for all measures of transfer effectiveness, the findings on self-efficacy are insignificant and the overall explanatory power of the regression models remains unchanged after self-efficacy is introduced. Two explanations for the findings are offered.



## INTRODUCTION

The self-confidence of an actor (be it the source or the recipient) involved in the knowledge transfer process supports an effective exchange of information and know-how. Here, a positive attitude toward self reduces stage-fright and causes the actor to trust in his or her own abilities (Berlo, 1960). In the organisational context, Bandura (1982) described a similar concept labelled self-efficacy, which is concerned with one's own judgment of one's own ability. Collective self-efficacy, or organisational self-efficacy, describes the same phenomenon for a group or organisation. The higher the organisation's trust in its ability to perform a certain action, the higher its organisational self-efficacy. It was argued that self-efficacy has "wide explanatory power" (Bandura, 1982: 122). Bandura further points out that

"perceived self-efficacy helps to account for such diverse phenomena as changes in coping behaviour produced by different modes of influence, level of physiological stress reactions, self-regulation of refractory behaviour, resignation and despondency to failure experiences, self-debilitating effects of proxy control and illusory inefficaciousness, achievement strivings, growth of intrinsic interest, and career pursuits" (p. 122).

The explanatory power of self-efficacy on knowledge transfer effectiveness remains largely unexplored. The objective of this chapter is to close the research gap in respect to organisational self-efficacy by simultaneously investigating self-efficacy and all other factors investigated in the previous chapter. We first summarise the scope of the framework that we have investigated and tested so far (chapter 7) and introduce the additional assumptions about organisational self-efficacy in the knowledge transfer context that were previously built using communication theory (chapters 3 & 4). The second part shows the results of the statistical tests. Opposed to our assumptions, the research findings indicate that self-efficacy is not directly related to transfer effectiveness; it does not show any impact on transfer velocity, viscosity, or value, and does not provide any additional explanatory power compared to the model built in chapter 7. We discuss possible explanations for the findings that will be picked up in further analyses of the concept of organisational self-efficacy in the data triangulation (chapter 10).

## **THEORETICAL BACKGROUND**

### **Previously established determinants**

Several determinants of knowledge transfer effectiveness were analysed in chapter 7. We take this existing model as the foundation for the analyses in this chapter. In building on the findings of previous studies, it was argued in chapter 7 that transfer effectiveness can be explained by the source's and the recipient's transfer capacities, the recipient's knowledge stock, knowledge simplicity, transfer channel richness and a dummy variable controlling for industry affiliation. The findings indicated that transfer velocity (how quickly knowledge is transferred) is determined by the recipient's ability to acquire and assimilate knowledge (potential absorptive capacity, PACAP), and by its ability to transform and exploit knowledge (realised absorptive capacity, RACAP). Transfer viscosity (how much knowledge is transferred) is determined by the source's understanding of own purposes and intentions and its understanding of the recipient (called potential eloquent capacity, PECAP), and its ability to express knowledge (called realised eloquent capacity, RECAP). It is also determined by the recipient's knowledge stock and by knowledge simplicity. Transfer value (how much value is created from knowledge transfers) is determined by the source's PECAP, the recipient's RACAP, and by transfer viscosity.

### **Self-efficacy**

In accordance with the notions found in communication theory and in Bandura's (1982) work, the source's and the recipient's level of self-efficacy are predicted to cause quicker transfers, richer transfers, and more valuable transfers. For a detailed overview of the discussion and the research hypotheses see chapter 4.

## **METHODOLOGY**

### **Sample and data collection**

For information on sample and data collection please see chapter 5.

### **Measures**

The sample, data collection, and unit of analysis were extensively described in chapter 5. Chapters 5 and 7 explained how most variables in this investigation were measured. The measures for organisational self-efficacy which are introduced in the present chapter were derived from the elaborations in Berlo's (1960) work. 5 items in the questionnaire sent to

the managers of German subsidiaries with German parents in China measured the source's self-efficacy. 5 items measured the recipient's self-efficacy as shown in table 22.

Variable	Measure: 5 point Likert-scales ranging from strongly disagree to strongly agree	Cronbach's alpha	N	Mean	Skewness	Kurtosis
Recipient's self-efficacy	5 items: The members of our Chinese entity... ...believe in their own ability to handle increased responsibility ...believe that they have the right skills to cooperate with the German organization's members ...believe that their work can contribute to our overall business success ...believe they have the expertise to improve our business performance ...have low self-confidence	.768	138	19.75	-.608	.226
Source's self-efficacy	5 items: The members of the German organization... ...believe in their own ability to handle increased responsibility ...believe that they have the right skills to deal with our Chinese entity's members ...believe they can make a contribution to the organization's success ...believe they have state-of-the-art industry know-how ...have low self-confidence	.802	135	19.55	-.577	.557

Table 22: Measures of organisational self-efficacy

## DATA ANALYSIS

### Items and correlations

To investigate the impact of self-efficacy on transfer effectiveness, scales were created from the five items. Table 22 shows the scales, their measurements and the corresponding Cronbach alpha values. Table 23 shows the correlations between all scales employed in the analyses. The three dependent variables (1-3) and the first nine independent variables (4-12) are the same as in chapter 6. The two additional independent variables (13 and 14) represent the source's self-efficacy and the recipient's self-efficacy. Their normality (skewness and kurtosis levels) was tested for (table 22) with values being acceptable (Field, 2005). Despite the correlation matrix (table 23) does not show any correlation between any independent variable higher than .55, we formally retested for problems with multicollinearity (as in chapter 7). Tolerance values lower than .1 and VIF values higher than 10 should be further inspected (Hair *et al.*, 2006). Tolerance values ranged from a minimum 0.584952 to a maximum 0.897023, with an average of 0.717381. VIF values ranged from a minimum 1.114799 to a maximum 1.709541, with an average of 1.416778. As such, all values are acceptable. It is interesting to observe that the source's self-efficacy shows correlation with the recipient's self-efficacy ( $p < .01$ ). This indicates that organisational self-efficacy is rather homogenous across organisational units, which could be related to recruiting policies, organisational culture, or a mixture of both. To ensure that the two measures of self-efficacy are independent, we performed an exploratory factor analysis which revealed two independent factors that reflect the scales shown in table 22. As expected, both measures of self-efficacy show several correlations with transfer effectiveness, but also with transfer channels and transfer capacities. This indicates that organisational self-efficacy might have multiple effects on the transfer process, and not only on transfer effectiveness. Again, we entered all independent variables as dependent variables in new regression models. All VIF and tolerance were acceptable (Hair *et al.*, 2006). Since any level of correlation can influence the results (Hair *et al.*, 2006), we use a stepwise integration by comparing a model including self-efficacy with a model not including self-efficacy.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Velocity	1													
(2) Viscosity	.083	1												
(3) Value	.090	.449(**)	1											
(4) Knowledge stock (I.N)	.215(+)	.232(**)	.164	1										
(5) Simplicity	.083	.324(**)	.238(**)	.167	1									
(6) Channels	.160	.305(**)	.312(**)	.069	.145	1								
(7) Dummy variable (industry)	.077	.006	.125	.255(**)	.115	.001	1							
(8) Recipient's ability to acquire and assimilate (P.A.C.A.P)	.516(**)	.107	.108	.255(**)	-.038	.197(+)	-.013	1						
(9) Recipient's ability to transform and exploit (R.A.C.A.P)	.361(**)	.259(**)	.246(**)	.027	-.058	.352(**)	-.111	.398(**)	1					
(10) Source's ability to understand own purposes and intentions (P.E.C.A.P)	-.008	.309(**)	.330(**)	.140	.145	.162	.276(**)	.102	.037	1				
(11) Source's ability to understand the recipient (P.I.C.A.P)	.050	.411(**)	.370(**)	.011	.054	.466(**)	.001	.144	.329(**)	.249(**)	1			
(12) Source's ability to express (R.E.C.A.P)	.165	.431(**)	.260(**)	-.014	.061	.296(**)	-.046	.235(**)	.443(**)	.273(**)	.535(**)	1		
(13) Source's self-efficacy	.003	.332(**)	.161	.002	.153	.172(+)	-.041	.222(**)	.059	.484(**)	.192(+)	.372(**)	1	
(14) Recipient's self-efficacy	.281(**)	.179(+)	.186(+)	.159	.012	.292(**)	.002	.397(**)	.289(**)	.175(+)	.043	.251(**)	.408(**)	1

\* p < .05; \*\* p < .01; \*\*\* p < .001

Table 23: Correlation matrix

## Findings

Tables 24-26 show the results of the regression analyses. Table 24 shows the findings on transfer velocity. As can be seen from the table, introducing self-efficacy in model 2 does not improve overall model fit as compared to model 1. Both the source's and the recipient's self-efficacy are insignificant, leading to a rejection of hypotheses 6a and 7a. In addition, we find that RACAP is no longer significant. Due to collinearity, the newly entered insignificant variables take away some of the explanatory power of RACAP. This 'replacement effect' was also observed in chapter 6, but each time an effect became insignificant because of another, a better effect could be found that provided better explanatory power. This is not the case for the measures of self-efficacy.

A similar picture can be obtained from the analyses on transfer viscosity (table 25). The model fit improves only insignificantly after self-efficacy is introduced, but none of the two measures of self-efficacy are significant, rejecting hypotheses 6b and 7b. Once more, a previously significant effect (understanding of own purposes and intentions) becomes insignificant but is not replaced by another significant effect.

Table 26 shows the results on transfer value. The results are no different from the prior two analyses. Firstly, the overall model fit is not improved when self-efficacy is introduced. Secondly, the effect of RACAP on transfer value becomes insignificant, but is not replaced by any significant effect because both measures of self-efficacy remain insignificant. We also have to reject hypotheses 6c and 7c.

It was derived from communication theory that the self-efficacy of the source and the recipient unit have positive impacts on transfer effectiveness. The empirical analyses do not support this notion. Self-efficacy shows no significant correlations with transfer effectiveness. The explanatory power of self-efficacy for transfer effectiveness is zero, since no significant impact could be detected and the overall model fit was not improved. Several measures of transfer capacities became insignificant after the (insignificant) variables of self-efficacy are introduced, but are not replaced by more significant relationships. This is an unwanted effect of collinearity. The fact that the source's self-efficacy is almost significantly (negatively) correlated to transfer velocity and transfer value despite the fact that the correlation matrix shows no correlation between the two scales further indicates that multicollinearity is present in the model (c.f. Hair *et al.*, 2006: 228).

	Hypotheses	Model 1 (without self-efficacy)		Model 2 (including self-efficacy)	
		Beta	t	Beta	t
<b>SELF-EFFICACY</b>					
	Source's self-efficacy			-.166	-1.648
	Recipient's self-efficacy			.096	1.035
<b>ELOQUENT CAPACITY</b>					
	Ability to understand own purposes and intentions (PECAP)	-.085	-1.029	-.024	-.260
	Ability to understand the recipient (PECAP)	-.114	-1.195	-.094	-.933
	Ability to express knowledge (RECAP)	.060	.641	.082	.817
<b>ABSORPTIVE CAPACITY</b>					
	Ability to acquire and assimilate (PACAP)	.450***	5.311	.461***	5.072
	Ability to transform and exploit (RACAP)	.175+	1.916	.130	1.361
<b>CONTROLS</b>					
	Knowledge stock (LN)	.056	.696	.024	.287
	Knowledge simplicity	.088	1.145	.107	1.353
	Transfer channel richness	.048	.557	.043	.475
	Dummy variable (industry)	.099	1.233	.075	.910
	R2	.333		.341	
	Adjusted	.283		.279	
	Δ Adjusted			-.004	
	F-value	6.758***		5.503***	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 24: The determinants of transfer velocity



	Hypotheses	Model 1 (without self-efficacy)		Model 2 (including self-efficacy)	
		Beta	t	Beta	t
<b>SELF-EFFICACY</b>					
Source's self-efficacy	H16b (+)			.159	1.646
Recipient's self-efficacy	H17b (+)			.000	-.005
<b>ELOQUENT CAPACITY</b>					
Ability to understand own purposes and intentions (PECAP)		.137 <sup>+</sup>	1.684	.067	.744
Ability to understand the recipient (PECAP)		.201 <sup>*</sup>	2.150	.205 <sup>+</sup>	2.094
Ability to express knowledge (RECAP)		.221 <sup>*</sup>	2.402	.185 <sup>+</sup>	1.900
<b>ABSORPTIVE CAPACITY</b>					
Ability to acquire and assimilate (PACAP)		-.076	-.908	-.108	-1.225
Ability to transform and exploit (RACAP)		.069	.772	.109	1.168
<b>CONTROLS</b>					
Knowledge stock (LN)		.216 <sup>**</sup>	2.730	.241 <sup>***</sup>	2.993
Knowledge simplicity		.249 <sup>***</sup>	3.292	.237 <sup>***</sup>	3.097
Transfer channel richness		.069	.819	.052	.584
Dummy variable (industry)		-.088	-1.120	-.058	-.734
R2		.375		.394	
Adjusted		.328		.336	
Δ Adjusted				.008	
F-value		7.933 <sup>***</sup>		6.749 <sup>***</sup>	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 25: The determinants of transfer viscosity

	Hypotheses	Model 1 (without self-efficacy)		Model 2 (including self-efficacy)	
		Beta	t	Beta	t
<b>SELF-EFFICACY</b>					
Source's self-efficacy	H6c (+)			-.112	-1.064
Recipient's self-efficacy	H7c (+)			.113	1.164
<b>KNOWLEDGE TRANSFER</b>					
Viscosity		.263**	2.712	.275**	2.758
Velocity		.025	.273	.002	.023
<b>ELOQUENT CAPACITY</b>					
Ability to understand own purposes and intentions (PECAP)		.149+	1.716	.179+	1.864
Ability to understand the recipient (PECAP)		.211*	2.090	.224+	2.104
Ability to express knowledge (RECAP)		-.112	-1.123	-.094	-.894
<b>ABSORPTIVE CAPACITY</b>					
Ability to acquire and assimilate (PACAP)		-.072	-.740	-.071	-.682
Ability to transform and exploit (RACAP)		.162+	1.670	.135	1.343
<b>CONTROLS</b>					
Knowledge stock (LN)		.066	.758	.046	.517
Knowledge simplicity		.094	1.121	.105	1.223
Communication channels		.061	.677	.041	.433
Dummy variable (industry)		.076	.909	.069	.808
R2		.314		.325	
Adjusted		.250		.247	
Δ Adjusted				-.003	
F-value		4.877***		4.148***	

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

Table 26: The determinants of transfer value

## DISCUSSION

The objective of this chapter was to test the importance of organisational self-efficacy for an effective knowledge transfer process. We were able to show that self-efficacy and some dimensions of transfer effectiveness are correlated (table 23); however, the other independent variables in our regression models explain the same variance in transfer effectiveness as self-efficacy does, and they do so in a statistically stronger way (tables 24-26). Hence, when transfer capacities are controlled for, the impact of self-efficacy on transfer effectiveness is insignificant. Since these findings contradict the logic found in communication theory, which has informed many studies on knowledge transfer effectiveness in the past (e.g. Gupta & Govindarajan, 2000; Hansen *et al.*, 2005; Kogut & Zander, 1996; Szulanski, 1995, 1996), they need to be further elaborated and explained. The first explanation is that self-efficacy does not influence transfer effectiveness. This explanation would not only oppose the suggestions of communication theory (Berlo, 1960), but also the research on self-efficacy in related areas (Bandura, 1982; Gist & Mitchell, 1992; Wood & Bandura, 1989). The second explanation is that self-efficacy does *not directly* influence transfer effectiveness, but rather that it antecedes other determinants of transfer effectiveness. A look at the correlation matrix in table 23 reveals that the source's self-efficacy indeed relates more strongly with eloquent capacity than with transfer effectiveness, and that the recipient's self-efficacy relates more strongly with absorptive capacity than with transfer effectiveness. Hence, self-efficacy possibly influences transfer effectiveness *via* transfer capacities (eloquent and absorptive capacity). Several studies investigating self-efficacy support this notion. Gist & Mitchell (1992) for example show in a conceptual model that "self-efficacy affects performance *through behavioral choices* such as goal level, effort, and persistence" (p. 183, *emphasis added*). Wood & Bandura (1989) indicated an indirect relationship by stating that self-efficacy is the sum of the "beliefs in one's capabilities *to mobilize the [...] cognitive resources, and courses of action* needed to meet situational demands" (p. 408, *emphasis added*). Therefore, the most likely explanation for the lack of empirical support is that self-efficacy influences transfer effectiveness via eloquent capacity, transfer capacity (transfer channel richness), and absorptive capacity. Based on the elaborations of communication theorists, we assumed that all determinants of transfer effectiveness are direct determinants (chapters 3 and 4), but did not (yet) take into account that self-efficacy could be a determinant of transfer capacities, as was also predicted by communication theory for noise sources. We also find support for this indirect relationship in our interview data, and will therefore pay particular attention to self-efficacy again in the data triangulation (chapter 10).

## CONCLUSION

Despite the suggestion derived from communication theory that the attitude towards self is an important ingredient to an effective transfer process, none of our hypotheses on the impact of self-efficacy on transfer effectiveness could be supported. Self-efficacy is not directly related to transfer effectiveness (velocity, viscosity or value), but there are several indications that self-efficacy influences eloquent capacity, transfer channels and absorptive capacity. This potentially puts self-efficacy in the position of an antecedent of transfer capacities. We will pick up this discussion again in the data triangulation (chapter 10).

# Chapter 9: Quantitative findings on the role of noise sources

*The impact of noise sources on transfer effectiveness*

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## **ABSTRACT**

Knowledge transfer research has argued that differences between partners reduce the effectiveness by that knowledge is transferred. Despite the conceptual agreement, empirical results remain mixed, with studies showing either no impact or a negative impact of partner differences on transfer effectiveness. In this chapter, we use communication theory to argue that the negative effect of partner differences on transfer effectiveness is mediated by organisational capacities to transfer knowledge and the strength of communication ties between the transfer partners. Results show that an organisation's eloquent capacity, absorptive capacity and transfer channel richness work as full mediators of the effect. Our results help better understand why some organisations master the challenge of cross-border knowledge transfers while others fail. The implications are that organisations with multinational networks of affiliates must address three different kinds of barriers to international knowledge transfer in order to successfully expand internationally.

## INTRODUCTION

Knowledge transfer research has argued that partner differences reduce the effectiveness of knowledge transfers and it has employed partner differences as a causal variable and an aspect of effectiveness as the dependent variable (e.g. Dhanaraj *et al.* 2004; Jensen & Szulanski 2004; Lane & Lubatkin 1998; Lane *et al.* 2001; Minbaeva *et al.* 2003; Mowery *et al.* 1996; Szulanski *et al.* 2004). Communication theory (e.g. Berlo, 1960 Shannon & Weaver, 1949) argues that partner differences reduce transfer effectiveness via the mediators source, channel, and recipient. Hence, both streams agree that partner differences are the cause, but a conflict of opinion remains regarding the dependent variable. An extensive discussion can be found in chapter 3.

With claims in both streams of research being reasonably explained and based on previous studies in related areas, the conflict of opinion remains. The objective of the present chapter is to resolve the conflict by testing both claims and identifying the ‘better’ model.<sup>103</sup> We outline in detail why it is believed that the notions of communication theory hold true for knowledge transfer settings, too. We then compare the validity and explanatory power of both claims in a sample of German organisations that transfer knowledge to their Chinese subsidiaries by empirically testing the impact of partner differences on knowledge transfer effectiveness in a non-mediated and a mediated model. The results show that the negative impact of partner differences on knowledge transfer effectiveness is fully mediated by the source’s eloquent capacity, channel richness, and the recipient’s absorptive capacity. Using the mediators, we are also able to explain why knowledge transfers fail or succeed and are able to give some strategic advice on how to engage in knowledge transfers with distant partners.

The following structure is applied. The next section shortly summarises the relevant theory of the relationship between partner differences, transfer capacities, and transfer effectiveness as found in communication theory.<sup>104</sup> The test of the hypotheses is conducted in the data analysis section. The discussion further explains some of the findings.

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<sup>103</sup> Better has to be understood as having better explanatory power in statistical analyses.

<sup>104</sup> The more lengthy discussion that lead to the development of research hypotheses 8-11 can be found in the relevant section in chapter 4.

## THEORETICAL BACKGROUND

Many scholars in the area of knowledge transfer have argued that differences between transfer partners reduce the effectiveness via which knowledge is exchanged and transferred (Dhanaraj *et al.* 2004; Jensen & Szulanski 2004; Lane & Lubatkin 1998; Lane *et al.* 2001; Minbaeva *et al.* 2003; Mowery *et al.* 1996; Szulanski *et al.* 2004). Despite the conceptual agreement, studies show mixed empirical results. Several studies show that the larger (smaller) the differences between partners, the less (more) effective the transfer of knowledge. For example, Jensen & Szulanski's (2004) study reports a positive impact of cultural distance on stickiness, a measure of how difficult knowledge transfers are. Mowery *et al.* (1996) find that technological capability absorption is less effective in international alliances than in domestic ones. Dhanaraj *et al.* (2004) report that shared procedures, systems, and philosophies positively influence tacit learning. Lane & Lubatkin's (1998) study showed that overlaps of knowledge, logics, structures, and similarity of practices positively influence learning. Other studies found that there is no impact of partner differences or similarity on transfer effectiveness. Szulanski *et al.* (2004) find no impact of cultural distance on transfer effectiveness. Minbaeva *et al.* (2003) find no impact of cultural relatedness on the transfer of knowledge. Simonin (1999) shows that cultural distance is positively related to ambiguity only in a sub-sample of firms with low collaborative experience. With findings remaining mixed, the exact relationship between partner differences and transfer effectiveness remains largely unexplained.

In communication theory, a stream of literature that was employed in important studies on knowledge transfer and its effectiveness (Gupta & Govindarajan, 2000; Kogut & Zander 1996; Hansen *et al.*, 2005; Szulanski, 1995, 1996), communication across social systems is considered particularly ineffective (Berlo, 1960). When the source and the recipient are not similar systems, communication is likely to be unsuccessful. While agreeing that partner differences reduce effectiveness, such studies provide an additional explanation regarding the impact of partner differences on transfer effectiveness. It is suggested that the actors engaged in the communication process mediate the negative effect of partner differences on transfer effectiveness – partner differences create noise for the source, in the channel, and for the recipient. Due to the similarity of the communication process and the knowledge transfer process, it was argued in chapter 4 that testing this mediated effect in a knowledge transfer setting is reasonable. Hypotheses 8-11 (chapter 4) proposed that the negative effect of partner differences on transfer effectiveness is mediated by eloquent capacity, transfer channel richness, and absorptive capacity.

## METHODOLOGY

### Sample and data collection

A detailed elaboration on the sample and data collection can be found in chapter 5.

### Measures

The current chapter employs the same scales as the two previous ones. In addition, it uses a 4-item measure of partner differences. This measure is labelled ‘differences in language and logics’ and was derived from Collins & Smith’s (2006) study. Table 27 shows the items used<sup>105</sup> and the reliability of the construct. The construct was chosen among the four measures of partner differences employed in our survey (appendix 1) because it has the strongest theoretical match with communication theory. Differences in language are a good proxy of partner differences because “age, education, and cultural background are three of the more obvious variables that influence the language a person uses and the definitions he or she gives to words” (Robbins, 2001: 287). Shannon & Weaver (1949) note that familiarity with the language employed in communication facilitate the transfer of meaning because each language has its own logic. This relates to the probability of phrases and word-combinations used and to a certain level of redundancy that is natural to (but different in) each language. The overlap of language and logics was also employed in previous studies on knowledge transfer effectiveness (Collins & Smith, 2006; Lane & Lubatkin, 1998).

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<sup>105</sup> Items 2 and 3 were reverse-scored.



Variable	Measure: 5 point Likert-scales ranging from strongly disagree to strongly agree	Cronbach's alpha	N	Mean	Skewness	Kurtosis
Differences in language and logics	4 items: Our employees and those of the German organization ... ...face language barriers when communicating with each other ...can fluently communicate with each other (for example in German, English or Chinese) ...use the same logic when they talk about work ...have trouble understanding each other when working together on a project	.682	138	12.38	-.417	.410

Table 27: Measures for partner differences

We first investigate the impact of partner differences on eloquent capacity, transfer channel richness, and absorptive capacity in multiple regression models (hypotheses 8-10). We employ the same control variables as in the previous two chapters (with one exception: transfer channels is not a control but a dependent/moderating variable, because of its mediating nature as suggested in communication theory). Gupta & Govindarajan's (2000) value of knowledge stock is employed because previous knowledge can improve the ability to express and understand new (related) knowledge. Knowledge simplicity is employed again because the ability to express and absorb knowledge depends on the knowledge at hand – the easier the nature of the knowledge, the easier it will be to express and absorb it. Finally, the dummy variable for industry is employed again to account for potential differences in the manufacturing and service industry.

### **Technique**

We use a Baron & Kenny (1986) test of mediation to investigate the mediating effect of eloquent capacity, transfer channel richness, and absorptive capacity on the impact of partner differences on transfer effectiveness (hypotheses 8-10). This test is conducted in four steps. Firstly, it must be shown that the initial variable (differences in language and logics) is correlated with the outcome (transfer effectiveness). Only when this effect is significant, is there an effect that could potentially be mediated (by eloquent capacity, transfer channel richness, and absorptive capacity). The second step assesses the correlation between the initial variable and the mediators. The third step assesses the correlation between the mediators and the outcome variable (transfer effectiveness) while controlling for the effect of the initial variable. The fourth step investigates the remaining effect of the initial variable on transfer effectiveness while the mediators are investigated at the same time. The effect could be i) unchanged, ii) reduced, or iii) become insignificant. The conclusion would be that there is i) no mediating effect, ii) partial mediation, or iii) full/complete mediation. For a more extensive explanation see Baron & Kenny (1986) and Judd & Kenny (1981).

## **DATA ANALYSIS**

### **Items and correlations**

Table 28 shows the correlation matrix. The correlations between the first 12 variables employed were explained in chapter 7. The measures of self-efficacy were dropped from the analysis because they do not explain knowledge transfer effectiveness (see chapter 8). We tested for multicollinearity issues as in the two chapters before, finding no unacceptable

values. As can be seen from table 28, differences in language and logics show strong negative correlations with measures of transfer effectiveness, eloquent capacity, transfer channel richness, and absorptive capacity, further explaining the existence of the conflict of opinion between communication theory and knowledge transfer researchers: in the absence of a thorough theoretical explanation (as the one provided in communication theory), the first and most obvious conclusion is that partner differences reduce transfer effectiveness.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Velocity	1												
(2) Viscosity	.083	1											
(3) Value	.090	.449(**)	1										
(4) Knowledge stock (LN)	.215(*)	.232(**)	.164	1									
(5) Simplicity	.083	.324(**)	.238(**)	.167	1								
(6) Channels	.160	.305(**)	.312(**)	.069	.145	1							
(7) Dummy variable (industry)	.077	.006	.125	.255(**)	.115	.001	1						
(8) Recipient's ability to acquire and assimilate (P.A.C.A.P)	.516(**)	.107	.108	.255(**)	-.038	.197(*)	-.013	1					
(9) Recipient's ability to transform and exploit (R.A.C.A.P)	.361(**)	.259(**)	.246(**)	.027	-.058	.352(**)	-.111	.398(**)	1				
(10) Source's ability to understand own purposes and intentions (P.E.C.A.P)	-.008	.309(**)	.330(**)	.140	.145	.162	.276(**)	.102	.037	1			
(11) Source's ability to understand the recipient (P.E.C.A.P)	.050	.411(**)	.370(**)	.011	.054	.466(**)	.001	.144	.329(**)	.249(**)	1		
(12) Source's ability to express (R.E.C.A.P)	.165	.431(**)	.260(**)	-.014	.061	.296(**)	-.046	.235(**)	.443(**)	.273(**)	.535(**)	1	
(13) Differences in language and logics	-.183(*)	-.155	-.199(*)	.015	-.045	-.476(**)	-.051	-.272(**)	-.290(**)	-.209(*)	-.393(**)	-.338(**)	1

Table 28: Correlation matrix

## Findings

The regression models are shown in table 29. Model 1 shows that partner differences negatively impact the source's ability to understand the recipient (significant at the .001 level), approving hypothesis 8a. Model 2 shows that partner differences negatively impact the source's ability to express knowledge (significant at the .001 level), approving hypothesis 8b. As such, partner differences reduce eloquent capacity, fully supporting hypothesis 8. Model 3 shows that transfer channel richness (the frequency of communication) is negatively impacted by partner differences (significant at the .001 level), validating hypothesis 9. Model 4 shows that partner differences negatively impact the ability to acquire and assimilate knowledge (significant at the .01 level), approving hypothesis 10a. The ability to acquire and assimilate knowledge is also influenced by the measure of knowledge stock, indicating that previous knowledge facilitates the acquisition of additional knowledge. The ability to transform and exploit knowledge is negatively influenced by partner differences (significant at the .01 level), validating hypothesis 10b. The control variable for industry affiliation shows a negative sign (marginally significant at the .1 level), indicating that firms in service industries, on average, have a better ability to absorb knowledge. This can be explained by the fact that their business models are more intangible and knowledge intensive than those of manufacturing firms. Being exposed to knowledge intensive products more often than the employees of manufacturing firms, they develop a better ability to transform and exploit knowledge over time. Partner differences reduce absorptive capacity, fully supporting hypothesis 10.

Model	Eloquent capacity		Transfer channels		Absorptive capacity	
	Ability to understand the recipient	Ability to express	Transfer channel richness	Ability to acquire & assimilate	Ability to transform & exploit	
	Model 1	Model 2	Model 3	Model 4	Model 5	
Hypothesis	H8a	H8b	H9	H10a	H10b	
	Beta	Beta	Beta	Beta	Beta	t
<b>PARTNER DIFFERENCES</b>						
Differences in language and logics	-.389***	-.331***	-.465***	-.269**	-.317***	-3.833
<b>CONTROLS</b>						
Knowledge stock (LN)	.019	.044	.060	.280**	.069	.804
Knowledge simplicity	.035	.075	.114	-.098	-.062	-.741
Dummy variable (industry)	-.018	-.084	-.057	-.100	-.161+	-1.884
R2	.153	.120	.237	.143	.122	
Adjusted	.127	.093	.213	.117	.095	
F-value	5.802***	4.392**	9.997***	5.395***	4.492**	

Table 29: The impact of partner differences on transfer capacities and channels

A four-step Baron & Kenny (1986) test of mediation is employed to investigate hypothesis 11a-c. Model 6a, 7a and 8a in table 30 show the first step. As can be seen, partner differences are negatively related to all measures of effectiveness after controlling for knowledge stock, knowledge simplicity, and industry affiliation. The three tests show that differences in language and logics negatively impact transfer velocity (significant at the .05 level), transfer viscosity (marginally significant at the .1 level), and transfer value (significant at the .05 level). This is consistent with the argument found in many studies on knowledge transfer effectiveness. It also suggests that there is a possible mediating effect (Baron & Kenny, 1986), so we can proceed to step 2.

In step 2, it should be shown that the initial variable (partner differences) is correlated with the mediators. We have already shown the strong and significant relationship in table 29, models 1-5. This is consistent with the arguments found in communication theory.

In step 3, it should be shown that the mediators affect the outcome variable. As suggested by Baron & Kenny (1986) we conduct this test while controlling for the initial variable (partner differences). The significance of the results is shown in models 6b, 7b, and 8b. Absorptive capacity has a positive effect on transfer velocity; eloquent capacity has a positive impact on transfer viscosity; and both capacities influence transfer value. Transfer channels do not influence transfer effectiveness. The results are largely similar to those in chapter 6. Extensive explanations on the significant and the insignificant relationships can be found in chapter 6. While not all mediators affect all outcome variables, several of them do, providing sufficient evidence that the moderators affect transfer effectiveness.

The last step in Baron & Kenny's (1986) test is conducted to establish the degree to which the mediators mediate the relationship. As can be seen when comparing models 6a and 6b, 7a and 7b, and 8a and 8b, the negative effect of partner differences on transfer velocity, viscosity, and value diminishes after the mediators are introduced. Hence, the negative effect of partner differences on transfer effectiveness is fully mediated by the three mediators eloquent capacity, transfer channel richness, and absorptive capacity. This approves hypotheses 11a, 11b and 11c.

In sum, hypothesis 11 is fully supported. After introducing the mediators in the model, the direct effect of partner differences on transfer effectiveness becomes insignificant. In addition, the overall explanatory power of each model improves significantly after the

mediators are introduced. The test thereby shows that the mediating role of the source, the channel, and the recipient in the communication process is the same for the knowledge transfer process. Partner differences not only reduce absorptive capacity (Lane & Lubatkin, 1998), but also eloquent capacity and communication frequency (i.e. channel capacity). As such, partner differences create barriers to expression, barriers to transmission, and barriers to absorption.



Model	Velocity			Viscosity			Value												
	Model 6a	Model 6b	Model 7a	Model 7b	Model 8a	Model 8b	H11c												
	Beta	t	Beta	t	Beta	t	Beta	t	t										
Hypotheses	H11a									H11b			H11c						
<b>KNOWLEDGE TRANSFER</b>																			
Viscosity																			
Velocity																			
<b>ELOQUENT CAPACITY</b>																			
Ability to understand own purposes and intentions (PECAP)																			
Ability to understand the recipient (PECAP)																			
Ability to express knowledge (RECAP)																			
<b>ABSORPTIVE CAPACITY</b>																			
Ability to acquire and assimilate (PACAP)																			
Ability to transform and exploit (RACAP)																			
<b>CHANNEL CAPACITY</b>																			
Transfer channel richness																			
<b>NOISE SOURCES</b>																			
Differences in language and logics																			
<b>CONTROLS</b>																			
Knowledge stock (LN)																			
Knowledge simplicity																			
Dummy variable (industry)																			
R2																			
Adjusted																			
Δ Adjusted																			
F-value																			

Table 30: The nature of the impact of noise sources on transfer effectiveness

## DISCUSSION

The attempts undertaken in antecedent studies to explain the impact of partner differences on transfer effectiveness largely assumed a direct causal relationship between the two variables (e.g. Dhanaraj *et al.* 2004; Jensen & Szulanski 2004; Lane & Lubatkin 1998; Lane *et al.* 2001; Minbaeva *et al.* 2003; Mowery *et al.* 1996; Szulanski *et al.* 2004). This chapter advanced the study stream by testing both a direct and a mediated relationship between the two variables. Given the significance of the findings on the mediated relationship, this chapter extended the existing body of literature. We not only approved the argument that partner differences negatively affect knowledge transfers (e.g. Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Lane & Lubtakin, 1998; Lane *et al.*, 2001; Simonin, 1999a, 1999b), which has heretofore suffered from mixed empirical findings, but also clarified what the nature of this effect is. As such, this chapter clarified an often challenged proposition and moved our attempts to explain the negative impact of partner differences on knowledge transfer effectiveness from know-what to know-why.

While Lane & Lubatkin (1998) argued that partner differences cause absorptive capacity to be subject to the transfer setting, we showed that all transfer capacities (eloquent capacity, channel capacity, and absorptive capacity) are relative. In transfer settings with distant partners, both source and recipient have to adjust their learnt behaviour to the demands of a new situation. In his 1986 article, Hofstede proposed that in cross-cultural learning situations of a teacher and a learner (applicable to family, school, job and community), the “burden of adaptation [...] should be primarily on the teachers” (Hofstede, 1986: 301). When comparing the beta-coefficients that describe the relationship of partner differences on the source (teacher) and the recipient (learner), we indeed find that they are somewhat higher for eloquent capacity (-.389 and -.331) than for absorptive capacity (-.269 and -.317). Eloquent capacity is more strongly influenced by partner differences than absorptive capacity, a claim that was made several times in this thesis (in particular chapters 3 and 6). The finding seems logical – absorbing (learning) is a less active activity than expressing (teaching). It is human nature to react more passively in new environments and to observe and familiarise oneself with the situation before becoming active. Expression requires more activity than absorption, and activity is more challenging in unfamiliar environments. Another example supporting this finding is that simultaneous interpreters almost exclusively translate into their mother tongue because expression is more

difficult in an unfamiliar (distant) environment than absorption. As such, it comes as no surprise that eloquent capacity is more strongly influenced by partner differences than absorptive capacity – eloquent capacity is *more relative* (read: more dependent on the transfer partner) than absorptive capacity. This finding shows particularly how important it is for international business scholars to include eloquent capacity in their research models in the future. The ability to express knowledge varies with the learning environment and in particular the distance the source has to its recipient.

Another interesting finding is that the largest beta-coefficient was observed for the impact of partner differences on the frequency of communication and interaction (transfer channel richness) between the source and the recipient. This finding supports research into social networks and suggests, in accordance with the findings of Manev & Stevenson (2001) and Hakanson & Nobel (2001), that more distant partners suffer from weaker channel capacity (transfer channel richness). In our setting, transfer channel richness was not shown to significantly influence transfer effectiveness; however, in other research settings it was (e.g. Björkman *et al.*, 2004; Gupta & Govindarajan, 2000). As such, it remains for future research to explore if transfer effectiveness in cross-border settings is mostly reduced because of the negative effect on absorptive capacity, on transfer capacity, or on eloquent capacity.

## CONCLUSION

In this chapter, we have shown that partner differences lead to less effective knowledge transfers because more different partners express, transmit, and absorb knowledge less effectively than similar partners. The two strategies to address the negative impact of partner differences are to “teach the teacher how to teach” and to “teach the learner how to learn” (Hofstede, 1986: 316). The idea that either of the strategies is sufficient to address the challenges related to cross-border knowledge transfers is questionable. Given the strong impact we found between partner differences and the ability of the source and the recipient to engage effectively in knowledge transfers, the “burden of adaptation” (Hofstede, 1986: 301) needs to be addressed by both source and recipient in a collective effort. The reason is that no matter how good the teacher (learner) can teach (learn), there will always be negative situational or knowledge-related influences that are beyond his or her immediate control – the

social nature of the knowledge transfer process limits the power each actor has to influence the effectiveness of the process. Knowledge transfer is an interactive process that reaches full effectiveness only via the collective effort of both source and recipient.

# Chapter 10: Data triangulation

*A comparison of qualitative and quantitative findings*

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## **ABSTRACT**

This chapter compares the qualitative and quantitative findings of this study. The comparison shows strong evidence that the qualitative and quantitative findings for eloquent capacity are largely congruent. Furthermore, findings in both areas provide evidence that the impact of partner differences is negative but indirect, as suggested by communication theory. A disagreement is found in respect to organisational self-efficacy. The qualitative data suggests the importance of the construct, in particular for the recipient. Incongruously, the quantitative data do not yield any significant results. Reviewing the conceptual and qualitative chapters in search for explanations for the disagreement, we detect another possible relationship between self-efficacy and eloquent capacity, transfer channel richness, and absorptive capacity. Accordingly, it is proposed that organisational self-efficacy is an antecedent of transfer capacities and transfer channel richness. Additional tests largely support this notion. Despite the fact that the collected data does not allow for the simultaneous analysis of other important nodal-level antecedents of transfer capacities from previous studies that might reduce the explanatory power of self-efficacy, an important implication is that transfer capacities and channel richness have both nodal and dyad-level antecedents.

## **INTRODUCTION**

Data triangulation is employed to validate research findings following from different data sets and to improve the conclusion drawn by relying on multiple observations of the same phenomenon (Jick, 1979; Webb *et al.*, 1966). This study has employed qualitative data (chapter 6) and quantitative data (7, 8, and 9) and derived conclusions about the determinants of knowledge transfer effectiveness from both data sets. As such, we employ an across-methods approach to compare findings, rather than a within methods approach (Denzin, 1978). In order to conduct the comparison, we review the conclusions drawn from the qualitative data to compare them with the findings made in the quantitative analyses. Sufficient data for triangulation is available from chapters 6 to 9 for eloquent capacity, self-efficacy, and noise sources. Even if more data was available, there is little need to triangulate the other qualitative data. Data triangulation is used to establish that the conclusion drawn from a data set is valid because it is true, rather than a result of the employed methodology (Jick, 1979). The existing determinants of transfer effectiveness that were addressed in chapter 3 and chapter 6 have already been researched using multiple different conceptual, qualitative, and quantitative approaches. Triangulating findings is superfluous because the findings of antecedent studies on the existing determinants are largely coherent.

The objective of the chapter is to compare and validate the conclusion drawn in previous chapters and to conduct additional analyses when they differ. The following will compare the qualitative and quantitative findings on eloquent capacity, noise sources, and self-efficacy. Then, additional analyses are made for the concept of self-efficacy to propose that self-efficacy is not a direct determinant of transfer effectiveness but an antecedent of transfer capacities and the frequency of interaction between two organisational units. Important findings, limitations, and remaining questions are addressed in the discussion section.

## **COMPARISON OF FINDINGS**

### **Eloquent capacity**

This thesis has extensively elaborated on the idea that a knowledge source must possess adequate skills to effectively engage in knowledge transfers with other recipients. It was identified in chapter 2 that, as opposed to the recipient's communication skills, the source's communication skills have not received a lot of empirical attention in the knowledge transfer

literature. Chapter 3 outlined what has to be understood as communication skills according to communication theory. In chapter 4, hypotheses were suggested that describe how the abilities to understand own purposes and intentions, to understand the recipient, and to express knowledge improve transfer velocity, transfer viscosity, and transfer value. Chapter 6 and 7 dealt with the empirical reality found in a sample of German companies transferring knowledge to their Chinese subsidiaries. The qualitative data (chapter 6) showed that the effectiveness of knowledge transfers significantly depends on the 'teaching skills' of the employees of the German headquarter. Within this concept of eloquent capacity, evidence was found for each dimension suggested by communication theory. Similar findings were made in chapters 7 and 9.

*Ability to understanding the own purposes and intentions*

Chapter 6 showed one case in which the effectiveness of the transfer process is influenced by the source's understanding of its own purposes and intentions. When key employees that should be engaged in important knowledge transfers are unaware of the goals and extent of the knowledge transfer, their efforts to express knowledge will be reduced. The manager argued that better understanding of the source (being informed about the strategy behind, and extent of, the planned knowledge transfers) would improve transfer effectiveness by reducing anxieties and uncertainty the source might have. In the particular case, the source's lack of understanding of the own management's purposes and intentions created job-loss fears for the source. The source only transferred the knowledge it was supposed (forced) to transfer, but did not go beyond its duties by actively helping the recipient to successfully absorb the knowledge. The manager indicated that this results in fewer knowledge transfers. As such, it can be argued that the understanding of the source can potentially improve transfer viscosity. The quantitative data in chapters 7 and 9 showed that the understanding of the source positively influences transfer viscosity. The results show a (marginally) significant, positive correlation between this understanding and how much knowledge is transferred between source and recipient. Hence, triangulating the findings on the understanding of the source and transfer viscosity shows congruence.

The quantitative data also show another positive correlation for understanding of own purposes and intentions and transfer value, something which could not be directly derived from the qualitative data set. Given that we only have one observation within the qualitative

data set for the understanding of the source, concluding a disagreement between qualitative and quantitative data here would be precipitous. More research in this area is needed to derive a final conclusion.

#### *Ability to understand the recipient*

The second understanding a well-communicating source has is good understanding of the recipient. Chapter 6 showed several cases in which understanding the “Chinese colleagues” benefited knowledge transfer effectiveness. As such, the qualitative data suggest that understanding the recipient is an important aspect of effective knowledge transfers. Other managers put it more general by claiming that for the source, “understanding China better” or “China comprehension” are important aspects that determine effectiveness. This suggests that understanding the recipient and understanding the recipient’s situation, environment, and social-cultural system are related issues that improve knowledge transfers. Similarly, the quantitative data showed that understanding the recipient has a significant positive impact on transfer viscosity and transfer value. Findings based on qualitative and quantitative data coherently show that better understanding of the recipient improves knowledge transfer effectiveness.

#### *Ability to express knowledge*

Similarly to the other two abilities, the qualitative data suggest that in many cases, the existence (absence) of an ability to express knowledge improves (inhibits) the effective transfer of knowledge. Because of the ongoing discussion of China’s lack of talent and under-developed human resources (Hewitt, 2008; McKinseyQuarterly, 2007), it was somewhat surprising to hear the interviewees explaining that in many instances the problem is not about knowledge absorption but knowledge expression. The logic here was that the skills of the recipient are completely irrelevant if the source is not functioning. This finding builds on Davenport & Prusak’s (2000) notion that transfer is equal to transmission plus absorption, which we respecify as transfer depends on expression and transmission and absorption. If knowledge is not expressed in a proper way, the richness of a transmission channel and the skills of the recipient have no or little lever to compensate for the source’s weakness.<sup>106</sup> This finding is

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<sup>106</sup> Using another analogy, we can compare knowledge transfers to the popular children’s game “Chinese whispers”, also known as the telephone game. Here, whenever the expression stage contains too much noise, the best transfer channel and the most talented absorber cannot compensate for it. As important as clear expression is to the telephone game, clear knowledge expression is to effective knowledge transfers. Without good knowledge expression, the message is interrupted before it can be transmitted or absorbed.



largely congruent with the one made in the quantitative chapters, where the ability to express knowledge positively influenced transfer viscosity.

No significant relationship between (any of the three dimensions of) eloquent capacity and transfer velocity was made in the quantitative investigation. We also did not find any case in the interview transcripts in which a manager had thought of the source's communication skills being connected to transfer velocity. This suggests that for all three abilities, neither the qualitative nor the quantitative data indicate that eloquent capacity has an impact on transfer velocity – the source seems to have little impact on transfer velocity. In addition, none of the control variables in chapters 7 and 9 had an effect on transfer velocity either. Hence, it is *nothing but* the recipient that influences transfer velocity. It is remarkable to note that transfer velocity appears to sink and swim with the behaviour of the recipient.

### **Noise-sources**

Noise source (e.g. partner differences) were introduced as another determinant of transfer effectiveness in chapter 2, but their effect on transfer effectiveness was specified as being indirect in chapter 3, because the source, the channel, and the recipient act as mediators in between noise sources and transfer effectiveness.

Chapter 6 provided several cases in which differences between the source and the recipient reduce the effectiveness of transfers. Dissimilar languages, logics, systems, and structures create multiple problems that reduce effectiveness, such as misunderstanding, irritation, and passiveness. The qualitative data also shows multiple examples that illustrate the indirect (mediated) effect. When languages were not similar, the Chinese colleagues' ability to absorb knowledge was reduced (absorptive capacity as a mediator between partner differences and effectiveness). When logics differed, the colleagues were less likely to communicate because bridging the differences in thinking requires additional efforts (transfer channels as a mediator between partner differences and effectiveness). When structures differed, the German colleagues often did not understand whom in China to contact (eloquent capacity as a mediator between partner differences and effectiveness). Therefore, in addition to the general confirmation that partner differences negatively influence knowledge transfers, the qualitative data provided several examples that support the mediating relationship. Chapter 9 dealt with the quantitative data available on partner differences. Using a Baron & Kenny (1986) test of

mediation, it was shown that i) partner differences have a negative effect on transfer effectiveness and ii) that this negative effect is fully mediated by the mediators eloquent capacity, transfer channel richness, and absorptive capacity. As such, findings in both data sets are highly congruent.

### **Self-efficacy**

The effectiveness of the communication process can be inhibited by a lack of self-confidence of any of the transfer partners (Berlo, 1960). Research taking place within the organisational context has elaborated on a similar notion explaining that collective efficacy of the member of an organisation will impact how effective it operates (Bandura, 1982). Chapters 2 and 3 showed that this idea represents a research gap within the knowledge transfer context. Chapter 4 conceptually outlined its relevance for the study of knowledge transfer effectiveness in more detail.

Findings derived from the qualitative data (chapter 6) show strong support that a lack of self-confidence of the recipient negatively impacts the effectiveness of knowledge transfers. Multiple interviewees gave examples how this lack of self-confidence impacts the behaviour of the recipient, causing passive behaviour, a lack of feedback, fear (of having to interact or perform a certain task), and an increase in the frequency of mistakes. It also led to 'detours' in communication, whenever communication had to leave the most efficient way (directly from source to recipient) and took place via another actor (usually the General Manager) that the recipient felt more comfortable with interacting. Hence, the qualitative data indicated that self-efficacy of the recipient is a determinant of transfer effectiveness. Less evidence was available for the self-efficacy of the source, which was only mentioned by one manager. A possible explanation for this lack is that the determinant was too obvious, because virtually all German colleagues showed high levels of self-efficacy compared to their Chinese counterparts. The quantitative findings in chapter 8 showed that neither the source's nor the recipient's level of self-efficacy has an impact on transfer effectiveness. Despite the fact that the measures showed correlations with several effectiveness measures, the variance in the dependent variable that they explained was not unique but shared with other independent variables. As such, they were dropped from the models and it was concluded that self-efficacy is not a cause of transfer effectiveness.

The discrepancy in the two analyses could be explained by methodological weaknesses. Chapter 11 will explain in more details the limitations of this research and in particular how future research can better measure the construct. Assuming that the measure was sufficiently well understood by the managers who responded to our questionnaire, the disagreement of our quantitative and qualitative conclusion must be explored and explained.

As indicated in the discussion of chapter 8 and in the above summary, self-efficacy is a psychological, nodal-level construct inherent in either source or recipient. Before measuring its effect on the interaction between source and recipient (measured as velocity, viscosity, and value), it might thus be more reasonable to firstly investigate how the recipient's (source's) self-efficacy affects the recipient (source) itself. Claiming a causal relationship between self-efficacy and the source's and recipient's behaviour is a reasonable undertaking for two reasons. Firstly, the communications literature (in particular Berlo, 1960 and De Fleur, 1970) has pointed out that the knowledge transfer process is interactive and many of the "ingredients of communication" (Berlo, 1960: 41) are interrelated. As such, certain determinants can have direct effects on the transfer outcome (effectiveness), effects on other determinants, or effects on both. Secondly, several of the observations of our interviewees showed that the recipient's self-efficacy caused the behaviour of the recipient to change. For example it was mentioned that because of a lack of self-efficacy, the Chinese colleagues "are immediately intimidated and make mistakes as a result" and "do not dare to ask. They simply accept things and do not dare to disagree". Those who are intimidated and do not ask when they do not understand naturally miss out on many opportunities to improve their ability to listen, to interact, argue, and communicate. As such, a lack of self-efficacy could reduce the development of communication skills and reduce communicative behaviour.

While these two explanations account for *causality*, a third finding can be made in respect to the *correlation* between the two constructs. A look at the last two rows of the correlation matrix in chapter 8 (table 23) suggests that overall, the two measures of self-efficacy show higher correlation with eloquent capacity, absorptive capacity, and channel richness than with the three measures of transfer effectiveness. For self-efficacy and transfer effectiveness, table 23 shows that four out of six possible correlations are significant (67%), with an average correlation factor of .245.<sup>107</sup> For self-efficacy and transfer capacities and channels, it shows that

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<sup>107</sup>  $(.332 + .281 + .179 + .186) / 4 = .245$

nine out of twelve correlations are significant (75%), with an average correlation factor of .297.<sup>108</sup>

Opposed to our hypotheses, the quantitative analyses did not show that self-efficacy is a (direct) determinant of transfer effectiveness. An alternative explanation based on conceptual, qualitative, and quantitative insights would be that self-efficacy is related to transfer capacities and communication frequency, and therefore a determinant of transfer effectiveness, albeit indirect.

## COMPLEMENTARY DATA ANALYSIS

### Findings

In order to test the above relationship, we make use of the analyses in chapter 9. There (table 29), it was shown that eloquent capacity, transfer channel richness, and absorptive capacity are negatively influenced by partner differences.<sup>109</sup> We use this variable and the control variables employed to see if self-efficacy remains positively correlated to eloquent capacity, transfer channel richness, and eloquent capacity after controlling for the effects of partner differences, knowledge stock, knowledge simplicity, and industry affiliation. Table 31 shows the results. In particular, it is tested if the source's self-efficacy influences eloquent capacity and the communication frequency with the recipient (models 1-4). It is also tested if the recipient's self-efficacy impacts absorptive capacity and the communication frequency with the source (models 4-6).

Model 1 shows that the source's level of self-efficacy is positively related to its understanding of own purposes and intentions (significant at the .05 level). In addition, the control variable for industry affiliation shows a positive sign (significant at the .05 level). This indicates that the employees of manufacturing firms, on average, have a better understanding of their own (their company's) purposes and intentions. It could be that the more tangible nature of their business facilitates understanding it. Model 2 shows no significant relationship between the source's

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<sup>108</sup>  $(.172 + .292 + .222 + .397 + .289 + .484 + .192 + .372 + .251) / 9 = .297$

<sup>109</sup> The first dimension of eloquent capacity (understanding own purposes and intentions) was not included in the analyses in table 29 because partner differences (the causal variable) are partner specific, but the understanding of own purposes and intentions (the dependent variable) is not. As such, no logical causal relationship between the two measures could be derived. We include the understanding of own purposes and intentions in the current analysis (table 31) because the conceptual and qualitative insights presented above support that a causal relationship connects the two measures.

level of self-efficacy and the understanding of the recipient. Model 3 shows a positive impact of the source's level of self-efficacy on the ability to express (marginally significant at the .1 level). The betas and t-values in model 4 indicate that the source's level of self-efficacy positively impact communication channel richness (significant at the .05 level), but the recipient's level of self-efficacy remains insignificant. As shown in model 5, the recipient's ability to acquire and assimilate knowledge is positively influenced by the recipient's level of self-efficacy (significant at the .05 level). The ability to transform and exploit is not influenced by the recipient's level of self-efficacy (model 6). Control variables in models 5 and 6 show the same significant correlations as in chapter 9. Partner differences in models 2-6 show the same significant results as in chapter 9.

While knowledge transfer effectiveness was not directly affected by the source's and the recipient's level of self-efficacy (chapter 8), the conceptual reassessment conducted in this chapter is partially supported. Four out of six investigated dependent variables (measures of eloquent capacity, transfer channel richness, and absorptive capacity) are influenced by either the source's or the recipient's level of self-efficacy.

	Eloquent capacity						Transfer channel capacity		Absorptive capacity			
	Understanding of the source		Understanding of the recipient		Ability to express		Transfer channel richness		Ability to acquire & assimilate		Ability to transform & exploit	
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Beta	t	Beta	t	Beta	t	Beta	t	Beta	t	Beta	t
<b>SELF-EFFICACY</b>												
Source's self-efficacy	.179*	2.128	-.069	-.829	.149+	1.756	.181*	2.099				
Recipient's self-efficacy							.075	.862	.263**	3.244	.045	.524
<b>PARTNER DIFFERENCES</b>												
Differences in language and logics												
<b>CONTROLS</b>												
Knowledge stock (LN)	.049	.565	.039	.457	-.031	-.354	.035	.444	.265**	3.234	.066	.767
Knowledge simplicity	.116	1.401	.036	.438	.070	.840	.090	1.136	-.161+	-1.965	-.073	-.843
Dummy variable (industry)	.242*	2.861	-.013	-.151	-.085	-.998	-.039	-.499	-.085	-1.033	-.159+	-1.839
R2	.162		.165		.135		.284		.214		.124	
Adjusted	.128		.132		.101		.250		.183		.090	
F-value	4.829***		4.970***		3.975**		8.208***		6.854***		3.576**	

Table 31: The nodal- and dyad-level antecedents of transfer capacities

## DISCUSSION

We set out in this chapter to compare the findings of the qualitative and quantitative analyses in order to detect similarities and differences in our conclusions. The cross-comparison confirmed our findings by showing high congruence for most items of interest. A major disagreement was found in respect to organisational self-efficacy, which was addressed by a review of theory and data. The synthesis of conceptual notions, qualitative and quantitative data most strongly points towards self-efficacy being an antecedent of transfer capacities (eloquent capacity, channel capacity and absorptive capacity). Given that organisational self-efficacy is under-researched in the knowledge transfer context, this chapter has contributed to the literature by showing the three-fold, indirect impact of self-efficacy on knowledge transfer effectiveness. Future research can benefit from the understanding provided in this chapter in three ways.

Firstly, self-efficacy is an antecedent of eloquent capacity. The larger the source's self-confidence, the better its understanding of its own purposes and intentions, because more internal communication takes place between the source's members. Their internal communication is more active, open and direct, leading to a better understanding of the company's intentions and purposes. Next, a higher level of self-confidence improves the ability to express knowledge. This closely reflects Berlo's (1960) notion that a source acts best in the absence of stage-fright and distrust in its own abilities. It might also be that, as proposed in chapter 4, self-efficacy causes the source to double check their input and to verify that what they are expressing makes sense, thereby improving its ability to express knowledge accurately. Secondly, self-efficacy is an antecedent of transfer channel richness. Sources that are less shy, but more active and outgoing, cause richer communication channels between source and recipient because interaction between the two takes place more often. High self-efficacy can for example lead to higher involvement in cross-departmental and cross-functional activities, and potentially result in strengthened communicative ties with the recipient. Finally, self-efficacy is an antecedent of absorptive capacity. In accordance with the elaborations of our interview partners in chapter 6, the statistical analyses showed that recipients with a sufficient level of self-efficacy are better employees when it comes to effective knowledge transfers – they show higher ability to acquire and assimilate knowledge. In sum, the most important finding of this chapter is that self-efficacy influences the effectiveness of the knowledge

transfer process. This sets the ground for more fine-grained investigations of the impact of organisational self-efficacy on transfer effectiveness in future research efforts.<sup>110</sup>

Additionally, our data shows that partner differences reduce effectiveness, which is very much in line with the idea that misunderstanding and conflict is more likely to occur in cross-border interaction (c.f. Berlo, 1960; Hofstede, 1980). However, self-efficacy partly offsets the negative impact of partner differences on knowledge transfer effectiveness. The beta values (table 31) indicate that self-efficacy and partner differences are counteractive forces in respect to their (indirect) impact on transfer effectiveness.<sup>111</sup> Self-efficacious partners offset the negative effects of partner differences by showing their knowledge-gaps, by disagreeing, by requesting additional information, and by providing feedback to each other. This insight, if applied by practitioners, can make an important contribution to the effectiveness of international knowledge transfers in the future. Organisational self-efficacy is one mechanism to offset the negative effects of partner differences and should be employed as such by practitioners.<sup>112</sup>

## CONCLUSION

Triangulation is employed to establish further confidence that the conclusions derived from a data set using a particular methodology are generalisable across methods. In this chapter, we have analysed the degree to which the qualitative and quantitative findings of this research were congruent. Our triangulation shows that the findings on eloquent capacity and partner differences are reliable. Independent of the employed research method, the findings are largely congruent. The discrepancy between the qualitative findings and the quantitative findings on organisational self-efficacy were identified, but can largely be resolved when self-efficacy is treated as an antecedent of transfer capacities and transfer channel richness. As such, they indirectly determine transfer effectiveness via their influence on the source, the channel, and the recipient. This analysis shows that transfer capacities not only have dyad-level antecedents (Lane & Lubatkin, 1998), but also nodal-level antecedents (Cohen & Levinthal, 1990), opening

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<sup>110</sup> Several detailed suggestions for research based on the limitations of our investigation are provided in chapter 11.

<sup>111</sup> This offsetting effect is particularly strong for potential absorptive capacity (table 31). From a statistical point of view, the negative effect of partner differences on potential absorptive capacity (-.264) is almost outbalanced by the positive effect of self-efficacy on potential absorptive capacity (+.263).

<sup>112</sup> Chapter 11 gives examples and practical recommendations on how organisations can build organisational self-efficacy.



the floor to an interesting discussion about the nature of absorptive capacity (and eloquent capacity) that was already proposed in chapter 6 and will be further elaborated on in chapter 11.

# Chapter 11: Conclusion

*Lessons learnt and to be learnt*

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## **ABSTRACT**

In this final chapter, we outline the limitations of the research conducted, conclude each chapter and the thesis, and offer an overview of implications for scholars, practitioners, and future research. Literally all limitations derive from the empirical realisation of the study and all insights were derived because of the strong theoretical ground. As such, it is once more stressed that communication theory has generated several new insights for research into knowledge transfer effectiveness. We translate the insight gained during this study into implications for scholars and practitioners, and into research avenues that might be followed in the future. Since the comparison of fundamental studies on effective communication and effective knowledge transfers has generated what we consider valuable new insights, it is concluded that future research on knowledge transfer effectiveness should investigate other relevant communication studies to translate their findings for our field and thereby provide a stronger theoretical basis for empirical investigations. In order to do so effectively, we call for research conducted by inter-disciplinary teams of knowledge transfer scholars and communication experts.

## INTRODUCTION

This thesis and its findings were the result of a number of choices. We chose literature for review, selected a theoretical framework, chose analogical reasoning to derive causality for new determinants of knowledge transfer effectiveness from a different stream of literature, chose two research methodologies for the empirical work, selected a sample and methods of data collection, chose certain methods of data analysis, and, most significantly, chose to interpret the results according to our pre-informed and subjective understanding.

All choices reflect our conviction of the most suitable approaches to understand the research topic. Whenever any choice was made, we sought to make the best possible and most suitable choice. We chose communication theory after conceptually outlining in detail its advantages compared to other theoretical frameworks. We relied on an established method (analogical reasoning) to compare the two bodies of literature. We integrated the existing research on knowledge transfer effectiveness into the communication-theory-derived framework to prepare for the empirical realities of the research. We chose the research sample based on theoretical match and practical relevance. We decided to use multiple methods of data collection, multiple data sets, and multiple methods of data analysis because multi-method approaches can account for individual methods' weaknesses. We built the questionnaire not on our own, but by use of the work of other scholars and the suggestions by practitioners. We translated and back-translated the questionnaire using native speakers. We conducted the interviews in an inductive-deductive way, reducing our own impact on the study results further. We triangulated the data within methods (cross-checking with company brochures, member-check of interview transcripts) and across methods to reduce the chance that conclusions derive from methodology rather than facts. We based, to the best of our knowledge, all conclusion and interpretations on facts that were conceptually derived and empirically assessed using qualitative and quantitative data.

Due to the choices we made, the research has a number of limitations that remain in any project of this scope. At the same time, the research provides important conclusion about the study of knowledge transfer effectiveness, which have important implications for scholars and practitioners. Finally, it can give some advice to future research into knowledge transfer

effectiveness. We therefore outline the limitations, conclusions, implications for scholars and practitioners, and future avenues for research in the remainder of this chapter.

## LIMITATIONS

The most important limitations evolve around the three topics of i) measurement issues, ii) generalisability, and iii) one-directional transfer.

### Measurement issues

Our measures of knowledge transfer effectiveness and its determinants were derived from previous studies on knowledge transfer effectiveness or effective communication. Investigating knowledge transfer in the way this study did is common among studies in this area. However, being widely employed and accepted does not suggest that a method and its measurements are without weaknesses.

A central question arises around data averaging and aggregation. This debate is central to related streams of studies, as for example how to measure culture on Likert scales (Earley, 2006; Hofstede, 2006; Javidan *et al.*, 2006; Smith, 2006). Although cultural investigations are usually concerned with averages or aggregations at the national or societal level and our study was concerned with measurements that average at the organisational unit level (i.e. headquarter or subsidiary), the studies have in common that they aggregate or average data to arrive at their unit of analysis. Table 32 shows three different methods to derive data at the organisational unit level as employed in this thesis. The possibilities to research the organisational unit are to ask multiple individuals to rate themselves and to aggregate the results for all individuals that are members of the organisational unit (B), to ask a single individual to rate the organisational unit (C), and to ask multiple respondents in the organisation to assess the organisational unit and to average their responses (D). Much of Hofstede's work used the approach in sector B. House *et al.*'s (2005) rivalling study used the approach in sector D. While each author claims his method to be best, both approaches are common and valid (Earley, 2006). Clearly, having multiple observations per organisational unit (sectors B and D) is preferable among single observations (sector C). As such, both approaches in B and D are superior to the one used in this study (sector C), because they avoid single-respondent biases. We sought to account for this possible bias by triangulating the data within and across methods. Despite the triangulation,

a potential bias remains. Our study's first limitation is therefore the single-respondent restriction, which we made in order to achieve a sufficiently large sample size that was required due to the holistic and complex nature of our theoretical framework.

		Respondents per organisational unit	
		Single	Multiple
Unit of data collection	Individual	(A) Individual level	(B) Organisational level (via averaging/aggregation)
	Organisational unit	(C) Organisational level (averaging/aggregation is done by respondent)	(D) Organisational level (via averaging/aggregating the averaged responses)

Table 32: Different methods of averaging and aggregating data

Another limitation of this study is that we are mostly concerned with soft, perceptual measures of knowledge transfer determinants and effectiveness. Almost all items that we employed do not measure the reality, but the reality as perceived by the manager of the subsidiary. The difficulty in employing hard measures is that we can hardly find any of them that solely reflect an aspect of knowledge transfer.<sup>113</sup> Can relative economic development be regarded a proxy of absorptive capacity (Gupta & Govindarajan, 2000)? Or do such proxies insufficiently represent the ability of an organisational unit to receive, assimilate, and apply knowledge? Clearly, different organisations have different absorptive capacity, depending on their R&D intensity (Cohen & Levinthal, 1990) or system similarity with the source (Lane & Lubatkin, 1998). Relative economic development does not account for such firm-level differences. Do financial incentives to share/learn knowledge accurately represent a source's/recipient's motivation to engage in knowledge transfer or does this measure exclude other effects that trigger a source's/recipient's level of motivation? It is also debatable if the size of the subsidiary (Gupta & Govindarajan, 2000) is a good reflection of a unit's knowledge stock. Certainly, the more people are employed in a subsidiary, the higher the likelihood that their accumulated knowledge outperforms that of a smaller organisational unit. However, the amount of knowledge possessed differs in between different groups of employees (white collar vs. blue collar, knowledge workers vs. industrial workers, etc.). Furthermore, in accordance with the knowledge based view of the firm, knowledge is also created from social interaction. As such, not only the organisational size as a representation of the accumulated knowledge of all

<sup>113</sup> This problem let to fact that some of the previously employed determinants of knowledge transfer effectiveness could not be unequivocally positioned in the matrix shown in table 3, chapter 2.

individuals matters, but also who these individuals are and how well they interact and cooperate to create synergetic knowledge<sup>114</sup> for the organisational unit. As such, we find at least two reasons why organisational size as a proxy for knowledge stock is a problematic one. The above shall not criticise other studies that included such measures, but rather point out the limitations of this undertaking. Hard measures would be preferable among soft measures, but finding good proxies seems difficult. We tried to employ the relative number of expatriates as a proxy of eloquent capacity, but the measure does not correlate with any of eloquent capacity's three dimensions, nor does it have an impact on transfer velocity, viscosity, or value. In accordance with the observation that there are only a few hard measures that solely reflect a single determinant of effectiveness as discussed in the literature on communication theory, expatriates could be interpreted as a proxy for eloquent capacity, the source's motivation to share knowledge, the source's protectiveness (in case the expatriates are delegated to perform tasks that involve knowledge bases the headquarter does not want to share with the subsidiary), etc. Finding suitable hard measures for the study of knowledge transfer is one of the key challenges in the field. The fact that we largely had to rely on soft measures in this study is a limitation.

In retrospect, we have to be in particular critical about the accuracy of our measure of self-efficacy. We conceptually derived it from Berlo (1960) and the pilot study revealed that all five items were well understood as reflecting aspects of (a lack of) self-confidence. An exploratory factor analysis and scale reliability test showed that the item was highly reliable. Still, two questions remain. Firstly, it was found in research on team-effectiveness that the most effective groups are those that intermix certain personality types (Robbins, 2001). Hence, it might be argued that the organisational units that express/absorb knowledge most effectively are those that intermix individuals with high self-confidence and low self-confidence. While this argument is in some conflict with our analyses in chapter 10 where it was shown that higher levels of self-efficacy positively influence some of the communication skills of source and recipient, we do not have individual-level data available to perform further tests. Apart from this question, another question is if the self-efficacy of one person/group is observable (and accurately assessable) for another person (in our case the subsidiary manager). While several of the constructs that were employed in this and many antecedent studies investigate psychological or other, nodal-level constructs, self-confidence might be a construct that is even

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<sup>114</sup> For any given organizational unit, this could be formulated as: Total knowledge stock = Aggregated knowledge of all individuals + synergetic knowledge (created from social interaction)

less easy to observe, estimate, and interpret for a respondent than any other of the knowledge-related, skill-related, attitude-related, or communication-behaviour-related constructs.

### **Generalisability**

The theoretical framework for the investigation was derived from multiple communication studies that all stem from scholars of the Western hemisphere. We enriched it with insights from knowledge transfer studies conducted by scholars of multiple nationalities and in multiple country settings, including Europe, the US, and Asia. The question that arises is whether we can generalise findings made in the Sino-German setting to other cross-country knowledge transfer settings.

In this respect, findings on eloquent capacity should be generalisable. Firstly, absorptive capacity, which is conceptually similar to eloquent capacity, has received external validity across a large number of research contexts (countries, industries, inter-organisational and intra-organisational transfers). Independent of cultural influences, the quality of the teacher/source and the student/recipient will influence how effectively learning takes place. Certainly, there are cultures which require more authority and instruction in any learning environment than others (Hofstede, 1986), suggesting that the relative importance of eloquent capacity (compared to other determinants such as absorptive capacity, knowledge simplicity, etc.) differs across research contexts. However, it would be counterintuitive to suggest that the *existence* of eloquent capacity is subject to the choice of research setting. Rather, it is its *relative importance* that is subject to the research setting. The betas (describing the strength of the relationship between eloquent capacity and transfer effectiveness) that will be found in future research are thus likely to differ depending on the research setting, but there is considerable doubt that the existence (significance) of the relationship will be challenged.

Understanding (reaching the state of being informed) is achieved via familiarising oneself with the subject/situation of interest. The more familiar the situation, the easier it is to achieve this understanding because any learning process relies and builds on previous knowledge (Lane & Lubatkin, 1998; Reagans & McEvily, 2003). In accordance with this observation, it was shown in this thesis that partner differences reduce eloquent capacity, transfer channel richness, and absorptive capacity. All of the communication studies we reviewed that dealt with cross-cultural/cross-system settings suggested that such inter-system transfers are less effective than

transfers between similar partners/systems. In a conceptual study, Bhagat *et al.* (2002) support this notion by claiming that cultural differences reduce knowledge transfer effectiveness (velocity and viscosity) in any cross-cultural setting.<sup>115</sup> Despite different cultures have unique ideas about good teachers and students (Hofstede, 1986) and good leaders (House *et al.*, 2004), we do not know of a single case in which ability, understanding, and eloquence would be positively influenced by partner differences.<sup>116</sup> The reason is that, as stated in the beginning of the paragraph, learning is achieved via familiarising, and familiarising is an easier undertaking in a familiar environment. As such, cultural differences might be less extreme in other country settings, reducing the betas we found, but differences between partners will always negatively influence the effectiveness of their interaction (expression, transmission, and absorption).

The same claim for generalisability is made for the concept of organisational self-efficacy. We find evidence for the positive effect of self-confidence on certain desired behaviours/effects in many business and organisational studies (e.g. Bandura, 1982; Gist & Mitchell, 1992; Wood & Bandura, 1989). Distrust in one's own ability will change one's behaviour (Berlo, 1960). In the knowledge transfer setting, we found evidence that as a result of this distrust, the source's and recipient's communication skills are reduced, for example because they are less used to, and frequently engaged in, communication and other social interaction. As a result, sources and recipients with low levels of self-efficacy are less familiar with the skills required for an effective transfer of knowledge. Despite we do not expect the significance of the impact of self-efficacy on transfer capacities and communication frequency (as shown in chapter 9) to differ substantially across research settings, an important aspect that needs to be mentioned is that self-efficacy in itself is likely to vary vastly across research settings. Our interview partners suggested that the level of self-efficacy is high for the German colleagues, and low for the Chinese colleagues. We also saw that they understood the reduced level of self-efficacy as an artefact of Chinese culture, social habits, and educational practices. Looking at other sources, we find that some societies tend to "have sympathy for the strong", "value expressiveness and revealing thoughts and feeling", "have relatively positive connotations for the term aggression",

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<sup>115</sup> Bhagat *et al.* (2002) make these claims for transfers across individualistic and collectivistic cultures, and across horizontal and vertical cultures.

<sup>116</sup> The reason that foreign teachers can improve learning in classroom environments and foreign managers are employed in organisational units is not that they are better able to communicate with their students/co-workers, but that they bring about new thoughts and knowledge bases, which is in accordance with the studies on the strengths of weak ties (Levin & Cross, 2004). As such, despite eloquent capacity, transfer channel richness, and absorptive capacity are likely to be reduced when the domestic manager is replaced by the foreign manager, the overall benefits for the subsidiary can be positive. They will be positive when the benefits of having access to the new knowledge base outperform the inefficiencies that govern the new cross-system knowledge transfer process.



“have a ‘can-do’ attitude”, “value taking initiative”, and “believe that individuals are in control”, while other societies tend to “have sympathy for the weak”, “speak indirectly and emphasize ‘face-saving’”, “value ambiguity and subtlety in language and communications”, “have far more negative connotations with the term aggression”, “stress [...] solidarity [...]”, and “value who you are more than what you do” (Den Hartog, 2004: 405). These tendencies describe the degree to which a society is assertive or not. Assertiveness was shown in the GLOBE study (House *et al.*, 2004) to be strongly practiced in Germany (4<sup>th</sup> rank out of 61 nations) but moderately in China (51<sup>st</sup> out of 61 nations). This reflects our research findings. Self-confidence and assertiveness both translate into the concepts that are beneficial for effective knowledge transfers: into a can-do attitude, into expressiveness (feedback), and other thought-revealing behaviour. While the level of self-efficacy is likely to differ across research contexts, it is posited that in any context, self-confidence and a “can-do” attitude (as opposed to the “wait-and-see” mentality observed by one of our interview partners) positively influence the source’s and the recipient’s communicative behaviour.

### **One-directional transfer**

The fact that we investigated only one direction of transfers (headquarter to subsidiary) places another limit on the generalisability of our findings. We did not look at reverse knowledge transfer because we wanted to clearly differentiate between absorptive and eloquent capacity and prevent from a situation where interviewees or questionnaire respondents intermix these skills. In order to explore the existence of eloquent capacity and explain how it differs from absorptive capacity, we had to make a choice for a one-directional transfer. It is reasonable to assume that reverse knowledge transfer follows similar rules as the knowledge transfer we investigated, as much as the feedback loop in communication depends on similar factors than the initial communication loop (De Fleur, 1970). While we assume that the determinants of effectiveness do not change for reverse knowledge transfer, we cannot generalise at this point that those companies in our sample that effectively transfer knowledge from Germany to China are also effective in transferring knowledge from China to Germany. Due to the fact that source and recipient change roles in this setting, the individual skills and attitudes that are necessary for effective transfers have to be reassessed.

Having outlined the theory (chapters 2-4), described the methods (chapter 5), analysed the data (chapters 6-10), and described the limitations of the research, the research findings can be reviewed and concluded.

## **REVISION AND CONCLUSION OF THE RESEARCH CONDUCTED**

By conceptually outlining the determinants of effective knowledge transfers and by assessing their role in an empirical setting, this thesis has shed new light on the process of international knowledge transfer taking place within multinational enterprises. We dived into an extensive knowledge body, gave it a theoretical structure, generated some new conceptual insights and research hypotheses, collected primary data to test our hypotheses, and investigated the insights empirically. A primary goal of the research was to integrate the fragmented research agenda. Despite many questions remain (outlined in the future research section below), we hope that the comparison of communication theory and knowledge transfer studies has helped to better structure, integrate, and understand the research agenda.

Chapter 1 outlined why knowledge and knowledge transfers are of essential importance to the international business discipline. Virtually all topics on the international business agenda deal with, or are affected by, an aspect of knowledge or knowledge transfer. Hence, understanding the internationalisation of countries and economies is facilitated by insights into knowledge transfer effectiveness. Chapter 1 also showed that despite the rich research output in the area of knowledge transfer effectiveness, several questions remain why some organisations transfer knowledge more effectively than others. The purpose of this thesis became to investigate the determinants of knowledge transfer effectiveness systematically, conceptually and empirically. The first objective became to find the most conclusive framework for research into knowledge transfer effectiveness. The second objective became to specify the determinants of knowledge transfer effectiveness. The third objective became to examine the determinants in empirical tests.

Chapter 2 was concerned with the first research objective. Four major theories that were employed in previous studies to explain knowledge transfer effectiveness were outlined. It was shown that the resource-based view, transaction-cost economics, and social network theory have helped us achieve a better understanding of knowledge transfer effectiveness, but that

their conceptual scope is insufficient to account for all antecedent findings of previous research into knowledge transfer effectiveness. Communication theory on the other hand provides the holistic framework that we were looking for. As shown in a matrix that compares the elements of effective communication with the determinants found in antecedent knowledge transfer effectiveness studies, communication theory accounts for every aspect found.

Chapter 3 took on the second objective. Every aspect of effective communication was outlined in-depth and compared to the findings of knowledge transfer studies. The determinants of knowledge transfer effectiveness according to communication theory were thereby specified (objective 2). In addition, we found three research gaps. Two determinants of effective communication appeared to be under-researched in knowledge transfer settings. The first determinant was labelled eloquent capacity, which describes how well an organisational unit can express knowledge (to a recipient). The second determinant was labelled organisational self-efficacy. This concept describes the collective self-confidence of the members of an organisational unit. The third research gap was not concerned with a neglected determinant, but with the understanding of how partner differences influence effective communication/knowledge transfers. Both study streams agreed that partner differences negatively influence effectiveness, but communication theory specified three reasons why they do so. We translated these arguments for the study of knowledge transfer effectiveness by suggesting that partner differences create barriers to expression (problems for the sending unit), barriers to transmission (problems related to the communication between sending and receiving unit), and barriers to absorption (problems for the receiving unit).

Chapter 4 deepened some of the insights derived from communication theory in chapter 3 by integrating essential thoughts and ideas from knowledge transfer studies. This effort was necessary to account for some of the empirical realities that differentiate knowledge transfer settings from communication settings and to derive testable hypotheses.

Chapter 5 explained the research methods and setting. The research was positioned in terms of philosophy, approach, strategy, choice, time and horizon, and techniques and procedures. It was explained that despite the deductive nature of the quantitative research conducted, we opted for an inductive-deductive data-collection methodology to account for ideas about

effective knowledge transfers that are beyond the scope of communication theory. The choice of the sample was explained as having high theoretical and practical relevance.

Chapter 6 presented the findings of the qualitative field work. The data collected during interviews with German and Chinese managers showed illustrative cases of situations in which all determinants of effective communication influenced the effectiveness by which knowledge was shared within the organisation. Despite the fact that some of the determinants were reported more often than others, we found all of them even within a sample as small as 13 interviewees, further stressing the suitability of communication theory for knowledge transfer investigations. We found that the three novel concepts of effective knowledge transfers that were derived from communication theory were part of the interviewees' reported experience. As such, the conclusions derived from a largely inductively derived data set matched the conclusions we derived from communication theory.

Chapter 7 used quantitative data to illustrate the importance of eloquent capacity to knowledge transfer effectiveness. It was shown that several dimensions of eloquent capacity positively influence transfer viscosity (how much knowledge is transferred) and transfer value (how much value is created from knowledge transfers). It also revealed that eloquent capacity does not influence transfer velocity (how quickly knowledge is transferred), but that absorptive capacity does. In sum, it was shown that eloquent capacity is an essential part of an effective knowledge transfer process.

Chapter 8 provided quantitative insight on the concept of organisational self-efficacy. As opposed to our own hypotheses, self-efficacy could not be proven to substantially influence any dimension of transfer effectiveness. Based on some insight from chapters 3 and 7, it was concluded that the organisational unit's self-efficacy might have a direct impact on its own behaviour (in terms of ability, understanding, expressiveness, activity), rather than on the outcome of knowledge transfer (effectiveness).

Chapter 9 investigated the impact of partner differences on transfer effectiveness by use of the quantitative data. As derived from communication theory in chapter 3 and as predicted in chapter 4, it was shown that partner differences in logics and language reduce i) the eloquent capacity of the source, ii) the frequency by which the source and the recipient communicate,

and iii) the absorptive capacity of the recipient. It was concluded that partner differences create barriers to expression, barriers to transmission, and barriers to absorption.

Chapter 10 triangulated the data across methods. On the one hand, the congruence of the conclusions derived from the qualitative and quantitative data sets in respect to eloquent capacity and partner differences was pointed out. On the other, it was shown that the qualitative data supported organisational self-efficacy as a determinant of transfer effectiveness, while the quantitative data did not. Using more insights from communication theory and the qualitative findings, an alternative causality was depicted between self-efficacy and transfer capacities, and between self-efficacy and transfer channel richness. The correlation matrix in chapter 8 supported this notion, too. Backed by these insights, we reinvestigated the *indirect* impact of self-efficacy on transfer effectiveness using eloquent capacity, transfer channel richness, and absorptive capacity as the potential dependent variables. Several of the measures of eloquent capacity, transfer channel richness, and absorptive capacity were influenced by self-efficacy whilst controlling for the negative impact of partner differences. The chapter concluded that the recipient's and the source's attitude towards themselves impacts their communicative behaviour.

Apart from the novel and important insights provided on individual determinants of transfer effectiveness, a main conclusion of the thesis is that a communication theory approach reflects the holistic nature of the knowledge transfer process in the best possible way. As is communication, knowledge transfer is a holistic, interactive process that cannot be understood by looking at some of its variables in isolation. Communication theory is the preferred approach to understanding knowledge transfer effectiveness whenever contextual understanding is sought, because this theory represents the context in which knowledge transfer takes place better than any other reviewed theory. Unless the research objective specifically demands the use of another theoretical approach, we conclude that communication theory is the preferred theory to analyse the effectiveness of knowledge transfers because, as shown in this thesis, it helped us make four unique achievements: By building on a communication theory approach, this thesis i) conceptually combined nodal-level and dyad-level determinants (chapter 2), ii) integrated all antecedent empirical findings in a single theoretical framework derived from a single, coherent theory (chapters 2 & 3), iii) showed that the determinants of knowledge transfer effectiveness cannot be looked at in isolation but must

be treated simultaneously (chapter 6), and iv) provided evidence that the aspects of communication theory that remain under-researched in respect to knowledge transfer effectiveness play an important role in the knowledge transfer process (chapters 7-10). We find this conclusion to be the most important one, because, as will be explained in the future research section, in this thesis we have only seen the tip of the communication theory iceberg. There is abundance of research on communication theory whose value for the study of knowledge transfer remains to be explored.

In addition to the conclusions for the knowledge transfer research area as outlined above, some additional conclusions can be drawn for the economic/international business discipline. It was claimed in chapter 1 that new insights into knowledge transfer effectiveness can have an impact on many other fields of research, such as the theory of the MNE or the competitiveness of nations. Indeed, at least two ideas discussed in this thesis should be given some further attention in economic, business, and management research: eloquent capacity and the creation of partner similarities by MNEs.

Firstly, eloquent capacity represents an ownership advantage. It can fundamentally influence MNEs' success at internationalisation, influence the international growth of the firm, and influence the structures and strategies that are necessary to manage knowledge effectively within the organisational network of an MNE. It diminishes the uncertainty that governs internal knowledge transactions by reducing ambiguity and providing certainty at the earliest stage of the communication process (expression). It thereby prevents many costs and losses that could potentially arise during later stages (transmission and absorption). Due to its value-creating nature, it is to be picked up by strategic management and neighbouring areas. Since eloquent capacity creates value for organisations (chapter 7), it is fairly straightforward to assume that it also does so for other institutions and at a more aggregated level, e.g. the nation-state. Given the lack of good proxies and hard measures, it was impossible for us to calculate the monetary benefits and marginal returns of investments into eloquent capacity. Research on the returns on eloquent capacity (from a micro-economic or a macro-economic point of view) would help policy makers to further build the knowledge economy and wealth to be created.

Secondly, we were able to see that those MNEs that create superior communication environments (understanding, ability to express and absorb, rich communication channels) achieve this in part by reducing, avoiding, and bridging partner differences (chapter 9). MNEs are motivated to establish organisational mechanisms that bridge societal and market differences because the “international acquisition and exploitation of knowledge will normally involve [...] *basically similar* plants” (Buckley & Casson, 1976: 35, *emphasis added*). In the absence of this similarity, the international transaction would be less likely to be governed by an institutional mechanism because dissimilarity increases communication costs, which in turn increase the costs of internalising a market. By combining differences in structures, systems, culture, logics, and language, we have taken the idea of similar plants to that of similar organisation. It can be argued that by providing shared structures, systems, cultures, language, and logics to transfer partners located in culturally and linguistically different locations, MNEs actively *reduce* the differences between the members that are part of their internal network. While societal differences between transfer partners remain similar under internal (firm) or external (market) transactions, internal transactions are not only influenced by these societal differences but also by a high degree of similarity in respect to organisational culture, company-specific jargon, systems, structures, and logics. As such, MNEs *create* similarities that are beneficial for the costs of any transaction. Since “when activities are geographically separated, communication costs are a major constraint on market efficiency” (Buckley & Casson, 1976: 33), but any cross-border system set up by an MNE reduces these costs, we find a reason why the firm is superior to the market. Furthermore, this reason is applicable not only to knowledge-intensive industries, but to any firm that has a need to manage internal, international communication. A better understanding of MNEs as institutions that reduce partner differences might shed a little more light on the question “why should interdependent activities be co-ordinated internally by the management of a firm rather than externally by market forces?” (Buckley & Casson, 1976: 36). At the same time, it must be acknowledged that some partner differences cannot be bridged by MNE-systems, for example when societal cultures are too large or language gaps too wide. This might explain the co-existence of firms and markets, and in particular why internationalisation has largely remained regionalisation (Rugman, 2005) – within the internal market of each part of the triad (EU, NAFTA and Asia), cultural and other differences are small enough to be addressed by common organisational systems. Beyond this market (i.e. beyond a certain level of difference), societal differences become so large that they cannot be addressed anymore by organisational mechanisms. If the

above can be examined using empirical evidence, we might be able to explain why the firm largely governs intra-triad trade and the market largely governs cross-triad trade.

Given that we have reviewed what the thesis set out to do and what it actually achieved, we must reflect on the match between the expectation and the outcome. The goal of the thesis was to answer the question

What are the determinants of international, intra-organisational knowledge transfer effectiveness?

The thesis answered this question using three different approaches. Approach one was to use analogical reasoning to *conceptually* identify the determinants of effectiveness. 23 different determinants were found (see tables 4 and 6). Approach two was to use an inductive-deductive interview-research-strategy to *qualitatively* assess the determinants of effectiveness. All 23 different determinants were found (see chapter 6). Approach three was to use questionnaires to *quantitatively* assess the determinants of effectiveness. While not all 23 determinants could be included in these quantitative analyses for sample size reasons, we explored the important role of most determinants that were included in our models (e.g. eloquent capacity, absorptive capacity, transfer channels, partner differences and organisational self-efficacy). As such, the answer to the research question is that the determinants of international, intra-organisational knowledge transfer effectiveness resemble the determinants of an effective communication process. After having conducted conceptual and empirical research, it must be concluded that the nature of the communication process and the knowledge transfer process could not be more similar; they show 'literal similarity' (Gentner, 1983). As such, drawing on the findings of chapters 2-10, the main research question can be answered as

The determinants of knowledge transfer effectiveness resemble the determinants of effective communication; both an effective communication process and an effective knowledge transfer process are influenced by literally similar determinants. They comprise characteristics of the i) message, ii) the source, iii) the channel, iv) the recipient, and v) noise sources. The determinants have unique roles and differing predictive power for transfer effectiveness, but can overall be specified as i) the characteristics of the knowledge to be transferred; ii) the source's



eloquent capacity, its motivation to transfer, its trust in the recipient, its level of organisational self-efficacy, its knowledge level, and the social system in which it is embedded; iii) the transfer channels' richness and social networks between source and recipient; iv) the recipient's absorptive capacity, its motivation to absorb, its trust in the source, its level of organisational self-efficacy, its knowledge level, and the social system in which it is located; and v) partner similarities, e.g. in language, logics, culture, systems and structures.

The conclusions presented above translate into important implications for those who engage in knowledge transfer either from a research perspective or from a practitioner perspective.

### **IMPLICATIONS FOR SCHOLARS**

In sum, for scholars, the implications are i) that eloquent capacity should be approached from a communication theory point-of-view, ii) that eloquent and absorptive capacities are influenced by nodal- and dyad-level characteristics, iii) that the quality of interaction is more important than the quantity of interaction, iv) that knowledge transfer effectiveness has to be understood as a multi-dimensional measure, with each dimension having unique determinants, and v) that knowledge expression needs to be integrated in the knowledge transfer equation.

Only few attempts were undertaken in the past that sought to explain how the source's capacity to transfer knowledge influences the effectiveness of knowledge transfers (Klijn, 2005; Martin & Salomon, 2003; Wang *et al.*, 2004). Similar to the majority of studies in the knowledge transfer field, such studies amalgamated different theoretical arguments in a single framework to explain that (and how) the source's skills influence knowledge transfer effectiveness. The approach undertaken in this thesis was different. We did *not* derive a theory of eloquent capacity by putting together a "potpourri of [...] theorizing and conceptualizing" (Hawkins, 1984: 15), but we relied on a single theory that predicted a three-dimensional, unique concept of eloquent capacity. The same theory had predicted the three-dimensional nature of absorptive capacity as revealed in empirical studies (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998) before. In a similar way to its precise prediction of the nature of absorptive capacity, communication theory correctly predicted the nature of eloquent capacity (see chapter 6 for qualitative and table 14 for quantitative evidence) and that it positively influences

transfer viscosity and value (tables 19 and 20). As such, we provided a new theoretical foundation for research into the role of the source's skills to express knowledge and tested it, thereby providing strong face validity and empirical validity of the concept of eloquent capacity. The important implication for scholars is that both the source's and the recipient's skills have to be investigated in order to understand the effectiveness of the process, and that the communication-theory-derived concept of eloquent capacity is a very suitable and valuable tool to do so.

Studies in the past have argued that absorptive capacity is either absolute (Cohen & Levinthal, 1990) or relative (Lane & Lubatkin, 1998). This thesis argued differently. It combined the two views conceptually and empirically, showing that absorptive capacity is both absolute and relative, because it is influenced by both nodal-level determinants (e.g. organisational self-efficacy) and dyad-level determinants (e.g. differences in language and logics). The thesis also derived from theory and tested empirically, that transfer channels and eloquent capacity have absolute and relative components. The implication for scholars is that there are nodal- and dyad-level antecedents of eloquent capacity, transfer channel richness, and absorptive capacity. Absorptive capacity is likely not to be 'inherently relative' (Lane & Lubatkin, 1998) and even eloquent capacity, which was shown in chapter 9 to be more relative<sup>117</sup> than absorptive capacity, is not purely relative. Rather than that, both constructs are absolute and relative, because they have both nodal- and dyad-level antecedents. In other words, certain characteristics of an organisational unit will improve its absorptive (eloquent) capacity independent of the transfer setting. Other antecedents depend on the transfer partner. Therefore, scholars seeking to understand any transfer capacity or communication channels must simultaneously investigate both nodal- and dyad-level aspects.

Many studies in the past have stressed the importance of the frequency of interaction to effective knowledge transfers (e.g. Gupta & Govindarajan, 2000; McFayden & Cannella, 2004). This thesis shed new light on these findings. We observe that the explanatory power of transfer channel richness on transfer effectiveness is taken away by the three measures of eloquent capacity and the two measures of absorptive capacity. In our study, the initially positive impact of transfer channel richness on transfer velocity, viscosity, and value was reduced once absorptive capacity was introduced in the model and entirely diminished when

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<sup>117</sup> The negative impact of partner differences on eloquent capacity (as measured by the size of the betas describing their relationship) was larger than the impact of partner differences on absorptive capacity.

eloquent capacity was added as well. Transfer channel richness assessed the quantity of interaction (frequency), while the two transfer capacities assess the quality of the interaction (abilities and understanding). As such, the thesis has found what practitioners (Gates, 1999; McKinsey Quarterly, 2004) predicted before. The facts that both measures share some of the power to explain transfer effectiveness, but that transfer capacities replace transfer channels in all models (and not the other way around), shows that understanding and ability contribute more to successful knowledge transfers than frequent communication. Despite a minimum richness of communication channels is necessary for knowledge transfer to take place at all, it must be argued that the qualitative dimension of partner interaction (understanding and ability) is more important than the quantitative dimension of partner interaction (frequency of communication). The important conclusion for scholars is that a good knowledge transfer relationship requires high-quality interaction, not high-quantity interaction.

Previous research traditionally investigated one or a maximum number of two measures of effectiveness (viscosity and/or value). This thesis took on the challenge of including multiple measures of effectiveness, to define them, to verify them (using factor analysis, chapter 7), and to predict and test how they would interact with each other. The thesis showed that transfer velocity, viscosity and value are distinct dimensions of effectiveness with unique determinants (chapter 7). Velocity is determined by absorptive capacity, viscosity is determined by eloquent capacity, and transfer value is determined by realised absorptive capacity (as argued by Zahra & George, 2002, and shown by Lane *et al.*, 2001), transfer viscosity (as found by Collins & Smith, 2006; Dhanaraj *et al.*, 2004; Kotabe *et al.*, 2003; Lane *et al.*, 2001; Yli-Renko *et al.*, 2001), and potential eloquent capacity. In light of these novel findings that show the unique nature of each dimension of effectiveness, scholars might have to consider whether or not the determinants of transfer effectiveness used in their studies must be re-investigated to simultaneously include all dimensions of knowledge transfer effectiveness. In this way, they may achieve a more complete understanding of knowledge transfer effectiveness.

Finally, in light of the findings of this thesis, it is deemed necessary to complement the established knowledge transfer equation

Transfer = Transmission + Absorption (and Use)

as stated in Davenport & Prusak (1998: 101). The results found in this thesis indicate that the above equation is incomplete: For a river stream, its effectiveness can be measured by its volumetric flow rate<sup>118</sup>, which combines aspects of viscosity and velocity. This flow rate will depend on three items: i) how much water is fed in from the spring and catchment area; ii) the physical characteristics (width, depth, and slope) of the riverbed; and iii) the physical characteristics of the river mouth (width and depth, which determine whether the water flows out immediately or if it gets held back in a lake, reservoir, or similar). This analogy is similar to the arguments developed and pursued in this thesis. It was shown that knowledge transfer is restricted by the amount of knowledge that can be expressed, the amount of knowledge that can be transmitted, and the amount of knowledge that can be absorbed. Hence, we specify that

$$\text{Transfer} = \text{Expression} \ \& \ \text{Transmission} \ \& \ \text{Absorption} \ (\text{and Use})$$

whereas it will always be the weakest link in the equation that determines the effectiveness of the process. If the source is the weakest link, the level of knowledge expression determines the maximum amount of knowledge that can be transmitted and absorbed. In this case, the level of transfer cannot be greater than the level of expression, even if knowledge transmission and absorption are greatest and perfectly noiseless. If the channel is the weakest link, its maximum capacity will determine how much knowledge can be absorbed. Even when knowledge expression exceeds knowledge transmission in this case, some of the expression was in vain. If the recipient is the weakest link, all knowledge expression and transmission that exceed its capacity for knowledge absorption is superfluous. As such, knowledge transfer is always determined by the weakest element in the above equation, or:

$$\text{Transfer} := \{ x \mid x \text{ element min (expression, transmission, absorption)} \}$$

Given this logic, an important implication is that knowledge transfers can only be maximised up to a certain level by investments into absorptive capacity or transfer channels. Once the absorptive capacity (transfer channel richness) is sufficient to absorb and transmit all knowledge that can currently be expressed, organisations must invest into eloquent capacity (and transfer channel richness) to further improve their knowledge transfer effectiveness.

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<sup>118</sup> Volumetric flow rate = Water volume [m<sup>3</sup>] / time [second]

## IMPLICATIONS FOR PRACTITIONERS

Our additional answers to the question why organisations do not know what they know (Szulanski, 1996) makes an important contribution beyond the ivory tower, an aspect of the international business research agenda that has been neglected too often (Hawkins, 1984). The implications are that practitioners should i) allocate resources to simultaneously develop eloquent and absorptive capacity, ii) allocate resources that reduce, or bridge, partner differences, iii) not overestimate (and over-invest in) the role of IT in international knowledge transfer effectiveness, and iv) support the development away from organisational cultures that emphasise hierarchy to those that emphasise openness and meritocracy.

International transfer of knowledge is inhibited by difficulties associated with organisational learning (facilitated by absorptive capacity) and organisational teaching (facilitated by eloquent capacity). Practitioners should make investments that develop their organisational units' absorptive capacity and eloquent capacity. These capacities can be effectively developed from a human resource perspective (hiring and training). Our research results suggest that attempts seeking to improve knowledge transfer effectiveness have to start with a strength and weakness analysis. When it is found that the organisation's weakness is that of distributing knowledge, eloquent capacity can be enhanced by trainings that help the knowledge-owners better understand their organisation's knowledge pool, the potential recipients of the knowledge, and different ways to express knowledge. Some of the methods that can be employed are to train the knowledge possessors in what their company seeks to achieve by knowledge transfers, in inter-cultural skills, and in language and pedagogic methods. The benefits of trainings for existing members of the organisation can be reaped rather quickly, because they provide the knowledge holders in the organisations with tools to disseminate their knowledge immediately. Naturally, hiring individuals who show attributes of good knowledge communicators can potentially improve the eloquent capacity of an organisation. However, improving the organisation's eloquent capacity by adapting recruitment policies is more of a long-term strategy, since most individuals hired into the organisation will first have to learn for a certain period (about the organisation and its business) before passing on their own knowledge to other members. Given the weakness rests with the recipient, investments should be made in particular in developing its absorptive capacity. By the same token, this starts with a healthy recruiting policy that pays attention to factors in candidates CVs that indicate this capacity (e.g. international experience, familiarity with the products and the

industry). Furthermore, trainings for new and existing employees should be designed to teach them where in the international network of the organisation (it might be elsewhere than the headquarter) to look for knowledge, whom to address with questions, and how different tools, techniques, and practices can be employed to assimilate, adjust, and apply the organisation's knowledge.

The negative effects of partner differences on the ability to express and absorb knowledge are of particular relevance because these abilities influence how effectively knowledge is transferred from one organisational unit to another. As such, practitioners that are involved in cross-border knowledge transfers should invest in mechanisms that reduce the negative impact of partner differences on transfer capacities for both the source and the recipient. Obviously, this starts with language trainings and the development of a workforce that can communicate in a common language. It goes beyond learning the same spoken language (e.g. English, Spanish, French), but also needs to address issues of technical language and company-specific jargon and abbreviations (c.f. Buckley *et al.*, 2005). More importantly, the logics-aspect of language and logics needs to be addressed in inter-cultural trainings, as well as the awareness of the other culture and cultural differences. The fact that a transfer partner is different from another cannot be changed, but the way the two transfer partners deal with the additional challenges, misunderstanding, uncertainty, and unfamiliar habits and thoughts can be changed. Such mechanisms that bridge partner differences and reduce the misperception arising from cultural and social misunderstanding must be invested in if international organisations seek to become more effective knowledge transferring institutions.

Another important implication derives from the fact that the benefits of supporting frequent interaction between organisational units are fewer than the benefits of supporting understanding and ability-development. This is in accordance with the views of practitioners that technology plays only a minor role in knowledge transfers (Gates, 1999; McKinseyQuarterly, 2004). As such, organisations should wisely balance the investments they make in new technological capabilities on the one, and in human capabilities on the other side. Investments that purely facilitate communication (e.g. investments in technical and technological infrastructure) and investments that support the development of understanding and ability (hiring and training policies, use of international teams and cross-country assignments for selected staff) must be distinguished and more importance will have to be

assigned to the latter. Without doubt, in the absence of communication channels (knowledge transmission), no knowledge will be transferred because knowledge transfer will always be equal to the smallest component of knowledge expression, knowledge transmission, and knowledge absorption (see the extended knowledge transfer equation elaborated on earlier). But once a certain interaction is established (interlinking offices via email, phones, faxes, and by creating intranets with contact lists listing responsibility- and job-descriptions), the relative benefits of technology diminish. The benefits that can be reaped from knowledge transfer are more strongly influenced by understanding and ability than by the frequency of interaction.

Employees' self-confidence improves their communication skills. The implication is that companies should assure that their corporate culture supports the development of self-confident employees. Leading MNEs already teach their employees the value of believing in the contribution the individual can make to corporate success and the value the firm sees in them speaking up. For example, semiconductor maker Intel's motto is to "disagree and then commit" (McKinseyQuarterly, 2007c). One of McKinsey's core values and practices is the "obligation to dissent" (McKinsey, 2008) that teaches employees to disagree whenever things go wrong according to their opinion. Such values and principles, when incorporated and practised effectively, trigger constructive feedback and criticism between employees, enabling them to learn from each others' ideas and thereby improve their own understanding and abilities. Other companies should adopt practices similar to those of McKinsey and Intel, thereby improving the effectiveness of their knowledge transfers and internationalisation. Compared to changing an organisation's level of eloquent capacity, changing its level of self-efficacy will be a challenging task. Self-efficacy is deeply rooted in societal culture and strongly influenced by organisational culture. Changing organisational culture is a challenging task; changing societal cultures an impossible (and undesirable) task. Attitudes (such as self-confidence) are strongly influenced by the experience an individual has made with his societal and organisational environment over time (Hofstede, 1980). Sudden changes in the environment are unlikely to show immediate results, because every individual's behaviour is a reflection of their lifelong learning experience. Sudden changes are unlikely to cause immediate change, because an individual's "software of the mind" (Hofstede & Hofstede, 2005: 3) cannot be overwritten over night. The challenges for change management to tackle this issue will be extreme. Furthermore, despite the benefits for knowledge transfer effectiveness, the suitability of such an organisational culture for any organisation must be questioned, because a sudden

meritocratisation will cause significant challenges to organisations that have primarily emphasised and exercised hierarchy based on seniority or other factors.

Whilst improving our understanding of the knowledge transfer process as outlined above, the thesis has also shown that a lot of work remains to be carried out.

## **FUTURE RESEARCH**

After more than two decades of research into the area, the list of questions is not reduced, but still increasing. Hopefully, this study was able to provide some structural insight and shed some empirical light on some of the remaining questions. Our study calls i) for the inclusion of eloquent capacity in empirical studies, ii) for the inclusion of self-efficacy in empirical studies, iii) to treat partner differences as having an indirect effect on transfer effectiveness that is mediated by eloquent capacity, transfer channel richness, and absorptive capacity, iv) to simultaneously analyse dyad-level and nodal-level aspects of eloquent and absorptive capacity, v) to investigate multiple aspects of transfer effectiveness, vi) to shed light on the interaction between organisational capacities to transfer knowledge, vii) to find harder measures for determinants and outcomes, viii) to respect the holistic nature of the transfer process, and ix) for communication theorists to enter our field.

Future research should include measures of eloquent capacity. When trying to explain why companies internationalise, scholars draw on market-, resource-, efficiency-, and strategic-asset seeking motives (Dunning, 1993). Leaving one of them out would leave them with incomplete understanding. When trying to explain why companies engage in Joint-ventures, scholars draw on theoretical explanations stemming from mainstream economic, transaction cost, resource dependency, organisational learning, strategic positioning, and government policy views (Glaister & Buckley, 1996). Leaving either of them out would reduce our understanding. When trying to explain how companies diversify, scholars draw on determinants that can be found at the parent/buyer side (e.g. Barkema & Vermeulen, 1998; Harzing, 2002; Hennart & Park, 1993), at the subsidiary/target side (Anand & Delios, 2002; Brouthers & Brouthers, 2000), and in their relationship (Anand & Delios, 2002; Chang & Rosenzweig, 2001). Leaving any of the views out of the equation would let the literature fail to explain diversification. Similarly, research into how organisational capabilities influence transfer effectiveness cannot ignore the



capabilities of the source. It needs to take into account the eloquent capacity of knowledge transferring organisations. We have suggested that the dimension for eloquent capacity should be derived from communication theory, but other scholars can opt to use management literature (as in Martin & Salomon, 2003), or inductively derive them from interview data.

Future research should include measures of organisational self-efficacy. Including self-efficacy provides the opportunity to enrich the discussion on transfer attitudes by its third element (attitude toward transfer partner, attitude toward subject matter, and attitude toward self) and thereby further complete the knowledge transfer effectiveness 'puzzle'. We suggest that the measures employed in this thesis could be used in future research, but strongly suggest to adjust them to measure the individual-level and to aggregate the responses for each organisational unit after data collection for the reasons discussed in the limitation section. Due to the challenge of needing multiple respondents per organisation, another alternative to measure the effect of less active, awaiting, inexpressive, and indirect recipients or sources would be to use the assertiveness scale of the GLOBE study (House *et al.*, 2004), for which both value-scores and practice-scores are available. Finding correlations with knowledge transfer effectiveness in this area would provide important insight on why some societies transfer knowledge (and internationalise) more effectively/quickly, and further manifest the very *raison d'être* of the international business discipline.

Future research should address the communication-theory-derived insight that differences between partners influence the source, the channel, and the recipient involved in the transfer. The fact that many studies found either no or a negative impact of partner differences on transfer effectiveness might be resolved by relying on communication theory and investigating the proposed mediated model (figure 6).

Future research should simultaneously analyse dyad-level and nodal-level aspects of eloquent and absorptive capacity. Jansen *et al.*'s (2005) study provides many nodal-level determinants of absorptive capacity. Similar nodal-level measures should be thought of for eloquent capacity (organisational self-efficacy might be one of them). The dyad-level factors that influence eloquent and absorptive capacity can be specified as differences in societal culture (Jensen & Szulanski, 2004; Minbaeva *et al.*, 2003; Szulanski *et al.*, 2004), in industrial background (Mowery *et al.*, 1996), in business background (Lane *et al.*, 2001), in organisational culture, structure, and

systems (Dhanaraj *et al.*, 2004; Lane & Lubatkin, 1998; Lane *et al.*, 2001; Simonin 1999a, 1999b), in knowledge (Lane & Lubtakin, 1998; Reagans & McEvily, 2003), and in logics & language (Collins & Smith, 2006; Lane & Lubtakin, 1998). A simultaneous analysis of such nodal-level and dyad-level factors can shed further light on the absolute and relative nature of absorptive and eloquent capacity, showing that the capacities are neither fixed (Cohen & Levinthal, 1990) nor inherently relative (Lane & Lubatkin, 1998), but dependent on both basic abilities and the similarity of the transfer partners.

Future research should address issues of velocity, viscosity, and value. Here, it is important to fully understand which factors determine each aspect of transfer effectiveness and to understand how the three measures of effectiveness interact. In particular, more insight is needed if and how transferring knowledge quickly (transfer velocity) brings about strategic or financial advantages (transfer value).

Future research should simultaneously analyse the two transfer capacities. A remaining question is if an organisation's ability to express knowledge (eloquent capacity) influences its own ability to absorb knowledge (absorptive capacity). This thesis and Klijn's (2006) study of inter-organisational learning indicate that in learning dyads, some dimensions of the eloquent capacity construct correlate with some dimensions of the absorptive capacity construct (see table 17). Klijn (2006) interpreted this as the positive impact a good teacher (source) has on the ability of the student (recipient). It could also be postulated that the ability of the student (recipient) improves the ability of the teacher (source), because a student with better ability to learn will facilitate the teacher's understanding of the student (e.g. via improved feedback loops). It appears that many of the determinants of effectiveness in a knowledge transfer setting are as intertwined as in a communication setting, and more conceptual and empirical research is necessary to establish the potential causal relationship between the two capacities. Apart from the question of causality between eloquent and absorptive capacity, a maybe more interesting question is if an organisation's eloquent capacity influences its own absorptive capacity – if a good teacher (source) is likely to also be a good student (recipient) himself. Investigating the determinants of knowledge transfer effectiveness simultaneously in a bi-directional setting would be extremely interesting to shed more light on how an organisational unit can improve an organisational capacity by help of another.

Future research should develop and apply harder measures for knowledge transfer determinants and effectiveness. We maintain to face the need to find useful harder measures. Some have been developed and used in previous studies (e.g. Lane *et al.*, 2001), but they were not applicable in a sample of such heterogeneous nature as ours. However, continuing to think about and develop harder measures will help the knowledge transfer subject to achieve higher acceptance in the business world. A challenge remains for knowledge transfer to identify such hard measures that are representative of a single determinants but nothing else, as shown in the earlier discussion on the use of the expatriate-proxy.

Future research should respect the holistic nature of the transfer process as good as possible. Within the limits of our sample size, we included as *many different characteristics* of the knowledge itself, of the transfer setting (noise sources), of the source, of the recipient, and of the channels and networks that enable their communication. Still, we could not include all characteristics, and missing out on any significant determinant of effectiveness endangers the validity of any study (Berlo, 1960; Hair *et al.* 2005) by ignoring possible causal, moderating, or mediating effects between the employed variables. Backed by holistic frameworks such as the one we derived from communication theory, research should continue to explore what matters most to an effective knowledge transfer process. Is it, as many would assume, absorptive capacity? Or is it eloquent capacity? To what extent do partner differences diminish each of these capacities? To what extent do low levels of organisational self-efficacy inhibit the realisation of high eloquent/absorptive capacity? What other causal, moderating, and mediating relationships can be observed between several determinants and measures of transfer effectiveness? More research is deemed necessary to answer such questions.

Communication scholars should assist knowledge transfer scholars to better understand their field; there is a need for interdisciplinary research-teams. This study has used communication theory to suggest five areas in which all determinants of knowledge transfer effectiveness can be found. Any determinant is located at one of the five forces that influence knowledge transfer effectiveness – forces that are either knowledge-specific, source-specific, channel-specific, recipient-specific, or situation-specific. Being ready to accommodate all determinants found in antecedent studies, this holistic ‘five-forces’ model of knowledge transfer effectiveness is likely to remain conceptually complete. However, in respect to learning from communication theory, knowledge transfer has not yet come full circle. We have extended the

application of communication theory in knowledge transfer research from Shannon & Weaver's (1949) model to a more comprehensive level, but this study only represents the beginning of what knowledge transfer research can learn from communication theory (and possibly, vice versa). Dozens of communication journals and thousands of articles exist that have validity for our research area. This research has used the most widely accepted and frequently cited determinants of effective communication, as well as the basic relationships, to explain knowledge transfer effectiveness. Advanced studies in the area of communication theory represent an ocean of knowledge about causes and effects, mediating and moderating relationships. Within the scope of my PhD thesis, it was impossible to absorb this knowledge that exists on effective communication, but we strongly believe that diving deeper into this ocean and asking communication scholars to help understand it will tremendously benefit the study of knowledge transfer effectiveness. One reason why communication theorists must enter the field is to help us achieve integrity and to do away with misconceptualisations. One fundamental misconceptualisation was found in Lane & Lubatkin's (1998) study. We have cited their work, which investigates how partner similarities (dissimilarities) influence learning success, in this thesis uncountlessly. The importance and deepness of their study cannot be overstated, both in terms of theoretical concepts as well as empirical realisation. Despite the usefulness of this study and the many good ideas it has caused us to think about, one point of critique needs to be mentioned. Following communication theory, a capacity (skill) is fundamentally different from an outcome (effectiveness). In other words, absorptive capacity is fundamentally different from learning success. Absorptive capacity positively influences learning success; absorptive capacity determines learning success (among other factors); absorptive capacity is the cause and learning success is the outcome. Confusion arises, when comparing Lane & Lubatkin's (1998) label "relative absorptive capacity" with their dependent variable "learning partner's success at inter-organisational learning within the alliance", which is measured as the degree to which the alliance helped *learning* new skills, capabilities, technology, and developments. The dependent variable clearly measures the *outcome* of the learning process (learning success), which is influenced by many source-specific and recipient-specific characteristics (Szulanski, 1996). The term relative absorptive capacity (which is not an outcome but a cause of effectiveness) on the other hand suggests that it is the recipient's *skills* that are reduced by partner dissimilarity. This is in accordance with our findings, but it is not what Lane & Lubatkin (1998) measured. They measured the outcome, not the capacity, with their dependent variable. This is an important difference because their independent variables

all reflect partner dissimilarities that influence not only the recipient, but also the source and the channel. As such, the study has many important, valid findings, but it must be questioned if they have indeed found 'relative absorptive capacity'. They might as well have measured the effect of 'relative channel richness' or 'relative eloquent capacity'. All three 'relative' concepts govern the transfer of knowledge between source and recipient, and Lane & Lubatkin's (1998) study measures the effect of all three concepts simultaneously in the outcome variable learning success. Which of the three effects they found cannot be stated, and therefore should not be given a label either. What they did measure is 'relative learning success', which depends on the other three relative factors named above. While generating important insight on partner differences and learning success, such studies might well have contributed to researchers' focus on the recipient, and to largely neglect the source as knowledge transfer's Achilles' heel. It seems logical for 'Western' researchers to look for causes of transfer problems at the recipient's side, but we should be ready to accept that many of the problems of effectiveness are imposed on by the source. Thousands of business school graduates have absorbed the idea of relative absorptive capacity over the years, but the question is if these future leaders are also aware of the burden of adaptation that the knowledge possessors have to handle (relative eloquent capacity) and if they have adequate understanding of the potential weaknesses of international communication networks (relative channel richness). Communication theorists will surely help us avoid such misconceptualisation, which we deem to be of highest importance in order for international knowledge transfer research to become more integrated, less confusing, and more widely accepted. Hence, there is a strong need for communication scholars to enter our field.

Knowledge transfer theory should not be simply communication theory applied, because knowledge transfer requires theoretical inputs from other fields, such as management and strategy (see for example chapter 4). Communication theory is generic, whereas the knowledge transfer literature is very much an amalgam of theories applied to business and management. Communication theory is too abstract to be uncritically applied by practitioners, and liable to be misunderstood unless fully contextualized.

# Bibliography

- Anand, J. & Delios, A. 2002. Absolute and Relative Resources as Determinants of International Acquisitions. Strategic Management Journal, 23(2): 119.
- Appleyard, M. M. 1996. How Does Knowledge Flow? Interfirm Patterns in the Semiconductor Industry. Strategic Management Journal, 17: 137.
- Bandura, A. 1982. Self-efficacy Mechanism in Human Agency American Psychologist, 37(2): 122.
- Bandura, A. 1988. Self-regulation of Motivation and Action Through Goal Systems. In V. Hamilton & G. H. Bower & N. H. Frijda (Eds.), Cognitive Perspectives on Emotion and Motivation: 37. Dordrecht, Netherlands: Kluwer Academic Publishers.
- Barkema, H. G. & Vermeulen, F. 1998. International Expansion Through Start-up or Acquisition: A Learning Perspective. Academy of Management Journal, 41(1): 7.
- Barney, J. B. 1991. Firm Resources and Sustained Competitive Advantage. Journal of Management, 17: 99-120.
- Baron, R. M. & Kenny, D. A. 1986. The Moderator-mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. Journal of Personality and Social Psychology, 51(6): 1173.
- Bartlett, C. A. & Ghoshal, S. 1989. Managing Across Borders: The Transnational Solution. Boston, MA: Harvard Business School Press.
- Berlo, D. K. 1960. The Process of Communication: An Introduction to Theory and Practice. New York: Holt, Rinehart and Winston, Inc.
- Bhagat, R. S., Kedia, B. L., Harveston, P. D., & Triandis, H. C. 2002. Cultural Variations in the Crossborder Transfer of Organizational Knowledge: An Integrative Framework. Academy of Management Review, 27(2): 204.
- 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: 443.
- Björkman, I., Stahl, G.K., & Vaara, E. 2007. Cultural Differences and Capability Transfer in Cross-border Acquisitions: The Mediating Roles of Capability Complementarity, Absorptive Capacity, and Social Integration. Journal of International Business Studies, 38: 658.
- Braddock, R. 1958. An Extension of the "Lasswell Formula". Journal of Communication, 8(2): 88.
- Brouthers, K. D. & Brouthers, L. E. 2002. Acquisition or Greenfield Start-up? Institutional, Cultural and Transaction Cost Influences. Strategic Management Journal, 21: 89.

- Buckley, P. J. & Casson, M. C. 1976. The Future of the Multinational Enterprise. London: Macmillan Press Ltd.
- Buckley, P. J. 2002. Is the International Business Research Agenda Running Out of Steam? Journal of International Business Studies, 33(2): 365.
- Buckley, P. J. & Carter, M. J. 2002. Process and Structure in Knowledge Management Practices of British and US Multinational Enterprises. Journal of International Management, 8: 29-48.
- Buckley, P. J. & Ghauri, P. N. 2002. International Mergers and Acquisitions: A Reader. London: Thomson.
- Buckley, P. J. & Casson, M. C. 2003. The Future of the Multinational Enterprise in Retrospect and in Prospect. Journal of International Business Studies, 34(2): 219.
- Buckley, P. J. & Carter, M. J. 2004. A Formal Analysis of Knowledge Combination in Multinational Enterprises. Journal of International Business Studies, 35: 371.
- Burnyeat, M. 1990. The Theaetetus of Plato. Indianapolis, Cambridge Hackett.
- Campion, M. A., Campion, J. E., & Hudson, J. P. J. 1994. "Structured Interviewing: A Note on Incremental Validity and Alternative Question Types", Journal of Applied Psychology, 79: 998.
- Chang, S.-J. & Rosenzweig, P. 2001. The Choice of Entry Mode in Sequential Foreign Direct Investment. Strategic Management Journal, 22: 747.
- Chinese Culture Connection. 1987. Chinese Culture and the Search for Culture-free Dimension of Culture. Journal of Cross-cultural Psychology, 18(2): 143.
- Chini, T. C. 2004. Effective Knowledge Transfer in Multinational Corporations. New York: Palgrave Macmillan.
- Coase, R. H. 1937. The Nature of the Firm. Industrial Organization.
- Cohen, W. M. & Levinthal, D. A. 1990. Absorptive Capacity: A new Perspective on Learning and Innovation. Administrative Science Quarterly, 35(1): 128 - 152.
- Cohen, S. G., Ledford, G. E., & Spreitzer, G. M. 1996. A Predictive Model of Self-Managing Work Team Effectiveness. Human Relations, 49(5): 643.
- Collins, C. J. & Smith, K. G. 2006. Knowledge Exchange and Combination: The Role of Human Resource Practices in the Performance of High-technology Firms. Academy of Management Journal, 49(3): 544.
- Conner, K. R. & Prahalad, C. K. 1996. A Resource-based Theory of the Firm: Knowledge Versus Opportunism. Organization Science, 7(5): 477.
- Cooke, T. E. 1986. Mergers and Acquisitions. Oxford: Blackwell.

- Cooper, D. R. & Schindler, P. S. 2003. Business Research Methods. Boston: McGraw-Hill.
- Cordero, R. 1991. Managing for Speed To Avoid Product Obsolescence: A Survey of Techniques. Journal of Product Innovation Management, 8(4): 283.
- Creswell, J. W. & Miller, D. L. 2000. Determining Validity in Qualitative Inquiry. Theory Into Practice, 39(3): 124.
- Davenport, T. H. & Prusak, L. 1998. Working knowledge. Boston: Harvard Business School Press.
- DeFleur, M. L. 1970. Theories of Mass Communication. New York: David McKay Company.
- Demsetz, H. 1988. The Theory of the Firm Revisited. Journal of Law, Economics and Organization: 141.
- Den Hartog, D. N. 2004. Assertiveness. In R. J. House & P. J. Hanges & M. Javidan & P. W. Dorfman & V. Gupta (Eds.), Culture, Leadership, and Organizations. Thousands Oaks: Sage.
- Denzin, N. 1978. The Research Act: A Theoretical Introduction to Sociological Methods. New York: McGraw-Hill.
- Detert, J. R., Schroeder, R. G., & Mauriel, J. J. 2000. A Framework for Linking Culture and Improvement Initiatives in Organizations. The Academy of Management Review, 25(4): 850.
- Dhanaraj, C., Lyles, M. A., Steensma, H. K., & Tihanyi, L. 2004. Managing Tacit and Explicit Knowledge Transfer in IJVs: The Role of Relational Embeddedness and the Impact on Performance. Journal of International Business Studies, 34: 428-442.
- Dick, B.; Convergent Interviewing; [http://www.uq.net.au/action\\_research/areol/areol-session08.html](http://www.uq.net.au/action_research/areol/areol-session08.html); accessed on 05.05.2008.
- Dillman, D. A. 2000. Mail and Internet Surveys : The Tailored Design Method. New York ; Chichester: John Wiley & Sons.
- Drucker, P. F. 1959 Landmarks of Tomorrow. New York: Harper.
- Drucker, P. F. 1969. The Age of Discontinuity: Guidelines to Our Changing Society New York: Harper and Row.
- Dunning, J. H. 1993. Multinational Enterprises and the Global Economy. New York: Addison-Wesley.
- Dunning, J. H. & Mucchielli, J. L. 2001. Multinational Firms: The Global-local Dilemma. London: Routledge.
- Earley, P. C. 2006. Leading Cultural Research in the Future: A Matter of Paradigms and Taste. Journal of International Business Studies, 37(6): 922.



- Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. 1993. Doing Naturalistic Inquiry: A Guide to Methods. Newbury Park: Sage.
- Fearing, F. 1953. Toward a Psychological Theory of Human Communication. Journal of Personality, 22: 71.
- Feld, S. L. 1981. The Focused Organization of Social Ties. The American Journal of Sociology, 86(5): 1015.
- Field, A. 2005. Discovering Statistics Using SPSS. London: Sage.
- Fiol, C. M. & Lyles, M. A. 1985. Organizational Learning. The Academy of Management Review, 10(4): 803.
- Foss, N. J. & Pedersen, T. 2002. Transferring knowledge in MNCs: The Role of Sources of Subsidiary Knowledge and Organizational Context. Journal of International Management, 8: 49.
- Gambrill, E. 1999. Social Work: An Authority-Based Profession. Research on Social Work Practice, 11(2): 166.
- Garud, R. & Nayar, P. R. 1994. Transformative Capacity: Continual Structuring by Intertemporal Technology Transfer. Strategic Management Journal, 15(5): 365.
- Gates, B. 1999. Business @ The Speed of Thought. London: Penguin Books.
- Gentner, D. 1983. Structure-Mapping: A Theoretical Framework for Analogy. Cognitive Science, 7: 155.
- Gist, M. E. & Mitchell, T. R. 1992. Self-Efficacy: A Theoretical Analysis of Its Determinants and Malleability. The Academy of Management Review, 17(2): 183.
- Glaister, K. W. & Buckley, P. J. 1996. Strategic Motives for International Alliance Formation. Journal of Management Studies, 33(3): 301-332.
- Graebner, M. E. 2004. Momentum and Serendipity: How Acquired Leaders Create Value in the Integration of Technology Firms Strategic Management Journal, 25: 751.
- Granovetter, M. S. 1973. The Strength of Weak Ties. The American Journal of Sociology, 78(6): 1360.
- Granovetter, M. S. 1983. The Strength of Weak Ties: A Network Theory Revisited. Sociological Theory, 1: 201.
- Grant, R. 1996. Toward a Knowledge-Based Theory of the Firm. Strategic Management Journal, 17: 109.
- Grant, R. M. & Baden-Fuller, C. 2004. A Knowledge Accessing Theory of Strategic Alliances. Journal of Management Studies, 41(1): 61-84.

- Gupta, A. K. & Govindarajan, V. 2000. Knowledge Flows Within Multinational Corporations. Strategic Management Journal, 21: 473-796.
- Hair Jr., J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. 2006. Multivariate Data Analysis. Upper Saddle River, NJ: Prentice Hall.
- Håkanson, L. & Nobel, R. 2001. Organizational Characteristics and Reverse Technology Transfer. Management International Review, 41(4): 395.
- Hamel, G. & Prahalad, C. K. 1983. Managing Strategic Responsibility in the MNC. Strategic Management Journal, 4(4): 341.
- Hansen, M. T. 1999. The Search-transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits. Administrative Science Quarterly, 44(1): 82.
- Hansen, M. T., Mors, M. L., & Lovas, B. 2005. Knowledge Sharing in Organizations: Multiple Networks, Multiple Phases. Academy of Management Journal, 48(5): 776.
- Hart, O. D. 1988. Incomplete Contracts and the Theory of the Firm. Journal of Law, Economics and Organization, 4(1): 119.
- Harzing, A.-W. 2002. Acquisition Versus Greenfield Investments: International Strategy and Management of Entry Modes. Strategic Management Journal, 23(3): 211.
- Hawkins, R. G. 1984. International Business in Academia: The State of the Field. Journal of International Business Studies, 15(3): 13.
- Hayes, J. & Prakasam, R. 1989. Culture: The Efficacy of Different Modes of Consultation. Leadership & Organization Development Journal, 10(1): 24.
- Hennart, J. & Park, Y. 1993. Greenfield vs. Acquisition: The Strategy of Japanese Investors in the United States. Management Science, 39(9): 1054.
- Hewitt; Retaining Key Talent in China; [http://www.hewittassociates.com/Intl/AP/en-AP/KnowledgeCenter/Magazine/HQ\\_16/articles/retain\\_key\\_talent.html](http://www.hewittassociates.com/Intl/AP/en-AP/KnowledgeCenter/Magazine/HQ_16/articles/retain_key_talent.html); accessed on 06.05.2008.
- Hitt, M. & Pisano, V. 2004. Cross-border Mergers and Acquisitions: Challenges and Opportunities. In A. L. Pablo & J. Mansour (Eds.), Mergers and Acquisitions: Creating Integrative Knowledge. Oxford: Blackwell.
- Hofstede, G. 1980. Culture's Consequences: International Differences in Work-Related Values. Beverly Hills, CA: Sage.
- Hofstede, G. 1986. Cultural Differences in Teaching and Learning. International Journal of Intercultural Relations, 10: 301.
- Hofstede, G., Neuijen, B., Ohayv, D. d., & Sanders, G. 1990. Measuring Organizational Cultures: A Qualitative and a Quantitative Study Across Twenty Cases. Administrative Science Quarterly, 35(2): 286.

- Hofstede, G. & Hofstede, G. J. 2005. Cultures and Organizations: Software of the Mind. New York: McGraw Hill.
- Hofstede, G. 2006. What Did GLOBE Really Measure? Researchers' Minds vs Respondents' Minds. Journal of International Business Studies, 37(6).
- Hollowitz, J. & Wilson, C. E. 1993. Structured Interviewing in Volunteer Selection. Journal of Applied Communication Research 21: 41.
- Hopkins, H. D. 1999. Cross-border Mergers and Acquisitions: Global and Regional Perspectives. Journal of International Management, 5: 207.
- Hubbard, N. 2001. Acquisition Strategy and Implementation. New York: Palgrave.
- Hussey, J. & Hussey, R. 1997. Business Research: A Practical Guide for Undergraduate and Postgraduate Students. London: McMillan Press.
- Inkpen, A. C. 2000. Learning Through Joint Ventures: A Framework of Knowledge Acquisition. Journal of Management Studies, 37(7).
- Jansen, J., Van den Bosch, F. A. J., & Volberda, H. W. 2005. Managing Potential and Realized Absorptive Capacity: How Do Organizational Antecedents Matter? Academy of Management Journal, 48.
- Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J., & De Luque, M. S. 2006. Conceptualizing and Measuring Cultures and Their Consequences: A Comparative Review of GLOBE's and Hofstede's Approaches. Journal of International Business Studies, 37(6): 897.
- Jensen, R. & Szulanski, G. 2004. Stickiness and the Adaptation of Organizational Practices in Cross-border Knowledge Transfers. Journal of International Business Studies, 35: 508.
- Jick, T. D. 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action. Administrative Science Quarterly, 24(4): 602.
- Johnson, W. 1953. The Fateful Process of Mr. A Talking to Mr. B. Harvard Business Review, 31(1): 49.
- Johnson, H. 1970. The Efficiency and Welfare Implications of the Multinational Corporation. In C. Kindleberger (Ed.), The International Corporation. Cambridge, MA.: MIT Press.
- Jowett, B. 1999. The Essential Plato. London: The Softback Preview.
- Judd, C. M. & Kenny, D. A. 1981. Process Analysis: Estimating Mediation in Treatment Evaluations. Evaluation Review, 5: 602.
- Kedia, B. L. & Bhagat, R. S. 1988. Cultural Constraints On Transfer Of Technology Across Nations: Implications for Research in International and Comparative Management. Academy of Management Review, 13(4): 559.

- Klijn, E. 2006. Knowledge Transfer Between Partners of International Joint Ventures : Knowledge Acquisition, Knowledge Accession, and Eloquent Capacity University of Leeds, Leeds.
- Kogut, B. & Zander, U. 1992. Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. Organization Science, 3(3): 383.
- Kostova, T. 1999. Transnational Transfer of Strategic Organizational Practices: A Contextual Perspective. Academy of Management Review, 24(2): 308.
- Kotabe, M., Martin, X., & Domoto, H. 2003. Gaining From Vertical Partnerships: Knowledge Transfer, Relationship Duration, and Supplier Performance Improvement in the U.S. and Japanese Automotive Industries. Strategic Management Journal, 24(4): 293.
- Krone, K. J., Jablin, F. M., & Putnam, L. L. 1987. Communication Theory and Organizational Communication In K. J. Krone & L. L. Putnam & K. H. Roberts & L. M. Porter (Eds.), Handbook of Organizational Communication: An Interdisciplinary Perspective: 18. Newbury Park, CA, : Sage, .
- Laamanen, T. 1999. Option Nature of Company Acquisitions Motivated by Competence Acquisition. Small Business Economics, 12: 148.
- Lane, P. J. & Lubatkin, M. 1998. Relative Absorptive Capacity and Interorganization Learning. Strategic Management Journal, 19(5): 461-477.
- Lane, P., Salk, J. E., & Lyles, M. A. 2001. Absorptive Capacity, Learning, and Performance in International Joint Ventures. Strategic Management Journal, 22(12): 1139.
- Lasswell, H. D. 1948. The Structure and Function of Communication in Society. In L. Bryson (Ed.), The Communication of Ideas. New York: Harper and Brothers.
- Levin, D. Z. & Cross, R. 2004. The Strength of Weak Ties You Can Trust: The Mediating Role of Trust in Effective Knowledge Transfer. Management Science, 50(11): 1477.
- Lilien, G. L. & Yoon, E. 1990. The Timing of Competitive Market Entry: An Exploratory Study of New Industrial Products. Management Science, 36(5): 568.
- Lincoln, Y. S. & Guba, E. G. 1985. Naturalistic Inquiry. Beverly Hills: Sage.
- Littlejohn, S. W. 1992. Theories of Human Communication. Belmont, CA: Wadsworth Publishing Company.
- Lord, M. D. & Ranft, A. L. 2000. Organizational Learning About New International Markets: Exploring the Internal Transfer of Local Market Knowledge. Journal of International Business Studies, 31(4): 573.
- Lucas, L. M. 2005. The Impact of Trust and Reputation on the Transfer of Best Practices. Journal of Knowledge Management, 9(4): 87.
- Lyles, M. A. & Salk, J. E. 1996. Knowledge Acquisition From Foreign Partners in International

- Joint Ventures. Journal of International Business Studies, 27(5): 877-904.
- Maletzke, G. 1963. Psychologie der Massenkommunikation. Hamburg (GER): Verlag Hans-Bredow-Institut.
- Manev, I. M. & Stevenson, W. B. 2001. Nationality, Cultural Distance, and Expatriate Status: Effects on the Managerial Network in a Multinational Enterprise. Journal of International Business Studies, 32(2): 285.
- Mansfield, E. & Romeo, A. 1980. Technology Transfer to Overseas Subsidiaries by U.S.-Based Firms. The Quarterly Journal of Economics, 95(4): 737.
- Martin, X. & Salomon, R. 2003. Knowledge Transfer Capacity and its Implications for the Theory of the Multinational Enterprise. Journal of International Business Studies, 34: 356-373.
- Marx, K. & Engels, F. 2002. The Communist Manifesto. London: Penguin.
- McFayden, M. A. & Cannella, A. A. 2004. Social Capital and Knowledge Creation: Diminishing Returns of the Number and Strength of Exchange Relationships. Academy of Management Journal, 47(5): 735.
- McKinsey. 2008. Our Mission and Values;  
[http://autoassembly.mckinsey.com/html/about\\_us/mckinsey\\_mission.asp](http://autoassembly.mckinsey.com/html/about_us/mckinsey_mission.asp); accessed on 06.05.2008.
- McKinseyQuarterly. 2004. Making a Market in Knowledge;  
[http://www.mckinseyquarterly.com/Making\\_a\\_market\\_in\\_knowledge\\_1441\\_abstract](http://www.mckinseyquarterly.com/Making_a_market_in_knowledge_1441_abstract);  
 accessed on 06.05.2008.
- McKinseyQuarterly. 2005. China's Looming Talent Shortage;  
[http://www.mckinseyquarterly.com/Chinas\\_looming\\_talent\\_shortage\\_1685](http://www.mckinseyquarterly.com/Chinas_looming_talent_shortage_1685); accessed on 06.05.2008.
- McKinseyQuarterly. 2007a. Improving Education in the Gulf;  
[http://www.mckinseyquarterly.com/Improving\\_education\\_in\\_the\\_Gulf\\_1946](http://www.mckinseyquarterly.com/Improving_education_in_the_Gulf_1946); accessed on 06.05.2008.
- McKinseyQuarterly. 2007b. Doing Business in China: A McKinsey Survey of Executives in Asia;  
[http://www.mckinseyquarterly.com/Doing\\_business\\_in\\_China\\_A\\_McKinsey\\_Survey\\_of\\_executives\\_in\\_Asia\\_1887](http://www.mckinseyquarterly.com/Doing_business_in_China_A_McKinsey_Survey_of_executives_in_Asia_1887); accessed on 06.05.2008.
- McKinseyQuarterly. 2007c. Building the Civilized Workplace  
[http://www.mckinseyquarterly.com/Building\\_the\\_civilized\\_workplace\\_1963](http://www.mckinseyquarterly.com/Building_the_civilized_workplace_1963); accessed on 06.05.2008.
- Miller, D., Droge, C., & Toulouse, J. M. 1988. Strategic Process and Content as Mediators Between Organizational Context and Structure. Academy of Management Journal, 31(3): 544.
- Minbaeva, D., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. 2003. MNC Knowledge

Transfer, Subsidiary Absorptive Capacity, and HRM. Journal of International Business Studies, 34(6): 586.

Mowery, D. C., Oxley, J. E., & Silverman, B. S. 1996. Strategic Alliances and Interfirm Knowledge Transfer. Strategic Management Journal, 17: 77-92.

Nahapiet & Ghoshal. 1998. Social Capital, Intellectual Capital, and the Organizational Advantage. Academy of Management Review, 23(2): 242.

Newton, C. 2000. FPA After One Year. Journal of Financial Planning/Source Book 2001.  
Nonaka, I. 1991. The Knowledge-Creating Company. Harvard Business Review, 6: 96 - 104.

OECD. 2004. OECD Annual Report 2004:  
<http://www.oecd.org/dataoecd/28/49/31621929.pdf>; accessed on 06.05.2008.

O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. 1991. People and Organizational Culture: A Profile Comparison Approach to Assessing Person-Organization Fit. Academy of Management Journal, 34(3): 487.

Penrose, E. 1959. The Theory of the Growth of the Firm. New York: John Wiley.

Pérez Lopez, S., Montes Peón, J. M., & Vázquez Ordás, C. J. 2004. Managing Knowledge: The Link Between Culture and Organizational Learning. Journal of Knowledge Management, 8(6): 93.

Polanyi, M. 1958. Personal Knowledge: Towards a Post- Critical Philosophy. Chicago: University of Chicago Press.

Porter, M. E. 1980. Competitive Strategy. New York: The Free Press.

Porter, M. E. 1985. Competitive Advantage: Creating and Sustaining Superior Performance. New York: Free Press.

Porter, M. E. 1990. The Competitive Advantage of Nations. London: Palgrave Macmillan.

Pothukuchi, V., Damanpour, F., Choi, J., Chen, C. C., & Park, S. H. 2002. National and Organizational Culture Differences and International Joint Venture Performance. Journal of International Business Studies, 33(2): 243.

Prahalad, C. K. & Hamel, G. 1990. The Core Competence of the Corporation. Harvard Business Review, 68(3): 79-91.

Puranam, P., Singh, H., & Zollo, M. 2006. Organizing for Innovation: Managing the Coordination-Autonomy Dilemma in Technology Acquisitions. Academy of Management Journal, 49(2): 263.

Raegans, R. & McEvily, B. 2003. Network Structure and Knowledge Transfer: The Effects of Cohesion and Range. Administrative Science Quarterly, 48(2): 240.

Robbins, S. R. 2001. Organizational Behavior: Concepts, Controversies and Applications.

Upper Saddle River, NJ: Prentice Hall.

Roberts, W. R. 1946. Rhetorica. In W. D. Ross (Ed.), The Works of Aristotle. Oxford: Oxford University Press.

Rogers, E. 1979. Network Analysis of the Diffusion of Innovations. In P. Holland & S. Leinhardt (Eds.), Perspectives on social Network Research. New York: Academic Press.

Rugman, A. M. 1981. Inside the Multinationals: The Economics of Internal Markets. New York: Columbia University Press.

Rugman, A. M. 2005. The Regional Multinationals. Cambridge: Cambridge University Press.

Saugstad, T. 2005. Aristotle's Contribution to Scholastic and Non-scholastic Learning Theories. Pedagogy, Culture and Society, 13(3): 347.

Saunders, M., Lewis, P., & Thornhill, A. 2006. Research Methods for Business Students. Harlow: Prentice Hall.

Schramm, W. 1954. How Communication Works. In W. Schramm (Ed.), The Process and Effects of Mass Communication. Urbana: University of Illinois Press.

Schwartz, S. H. 1999. A Theory of Cultural Values and Some Implications for Work. Applied Psychology: An International Review, 48(1): 23.

Schweiger, D. M. & Very, P. 2003. Creating Value Through Merger and Acquisition Integration. In C. Cooper & A. Gregory (Eds.), Advances in Mergers and Acquisitions, Vol. 2. Oxford: Elsevier.

Shane, S. 1995. Uncertainty Avoidance and the Preference for Innovation Championing Roles. Journal of International Business Studies, 26(1): 47.

Shannon, C. E. 1948. A Mathematical Theory of Communication. The Bell System Technical Journal, 27: 379.

Shannon, C. E. & Weaver, W. 1949. The Mathematical Theory of Communication. Urbana: University of Illinois Press.

Shelanski, H. A. & Klein, P. G. 1995. Empirical research in transaction cost economics: a review and assessment, . Journal of Law, Economics, and Organization 11(2): 335.

Simonin, B. L. 1999a. Ambiguity and the Process of Knowledge Transfer in Strategic Alliances. Strategic Management Journal, 20(7): 595.

Simonin, B. L. 1999b. Transfer of Marketing Know-how in International Strategic Alliances: An Empirical Investigation of the Role and Antecedents of Knowledge Ambiguity. Journal of International Business Studies, 1999(30): 3.

Simonin, B. L. 2004. An Empirical Investigation of the Process of Knowledge Transfer in International Strategic Alliances. Journal of International Business Studies, 35: 407.

- Smith, P. B. 2006. When Elephants Fight, the Grass Gets Trampled: The GLOBE and Hofstede Projects. Journal of International Business Studies, 37(6): 915.
- Spender, J.-C. 1996. Making Knowledge the Basis of a Dynamic Theory of the Firm. Strategic Management Journal, 17: 45.
- Spender, J.-C. & Grant, R. M. 1996. Knowledge and the Firm: Overview. Strategic Management Journal, 17: 5.
- Steingart, G. 2006. Angriff aus Fernost = Attack from Far East, Der Spiegel, Vol. 37.
- Subramaniam, M. & Venkatraman, N. 2001. Determinants of Transnational New Product Development Capability: Testing the Influence of Transferring and Deploying Tacit Overseas Knowledge. Strategic Management Journal, 22(4): 359.
- Szulanski, G. 1995. Unpacking Stickiness: An Empirical Investigation of the Barriers to Transfer Best Practice Inside the Firm. Academy of Management Journal: 437.
- Szulanski, G. 1996. Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm. Strategic Management Journal, 17(Special Winter Issue): 27-43.
- Szulanski, G., Cappetta, R., & Jensen, R. J. 2004. When and How Trustworthiness Matters: Knowledge Transfer and the Moderating Effect of Causal Ambiguity. Organization Science, 15(5): 600-613.
- Teece, D. J. 1981. The Market for Know-how and the Efficient International Transfer of Technology. Annals of the Academy of Political and Social Science, 458: 81.
- Ticehurst, G. W. & Veal, A. J. 2000. Business Research Methods: A Managerial Approach. Frenchs Forest, NSW: Longman.
- Toennies, F. 1887. Gemeinschaft and Gesellschaft. Leipzig: Fues's Verlag.
- Triandis, H.C. 1995. Individualism & Collectivism. Oxford: Westview Press.
- Trompenaars, F. 1993. Riding the Waves of Culture: Understanding Cultural Diversity in Business. London: The Economist Books.
- Tsai, W. 2002. Social Structure of "Coopetition" Within a Multiunit Organization: Coordination, Competition, and Intraorganizational Knowledge Sharing. Organization Science, 13(2): 179.
- Tsoukas, H. 1993. Analogical Reasoning and Knowledge Generation in Organization Theory. Organization Studies, 14(3): 323.
- UNCTAD. 2000. World Investment Report 2000. New York and Geneva: United Nations.
- UNCTAD. 2004. World Investment Report 2004. New York and Geneva: United Nations.



- UNCTAD. 2005. World Investment Report 2005. New York and Geneva: United Nations.
- Urban, G. L., Carter, T., Gaskin, S., & Mucha, Z. 1986. Market Share Rewards to Pioneering Brands: An Empirical Analysis and Strategic Implications. Management Science, 32(645).
- Vanhaverbeke, W., Duysters, G., & Noorderhaven, N. 2002. External Technology Sourcing Through Alliances or Acquisitions: An Analysis of the Application-Specific Integrated Circuits Industry. Organization Science, 13(6): 714.
- Wang, P., Tong, T. W., & Koh, C. P. 2004. An Integrated Model of Knowledge Transfer from MNC Parent to China Subsidiary. Journal of World Business, 39: 168.
- Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. 1966. Unobtrusive Measures: Nonreactive Research in the Social Sciences. Chicago: Rand McNally.
- Wernerfelt, B. 1984. A Resource-Based View of the Firm. Strategic Management Journal, 5(2): 171-180.
- Williamson, O. E. 1979. Transaction-Cost Economics: The Governance of Contractual Relations. The Journal of Law and Economics, 22(2): 233-261.
- Williamson, O. E. 1988. The Logic of Economic Organization. Journal of Law, Economics, and Organization, 4(1): 65.
- Winter, S. G. 1987. Knowledge and Competence as Strategic Assets. In D. J. Teece (Ed.), The Competitive Challenge: Strategies for Industrial Innovation and Renewal. Cambridge, MA: Ballinger Publishing Company.
- Wood, R. & Bandura, A. 1989. Impact of Conceptions of Ability on Self-regulatory Mechanisms and Complex Decision Making. Journal of Personality and Social Psychology, 56: 407.
- World Values Survey; World Values Survey 2005; <http://www.worldvaluessurvey.org/>; accessed on 05.05.2008.
- Yin, R. K. 2003. Case Study Research: Design and Methods. London: Sage.
- Yli-Renko, H., Autio, E., & Sapienza, H. J. 2001. Social Capital, Knowledge Acquisition, and Knowledge Exploitation in Technology-Based Young Firms. Strategic Management Journal, 21: 587-613.
- Zahra, S. A. & George, G. 2002. Absorptive Capacity: A Review, Reconceptualization, and Extension. Academy of Management Review, 27(2): 185-203.
- Zander, U. & Kogut, B. 1995. Knowledge and the Speed of Transfer and Imitation of Organizational Capabilities: An Empirical Test. Organization Science, 6(1): 76-92.

# Appendices

**APPENDIX 1 : MAILED SURVEY (IN ENGLISH, GERMAN AND CHINESE)**

**TEXT BOUND INTO  
THE SPINE**

**BEST COPY**

**AVAILABLE**

Variable print quality



Dear Madam or Sir,

**Why does knowledge transfer of German companies to China often fail?** How can you ensure that your organization's know-how is used in China in the most effective way? Should you invest into training and developing expatriates or Chinese talent? Can your organization further improve technical and social instruments and incentives that encourage employees to exchange know-how with each other more effectively and sustainably?

If you have recently asked yourself any of the questions above, you have something in common with most managers of German businesses in China that I have talked to during the last months. I would like to invite you to support my doctoral research on the effectiveness of knowledge transfer from Germany to China by providing some data on knowledge transfer in your organization. In response you will receive a summary of the study and an individualized, **free management report** on your company's unique results. This might provide answers to the questions above and beyond.

Please choose at your convenience *either* the below English version of the questionnaire *or* one of the Chinese or German language versions attached. You can also fill in the questionnaire online in English ([www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english)) or German ([www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch)) by using the login 123456. Filling in the questionnaire will take 20-30 minutes.

On behalf of the University of Leeds (UK), I guarantee you that all information will be used for academic purposes only and will be treated in the strictest confidence. If you have any further questions regarding my research, please do not hesitate to contact me at any time.

Thank you very much in advance for your cooperation and the support of my research.

Yours sincerely,

Andreas Moosdorf  
 Doctoral Researcher  
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 E-mail: [a.moosdorf@leeds.ac.uk](mailto:a.moosdorf@leeds.ac.uk)

All questions about the Chinese entity refer to the company that is stated in the address array on this letter's envelope.

## PART I: INFORMATION ABOUT THE ESTABLISHMENT OF THE CHINESE ENTITY

(Please tick one box in each row)

	Strongly disagree ▼		Neither agree nor disagree ▼		Strongly agree ▼
<b>Question 1 (Regarding organizational systems): Our Chinese entity's...</b>					
...business philosophy reflects that of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...compensation practices are similar to that of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...IT-systems are tailored to using the IT-systems of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...employee performance appraisals are different from those of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...communication systems are compatible with those of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 2 (Regarding the business setup): Many of our ...</b>					
...customers in China are existing customers of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...suppliers in China are existing suppliers of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...competitors in China are competitors of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...business partners in China are existing partners of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...products/services in China are the same products/services we have in Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 3 (Regarding language styles): Our employees and those of the German organization ...</b>					
...use different language styles to describe work-related issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...face language barriers when communicating with each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...can fluently communicate with each other (for example in German, English or Chinese)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...use the same logic when they talk about work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have trouble understanding each other when working together on a project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 4 (Regarding organizational structures): Our Chinese entity's...</b>					
...roles and responsibilities are structured similarly as in the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...internal control mechanisms are the same as those of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...internal reporting structures are similar to those in the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...organizational structure is the same as in the German organization (i.e. functional units or cost -/ profit centers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...hierarchical structure is comparable to that of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Please note: "Know-how" and "knowledge" are to be understood as any human or systematized expertise of the German organization that can benefit your Chinese entity, for example management or engineering skills; production knowledge; patents; technology; technological awareness; software; market knowledge; marketing know-how; product, service and process designs; etc. Please think of the item(s) most relevant to your business when answering the questions below.

**PART II: LEARNING IN THE CHINESE ENTITY**

*(Please tick one box in each row)*

	Strongly disagree ▼		Neither agree nor disagree ▼		Strongly agree ▼
<b>Question 5 (Regarding knowledge absorption): The members of our Chinese entity...</b>					
...have the necessary skills to gather information on the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a vision of what we are trying to achieve with the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...understand the state-of-the-art knowledge practices of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have the skills necessary to identify relevant know-how of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...work together to identify the know-how of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a clear division of roles and responsibilities to absorb the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have the necessary skills to assimilate the German organization's knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have the managerial/technical competence to absorb the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...record and store newly acquired knowledge for future reference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...periodically meet to discuss how to incorporate the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...know who can best exploit the newly acquired knowledge of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...know who can help to solve problems associated with newly acquired knowledge of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...understand how the German organization's know-how can be used to improve our products and/or services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...consider how to better exploit the German organization's knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have difficulties implementing new products/services of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...became quickly aware of the German organization's knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...rapidly got access to the German organization's knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... promptly absorbed the knowledge that was passed from the German organization into our entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...rapidly understood how we can use the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...used applications of the German organization's know-how quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...spend substantial time looking for, identifying, and evaluating know-how of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...spend substantial time modifying and editing the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...spend substantial time incorporating, assimilating, and applying the German organization's knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please note: The term "The members of the German organization" comprises both expatriates delegated from Germany to China and those colleagues working in Germany that collaborate with members of the Chinese entity regularly.

<b>Question 6 (Regarding attitudes): The members of our Chinese entity...</b>					
...see benefit in communicating with the German colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in implementing the German organization's know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in absorbing the German organization's competences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in planning know-how transfers from Germany to China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in understanding the potential implications of knowledge transfers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe in their own ability to handle increased responsibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe that they have the right skills to cooperate with the German organization's members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe that their work can contribute to our overall business success	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe they have the expertise to improve our business performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have low self-confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel misled by the members of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...find that the German colleagues keep their word	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe that the German colleagues are pursuing their interests at all costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel that the German colleagues deal fairly with them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel that the German colleagues are taking advantage of their weaknesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are quick to take advantage of new opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...show a willingness to experiment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically risk taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically careful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically rule-oriented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 7 (Concerning social networks): Key employees of our Chinese entity...</b>					
...worked for one or more years in the organization in Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have participated in executive development programs in our German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a contact person at our German organization to whom they are close	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have close working relationships with employees of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are involved in task forces or teams with members of the German organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





**PART III: KNOWLEDGE EXPRESSION BY THE GERMAN ORGANIZATION**

*(Please tick one box in each row)*

	Strongly disagree ▼		Neither agree nor disagree ▼		Strongly agree ▼
<b>Question 8 (Regarding knowledge expression): The members of the German organization...</b>					
...have trouble understanding each other when working together on projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...understand the benefits of their own know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have information on the state-of-the-art of their knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have the necessary skills to identify the potential uses of their know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...understand the conditions under which their know how can be effectively used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...know our Chinese company's strengths and weaknesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...understand how we use their know-how in China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have suitable expectations of our ability to assimilate their know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a good understanding of how we can best absorb their know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...know how we run our business in China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are able to express their knowledge in proper form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...duly array and time the transfers of know-how to members of our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...address the right recipient(s) at our Chinese entity when expressing know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have experience in articulating their knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have all the skills necessary to express their know-how to us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 9 (Regarding attitudes): The members of the German organization...</b>					
...see benefit in sharing their understanding of their knowledge with us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in helping us resolve problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in lending us their skilled personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...see benefit in assessing the feasibility of know-how transfers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a financial incentive to share know-how with us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel misled by the members of our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...find that our Chinese colleagues keep their word	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe that our Chinese colleagues are pursuing their interests at all costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel that our Chinese colleagues deal fairly with them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...feel that our Chinese colleagues are taking advantage of their weaknesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe in their own ability to handle increased responsibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe that they have the right skills to deal with our Chinese entity's members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe they can make a contribution to the organization's success	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...believe they have state-of-the-art industry know-how	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have low self-confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are quick to take advantage of new opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...show a willingness to experiment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically risk taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically careful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are typically rule-oriented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 10 (Concerning social networks): Key employees of our German organization...</b>					
...worked for one or more years in the entity in China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have participated in executive development programs in our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have a contact person at our Chinese entity to whom they are close	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have close working relationships with employees of our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are involved in task forces or teams with members of our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 11 (Regarding knowledge characteristics): The know-how of the German organization ...</b>					
...is usually very well documented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is mostly in writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...can only be absorbed by those of our employees that have long experience in cooperating with the organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is spread over multiple units of our Chinese entity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is the product of many interdependent techniques, routines, individuals and resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...consist of a large amount of factual information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





**PART IV: KNOWLEDGE TRANSFER BETWEEN THE GERMAN ORGANIZATION AND THE CHINESE ENTITY**

*(Please tick one box in each row)*

	Strongly disagree ▼		Neither agree nor disagree ▼		Strongly agree ▼
<b>Question 12 (Regarding communication):</b> Employees of our Chinese entity and the German organization frequently...					
...contact each other to exchange ideas on work-related projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...exchange e-mails or faxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...exchange ideas on the phone or in joint telephone conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...meet in person for work-related projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...contact each other to exchange ideas on non work-related issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 13 (Regarding knowledge transfer):</b> We have learnt from the German organization a lot about...					
...new technological expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...new marketing expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...product/service development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...managerial techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...manufacturing/servicing processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 14 (Regarding costs of transfers):</b> Acquiring the know-how of the German organization ...					
...has cost us a great deal of time and manpower	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...has cost us a substantial amount of resources and money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Question 15 (Regarding the performance impact):</b> As a result of the transfer of German know-how to China...					
...our turnover has increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...we have become more competitive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...we achieved planned goals/objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...our Chinese operations have become more profitable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...our Chinese operations have become more effective/efficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PART V: BACKGROUND INFORMATION**

*(This information is needed to identify differences between different groups of companies & respondents)*

Please indicate in which area the Chinese entity is located. \_\_\_\_\_ (province) \_\_\_\_\_ (city)

Please give an indication of the size of your organization (choose one).  
 Worldwide revenues are less than 50 million €  
 Worldwide revenues are in between 50 and 250 million €  
 Worldwide revenues are in between 250 million and 1 billion €  
 Worldwide revenues are in between 1 billion and 5 billion €  
 Worldwide revenues exceed 5 billion €

Please indicate your (the respondent's) nationality.  
 German     Chinese     Other \_\_\_\_\_ (please specify)

Please specify (an approximation is sufficient) the number of employees working for your Chinese entity (if your entity is a joint-venture, please include all partners' employees that are fully assigned to the joint-venture). \_\_\_\_\_ (employees)

Please specify (an approximation is sufficient) the number of employees working for your organization in Germany. \_\_\_\_\_ (employees)

Please specify (an approximation is sufficient) the number of expatriates sent from the German organization to the Chinese entity (in percent) \_\_\_\_\_ (%)

Please indicate the year in which your entity in China was established. \_\_\_\_\_ (e.g. 1992)

Has the Chinese entity (or your share in it) become a part of the German organization as a result of an acquisition/merger?  
 Yes     No

How long have you been working for the Chinese entity? \_\_\_\_\_ (years)    \_\_\_\_\_ (months)

How long have you worked in the German offices of this organization? (please indicate "0" if you never worked in the German offices)  
 \_\_\_\_\_ (years)    \_\_\_\_\_ (months)

If you would like to receive the **free management report**, please indicate the email address the report should be send (optional). \_\_\_\_\_

If you would like to follow up a few interesting cases of my study with interviews. In case you are interested in having a **dialogue** about your and my experience with knowledge transfers to China, please indicate an email address or contact number at which you are available (optional). \_\_\_\_\_

**THANK YOU VERY MUCH FOR PARTICIPATING IN THIS STUDY!**

**PLEASE RETURN THE QUESTIONNAIRE USING THE ENCLOSED RETURN ENVELOPE.**

**IF INDICATED ABOVE AS SUCH, THE RESULTS OF THE STUDY WILL BE SENT TO YOU SHORTLY.**



Sehr geehrte Dame, Sehr geehrter Herr,

Peking, 08.09.2007

**Warum scheitert der Wissenstransfer deutscher Unternehmen nach China oft?** Wie können Sie sicherstellen, dass das Know-how Ihrer Organisation in China optimal genutzt wird? Sollten Sie sich verstärkt der Aus- und Weiterbildung Ihrer chinesischen oder deutschen Mitarbeiter widmen? Kann Ihre Organisation technische und soziale Instrumente und Anreize weiter verbessern die Ihre Mitarbeiter dazu veranlassen Wissen effizienter und nachhaltiger auszutauschen?

Sollten auch Sie sich kürzlich eine der obigen Fragen gestellt haben, so haben Sie etwas mit dem Großteil der Manager deutscher Firmen in China gemeinsam mit denen ich während der vergangenen Monate gesprochen habe. Ich möchte Sie dazu einladen meine Doktorarbeit über die Effektivität von Wissenstransfer von Deutschland nach China zu unterstützen indem Sie einige Angaben zum Wissenstransfer innerhalb Ihres Unternehmens machen. Sie erhalten dafür einen Überblick der Ergebnisse der Studie sowie einen individualisierten, **kostenlosen Bericht der Ergebnisse Ihres Unternehmens**. Dieser kann Antworten für die obigen Fragen und darüber hinaus liefern.

Bitte wählen Sie zwischen der untenstehenden deutschen Umfrage, *oder* einer der beigefügten englischen oder chinesischen Sprachversionen. Sie können den Fragebogen auch online auf Deutsch ([www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch)) oder Englisch ([www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english)) ausfüllen. Sie können sich mit Hilfe des Codes 123456 einloggen. Zum Ausfüllen werden 20-30 Minuten benötigt.

Im Namen der Universität von Leeds garantiere ich Ihnen, dass alle Informationen ausschließlich zu akademischen Zwecken benutzt und streng vertraulich behandelt werden. Sollten Sie Fragen bezüglich meiner Untersuchung haben, können Sie mich jederzeit unter den untenstehenden Kontaktdaten erreichen.

Haben Sie vielen Dank im Voraus für Ihre Kooperation und die Unterstützung meiner Forschung.

Mit freundlichen Grüßen

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Alle Fragen über die chinesische Geschäftseinheit beziehen sich auf die im Adressfeld des Briefumschlages genannte Firma.

### TEIL I: INFORMATIONEN BEZÜGLICH DER ERRICHTUNG DER CHINESISCHEN GESCHÄFTSEINHEIT

(Bitte kreuzen Sie ein Kästchen in jeder Zeile an)

	Stimme gar nicht zu ▼		Neutral ▼		Stimme voll zu ▼
<b>Frage 1 (Bezüglich betrieblicher Systeme):</b>					
Die Unternehmensphilosophie unserer chinesischen Geschäftseinheit reflektiert die des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Vergütungspraktiken unserer chinesischen Geschäftseinheit ähneln denen des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die IT-Systeme unserer chinesischen Geschäftseinheit sind denen des deutschen Unternehmens angepasst	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personalbeurteilungen in unserer chin. Geschäftseinheit unterscheiden sich von denen im deutschen Unternehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kommunikationssysteme in unserer chin. Geschäftseinheit und im deutschen Unternehmen sind kompatibel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 2 (Bezüglich des Geschäfts): Viele unserer ...</b>					
...Kunden in China sind bestehende Kunden des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...Lieferanten in China sind bestehende Lieferanten des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...Wettbewerber in China sind dieselben Wettbewerber wie die des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...Geschäftspartner in China sind bestehende Partner des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...Produkte/ Dienstleistungen in China sind dieselben Produkte/ Dienstleistungen, die wir in Deutschland haben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 3 (Bezüglich der Umgangssprache): Unsere Mitarbeiter und die des deutschen Unternehmens...</b>					
...benutzen unterschiedliche Sprachstile, um betriebliche Belange zu beschreiben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...sehen sich mit Sprachbarrieren konfrontiert, wenn sie miteinander kommunizieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...können fließend miteinander kommunizieren (z.B. auf Deutsch, Englisch oder Chinesisch)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...verwenden immer dieselbe Logik, wenn sie über ihre Arbeit reden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...haben Schwierigkeiten damit einander zu verstehen, wenn sie an einem gemeinsamen Projekt arbeiten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 4 (Bezüglich der Organisationsstruktur):</b>					
Rollen-/ Verantwortungsstrukturen unserer chin. Geschäftseinheit ähneln denen des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Kontrollmechanismen unserer chinesischen Geschäftseinheit sind die gleichen wie im deutschen Unternehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die internen Reportingstrukturen unserer chin. Geschäftseinheit ähneln denen des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Organisationsstruktur unserer chinesischen Geschäftseinheit ist dieselbe wie im deutschen Unternehmen (also die Aufteilung in funktionelle Geschäftseinheiten oder Kostenstellen und Profitcenter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Hierarchiestruktur unserer chinesischen Geschäftseinheit ist vergleichbar mit der des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Bitte beachten: Unter "Know-how" und "Wissen" verstehen wir jegliche menschliche oder systematisierte Kompetenz des deutschen Unternehmens, die Ihrer chinesischen Geschäftseinheit nützlich sein kann, z.B. Führungsfähigkeit; Fertigungswissen; Patente; Technologie; technische Erkenntnisse; Software; Marktkenntnisse; Produkt-, Dienstleistungs-, und Prozessdesigns; usw. Bitte denken Sie an die für Ihr Geschäft relevanten Elemente dieser Aufstellung, wenn Sie die nachfolgenden Fragen beantworten.

**TEIL II: LERNPROZESSE IN DER CHINESISCHEN GESCHÄFTSEINHEIT**

(Bitte kreuzen Sie ein Kästchen in jeder Zeile an)

	Stimme gar nicht zu ▼		Neutral ▼		Stimme voll zu ▼
<b>Frage 5 (Bezüglich der Wissensaufnahme): Die Mitarbeiter unserer chinesischen Geschäftseinheit...</b>					
haben die nötigen Fähigkeiten, um Informationen über das Know-how des deutschen Unternehmens zu sammeln	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben eine Vorstellung davon, was wir versuchen mit dem Know-how des deutschen Unternehmens zu erreichen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstehen die modernsten Wissensanwendungen des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben die nötigen Fähigkeiten, um relevantes Know-how des deutschen Unternehmens zu identifizieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kooperieren, um das Know-how des deutschen Unternehmens zu identifizieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben eine klare Rollen-/Verantwortungsaufteilung, um das Wissen des deutschen Unternehmens aufzunehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben die nötigen Fähigkeiten, um das Wissen des deutschen Unternehmens aufzunehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben die Management-/Technologiekompetenz, um das Know-how des deutschen Unternehmens aufzunehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
notieren und verwahren neu erlangtes Wissen für zukünftige Einsichtnahme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
treffen sich regelmäßig um zu diskutieren, wie Wissen des deutschen Unternehmens aufgenommen werden kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wissen, wer das neu erlangte Know-how des deutschen Unternehmens am besten auswerten kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wissen, wer helfen kann, Probleme mit neu erlangtem Know-how des deutschen Unternehmens zu lösen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstehen, wie das Wissen des deutschen Unternehmens benutzt werden kann, um unsere Produkte/ Dienstleistungen zu verbessern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
überlegen, wie das Wissen des deutschen Unternehmens besser verwertet werden kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben Schwierigkeiten damit, neue Produkte/ Dienstleistungen des deutschen Unternehmens zu implementieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wurden schnell auf das Wissen des deutschen Unternehmens aufmerksam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
erhielten schnell Zugang zum Wissen des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben das Wissen, das vom deutschen Unternehmen an uns weitergereicht wurde, umgehend übernommen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstanden schnell, wie wir das Wissen des deutschen Unternehmens nutzen können	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben schnell Anwendungen des Know-hows des deutschen Unternehmens benutzt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verbringen viel Zeit damit, Know-how des deutschen Unternehmens zu suchen, zu identifizieren und zu beurteilen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verbringen reichlich Zeit damit, das Wissen des deutschen Unternehmens zu modifizieren und aufzubereiten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verbringen reichlich Zeit damit, das Know-how des deutschen Unternehmens aufzunehmen und anzuwenden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bitte beachten: Mit „die Mitarbeiter des deutschen Unternehmens“ sind gemeint: aus Deutschland nach China entsendete Expatriates **und** in Deutschland arbeitende Kollegen die mit den Mitarbeitern der chinesischen Geschäftseinheit regelmäßig zusammenarbeiten.

	Stimme gar nicht zu ▼		Neutral ▼		Stimme voll zu ▼
<b>Frage 6 (Bezüglich der Einstellungen der Mitarbeiter): Die Mitarbeiter unserer chinesischen Geschäftseinheit...</b>					
empfinden es als nützlich, mit den Mitarbeitern des deutschen Unternehmens zu kommunizieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, das Wissen des deutschen Unternehmens zu implementieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, die Kompetenzen des deutschen Unternehmens zu übernehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden die Planung von Wissenstransfers von Deutschland nach China als nützlich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, die potenziellen Auswirkungen von Wissenstransfers zu verstehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben an ihre eigene Befähigung mit zunehmender Verantwortung fertig zu werden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass sie die nötigen Fähigkeiten haben, um mit den Mitarbeitern des deutschen Unternehmens zu kooperieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass ihre Arbeit zu unserem allgemeinen Geschäftserfolg beitragen kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass sie die fachliche Kompetenz haben, um unsere Geschäftsleistung zu verbessern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben schwaches Selbstvertrauen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fühlen sich von den Mitarbeitern des deutschen Unternehmens in die Irre geführt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass die deutschen Kollegen ihr Wort halten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass die deutschen Kollegen ihren eigenen Interessen um jeden Preis nachgehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass die deutschen Kollegen sie fair behandeln	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass die deutschen Kollegen ihre Schwächen ausnutzen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind üblicherweise innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
nutzen neue Chancen schnell aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zeigen eine Bereitschaft zu experimentieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind typischerweise bereit, Risiken zu übernehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind normalerweise vorsichtig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
halten sich gewöhnlich an Vorschriften	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Frage 7 (Bezüglich sozialer Netzwerke): Wichtige Mitarbeiter unserer chinesischen Geschäftseinheit...**

haben für ein oder mehrere Jahre im Unternehmen in Deutschland gearbeitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben an Weiterbildungsmaßnahmen für Führungskräfte im deutschen Unternehmen teilgenommen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben eine enge Kontaktperson im deutschen Unternehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben enge Arbeitsbeziehungen mit Mitarbeitern des deutschen Unternehmens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind an Arbeitsgruppen oder Teams mit Mitgliedern des deutschen Unternehmens beteiligt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TEIL III: WISSENSVERMITTLUNG DURCH DAS DEUTSCHE UNTERNEHMEN**

(Bitte kreuzen Sie ein Kästchen in jeder Zeile an)

**Frage 8 (Bezüglich der Wissensvermittlung): Die Mitarbeiter des deutschen Unternehmens...**

	Stimme gar nicht zu ▼		Neutral ▼		Stimme voll zu ▼
haben bei Projektarbeiten Probleme damit, einander zu verstehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstehen den Nutzwert ihres Know-hows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben Informationen über die Aktualität ihres Wissens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben die nötigen Fähigkeiten, um potenzielle Anwendungen ihres Know-hows zu identifizieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstehen die Bedingungen, unter denen ihr Know-how effektiv angewandt werden kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kennen die Stärken und Schwächen unserer chinesischen Geschäftseinheit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
verstehen, wie wir ihr Know-how in China nutzen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben angemessene Erwartungen über unsere Fähigkeit ihr Wissen aufzunehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben ein gutes Verständnis davon, wie wir ihr Wissen am besten aufnehmen können	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wissen, wie wir unsere Geschäfte in China führen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
können ihr Wissen auf angemessene Art und Weise ausdrücken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
organisieren Wissenstransfers an unsere chinesische Geschäftseinheit pünktlich und ordnungsgemäß	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
adressieren die richtigen Empfänger unserer chinesischen Geschäftseinheit, wenn sie Know-how wiedergeben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben Erfahrung darin, ihr Wissen auszudrücken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben alle nötigen Fähigkeiten ihr Wissen an uns auszudrücken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Frage 9 (Bezüglich der Einstellungen der Mitarbeiter): Die Mitarbeiter des deutschen Unternehmens...**

empfinden es als nützlich, ihr Verständnis über ihr Wissen mit uns zu teilen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, uns beim Lösen von Problemen behilflich zu sein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, qualifizierte Mitarbeiter temporär ans uns zu entsenden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden es als nützlich, die Durchführbarkeit von Wissenstransfers zu bewerten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
erhalten finanzielle Anreize, um ihr Know-how mit uns zu teilen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fühlen sich von den Mitarbeitern unserer chinesischen Geschäftseinheit in die Irre geführt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass unserer chinesischen Kollegen ihr Wort halten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass unserer chinesischen Kollegen ihren Interessen um jeden Preis nachgehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass unsere chinesischen Kollegen sie fair behandeln	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
empfinden, dass unsere chinesischen Kollegen ihre Schwächen ausnutzen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben an ihre eigene Befähigung, mit zunehmender Verantwortung fertig zu werden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass sie die nötigen Fähigkeiten haben, um mit den Mitarbeitern unserer chinesischen Geschäftseinheit zu kooperieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass sie zu unserem Geschäftserfolg beitragen können	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
glauben, dass sie aktuelles Fachwissen über ihre Industrie haben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben schwaches Selbstvertrauen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind üblicherweise innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
nutzen neue Chancen schnell aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zeigen eine Bereitschaft zu experimentieren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind typischerweise bereit, Risiken zu übernehmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind normalerweise vorsichtig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
halten sich gewöhnlich an Vorschriften	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Frage 10 (Bezüglich sozialer Netzwerke): Wichtige Mitarbeiter des deutschen Unternehmens...**

haben für ein oder mehrere Jahre in unserer chinesischen Geschäftseinheit gearbeitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben an Weiterbildungsmaßnahmen für Führungskräfte in unserer chinesischen Geschäftseinheit teilgenommen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben eine enge Kontaktperson in unserer chinesischen Geschäftseinheit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
haben enge Arbeitsbeziehungen mit Mitarbeitern unserer chinesischen Geschäftseinheit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sind an Arbeitsgruppen oder Teams mit Mitgliedern unserer chinesischen Geschäftseinheit beteiligt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Frage 11 (Bezüglich der Eigenschaften des Wissens): Das Know-how des deutschen Unternehmens...**

ist üblicherweise sehr gut dokumentiert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ist hauptsächlich in geschriebener Form dokumentiert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kann nur von solchen Mitarbeitern unserer chinesischen Geschäftseinheit aufgenommen werden, die langfristige Erfahrung im Umgang mit dem Unternehmen haben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ist in unserer chinesischen Geschäftseinheit über mehrere Abteilungen verteilt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ist das Produkt von vielen verflochtenen Verfahren, Prozeduren, Personen und Ressourcen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
besteht aus einer großen Menge sachbezogener Informationen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TEIL IV: WISSENSTRANSFER ZWISCHEN DEUTSHEM UNTERNEHMEN UND CHINESISCHER GESCHÄFTSEINHEIT**

*(Bitte kreuzen Sie ein Kästchen in jeder Zeile an)*

	Stimme gar nicht zu ▼		Neutral ▼		Stimme voll zu ▼
<b>Frage 12 (Bezüglich der Kommunikation):</b> Mitarbeiter unserer chinesischen Geschäftseinheit und des deutschen Unternehmens...					
...wenden sich häufig aneinander, um Ideen über betriebliche Projekte auszutauschen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...senden sich vielfach E-Mails oder Faxe zu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...tauschen häufig am Telefon oder in Telefonkonferenzen Ideen aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...treffen sich oftmals persönlich, um an betrieblichen Projekten zu arbeiten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...wenden sich häufig aneinander, um sich über private Dinge auszutauschen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 13 (Bezüglich des Wissenstransfers):</b> Wir haben vom deutschen Unternehmen viel...					
...neues technisches Fachwissen gelernt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...über Marketing/ Vertriebswesen gelernt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...über Produktentwicklung/ Dienstleistungserweiterung gelernt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...betriebswirtschaftliche Methoden/ Techniken gelernt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...über Fertigungsverfahren/ Serviceprozesse gelernt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 14 (Bezüglich der Transferkosten):</b> Die Aneignung des Know-hows des deutschen Unternehmens...					
...hat uns viel Zeit und Arbeitskraft gekostet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...hat uns eine Menge Ressourcen und Geld gekostet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Frage 15 (Bezüglich der Leistungsauswirkung):</b> Aufgrund des Wissenstransfers von Deutschland nach China...					
...hat sich unser Umsatz gesteigert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...sind wir konkurrenzfähiger geworden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...haben wir geplante Zielsetzungen erreicht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...sind unsere Geschäftstätigkeiten in China profitabler geworden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...sind unsere Geschäftstätigkeiten in China effektiver/ effizienter geworden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TEIL V: HINTERGRUNDINFORMATIONEN**

*(Diese Informationen werden benötigt, um Unterschiede zwischen verschiedenen Firmen- & Befragtengruppen auszumachen)*

Bitte geben Sie an, in welcher Gegend Ihre chinesische Geschäftseinheit ansässig  
\_\_\_\_\_ (Provinz) \_\_\_\_\_ (Stadt)

Bitte geben Sie einen Anhaltspunkt für die Größe Ihres Unternehmens an  
(wählen Sie ein Feld).  
 Weltweiter Umsatz weniger als 50 Millionen €  
 Weltweiter Umsatz zwischen 50 und 250 Millionen €  
 Weltweiter Umsatz zwischen 250 Millionen und 1 Milliarde €  
 Weltweiter Umsatz zwischen 1 Milliarde und 5 Milliarden €  
 Weltweiter Umsatz mehr als 5 Milliarden €

Bitte geben Sie Ihre Nationalität an (die der befragten Person).  
 Deutsch  Chinesisch  andere \_\_\_\_\_ (bitte spezifizieren)

Bitte geben Sie an (eine Rundung genügt), wie viele Mitarbeiter in Ihrer chinesischen Geschäftseinheit tätig sind. Falls es  
sich um ein Jointventure handelt, so schließen Sie bitte die Mitarbeiter aller Partner ein die dem Jointventure von diesen zur  
Verfügung gestellt worden sind. \_\_\_\_\_ (Mitarbeiter)

Bitte geben Sie an (eine Rundung genügt), wie viele Mitarbeiter in Ihrem Unternehmen in Deutschland tätig sind.  
\_\_\_\_\_ (Mitarbeiter)

Bitte geben Sie die Anzahl der aus Deutschland nach China entsendeten Expatriates als Anteil der gesamten chinesischen  
Belegschaft an (eine Rundung genügt). \_\_\_\_\_ (%)

Bitte geben Sie an in welchem Jahr Ihre chinesische Geschäftseinheit gegründet wurde.  
\_\_\_\_\_ (z.B. 1992)

Wurde die chinesische Geschäftseinheit (oder der Anteil Ihres Unternehmens daran) Teil der deutschen Organisation durch  
einen Unternehmensaufkauf oder -zusammenschluß?  
 Ja  Nein

Wie lange haben Sie bereits in der chinesischen Geschäftseinheit gearbeitet?  
\_\_\_\_\_ (Jahre) \_\_\_\_\_ (Monate)

Wie lange haben Sie bereits in den deutschen Büros dieses Unternehmens gearbeitet? Bitte geben Sie "0" an, wenn Sie  
niemals in den deutschen Büros gearbeitet haben.  
\_\_\_\_\_ (Jahre) \_\_\_\_\_ (Monate)

Falls Sie den **Überblick der Ergebnisse der Studie** sowie den **kostenlosen Bericht der Ergebnisse Ihres  
Unternehmens** erhalten möchten, so geben Sie bitte die Emailadresse an an die der Bericht geschickt werden soll  
(optional). \_\_\_\_\_

Ich würde gerne einige interessante Fälle dieser Untersuchung mit Interviews vertiefen. Falls Sie Interesse an einem **Dialog**  
über Ihre und meine Erfahrung über Wissenstransfers nach China haben, so geben Sie bitte die Emailadresse oder  
Telefonnummer an unter der ich Sie zur Terminabsprache erreichen kann (optional). \_\_\_\_\_

**VIELEN DANK FÜR IHRE TEILNAHME AN DIESER STUDIE!**

**BITTE SENDEN SIE DEN FRAGEBOGEN IM BEIGEFÜGTEN RÜCKUMSCHLAG ZURÜCK.**

**FALLS ALS GEWÜNSCHT ANGEGEBEN WERDEN IHNEN DIE ERGEBNISSE DER STUDIE UMGEHEND ZUGESTELLT.**



尊敬的先生/女士,

北京, 2007年9月8号

为什么德国(企业)向中国的知识传导通常不成功? 您如果确保贵企业的专业知识以最有效的方式应用于中国? 您是否应该投资于培训和培养派驻中国的人员或者中方的潜力人才? 贵企业是否能够进一步提高科技和社交途径以及激励机制来促进员工们彼此更加有效而且持续地交流专业知识?

如果您最近也有以上疑问, 那么您与我在过去几个月中访问过的许多德国驻中的商务经理们面临相同的问题。特此我希望邀请您参与有关从德国向中国的知识传导效率的博士研究调查。如果您有意参与, 请您填写这份问卷调查。作为回报, 我会发给您一份该研究调查结果的综述和一份针对贵公司的个性化的**免费管理咨询报告**。该报告将回答本文开篇的问题以及对相关问题作进一步的探讨。

请您根据个人需要选择以下的中文版本, 或者 随附的英文或德文版本。您亦可在线回答该问卷, 请登陆网址: [www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch) (德文); [www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english) (英文)。(很遗憾, 由于技术问题中文版问卷不能被上载到相关网页)。请您用号码 123456 登陆。填写该问卷大概需要占用您 20-30 分钟的时间。

代表英国利兹大学, 我向您保证有关您的所有信息仅用于学术研究之用, 并且所有信息将被给与最严格的对待。如果您对本人的研究活动有任何疑问, 请一定不要犹豫, 随时与我取得联系。

在此预先向您的合作以及对该博士研究的支持表示衷心感谢。

此致

敬礼

莫安德

英国利兹大学国际商务研究中心博士研究生

(Andreas Moosdorf,

Centre for International Business (CIBUI),

Leeds University Business School,

Leeds LS2 9JT, United Kingdom)

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中国联系方式:

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中国对外经济贸易大学, 国际经济贸易学院, 博学楼 12 层 1221 室

邮编: 100029

电话: +86 13552201346

电子邮件: [a.moosdorf@leeds.ac.uk](mailto:a.moosdorf@leeds.ac.uk)

请您根据信封上指明的公司的情况回答下面的问题。

**第一部分: 有关中方实体的建立**

(请在每一行的一个方框中打勾)

	强烈不同意 ▼		既不同意也不反对 ▼		强烈同意 ▼
<b>问题 1 (组织系统): 我们中方实体的.....</b>					
..... 商务哲学反映出德方机构的商务哲学	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 鼓励机制与德方机构的相类似	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 信息技术系统是为了适用德方机构的信息系统而量身定做的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 员工表现评价方式与德方机构的不同	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 通讯系统与德方机构的相一致	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 2 (商业结构): 我们的很多的.....</b>					
..... 在中国的客户是德方机构的现有客户	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在中国的供应商是德方机构现有的供应商	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在中国的竞争对手亦是德方机构的竞争对手	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在中国的商务合作伙伴是德方机构的现有合作伙伴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在中国的产品/服务和我们在德国的产品/服务相同	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 3 (语言方式): 我们的员工和德国机构中的员工.....</b>					
..... 使用不同的语言形式描述工作相关事宜	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在彼此沟通时面临语言障碍	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 能够流利的彼此沟通 (比如, 用德文, 英文或者中文)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 用同一种思维方式讨论他们的工作	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 在同一个项目中一起工作的时候彼此理解有困难	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 4 (组织结构): 我们中方实体的.....</b>					
..... 角色和职责的构建与德方机构的相类似	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 内部控制机制与德方机构的相类似	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 内部汇报结构与德方机构的相类似	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 组织结构, 比如功能性单位或者成本利润中心, 与德方机构的相类似	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
..... 等级结构与德方机构的相当	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





提示：在以下的所有问题中，“专业知识”和“知识”特指德方机构（所拥有的）的任何有益于中方实体的个人或者系统专长，比如管理或者生产技巧；专利；技术；科技意识；软件；市场知识；市场营销专业知识；产品，服务和工艺流程设计，等等。请在回答以下问题的时候考虑与您的商务最相关的项目。

第二部分：中方实体的学习实践

(请在每一行的一个方框中打勾)

	强烈不同意 ▼		既不同意也不反对 ▼		强烈同意 ▼
问题 5 (知识吸收能力) 我们的中方实体成员们.....					
...具有收集德方专业知识的必要技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...知道我们利用德方专业知识来做什么	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...理解德方组织的高尖端技术的应用	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...具有识别德方有关专业知识的必要技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通过协力合作来鉴别德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通过明显的角色和责任分工来吸收德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...具有消化德方专业知识的必要技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...具有吸收德方专业的管理/技术才能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...为未来研究的方便记录并且存储最新获取的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...定期会面讨论如何能够将德方的专业知识化为已有	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...知道能够有力开发和利用从德方最新获取的知识的最佳人选	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...知道能够解决与从德方新获取的知识相关问题的最佳人选	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...理解如何将德方的专业知识应用于我们的产品和/或服务	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...重视如何更好的开拓从德方获取的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...在开展从德方来的新产品和/或服务的时候有困难	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...变得能够迅速感知德方的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...已经能够迅速了解德方的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...已经能够迅速吸收来自德方的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...已经能够迅速理解如何利用德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...已经能够迅速应用德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...花相当长的时间寻找、识别并且评估德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...花相当长的时间修正和调整德方的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...花相当长的时间合并、吸收和使用德方的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

提示：在此“德方机构的成员们”特指被德方机构派遣到中国来工作的同事们以及在德国常驻并与中方实体紧密合作的同事们。

问题 6 (态度)：我们的中方实体成员们.....					
...认识到与德方同事及时沟通的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认识到贯彻德方专业知识的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认识到吸收德方机构专长的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认识到规划从德国向中国传导专业知识的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认识到理解知识传导潜在重要性的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...相信我们自己处理与日俱增的职责的能力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...相信我们具有与德方成员合作的相应技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...相信我们的工作能够对我们的总体业务成功有所贡献	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...相信我们具有提升我们商业业绩的相关专业技术	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...自信不足	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...感觉被德方机构成员误导了	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认为德方的同事们信守诺言	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...认为德方的同事们不惜一切代价追求自身利益	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...感觉德方的同事们公平对待他们	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...感觉德方的同事们利用我们的弱点	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通常具有创新性	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...能够迅速抓住机会	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...表现出实验的意愿	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通常具有冒险性	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通常比较谨慎	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通常比较循规蹈矩	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
问题 7 (网络联结)：我们中方实体中的重要员工们.....					
...已经在德国的机构中工作了一年或者一年以上	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...曾经参与在德方机构开展的主管人员培训活动	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...在德方机构中有可以联系的关系比较紧密的人	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...与德方机构的员工有很紧密地工作关系	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...与德方机构员工们共同参与工作项目或者进行团队协作	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



第三部分：德方机构的知识表达

(请在每一行的一个方框中打勾)

	强烈不同意 ▼		既不同意也不反对 ▼		强烈同意 ▼
<b>问题 8 (知识表达)：德方机构的成员们.....</b>					
.....在在一个项目上合作的时候彼此理解有困难	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....知道他们自己专业知识的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....具有关于他们的高尖端技术的最新信息	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....具有识别他们的专业知识潜在应用性的必要能力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....知道他们的专业知识可以被有效使用的前提条件	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....了解我们中方公司的优势和劣势	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....理解我们在中国如何使用他们的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....对于我们对他们的专业知识的吸收能力抱有合理期望	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....非常了解我们如何能够最好的吸收他们的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....知道我们中方实体如何在中国开展好我们的业务	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....能够以适当的形式表达他们的知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....适时地为向给我们公司人员传递专业知识做安排并且指定时间	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....在我们中方实体中选择合适的人(一个或多个)来表达他们的专业知识	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....对清晰表达他们的知识有经验	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....具有所有向我们表达其专业知识的必要技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 9 (态度)：德方机构的成员们.....</b>					
.....认识到与我们分享他们的知识的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认识到帮助我们解决问题的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认识到借给我们熟练员工的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认识到评价专业知识传递可行性的益处	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....在与我们分享专业知识的方面具有财政方面的激励	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....感觉被中方实体的成员们误导了	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为中国同事们信守诺言	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为中国同事们不惜一切代价追求我们的自身利益	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....感觉中国同事们公平对待他们	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....感觉中国同事们利用他们的弱点	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为他们自己的能力可以应对与日俱增的职责	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为他们具有与中国实体成员们打交道的必要技能	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为他们能够对组织的成功作出贡献	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....认为他们具有所在行业的高尖端技术专业知识的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....自信不足	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....通常具有创新性	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....能够迅速抓住机会	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....表现出实验的意愿	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....通常具有冒险性	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....通常比较谨慎	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....通常比较循规蹈矩	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 10 (网络联结)：我们德方机构的重要员工们.....</b>					
.....已经在中国实体中工作过一年或者一年以上	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....曾经参与在中方实体开展的主管人员培训活动	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....在我们的中国实体中有关系紧密可以联系的人	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....与中国实体的员工们具有紧密地工作关系	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....与中国实体的成员们有团队协作任务	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>问题 11 (知识特征)：德方机构的专业知识.....</b>					
.....通常是有整齐备案的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....大多是手写(记录)的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....只能被我们在该组织中有长期合作经验的职工所吸收	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....分散在我们中方实体的多个单位中	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....是一个由很多互相关联的技术、程序、个人和资源所构成的产物	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....由大量的事实性信息所构成	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



第五部分：中德组织间的知识传递  
(请在每一行的一个方框中打勾)

	强烈不同意 ▼		既不同意也不反对 ▼		强烈同意 ▼
问题 12 (沟通交流)：中方实体的员工们和德方机构频繁地.....					
...彼此沟通交换工作项目有关的想法意见	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...进行电子邮件或者传真往来	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...通过电话或者电话会议交换意见	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...对工作项目有关的事宜见面 (交换意见)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...就非工作事宜彼此联系交换意见	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
问题 13 (知识传递)：我们已经从德方机构学到了很多.....					
...新科技技术	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...新市场营销技术	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...关于产品/服务的发展的信息和技巧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...管理技巧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...制造/服务程序	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
问题 14 (传导成本)：从德方机构获取专业知识.....					
...已经消耗了我们很多时间和人力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...已经消耗了我们大量的资源和金钱	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
问题 15 (业绩效果)：通过德国向中国的专业知识传导.....					
...我们的业务量已经有所增长	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...我们已经变得更加有竞争力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...我们已经实现了计划中的目标/目的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...我们中方的运作已经变得更加有钱赚	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...我们中方的运作已经变得更加有效益/有效率	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

第五部分：背景信息

(此信息将被用于识别不同的公司和问卷回答者)

说明中方实体的所在地 \_\_\_\_\_ (省) \_\_\_\_\_ (市)

选择其中一项作为对于您的机构规模的描述

全球收益少于 5 千万欧元

全球收益在 5 千万和 25 千万欧元之间

全球收益在 25 千万和 10 亿欧元之间

全球收益少于 10 亿欧元和 50 亿欧元之间

全球收益多于 50 亿欧元

选择您的 (问卷回答者) 的国籍

德国  中国  其它 \_\_\_\_\_ (请具体说明)

具体说明 (估计即可) 在贵企业中 中方实体中工作的员工人数 (如果您的实体是合资企业, 请包含所有合作伙伴全职指派的员工) \_\_\_\_\_ (员工)

具体说明 (估计即可) 在贵企业 德方实体中工作的员工人数 \_\_\_\_\_ (员工)

具体说明 (估计即可) 在贵企业 中国实体工作的来自德方机构的员工的比例 \_\_\_\_\_ (%)

简要说明贵企业在中国组建实体的年份 \_\_\_\_\_ (例如, 1992)

企业的中方实体 (或者您所参与合资的实体) 是否已经通过并购变成了德方机构的一部分?  是  否

已经在中方实体中工作了多少年? \_\_\_\_\_ (年) \_\_\_\_\_ (月)

在该企业的德方办公室工作了多少年? (请填入“0”如果您从未在德方办公室中工作过) \_\_\_\_\_ (年) \_\_\_\_\_ (月)

如果您愿意收到免费的管理报告, 请写下您的电子邮件地址(可选) \_\_\_\_\_

我们将对一些有趣的案例进行采访调查。如果您愿意与我分享向中国进行知识传导的经验, 请留下您的电子邮件地址或其他可以联系到您的方式(可选) \_\_\_\_\_

非常感谢您对此项研究的参与!

请用随附信封寄回该问卷。

如果您已经选择接受一份管理报告, 我会尽快将有关研究结果寄给您。

## APPENDIX 2: TEXT OF THE WEB-BASED SURVEY (ENGLISH & GERMAN)

### Welcome to the University of Leeds Knowledge Transfer Survey

Dear participant,

Thank you very much for following my invitation to participate in this academic investigation which will help me obtain my doctoral degree. Please kindly follow the instructions on the following pages. You can interrupt this survey at any point in time and continue whenever it is convenient for you.

You will have the opportunity to request the **results of the study and an individualized, free management report on your firm's unique results** at the end of the survey.

Please feel free to contact me at any time with any question regarding this survey or the knowledge transfer topic in general.

Thank you very much in advance for your cooperation and the support of my research.

Yours sincerely,

Andreas Moosdorf  
Doctoral researcher  
Centre for International Business (CIBUL), Leeds University Business School  
Maurice Keyworth Building, Leeds LS2 9JT, United Kingdom  
Mail: a.moosdorf@leeds.ac.uk  
Web: www.leeds.ac.uk/cibul

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Contact data in China:  
Andreas Moosdorf  
University of International Business and Economics, School of International Trade and Economics, Room 1221  
10 East Huixin Street, Chaoyang District, Beijing 100029  
Phone: +86 13552201346

## Willkommen zur Umfrage

Sehr geehrte Teilnehmerin, Sehr geehrter Teilnehmer,

Vielen Dank das Sie meiner Einladung gefolgt sind und an dieser wissenschaftlichen Studie teilnehmen die mir helfen wird meine Promotion abzuschließen. Zur Teilnahme befolgen Sie bitte einfach die Anweisungen auf den nächsten Seiten. Sie können die Befragung jeder Zeit unterbrechen und zu einem beliebigen Zeitpunkt fortsetzen.

Am Ende des Fragebogens erhalten Sie die Möglichkeit den **kostenlosen Bericht der Studie und der Ergebnisse Ihres Unternehmens** einzufordern.

Sollten Sie Fragen bezüglich meiner Studie oder zum Thema Wissenstransfer haben, können Sie mich jederzeit unter den untenstehenden Kontaktdaten erreichen.

Vielen Dank im Voraus für Ihre Teilnahme und die Unterstützung meiner Arbeit.

Mit freundlichen Grüßen

Andreas Moosdorf  
Doktorand  
Centre for International Business (CIBUI), Leeds University Business School  
Maurice Keyworth Building, Leeds LS2 9JT, United Kingdom  
Mail: [a.moosdorf@leeds.ac.uk](mailto:a.moosdorf@leeds.ac.uk)  
Web: [www.leeds.ac.uk/cibui](http://www.leeds.ac.uk/cibui)

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Phone: +86 13552201346

## APPENDIX 3: INTRODUCTORY EMAIL

中文版请见下面; Please scroll down for the English translation

-----Deutsch-----  
Schr geehrter Herr XYZ,

**Warum scheitert der Wissenstransfer deutscher Unternehmen nach China oft?** Wie können Sie sicherstellen, dass das Know-how Ihrer Organisation in China optimal genutzt wird? Sollten Sie sich verstärkt der Aus- und Weiterbildung Ihrer chinesischen oder deutschen Mitarbeiter widmen? Kann Ihre Organisation technische und soziale Instrumente und Anreize weiter verbessern die Ihre Mitarbeiter dazu veranlassen Wissen effizienter und nachhaltiger auszutauschen?

Sollten auch Sie sich kürzlich eine der obigen Fragen gestellt haben, so haben Sie etwas mit dem Großteil der Manager deutscher Firmen in China gemeinsam mit denen ich während der vergangenen Monate gesprochen habe. Ich möchte Sie dazu einladen meine Doktorarbeit über die Effektivität von Wissenstransfer von Deutschland nach China zu unterstützen indem Sie einige Angaben zum Wissenstransfer innerhalb Ihres Unternehmens machen. Sie erhalten dafür einen Überblick der Ergebnisse der Studie sowie einen individualisierten, **kostenlosen Bericht der Ergebnisse Ihres Unternehmens**. Dieser kann Antworten für die obigen Fragen und darüber hinaus liefern. Um Ihnen die Teilnahme zu vereinfachen habe ich Ihnen heute einen Fragebogen und frankierten Rückumschlag an untenstehende Adresse geschickt die ich über die Webseite der AHK erhielt:

[Postal address of the recipient]

Ich würde mich sehr darüber freuen wenn auch Sie meiner Einladung folgen würden und den Fragebogen beantworten. Derselbe Fragebogen ist auch auf [www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch) erhältlich und kann dort anstelle der Briefversion mit Hilfe des Logins [Recipient's login] beantwortet werden.

Ich hoffe auf Ihre Teilnahme und darauf bald auch Ihnen die Ergebnisse der Studie und Ihres Unternehmens präsentieren zu können. Sollten Sie Fragen bezüglich meiner Studie haben können Sie sich jederzeit bei mir melden.

Ich danke Ihnen recht herzlich für die Unterstützung meiner Forschung.

Mit freundlichen Grüßen

Andreas Moosdorf

-----中文-----  
尊敬的 YXZ 先生,

**为什么德国（企业）向中国的知识传导通常不成功？** 您如果确保贵企业的专业知识以最有效的方式应用于中国？您是否应该投资于培训和培养派驻中国的人员或者中方的潜力人才？贵企业是否能够进一步提高科技和社交途径以及激励机制来促进员工们彼此更加有效而且持续地交流专业知识？

如果您最近也有以上疑问，那么您与我在过去几个月中访问过的许多德国驻中的商务经理们面临相同的问题。特此我希望邀请您参与有关从德国向中国的知识传导效率的博士研究调查。如果您有意参与，请您填写这份问卷调查。作为回报，我会发给您一份该研究调查结果的综述和一份针对贵公司的个性化的**免费管理咨询报告**。该报告将回答本文开篇的问题以及对相关问题作进一步的探讨。为了方便您的参与，所以今天我已经寄送您一份问卷和一个准备好的回邮信封到您 AHK 注册的地址（见下面）。

[Postal address of the recipient]

如果您接受我的邀请回答这些问题，我将非常感激和高兴。您亦可在线回答该问卷，请登陆网址：[www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch) (德文); [www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english) (英文)。(很遗憾,由于技术问题中文版问卷不能被上传到相关网页)。请您用号码 [Recipient's login] 登陆。

衷心盼望您的参加。我期待尽快与您分享我的调查结果。如果您对本人的研究活动有任何疑问，请一定不要犹豫，随时与我取得联系。

再次感谢您对此次调查的帮助。

此致

敬礼

莫安德

----- English -----

Dear Mr. XYZ,

**Why does knowledge transfer of German companies to China often fail?** How can you ensure that your organization's know-how is used in China in the most effective way? Should you invest into training and developing expatriates or Chinese talent? Can your organization further improve technical and social instruments and incentives that encourage employees to exchange know-how with each other more effectively and sustainably?

If you have recently asked yourself any of the questions above, you have something in common with most managers of German businesses in China that I have talked to during the last months. I would like to invite you to support my doctoral research on the effectiveness of knowledge transfer from Germany to China by providing some data on knowledge transfer in your organization. In response you will receive a summary of the study and an individualized, **free management report** on your company's unique results. This might provide answers to the questions above and beyond. In order to facilitate participation for you, I have sent you today a questionnaire and stamped envelope to the address below which I obtained from the AHK website:

[Postal address of the recipient]

I would be very happy if you followed this invitation to participate in my research. You can also answer the questionnaire online instead at [www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english) where you can log in using the login-code [Recipient's login].

I deeply hope that you will decide to participate in this research project and that I can present the results of the study and your company to you soon. Should you have any questions regarding my study, please feel free to get in touch at any time.

Thank you very much for supporting my study.

Yours sincerely,

Andreas Moosdorf

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Andreas Moosdorf

Doctoral researcher, Centre for International Business (CIBUL), Leeds University Business School  
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## APPENDIX 4: FIRST REMINDER

For the attention of the Managing Director of [Name of the company]

Dear Mr. XYZ,

I am sending you attached a report that reveals why some German companies in China transfer know-how more successful than others. It employs unpublished company data collected during September 2007 and is exclusively distributed to you and the managers of the member companies of the German Chamber of Commerce.

If you would like to find out how successful your company is in comparison, and how you can improve the effectiveness of your know-how transfers to China, please participate in the survey posted to you on 08 September 2007. It is still available online at [www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english) and [www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch) (log-in: [Respondent's login]). I will send you a management report on your company's unique results after your kind participation.

I hope that this research can add value to your company too and deeply appreciate your support of my doctoral project.

Best regards

Andreas Moosdorf

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| Andreas Moosdorf | Researcher | Centre for International Business | [www.leeds.ac.uk/cibul](http://www.leeds.ac.uk/cibul) |  
[a.moosdorf@leeds.ac.uk](mailto:a.moosdorf@leeds.ac.uk) | +86 13552201346 |

## APPENDIX 5: FINAL REMINDER

Dear Mr. XYZ,

Thank you very much for having read my emails and letters from 08.09.2007 and 12.10.2007. Unless you consider participating, this is my last email to you. My sincere apologies for any inconvenience caused.

You could make me the great Christmas present of filling in my questionnaire available at [www.survey.leeds.ac.uk/english](http://www.survey.leeds.ac.uk/english) or [www.survey.leeds.ac.uk/deutsch](http://www.survey.leeds.ac.uk/deutsch) (login xxxxxx) before 24.12.2007. I will send you a report on your company's knowledge transfer success and the entire study subsequently.

Thank you so much! Merry Christmas and a Happy New Year 2008! Fröhliche Weihnachten und ein Frohes Neues Jahr 2008! 圣诞快乐!新年快乐!

Andreas Moosdorf

| Andreas Moosdorf | Researcher | Centre for International Business | [www.leeds.ac.uk/cibul](http://www.leeds.ac.uk/cibul) | [a.moosdorf@leeds.ac.uk](mailto:a.moosdorf@leeds.ac.uk) | +86 13552201346 |