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A socio-cultural perspective

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Knowledge transfer in acquisitions: A socio-cultural perspective

Key words: merger, acquisition, knowledge transfer, post-acquisition integration

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Paulina Junni

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1 INTRODUCTION

Dating back to the mid 19th century, mergers and acquisitions (M&As)¹ have emerged as one of the most important growth and internationalization strategies for all kinds of companies (Teerikangas, Very and Pisano, 2011; Zander and Zander, 2010). Since then, M&A activity has tended to fluctuate in waves; peaks occurring in the 1960s and 1970s when diversification and unrelated acquisitions were common (Schleifer and Vishny, 1991). In contrast, since the 1980s M&As have focused more on related acquisitions within the same industry, and have been more international in scope (Öberg and Holtström, 2006). Thus, managing post-acquisition integration and cultural differences has become more important in contemporary M&As. The most recent M&A peak in 2007 (Evans, Pucik and Björkman, 2011) was soon followed by a considerable drop at the beginning of the world financial crisis. Since then, M&A activity has been picking up with the worldwide deal value reaching 2.5 trillion USD in 2011, which represents a substantial increase from the previous low (Reuters, 2012)². Although M&A activity has been showing signs of slowing down again, over 36% of companies are planning to pursue acquisitions this year, which suggests that managers are still feeling confident about the potential of M&As to create value (Rusli, 2012).

Despite this continued activity, empirical evidence shows that M&As fail to achieve financial expectations (e.g. Agrawal, Jaffe and Mandelker, 1992; King, Dalton, Daily and Covin, 2004; Lubatkin, Srinivasan and Merchant, 1997). Kitching's (1974) study of nearly 40 years ago, which relied on assessments by acquiring managers of the performance of European and US acquisitions in Europe, showed failure rates of 46% to 50%. A more recent study by Schoenberg (2006) shows similar results: the study relied on four measures³ to assess the performance of acquisitions made by continental European firms and reported failure rates between 44 and 56%. This is consistent with a recent meta-analysis conducted by King et al. (2004: 195), which shows that acquisitions on average either have no effect or a modest negative effect on acquirer's financial performance. In addition to frequently disappointing acquirers, target firm members often experience acculturative stress (e.g. Nahavandi and Malekzadeh, 1988; Sarala, 2010), uncertainty about the future (e.g. Ranft and Lord, 2002; Vaara, 2003), and increased turnover among target firm executives (Hambrick and Cannella, 1993; Krug and Aguilera, 2005).

It is thus not surprising that numerous efforts have been made to identify and explain what influences M&A success/failure. Whilst early studies have focused mainly on how pre-acquisition factors such as strategic, economic and market 'fit' between acquirer and target influence value creation (e.g. Chatterjee 1986; Lubatkin, 1987), researchers began to focus on the post-acquisition process in the end of 1980 and early 90s (Jemison and Sitkin, 1986). In this 'process perspective' post-acquisition integration – and particularly how it is managed – is viewed as central for value creation through its

¹ For simplicity, the terms merger, acquisition and M&A will be used interchangeably in this thesis. However they are not synonyms. Whilst a merger generally refers to the combination of two or more firms, without a clear acquirer (Söderberg and Vaara, 2003), acquisitions involve one company taking a majority ownership interest in another firm, a subsidiary, or a firm's assets (DePamphilis, 2010).

² For a full review of global M&A activity and deal value and between years 2000 to 2011, see: <http://www.reuters.com/subjects/worldwide-mergers-and-acquisitions-q1-2011>.

³ Schoenberg's (2006) study included measures of acquiring firm cumulative abnormal returns, acquiring managers' assessment of acquisition performance, expert informants' assessment in the press, and divestment data.

influence on the extent to which synergies can be achieved (Datta, 1991; Haspeslagh and Jemison, 1991; Vaara and Monin, 2011).

1.1. Acquisition synergies and a knowledge-based view of value creation

Synergies exist when the acquiring and target firms can create more value together than either company could achieve alone (Eschen and Bresser, 2005; Schweiger and Walsh, 1990). The types of synergies that can be obtained through acquisitions vary. Cost-based synergies can be derived from economies of scale and scope by divesting or reconfiguring the assets of the acquiring and/or target firms (Capron, 1999; Chatterjee, 1986; Eccles, Lane and Wilson, 1999). Revenue-based synergies, in turn, can be realized by combining the acquisition partners' assets in such a way that it increases their market coverage, improves their innovation capability or their organizational effectiveness. This can lead to increased sales volumes or price premiums and enhanced revenues (Capron, 1999; Eccles et al., 1999). Cost- or revenue-based synergies can be achieved through sharing or reconfiguring resources after an acquisition. These types of synergies thus require some degree of integration between the merging firms (Haspeslagh and Jemison, 1991).

Acquisitions can also create market-power synergies by improving the ability of acquisition partners to control the price, volume or quality of the products sold, which can enhance their revenues (Hema, Ranjani and Lefanowicz, 2009; Seth, 1990a). In addition, financial synergies can be derived by increasing the acquiring firm's size so that it may gain access to cheaper capital (Trautwein, 1990: 284), or through diversification which reduces risk (Hema et al., 2009; Lubatkin, 1987; Seth, 1990a; 1990b; Trautwein, 1990). In contrast to cost- and resource-based synergies, market-power and financial synergies do not require combining merging firms' resources, and can be realized without post-acquisition integration (Haspeslagh and Jemison, 1991).

Acquirers can pursue any of the above-mentioned synergies. A growing stream of research taking a resource-based view (RBV) suggests, however, that 'strategic acquisitions' that aim to achieve cost- and/or revenue-based synergies offer the greatest potential for value creation (e.g. Eschen and Bresser, 2005; Haspeslagh and Jemison, 1991; Hema et al., 2009)⁴. The RBV is built around the idea that the exploitation or development of rare, valuable, imperfectly imitable, and non-substitutable resources can be a source of competitive advantage for firms (Barney, 1991; Wernerfelt, 1984). Acquirers can create value through post-acquisition integration by leveraging or reconfiguring the merging firms' resources (Ambrosini, Bowman and Schoenberg, 2011; Haspeslagh and Jemison, 1991; Hema et al., 2009).

More specifically, when a cost-based value-creation strategy is employed, synergies are mainly derived from economies of scale or scope by rationalizing, consolidating or centralizing operating resources such as office space, manufacturing facilities, sales forces, or distribution channels (Ambrosini et al., Capron, 1999; Haspeslagh and Jemison, 1991). In contrast, a revenue-based strategy involves leveraging complementary skills or knowledge residing in the partner firm(s) in order to improve

⁴ This can be argued particularly for related acquisitions (Ambrosini et al., 2011; Capron, 1999; Haspeslagh and Jemison, 1991). Almost all acquisitions in the sample used in this study represent related acquisitions, i.e. acquisitions that were conducted in the same industry. In addition, strict criteria were used in selecting the sample in order to eliminate acquisitions that do not require any integration, e.g. acquisitions made for purely financial reasons. Thus, it can be expected that the arguments put forth in this section apply for the acquisitions in the data sample used in this study.

their innovativeness or effectiveness. For example, the acquiring or target firm may possess a certain type of knowledge or expertise that the partner firm is lacking – e.g. related to marketing, manufacturing, research and development (R&D) or management – that the partner firm can make use of in order to improve its performance (Haspeslagh and Jemison, 1991). Alternatively, new knowledge can be created by combining knowledge assets from both firms (Ambrosini et al., 2011; Capron, 1999). Both cost- and revenue-based value creation strategies can improve post-acquisition performance (Ambrosini et al., 2011; Capron, 1999). However, it has been suggested that combining unique and complementary knowledge offers more potential for value creation than cutting costs by eliminating and rationalizing operational resources that are substitutable (Eschen and Bresser, 2005; Haspeslagh and Jemison, 1991).

The argument above is in line with the knowledge-based view (KBV) that describes knowledge as the most valuable resource of the firm due to its context specificity and uniqueness, which make it difficult to imitate and exploit outside a particular firm's context (Grant, 1996). The KBV also maintains that the key to enhancing firm effectiveness and capability to innovate is to continuously develop new and unique knowledge, and to transfer knowledge within the firm (e.g. Grant, 1996; Kogut and Zander, 1993; Spender and Grant, 1996). Alternatively, firms can access new knowledge by engaging in inter-firm partnerships such as alliances (e.g. Hagedoorn and Duysters, 2002; Mowery, Oxley and Silverman, 1996) or through acquisitions (e.g. Eschen and Bresser, 2005; Ranft and Lord, 2002). Firms are more likely to pursue acquisitions over alliances when the goal is to transfer knowledge that is closely related to their core business (Hagedoorn and Duysters, 2002). One reason for this is that acquisitions give acquirers greater control over knowledge assets and their use.

Taken together, knowledge can either be developed within the firm based on firm members' experiences, or it can be acquired externally from the experiences of others (Schultz, 2001). Acquisitions can be viewed as a means for accessing new knowledge externally, rather than developing it internally (Ahuja & Katila, 2001; Haspeslagh & Jemison, 1991). Previous research shows that many firms pursue acquisitions rather than internal development in order to create new products and services faster and to keep up with competitors (Chaudhuri and Tabrizi, 1999). Consequently, a common acquisition motive is to reduce knowledge gaps through knowledge transfer (Barney, 1988; Eschen and Bresser, 2005).

In line with the KBV, this thesis builds on the assumption that knowledge transfer is central for post-acquisition value creation. Acquisitions can infuse the acquiring company with new knowledge from the target (Vermeulen & Barkema, 2001), allow the acquirer to exploit its superior knowledge in the target firm (Bresman, Birkinshaw and Nobel, 1999; Haspeslagh and Jemison, 1991), or facilitate the creation of new knowledge by combining the acquisition partner's complementary knowledge in new ways (Björkman, Stahl and Vaara, 2007; Eschen and Bresser, 2005).

In these types of 'strategic acquisitions', the acquirer can decide to transfer knowledge to the target, for example in the form of best practices (Vaara, Tienari and Björkman, 2003b) in order to improve the target's performance or to achieve economies of scale by standardizing practices and eliminating duplication (Ambrosini et al., 2011). This is common in 'absorption' acquisitions, where cost-based synergies are viewed as more important than revenue-based synergies derived from knowledge transfer (Haspeslagh and Jemison, 1991). In less common 'reverse' acquisitions, which are the opposite of absorption acquisitions, and where the acquirer wants to adapt to the target's ways (Marks and Mirvis, 2011), knowledge is more likely to be transferred from the target

firm to the acquirer. However, when the acquirer does not aim to adapt to the target, yet views the target firm's knowledge base as valuable, it may adopt a more cautious 'preservation' strategy (Haspeslagh and Jemison, 1991). This involves limited integration – e.g. only of financial administrative functions – and is intended to protect the target's knowledge base. Because this 'hands-off' approach limits opportunities to leverage the target's knowledge or to create new knowledge (Evans et al., 2011), many acquirers adopt a 'symbiosis' strategy after an initial period of autonomy (Haspeslagh and Jemison, 1991). The symbiosis strategy has been described as most complex and challenging because it requires some degree of integration, whilst simultaneously protecting the target firm's knowledge.

Based on the discussion above, it can be argued that knowledge transfer is central to value creation in any type of 'strategic acquisition' that requires some degree of integration. Not all 'strategic acquisitions' are, however, necessarily motivated by knowledge transfer. In fact, cost-based strategies have often been described as separate or even mutually exclusive from revenue-based strategies, because they require different organizational structures and processes (Ambrosini et al., 2011). More specifically, applying a cost-based strategy may reduce organizational slack (Capron, 1999) or disrupt the knowledge base of the firm whose operational resources are being rationalized (Haspeslagh and Jemison, 1991). This in turn reduces the potential for revenue-based synergies through knowledge transfer. However, Capron (1999) found in her study that cost- and revenue-based value creation strategies are not necessarily mutually exclusive. Rather, the rationalization or divestiture of one partner's assets is often accompanied with knowledge transfer from the other partner⁵. One reason for this is that consolidating or standardizing practices often requires that members of the firm whose assets are being divested or reconfigured learn to make use of new knowledge from the partner firm (Capron, 1999; Vaara et al., 2003b). In other words, knowledge transfer can either be aimed at improving the merging firm's innovative capabilities and effectiveness in order to enhance revenues, or it can be part of a cost-based strategy that is associated with asset divestiture and rationalization.

Taken together, knowledge transfer can be argued to play a central part in post-acquisition value creation, be it based on cost savings or revenue enhancement. In support of this argument, previous research has shown a positive association between post-acquisition knowledge transfer and acquisition financial performance (e.g. Capron, 1999; Capron, Dussauge and Mitchell, 1998; Capron and Pistre, 2002). The realization of synergies through knowledge transfer, however, requires integration because knowledge complementarities increase interdependence between acquisition partners (Eschen and Bresser, 2005, Björkman et al., 2007; Haspeslagh and Jemison, 1991). Due to the idiosyncratic nature of knowledge, and challenges related to the integration process, knowledge transfer in acquisitions can be difficult and time-consuming (Bresman et al., 1999; Haspeslagh and Jemison, 1991). Consequently, a number of scholars have turned their attention to factors that enhance or impede knowledge transfer in the post-acquisition integration context (see Table 2 in section 2.2, which contains an overview of empirical studies on M&A knowledge transfer).

Although previous research has provided valuable insights about M&A knowledge transfer, there are a number of gaps in our understanding about the processes and

⁵ Asset divestiture refers to the disposal of physical assets, facilities, or reducing personnel in the merging firm(s). While divestiture can relate to the acquiring or target firm's assets, and knowledge can be transferred from the acquiring firm to the target or from the target firm to the acquirer, it is more common that the target's assets are divested and that knowledge is transferred from the acquirer to the target than vice versa (Capron, 1999).

variables that shape it. More specifically, we know less of the relative impact of different knowledge transfer determinants (Minbaeva, 2007; Van Wijk, Jansen and Lyles, 2008), and their indirect effects such as moderating or mediating relationships (Foss, Husted and Michailova, 2010; Kane, 2010). In addition, few larger-scale studies have examined knowledge transfer both from the acquiring firm to the target and from the target firm to the acquirer. Whilst case studies have included more variables (Tsang, 2008; Westphal and Shaw, 2005), and have more often examined knowledge transfer in both directions (e.g. Empson, 2001; Lam, 1997), the small sample sizes of the studies limits their generalizability.

Furthermore, scholars have called for research focusing on specific managerial processes that create value during post-acquisition integration – particularly through knowledge transfer – and on factors that support or impede their implementation (Haleblian, Devers, McNamara, Carpenter, Davison, 2009; Van Wijk et al., 2008; Zander and Zander, 2010)⁶. Although socio-political aspects have been highlighted as particularly important in post-acquisition integration (e.g. Shrivastava, 1986; Vaara, 2003) they have received scant attention in M&A research in general (e.g. Steensma and Van Milligen, 2003) and concerning M&A knowledge transfer in particular (for notable exceptions see Empson, 2001; Vaara et al., 2003b). Addressing the aforementioned research gaps, this thesis aims to make a contribution to the M&A knowledge transfer literature by examining how socio-cultural and political factors, as well as knowledge characteristics influence post-acquisition knowledge transfer. The following section sets out to provide a definition of knowledge transfer.

1.2. Defining knowledge and post-acquisition knowledge transfer

Knowledge has been conceptualized in different ways; e.g. as an asset (Gupta and Govindarajan, 2000) and as a process (Becker-Ritterspach, 2006). Many scholars, however, contend that it is distinct from simple information and involves other aspects (e.g. Kogut and Zander, 1993; Nonaka and Takeuchi, 1995). The differences between knowledge and information, and consequently the distinction between the transfer of knowledge and of information are, however, seldom explicated in studies (e.g. Bresman et al., 1999; Tsang, 2008).

This thesis draws on Boisot's and Canals' (2004) distinction between data, information and knowledge. Whilst data refer to individual facts or observations, information can be described as patterns or regularities found in the data. Knowledge can be understood as an interpretation of these regularities (the information), based on individuals' expectations that are shaped by their previous learning experiences and values (Boisot and Canals, 2004; Zander and Kogut; 1995). Further, an individual's knowledge can relate to practical skills and expertise ('know how') or to theoretical understanding ('know-what'), that the individual has gained through personal experiences or learning (Blackler, 1995). Both practical and theoretical knowledge are related to the capacity of individuals to do something efficiently (Zander and Kogut, 1995).

Consequently, in this study knowledge is not viewed as something that is 'objective' or detached from its environment. Knowledge can instead be understood both as being an asset that can be accumulated within an organization and transferred between firms, and as a process where the meaning and form that the knowledge takes is socially

⁶ The research gaps are discussed in greater detail section 1.3.

constructed – i.e. shaped by both the sender’s and receiver’s values, experiences and social context (e.g. Berger and Luckmann, 1966) which may change during the knowledge transfer process (Becker-Ritterspach, 2006).

Building on the discussion above, the knowledge sender’s and receiver’s values, accumulated learning experiences, as well as their social and institutional context all influence knowledge transfer (Kostova and Roth, 2002). Effective knowledge transfer thus depends on the sender’s ability and motivation to disseminate knowledge from its particular context – by explaining, articulating and framing its knowledge in order to make it understandable to the receiver – as well as the receiver’s ability and motivation to understand the knowledge and to reapply it in its own context (Foss and Pedersen, 2002; Minbaeva, Pedersen, Björkman, Fey and Park, 2003). Simply put, knowledge transfer can be defined as the receiver’s use of the sender’s knowledge.

Knowledge transfer can entail more than simple replication of the sender’s knowledge by the receiver (see e.g. Szulanski, 1996; Szulanski et al., 2004). The receiver’s adoption of the sender’s knowledge may additionally involve transforming the knowledge to better suit the receiver’s context (Becker-Ritterspach, 2006; Björkman et al., 2007). Further, in the context of M&As, either party can be on the sending and receiving side, i.e. knowledge can be transferred from the acquirer to the target and/or from the target to the acquirer (Bresman et al., 1999). Post-acquisition knowledge transfer thus refers to the extent to which acquiring/target firm members make use of the target/acquiring firm’s knowledge.

Acquisition partners can transfer various types of knowledge in order to close their ‘knowledge gaps’. The acquiring company can for example be interested in obtaining knowledge from an overseas target company about local business practices and networks (Schoenberg, 2001), or it may be interested in accessing particular types of functional knowledge that can assist it in its own processes, e.g. technological or R&D knowledge (Bresman et al., 1999; Ranft and Lord, 2000), marketing and client related knowledge (Empson, 2001), management or manufacturing knowledge (Capron et al., 1998; Tsang, 2008). Knowledge transfer can also range from sharing individual expertise or skills (Empson, 2001; Zhao and Anand, 2009) to transferring collective knowledge in the form of complex organizational routines that are the result of interdependencies and interactions between a number of individuals (Tsang, 2008; Zhao and Anand, 2009). Thus an organization’s knowledge base is not simply the sum of individuals’ knowledge but also contains collective knowledge, which is embedded among organizational members and concerns how to coordinate, share, distribute, and recombine individual knowledge (Zhao & Anand, 2009: 962). Finally, individual knowledge can be explicit – which refers to knowledge that is often more theoretical and easier to communicate and to codify, or tacit – which refers to knowledge that is often based on practical experiences or ‘learning by doing’ that can be difficult to frame or articulate (Kogut and Zander, 1993; Simonin, 1999a; 1999b). Collective knowledge, however, tends to be embedded in social interactions and interpersonal routines, which makes it more tacit and complex and hence more difficult to transfer (Zhao and Anand, 2009).

1.3. Research gap

A considerable amount of research has been devoted to knowledge transfer in contexts such as multinational corporations (MNCs) (e.g. Gupta and Govindarajan, 2000; Minbaeva et al., 2003; Szulanski, 1996; Szulanski et al., 2004) and alliances (e.g.

Mowery et al., 1996; Simonin, 1999a; 1999b). However, it has been less explored in the M&A context (Bresman et al., 1999). Whilst it has been argued that post-acquisition knowledge transfer is particularly important for value creation (Capron, 1999; Haspeslagh and Jemison, 1991; Schoenberg, 2001), knowledge transfer is likely to differ from, and potentially be more difficult to achieve in M&As than in other contexts such as in MNCs or alliances. More specifically, it has been argued that the quality of the social relationship between the knowledge sender and receiver is key in any type of knowledge transfer, be it within MNCs (Minbaeva, 2007; Szulanski, 1999), between alliance partners (Simonin, 1999a; 1999b), or between merging firms (Bresman et al., 1999; Westphal and Shaw, 2005). In M&As, the social relationship between the merging firms is likely to be less developed and more distant, at least initially, than the relationships between more established units within MNCs (Bresman et al., 1999). Although acquirers often aim to strengthen their relationship with target firm members through socio-cultural integration, this type of 'human integration' is more difficult than the integration of the firms' structures and processes (Shrivastava, 1986). Therefore, at least in the early phases following acquisitions, knowledge transfer is likely to be more difficult than in more 'stable' contexts with more established relationships such as in MNCs. Furthermore, the type and direction of M&A knowledge transfer is likely to change during the integration process (Bresman et al., 1999), as changes are made in one or both companies' structures, cultures and processes (Pablo, 1994).

The considerable body of research on learning in alliances addresses a similar phenomenon as M&A knowledge transfer (Van Wijk et al., 2008). Alliances also require relationship building to support knowledge transfer between the partner firms (Muthusamy and White, 2005). The phenomena do, however, have several key differences that prevent their direct generalization. Knowledge transfer in alliances may be easier than in acquisitions due to differences in their structure and integration requirements. Contrary to acquisitions, learning alliances do not require extensive integration because they are designed to isolate specific knowledge-based resources that the partners intend to share (Ranft and Marsh, 2008). Alliances are thus not affected by the challenges associated with post-acquisition integration, such as high levels of ambiguity and uncertainty relating to impending organizational changes (Bresman et al., 1999; Vaara et al., 2003b), which can create change resistance among individuals (Blake and Mouton, 1985; Marks and Mirvis, 1985) and reduce their motivation to engage in knowledge transfer (Empson, 2001).

In summary, post-acquisition knowledge transfer includes specific challenges that remain poorly understood. There is a need to deepen our understanding of how different factors and processes influence knowledge transfer in this context (Haleblian et al., 2009). First, as mentioned in the introduction, previous research on this topic has not converged on the most central determinants for M&A knowledge transfer (Haleblian et al., 2009). Whilst case studies have explored several variables, few have elaborated on their relative importance. The small sample sizes of the case studies also constrain the extent to which their findings can be generalized. Large-scale studies, in turn, have tended to focus on fewer variables; this also limits their ability to examine the relative importance of different variables (see Table 2 in section 2.2 for an overview of empirical studies on M&A knowledge transfer). The literature on knowledge transfer suffers in general from a lack of large-scale studies (Gagné, 2009). In M&As this gap specifically concerns the exploration of multiple types of knowledge transfer antecedents. Second, the direction of knowledge transfer – from the acquirer to the target or vice versa – has been mostly ignored in previous studies that draw on larger-scale data. Most studies have either focused on knowledge transfer from the target to

the acquiring firm, or have not specified the direction of knowledge transfer. Third, most studies have examined direct relationships between knowledge transfer and independent variables, ignoring indirect effects – such as moderating and mediating relationships – between them (Foss et al., 2010; Van Wijk et al., 2008). The rest of this section outlines the three aforementioned research gaps in greater detail that need to be addressed in order to enhance our understanding on knowledge transfer in M&As.

1.3.1. *Socio-cultural factors, political factors and knowledge characteristics*

Although previous studies have pointed out a number of factors that may influence M&A knowledge transfer – knowledge characteristics, sender/receiver characteristics, relationship characteristics, and managerial processes – they have not reached a consensus about the most central determinants (Haleblian et al., 2009): Lam (1997) points to differences in the acquisition partners' knowledge bases as a key impediment to knowledge transfer. Empson (2001), however, argues that it is not the knowledge bases in themselves, but rather the perceptions that the acquisition partners have of each other and of each others' knowledge, that are central for knowledge transfer. Other studies have focused on how managerial and organizational processes influence M&A knowledge transfer (e.g. Buono, 1997; Sarala and Vaara, 2010). A few studies have also focused on multiple determinants of knowledge transfer, but without elaborating on their relative importance (e.g. Castro and Neira, 2005; Westphal and Shaw, 2005). Consequently, the relative explanatory power of these factors has been largely unexplored (Hansen and Løvås, 2004; Van Wijk et al., 2008).

Turning to the specific categories of M&A knowledge transfer determinants, knowledge characteristics – especially the dimensions knowledge 'tacitness' and 'explicitness', which refer to how easily knowledge can be articulated or codified (e.g. Simonin, 1999a; 1999b) – have received most attention (e.g. Bresman et al., 1999; Castro and Neira, 2005; Ranft and Lord, 2002). However, other knowledge characteristics that can impact knowledge transfer have received scarce attention (Van Wijk et al., 2008), particularly in the M&A context. For example, Simonin (1999a; 1999b) found knowledge ambiguity to be a central barrier to knowledge transfer in alliances. In addition, studies on knowledge transfer in alliances (Simonin, 1999a; 1999b) and M&As (Lam, 1997) have pointed to the difficulty of transferring complex knowledge. The effects of these two knowledge characteristics have, however, not been tested in larger-scale quantitative studies. There is thus a need to include more fine-grained measures on knowledge characteristics in studies on M&A knowledge transfer.

Studies on M&A knowledge transfer have also been criticized for taking an 'essentialist' perspective (Empson, 2001) – i.e. emphasizing 'technical' aspects such as knowledge characteristics, whilst downplaying emotional, social and political ones. Concerning emotional aspects, a few studies on M&A knowledge transfer have pointed to the importance of the sender's motivation to share its knowledge (e.g. Empson, 2001), and the receiver's motivation to absorb it (e.g. Tsang, 2008). In addition, research taking a political perspective has helped to explain the resistance of senders to sharing knowledge (e.g. Husted, Gammelgaard and Michailova, 2005), and the unwillingness of receivers to absorb knowledge (e.g. Vaara et al., 2003b). Although these studies have shed light on how individuals' motivation affects knowledge transfer, they have been limited to conceptual and qualitative case studies. In order to increase the robustness and generalizability of the findings, studies drawing on larger-scale quantitative data

are needed to test these propositions, particularly in organizational research with a political perspective (Vince, Sutcliffe and Oliveira, 2002).

Furthermore, a number of M&A studies have examined how pre-acquisition sender/receiver characteristics influence knowledge transfer; e.g. differences between the strategies (e.g. Capron et al. 2001; Westphal and Shaw, 2005), company sizes (Ahuja and Katila, 2001) and cultures (e.g. Brock, 2005; Lam, 1997) of the merging firms. Fewer studies have, however, examined the effect of knowledge complementarity, which has been described as central for M&A knowledge transfer and value creation in conceptual studies (Björkman et al., 2007; Eschen and Bresser, 2005). Whilst a few small-scale qualitative case studies have explored how the complementarity of the knowledge bases of the merging firms impact knowledge transfer (Castro and Neira, 2005; Westphal and Shaw, 2005; Zou and Ghauri, 2008), larger-scale quantitative studies are needed that examine how complementarity impacts knowledge transfer between acquisition partners (Makri, Hitt and Lane, 2010).

There is also a general lack of studies that aim to explain how post-acquisition managerial processes – such as socio-cultural integration (Teerikangas and Very, 2006; Stahl and Voigt, 2008) – impact acquisition outcomes, and which factors support or hinder the carrying out of these processes (Haleblian et al., 2009; Zollo and Singh, 2004). Even though some M&A studies have linked managerial processes – operational integration and/or target autonomy (Ranft and Lord, 2002; Schweizer, 2005) and socio-cultural integration (e.g. Bresman et al., 1999; Castro and Neira, 2005) – to M&A knowledge transfer, these studies have shown mixed effects concerning their effectiveness. Target autonomy has been found to both facilitate (e.g. Westphal and Shaw, 2005) and impede (e.g. Ranft and Lord, 2002) knowledge transfer. In general, it has been argued that socio-cultural integration supports knowledge transfer by building a cohesive ‘social community’ (e.g. Bresman et al., 1999; Björkman et al., 2007). Socio-cultural integration can, however, also result from high employee turnover (Carroll and Harrison, 2002), e.g. through departure of employees from the target firm who do not feel that they ‘fit in’ the new post-acquisition culture (Zander and Zander, 2010). This, in turn, can erode the target’s knowledge base, particularly if key employees who carry valuable knowledge leave the firm (Haspeslagh and Jemison, 1991). Due to these mixed findings there is a need for research that explores how different types of managerial processes that aim at socio-cultural and/or operational integration impact M&A knowledge transfer and in which contexts these managerial processes are most beneficial.

1.3.2. The direction of knowledge transfer

As discussed above, depending on the acquisition strategy, acquirers may want to support knowledge transfer either from the acquirer to the target, from the target to the acquirer, or in both directions (Ambrosini et al., 2011; Haspeslagh and Jemison, 1991). M&A knowledge transfer determinants may, however, play different roles depending on the direction of knowledge transfer (Bresman et al., 1999). Although some studies have examined the direction of post-acquisition knowledge transfer, most of these studies have focused on the outcomes of knowledge transfer (Capron et al., 1998; Capron et al., 2001; Capron, 1999; Capron and Pistre, 2002), and not on which factors influence knowledge transfer in different directions (notable exceptions are Bresman et al., 1999; Bröchner et al., 2004). For example, the study of Bresman et al. (1999) shows that acquirers tend to transfer more knowledge to the target in early post-acquisition stages, whereas knowledge flows become more balanced between the acquisition

partners in later stages. The authors speculate that knowledge transfer from the target to the acquirer requires a ‘social community’, which takes time to build. It can therefore be assumed that knowledge transfer from the target to the acquirer relies on different processes than knowledge transfer from the acquirer to the target.

Taken together, there is a need to better understand how the influences of knowledge transfer determinants differ depending on the direction of the transfer. This is an important question because different post-acquisition value creation strategies rely on transferring knowledge in different directions between the partners. For example, in acquisitions that adopt an ‘absorption’ integration strategy, the goal is often to obtain cost-based synergies through economies of scale and scope e.g. by standardizing practices (Haspeslagh and Jemison, 1991). This type of value creation can be supported by transferring knowledge from the acquirer to the target – e.g. in the form of best practices (Vaara et al., 2003b) – in order to improve the target’s performance and/or to remove duplication (Ambrosini et al., 2011). In contrast, ‘preservation’ and ‘symbiosis’ acquisitions often aim to create revenue-based synergies by also transferring knowledge from the target to the acquirer (Eccles et al., 1999; Haspeslagh and Jemison, 1991). When applying one of these two acquisition strategies, the acquirer needs to proceed carefully with the integration process, in order not to disrupt the target’s knowledge base that contains valuable tacit and culturally embedded knowledge, which the acquirer intends to access (Haspeslagh and Jemison, 1991; Kale, Singh and Raman, 2009). Because value creation strategies rely on different types knowledge transfer, there is a need to map out and identify how different factors influence knowledge transfer from the acquirer to the target and vice versa.

1.3.3. Direct and indirect effects

Most empirical studies on M&A knowledge transfer have tended to focus on the direct effects of independent variables (e.g. Lam, 1997; Empson, 2001; Westphal and Shaw, 2005). However, empirical (Castro and Neira, 2005; Sarala and Vaara, 2010) and conceptual studies (Björkman et al., 2007; Yildiz and Fey, 2010) suggest that knowledge transfer may be the result of more complex interactions between variables. Furthermore, there has been a call for research that maps out and specifies the antecedents of processes that impact knowledge transfer in acquisitions (Foss et al., 2010, Haleblan et al., 2009). Consequently, there is a need for research that examines more complex and indirect effects of how different determinants – i.e. knowledge characteristics, sender/receiver characteristics, relationship characteristics and managerial processes – influence M&A knowledge transfer (Foss et al., 2010; Kane, 2010).

1.4. Aim and research questions

Against the background of the discussion above, the aim of the thesis is

to examine how socio-cultural and political factors, as well as knowledge characteristics influence post-acquisition knowledge transfer from the acquirer to the target and from the target to the acquirer.

The specific research questions are:

- 1) How do socio-cultural and political factors, as well as knowledge characteristics influence post-acquisition knowledge transfer?
- 2) Do socio-cultural and political factors, as well as knowledge characteristics have different effects on knowledge transfer, depending on the direction of the transfer – from the acquirer to the target or from the target to the acquirer?

The essays in this thesis address these research questions. More specifically, Essay 1 is a conceptual paper that aims to uncover the dynamic aspects of knowledge transfer in acquisitions; such aspects have received scant attention in previous research. Essay 2 examines the impact of relationship characteristics – the knowledge sender’s fear of exploitation and the receiver’s fear of contamination – on M&A knowledge transfer. Essay 3 focuses on direct and moderating effects of knowledge characteristics, relationship characteristics and managerial processes on M&A knowledge transfer. Essay 4 explores how knowledge and relationship characteristics indirectly influence knowledge transfer, through learning and teaching initiatives. The links between the research gaps, research questions and essays are illustrated in the following table:

Research gaps	1. Relative importance of variables (research question 1)	2. Direction of knowledge transfer (research question 2)	3. Indirect effects
Essays			
Essay 1	✓	✗	✓
Essay 2	✓	✓	✗
Essay 3	✓	✓	✓
Essay 4	✓	✓	✓

Table 1 Research gaps, research questions and essays in this thesis

1.5. Structure of the thesis

This thesis is made up of five chapters. The second chapter describes the theoretical background, and positions this thesis within the literature that focuses on M&A knowledge transfer. It starts with a general overview of the acquisition literature then reviews the M&A knowledge transfer literature, and ends with a description of the theoretical framework used in this thesis. The third chapter describes the methods that have been used in this study, as well as the sample and data-analysis methods. The fourth chapter summarizes the four essays that are at the core of this thesis. The fifth and final chapter presents the main findings of the essays and links them to the overall research questions. The thesis concludes with a summary of the main contributions, limitations and suggestions for future research, as well as managerial implications.

1.6. Key terms

In addition to defining new terms whenever they are introduced throughout the thesis, this section provides brief descriptions of the key terms used in the thesis.

Mergers and acquisitions (M&As): The terms mergers and acquisitions are often used interchangeably or together although they are not synonyms. In mergers, two firms are combined to form a new entity (Evans et al., 2011), and there is no a clear acquirer (Søderberg and Vaara, 2003). Acquisitions, on the other hand, involve one firm (the acquirer) taking a majority ownership interest in another firm (the target) thereby gaining control of the other firm (DePamphilis, 2010; Evans et al., 2011). This thesis focuses on acquisitions. For simplicity, the terms merger, acquisition and M&A will be used interchangeably.

Post-acquisition integration: M&As typically involve two phases: pre-acquisition evaluation and due diligence, and a post-acquisition integration phase (Haspeslagh & Jemison, 1991; Teerikangas, 2006). Post-acquisition integration refers to changes that are made in the acquiring and target firms' structures, cultures and activities after an acquisition (Haspeslagh and Jemison, 1991; Pablo, 1994). The degree of integration depends on the acquisition motive and strategy, and can range from no integration to complete integration. Acquisitions that are aimed at creating value only from financial sources – e.g. reducing the cost of capital or financial risk – generally do not require integration (Haspeslagh and Jemison, 1991). In contrast, acquisitions that aim to realize synergies by exploiting or combining assets in the acquiring and target firms require a higher degree of integration. By excluding management buy-outs and acquisitions conducted purely for financial reasons from this study, this thesis focuses on acquisitions that involve some degree of post-acquisition integration. The terms post-acquisition integration and post-merger integration will be used interchangeably in this thesis.

Operational and socio-cultural integration: Because the term 'post-acquisition integration' is so broad, it is often discussed in terms of separate integration areas and activities. M&A researchers have for example described post-acquisition integration as consisting of procedural, physical and managerial/socio-cultural integration (Shrivastava, 1986), technical, administrative and cultural integration (Pablo, 1994), organizational integration and employee reactions (Larsson and Finkelstein, 1999), task and human integration (Birkinshaw, Bresman and Håkanson, 2000).

To simplify, these different aspects can be categorized as operational and socio-cultural integration. In this thesis, operational integration is understood as coordination and control between the acquiring and target firms – by combining organizational structures, systems and physical assets – with the aim of supporting value creation by reaching organizational goals more effectively (Birkinshaw et al., 2000; Pablo, 1994)⁷. In principle, either one of the partner firms can initiate task-related communication and coordination to support operational integration. Mostly, however, the acquirer wants to gain control quickly, e.g. by requiring the target to adhere to specific rules, structures or procedures that reduce the target firm's autonomy (Björkman et al., 2007).

Socio-cultural integration refers to the 'human side' and is defined as the development of a shared organizational identity or culture (Birkinshaw et al., 2000; Shrivastava, 1986), with the goal of minimizing negative employee reactions (Larsson and Finkelstein, 1999) and of facilitating the creation of a social community between the merging firms (Bresman et al., 1999)⁸. Socio-cultural integration involves efforts on part of the acquisition partners to adapt to the other's culture or identity through

⁷ See section 2.1.1 for a more detailed discussion of post-acquisition integration in general and operational integration in particular.

⁸ See section 2.1.4.2 for a more detailed discussion of socio-cultural integration.

cultural convergence (Sarala and Vaara, 2010) – although in most cases the target firm adapts to the acquirer (Harding and Rouse, 2007; Nahavandi and Malekzadeh, 1988) – or efforts to create a new culture or identity between the merging firms that is distinct from either partner’s old culture or identity through cultural crossvergence (Sarala and Vaara, 2010).

Knowledge and knowledge transfer: In this thesis, knowledge is defined as interpretations of existing information based on the previous experience and values of individuals (Boisot and Canals, 2004; Zander and Kogut, 1995)⁹. Depending on the knowledge sender’s and receiver’s social context, knowledge can be transferred through replication – i.e. the receiver makes use of the sender’s knowledge without modifying it (Szulanski, 1996) or through ‘translation’ and re-contextualization of the sender’s knowledge to fit the receiver’s context (Berger and Luckmann, 1966). In either case, knowledge transfer involves a sender that disseminates knowledge from its particular context and a receiver that reapplies this knowledge in its own context (Foss and Pedersen, 2002; Minbaeva et al., 2003). In post-acquisition knowledge transfer the acquiring and target firms can be both knowledge senders and receivers (Bresman et al., 1999). Post-acquisition knowledge transfer can thus be understood as the use by the acquiring firm of the target’s knowledge or the use by the target firm of the acquirer’s knowledge.

⁹ See section 1.2 for a more detailed discussion of the terms ‘knowledge’ and ‘knowledge transfer’.

2 THEORETICAL BACKGROUND

For several decades, scholars have tried to uncover what makes mergers and acquisitions (M&As)¹⁰ succeed. Over the years, the literature has expanded and diversified to include several different perspectives on M&As. Some studies have perceived acquisitions as investment decisions, focusing mainly on pre-acquisition factors that impact acquisition outcomes. Others have viewed M&As as processes that begin with pre-acquisition due diligence and negotiations and continue with post-acquisition integration that can span several years. Concerning the former, studies taking a financial or investment perspective have tended to apply measures based on accounting or stock-market criteria to examine whether acquisitions create value or destroy it (Larsson and Finkelstein, 1999)¹¹. The majority of studies using accounting criteria have reported negative or non-significant outcomes for acquiring firms (King et al., 2004; Steigner and Sutton, 2011). In turn, studies relying on stock-market criteria have tended to show positive outcomes for target firms (Bertrand and Zitouna, 2008; Danbolt, 2004; Georgen and Renneboog, 2004), but negative ones for acquiring firms (Draper and Paudyal, 1999; King et al., 2004; Singh and Montgomery, 1987; Steigner and Sutton, 2011)¹².

Taken together, these studies have tended to show quite dismal results for acquirers, whereas target firms can financially benefit from M&As. Despite the growing body of literature on this topic, however, researchers have not yet been able to identify the most central factors that impact M&A outcomes. Some researchers argue that this is because most studies have tended to focus on pre-acquisition factors¹³ such as acquisition relatedness, the degree of diversification, acquisition experience and method of payment, which have not been found to explain M&A performance to a significant extent (King et al., 2004). Other scholars contend that post-acquisition integration is central for acquisition performance (e.g. Birkinshaw, Bresman and Håkanson, 2000; Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999; Zollo and Meier, 2008). They maintain, however, that too little is known about how managing the integration

¹⁰ This thesis focuses on acquisitions in which one company takes a majority ownership interest in another firm, a subsidiary, or a firm's assets (DePamphilis, 2010). However, for simplicity, the terms mergers, acquisitions and M&As are used interchangeably throughout this thesis. Furthermore, because many studies use the terms 'merger' and 'acquisition' or M&A interchangeably, this thesis draws on research that focuses on all of them. The empirical papers, however, focus exclusively on acquisitions (see section 3 for more information about how acquisitions were selected when collecting the empirical data).

¹¹ Outcomes based on accounting criteria have in general used e.g. return on assets (ROA), return on equity (ROE) or return on sales (ROS). Most studies taking a financial perspective on post-acquisition performance have relied on stock-market criteria that have usually been estimated on the basis of calculations of cumulative abnormal returns (CAR). For a recent meta-analysis of M&A outcomes that includes both types of measures, see King et al. (2004).

¹² Studies relying on accounting and stock-market criteria have the advantage of providing a more objective view on post-acquisition performance than e.g. acquisition managers' accounts. They have, however, a number of drawbacks. First, stock-market criteria tend to capture short term acquisition performance, whilst ignoring long-term performance (Datta, 1991; Zollo and Meier, 2008). Second, the reliability of accounting criteria can sometimes be poor due to national differences in accounting conventions, difference methods of consolidating accounts, and the risk of manipulated accounting data (Chakravarthy, 1986; Weber, Rachman-Moore and Tarba, 2011a). In some cases it is only possible to access data from the acquiring or consolidated firm, for example when the target has ceased to exist or when the target's operations have been reorganized in such a way that pre- and post-acquisition performance measures are not comparable (Sarala, 2008).

¹³ These factors relate to the strategic perspective that is discussed in section 2.1.2.

process relates to M&A outcomes and call for more research on this topic (e.g. Haleblan et al., 2009; Weber and Tarba, 2010; Zollo and Singh, 2004). This thesis builds on research that views post-acquisition integration as central for M&A value creation (e.g. Haspeslagh & Jemison, 1991; Haleblan et al., 2009). By focusing on post-acquisition knowledge transfer, this thesis aims to provide one point of departure for understanding how the integration process impacts M&A outcomes. The rest of this chapter aims to position the study at hand within the stream of post-acquisition integration research.

2.1. Perspectives on M&A integration

The research reviewed in this section is based on the ‘process perspective’. The idea that acquisitions should be viewed in terms of processes was first presented by Jemison and Sitkin (1986), although their model mainly focused on pre-acquisition decision making processes. In a later study Haspeslagh and Jemison (1991) presented a process model on post-acquisition integration. A central argument of this ‘process perspective’ is that the management of the post-acquisition integration process has a central impact on post-acquisition value creation¹⁴ by influencing the extent to which synergies can be created (Datta, 1991; Haspeslagh and Jemison, 1991; Pablo, 1994). This does not, however, apply to acquisitions that are purely motivated by financial concerns such as lowering the cost of capital (Eccles et al., 1999; Haspeslagh and Jemison, 1991).

Post-acquisition integration has been studied through several theoretical lenses, each emphasizing a different perspective. The rest of this chapter aims to position the study at hand within the stream of post-acquisition integration research. Section 2.1.1 presents an overview of different integration approaches. This is followed by a review of studies that have taken strategic, human resource, cultural, political, discursive and knowledge-based views¹⁵ (sections 2.1.2-2.1.7). Whilst these perspectives constitute different streams of research, there is significant overlap between them. Hence, some themes will be examined in more than one section. Section 2.1 is followed by a review of the M&A knowledge transfer literature, positioning this thesis within this particular stream of research. The last section in this chapter describes the theoretical framework used in this thesis.

2.1.1. Integration approaches

Since the late 1980s, a growing number of studies have adopted a ‘process perspective’ on acquisitions, which is mainly concerned with how value can be created through post-acquisition integration. The term ‘integration’ has been used quite loosely in previous M&A studies (Weber, Tarba and Reichel, 2009), which has led to quite different or very broad definitions. For example, Larsson and Finkelstein (1999) understand integration as a combination of aligning the strategies of the merging firms, coordinating and controlling their activities, and overcoming human resource problems such as employee resistance. Birkinshaw et al. (2000), in turn, describe it as consisting of task and human integration. Furthermore, Shrivastava (1986) defines post-acquisition

¹⁴ Value creation refers to a situation where an acquirer pays a price for a target that is below the acquirer’s valuation of the target at the time of bidding. The valuation is usually calculated on the basis of forecasted discounted cash flows (expected future revenues and costs, discounted at the target’s weighted average cost of capital). (Very and Schweiger, 2001)

¹⁵ This framework builds on Sarala’s (2008) study, which in turn draws on the categorizations made by Mirvis and Marks (1992) and Vaara (2002).

integration as coordination and control of activities relating to procedural, physical, managerial and socio-cultural aspects of an acquisition. Weber et al. (2009) describe it as involving a broad range of activities relating to cost cutting, integrating the decision making and functions of the merging firms and transferring knowledge.

Whilst these studies provide different definitions of post-acquisition integration, they all relate to changes that take place in the two previously separate organizations' structures, cultures and activities after an acquisition (Pablo, 1994; Haspeslagh and Jemison, 1991). This is the general definition of post-acquisition integration that is used in this thesis. However, post-acquisition integration can further be divided into distinct goals and activities relating to operational and socio-cultural integration (Birkinshaw et al., 2000; Larsson and Finkelstein, 1999). In this thesis, operational integration is understood as coordination and control between the acquiring and target firms – by combining organizational structures, systems and physical assets – that is aimed to support value creation by reaching organizational goals more effectively (Birkinshaw et al., 2000; Pablo, 1994). Although both acquiring and target firm managers can in theory take initiatives to enhance task-related communication and coordination to support operational integration (Graebner, 2004), the acquirer mainly dominates the integration process and requires the target to adapt to its rules, structures or procedures (Björkman et al., 2007). In turn, socio-cultural integration refers to developing a shared organizational identity or culture (Birkinshaw et al., 2000; Shrivastava, 1986) with the goal of minimizing negative employee reactions (Larsson and Finkelstein, 1999) and facilitating the creation of a social community between the merging firms (Bresman et al., 1999).

2.1.1.1. Post-acquisition integration typologies

Since the emergence of the process perspective on M&As, a number of typologies for post-acquisition integration have been created. One of the most cited typologies is that created by Haspeslagh and Jemison (1991), which consists of four different approaches that mainly relate to operational integration, which depend on two factors: the need for strategic interdependence – reflecting the acquisitions synergy potential, and the need for target firm autonomy – relating to the acquirer's intention to protect the target's knowledge base when it is perceived as valuable. The integration types range from no integration ('holding') to complete integration ('absorption'). Beginning from the lowest level of integration, 'holding' acquisitions involve low levels of interdependence and a low need for target-firm autonomy and describe cases where acquirers do not intend to create value through integration. Instead, these types of acquisitions are mainly conducted to derive financial synergies e.g. from a lower cost of capital or by diversifying risk (Seth, 1990a; 1990b; Trautwein, 1990).

'Preservation' acquisitions, in turn, involve a low level of interdependence and a high need for autonomy and are intended to protect the target's knowledge base. The motivation for these types of acquisitions is to leverage the target's unique and valuable knowledge in the acquiring firm in order to achieve revenue-based synergies (Haspeslagh and Jemison, 1991). However, acquirers need to proceed cautiously in order not to disrupt the target's knowledge base (Ranft and Lord, 2002). Hence, these types of acquisitions tend to involve a low degree of integration, often only relating to areas that are less central to the target firm's activities such as financial or administrative functions (Haspeslagh and Jemison, 1991).

In contrast, ‘absorption’ acquisitions aim to assimilate the target firm with the acquirer, without concerns about protecting the target’s knowledge base. These types of acquisitions reflect a high level of interdependence and a low need for target autonomy, and acquirers tend to move quickly in order to achieve (mainly) cost-based synergies (Haspeslagh and Jemison, 1991).

The fourth and final integration type in Haspeslagh and Jemison’s typology (1991) is called ‘symbiosis’, where there is a great need for interdependence between the merging firms combined with a need to preserve the target’s knowledge base. These types of acquisitions are often motivated by both cost- and revenue based synergies and may therefore create more value than other types of M&As (Marks and Mirvis, 2011). However, symbiosis acquisitions have been described as the most difficult to manage because they involve a balancing act between strategic and functional integration on the one hand, and caution about excessive intervention in the target firm’s operations on the other hand. Furthermore, because cost- and revenue-based synergies involve different and often contradictory activities (Capron, 1999), symbiosis acquisitions can also become ‘bloodier’ than the other types (Marks and Mirvis, 2011). The end result of these types of acquisitions is often that the practices and cultures of the acquisition partners are blended together. Symbiosis acquisitions are more common among ‘mergers of equals’ compared with other types of acquisitions (Marks and Mirvis, 2011).

Scholars within the domain of M&A research have created a number of other integration typologies over the years, which in many ways resemble the model developed by Haspeslagh and Jemison (1999) or in some cases extend it. For example, Marks and Mirvis (2011) developed a model consisting of five acquisition types that emphasize socio-cultural integration. The first two types in their model – ‘absorption’ and ‘preservation’ – are similar to the types described earlier. A ‘reverse takeover’ is the opposite of an absorption approach; in these cases the acquirer aims to benefit from the target’s superior structure, culture and practices by adopting them one-sidedly. The ‘best of both’ approach resembles symbiosis acquisitions. In these cases the acquisition partners aim to adapt to each other by blending parts of both organizations, without either party dominating the integration process. Finally, ‘transformation’ acquisitions go a step beyond symbiosis acquisitions and involve uprooting the structures, cultures and processes of both firms in order to create a completely new type of firm. Because transformation acquisitions involve radical and fundamental changes, Marks and Mirvis (2011) describe this approach as most challenging. Evans et al. (2011) describe a similar typology, but without reference to the ‘reverse takeover’ type.

Nahavandi and Malekzadeh (1988) developed another well-known typology concerning socio-cultural integration approaches. It depends on two factors, namely the desire of target firm members to preserve their culture versus their desire to adopt the acquirer’s culture. The resulting typology has some similarities with the integration approaches described earlier: ‘Assimilation’ acquisitions in their model resemble ‘absorption’ types in terms of the outcome of integration. In these types of acquisitions target firm members value the acquirer’s culture more than their own and are thus willing to unilaterally adopt the acquiring firm’s culture and identity. ‘Integration’ acquisitions, in turn, describe a situation where target firm members value both their own culture and that of the acquirer. This often results in a blending of the merging firms’ cultures over time, and resembles the ‘symbiosis’ and ‘best of both’ integration approaches described earlier. In ‘separation’ acquisitions, which resemble ‘preservation’ types, target firm members are more interested in preserving their own ways than adapting to the acquirer’s culture. Any attempts on the part of the acquirer to impose its culture are therefore likely to cause change resistance in the target. Finally, in ‘deculturation’

acquisitions target firm members neither value their own culture nor do they want to adapt that of the acquiring firm. This situation leads to cultural disintegration and is likely to result in significant acculturative stress for target firm members – i.e. disruptive attitudes and behaviours that result from contact with members of the acquiring firm (Nahavandi and Malekzadeh, 1988).

Nahavandi and Malekzadeh (1988) describe acquirers preferences, in turn, as relating to two factors: the degree of relatedness – i.e. whether the acquiring and target firms are in similar industries, which is likely to increase the interdependence of the merging firms (Haspeslagh and Jemison, 1991), and acquirer multiculturalism – i.e. whether the acquirer tolerates and encourages having several different cultures within its organization. To illustrate, acquirers are likely to opt for an ‘assimilation’ approach when they are unicultural and the merging firms are related. In contrast, acquirers may lean more towards a ‘separation’ approach when they are multicultural and the merging firms are unrelated. According to Nahavandi and Malekzadeh (1988), the integration process will proceed more smoothly – and involve a lower degree of acculturative stress – when the acquirer and target are able to reach an agreement concerning their preferred integration approach.¹⁶

2.1.1.2. The effect of contextual factors on post-acquisition integration

Whilst the acquisition typologies discussed earlier have received some support from empirical research (Ellis and Lamont, 2004; Puranam, Singh and Chaudhuri, 2009), they have been criticized for not being applicable to the realities of many acquisitions. These models often refer to ‘ideal’ acquisition approaches, when in fact acquirers often apply multiple and different types and degrees of integration for different organizational levels and functions at different stages following an acquisition (Graebner, 2004, Schweizer, 2005). Furthermore, other contingencies such as size differences, industry characteristics, cultural differences, and the nationality of the acquirer can impact post-acquisition integration.

Concerning size differences, researchers have argued that smaller targets are easier to integrate on the one hand due to less pressure on part of the target firm to remain autonomous (Bower, 2001; Ranft and Lord, 2002). On the other hand, smaller targets with less ‘critical mass’ may offer less synergy potential (Larsson and Finkelstein, 1999; Seth, 1990a), which can cause acquirers to pay too little attention to them and thereby not integrate them properly (Pablo, 1994). This type of ‘laissez faire’ approach on the part of the acquirer is likely to increase the uncertainty of the target firm members regarding the fate of their organization and their personal situation (Hartog, 2004). Marginalizing the target firm can also make its members feel a loss of status and importance and may lead to increased employee turnover, which can weaken acquisition performance (Hambrick and Cannella, 1993; Pablo, 1994). It has been argued that ‘mergers of equals’ offer greater synergy potential compared with smaller targets. However, integrating them can be challenging because strategic aspirations need to be balanced against potentially conflicting political considerations (e.g. Marks and Mirvis, 2011; Vaara et al., 2003b). Whilst the question about the ‘optimal’ size difference for successful integration remains open, it is clear that it can influence post-acquisition integration to some extent.

Regarding industry characteristics, scholars have identified specific challenges in implementing acquisitions in knowledge intensive industries, where intellectual capital

¹⁶ See section 2.1.5 for a more detailed discussion of the cultural perspective in acquisition research.

is the main source of competitive advantage for firms. For example, Empson (2001) argues that the personal knowledge possessed by organizational members of professional service firms is associated with their work-related value. Hence, members of such firms may be reluctant to share their knowledge in M&As. It has also been argued that high-tech acquisitions pose integration problems due to the need to keep the target firm's knowledge base intact whilst simultaneously trying to capitalize on it. For example, Ranft and Lord (2002) discuss complex strategies applied by acquirers that involve integrating different dimensions of target firms at different speeds and to different degrees. They illustrate how acquirers 'customize' the degree of autonomy granted to target firms in terms of their overall strategy, functions and culture. While they do not offer prescriptions concerning the 'ideal' combinations of autonomy and integration at different organizational levels, they maintain that some degree of autonomy is important for protecting the target firm's knowledge. Similarly, Schweizer (2005: 2004-2005) shows that acquirers of biotech firms often use hybrid integration approaches – involving both 'absorption' and 'preservation' strategies – in order to gain short- and long-term synergies. Graebner (2004: 774) argues that acquirers of technology firms often lack the experience and competence to properly integrate the target. She shows that in these cases, target firm managers play an important role in facilitating integration by mobilizing actions to accelerate coordination and by mitigating the concerns of target firm members about the fate of their company.

Some studies also indicate that cultural factors impact the acquisition approach (Calori, Lubatkin and Very, 1994; Weber et al., 2009; Weber, Tarba and Reichel, 2011b). For example, Weber et al. (2009; 2011b) develop theoretical propositions about how Haspeslagh and Jemison's (1991) 'ideal' types of integration can be adapted to suit acquirers with different national backgrounds. To illustrate, they argue that acquirers from countries characterized by low power distance are likely to be more comfortable with an integration approach where the merging firms are treated like equal partners, than with one where one of the partners dominates the process. Therefore, even when the 'ideal' integration approach would call for complete absorption of the target firm, these types of acquirers are likely to prefer a 'partial absorption' approach that emphasizes greater equality. In contrast, acquirers from countries with higher power distance are likely to prefer having greater control over the target and are likely to do better with a 'partial preservation' strategy, even if the 'ideal type' is full preservation. The notion that acquirers with different national backgrounds prefer different integration approaches has been supported by several studies (Calori et al., 1994; Calori, Lubatkin, Very and Veiga, 1997; Child, Faulkner and Pitkethly, 2000; Lubatkin, Calori, Very, and Veiga, 1998). For example, Child et al. (2000) show that US acquirers are more likely to use an 'absorption' approach, whereas Japanese acquirers tend to proceed more cautiously and take less imposing 'advisory' or 'monitoring' roles in target firms. Furthermore, the study by Weber, Shenkar and Raveh (1996) suggests that organizational cultural differences have different effects on post-acquisition integration in domestic and international acquisitions: They are negatively related with cooperation, commitment and integration in domestic acquisitions, whereas they are positively related with these variables in international acquisitions.

Taken together, these studies show that acquirers need to consider what integration approach will be most suitable in different situations. Typologies with 'ideal' integration types offer a useful starting point for assessing integration needs. However, the integration approaches applied in reality are likely to depend on the preferences and experiences of acquirers and vary between industries, functions and different stages after acquisitions.

This overview of the process perspective on M&As has illustrated different factors (strategic, human resource, socio-cultural, political and knowledge based) that can impact integration decisions. These perspectives are discussed in greater detail in the following sections.

2.1.2. Strategic perspective

Dating back to 1960, M&As have been examined from a strategic perspective, which is closely related to the economic and financial perspectives (Kitching, 1967). The strategic perspective has tended to view acquisitions mainly as rational choices that are made with the goal of increasing value for shareholders through different types of synergies (Trautwein, 1990). Examples of pre-acquisition factors that scholars have focused on when trying to explain acquisition performance include acquisition type in terms of relatedness and strategic fit between acquirer and target (Chatterjee, 1986; Datta and Grant, 1990; Krishnan, Miller and Judge, 1997; Lien and Klein, 2006; Lubatkin, 1987; Seth, 1990b), friendly versus hostile acquisitions (e.g. Harris and Ravenscraft, 1991; Sudarsanam and Mahate, 2006), conglomerate acquisitions (Agrawal et al., 1992; Anand and Singh, 1997; Klein, 2001), the method of payment (e.g. Doukas, 1995; Markides and Ittner, 1994; Steigner and Sutton, 2011), and acquisition experience (Al-Laham, Schweizer and Amburgey, 2010; Barkema and Shijven, 2008; Bresman et al., 1999; Fowler and Schmidt, 1989; Hayward, 2002).

Most studies that have focused on strategic pre-acquisition factors have tended to measure acquisition performance in terms of stock market outcomes¹⁷ (e.g. Chatterjee, 1986; Lien and Klein, 2006; Lubatkin, 1987) or accounting criteria such as return on assets (ROA) and return on investments (ROI) (e.g. Anand and Singh, 1997; Fowler and Schmidt; Krishnan et al., 1997). A smaller number of studies have relied on perceptual measures (Datta and Grant, 1990; Hayward, 2002). A recent study by Papadiakis and Thanos (2010) showed a high correlation between accounting criteria and managers' subjective performance assessments. However, short-term cumulative abnormal returns were not correlated with either measure in their study. This is similar to the findings presented in Zollo and Meier's (2008) study, in which short-term financial performance was not found to be related to other performance measures – i.e. managers' subjective assessments, accounting based measures and long-term financial performance¹⁸ – which, in turn, were strongly inter-related.

Research taking a strategic perspective has also focused on the acquisition process, and post-acquisition factors that influence value creation. For example post-acquisition integration (Björkman et al., 2007; Haspeslagh and Jemison, 1999; Pablo, 1994) organizational learning (Vermeulen and Barkema, 2001; Haleblian and Finkelstein, 1999; Hébert, Very and Beamish, 2005; Hitt, Harrison, Ireland and Best, 1998; Leroy and Ramanantsoa, 1997; Schweiger and Goulet, 2005) and knowledge transfer (Bresman et al., 1999; Capron et al., 1998; Capron, 1999; Empson, 2001; Sarala and Vaara, 2010; Vaara et al., 2003b; Ranft and Lord, 2002; Westphal and Shaw, 2005)¹⁹ have been highlighted as important determinants of post-acquisition value creation.

¹⁷ Outcome measures based on stock market outcomes are mostly based on cumulative abnormal returns – i.e. returns in excess of expected returns on stocks and actual returns – using event study methodology (Lubatkin, 1987).

¹⁸ Long-term financial returns were measured in the study based on cumulated monthly returns over 36 months for acquiring firms, compared with firms that were of similar size, in the same industry, and located in the same geographic region (Zollo and Meier, 2008: 66).

¹⁹ The knowledge-based view is discussed in greater detail in section 2.1.7.

Some of these studies have taken a resource or knowledge-based view on acquisitions, emphasising the exploitation of complementary resources and knowledge (e.g. Eschen and Bresser, 2005; Haspeslagh and Jemison, 1991) and innovations (e.g. Ahuja and Katila, 2001; Al-Laham et al., 2010) as central for value creation. These studies have tended to view post-acquisition integration as a pre-requisite for knowledge-based synergies (Birkinshaw et al., 2000; Björkman et al., 2007; Bresman et al., 1999).

Studies focusing on strategic post-acquisition factors have examined acquisition outcomes by relying on perceptual measures such as quantitative measures of post-acquisition integration (Larsson and Finkelstein, 1999; Pablo, 1994; Weber, 1996), knowledge transfer (Bresman et al., 1999; Capron et al., 1998; Capron, 1999; Sarala and Vaara, 2010) and performance (e.g. Larsson and Finkelstein, 1999). Qualitative case studies have also examined M&A knowledge transfer (e.g. Empson, 2001; Vaara et al., 2003b; Westphal and Shaw, 2005), learning (Leroy and Ramanantsoa, 1997; Schweiger and Goulet, 2005) and performance (e.g. Buono, 2003).

Although this perspective has provided insights about strategic factors that influence M&A performance, it has been criticized for ignoring social aspects that also play a significant part in acquisitions (e.g. Buono and Bowditch, 1989; Jemison and Sitkin, 1986; Nahavandi and Malekzadeh, 1988).

2.1.3. Human resource perspective

The human resource perspective on M&As started to become popular in the 1980s. These studies were driven by an interest to examine how M&As influence individuals in the merging organizations (Seo and Hill, 2005). In contrast to the strategic perspective, which views individuals as ‘rational agents’, the human resource perspective emphasizes behavioural and psychological reactions and outcomes (Marks and Mirvis, 1992; Sarala, 2008). This perspective highlights emotional aspects and assumes that individuals’ actions are influenced by bounded rationality. For example, Jemison and Sitkin (1986) describe how segmentation of pre-acquisition activities, escalating momentum and expectational ambiguity can lead to poor pre-acquisition decision making. The post-acquisition integration process can also be disrupted by ‘management system misapplication’ – i.e. when the acquirer imposes its systems and processes on the target, without first becoming acquainted with the target’s existing systems – which can lead to change resistance and other negative reactions in the target (Jemison and Sitkin, 1986).

Individuals’ negative reactions to M&As – such as change resistance and organizational conflict – have been described as a common challenge in M&As. A growing body of research has therefore concentrated on examining the causes and consequences of individuals’ emotional and behavioural reactions by drawing on theories from the organizational behaviour perspective (e.g. Blake and Mouton, 1985; Kühnlman and Dowling, 2005; Marks and Mirvis, 1985; 1992; Olie, 2005; Schweiger and DeNisi, 1991). More recently, M&A scholars have also turned their attention to human resource practices aimed at influencing individuals’ attitudes and behaviour. More specifically, these studies have examined how human resource practices can be applied to create a more collaborative atmosphere that is conducive for post-acquisition integration, and to mitigate negative employee reactions (e.g. Ivancevich, Schweiger, and Power, 1987; Schuler, Tarique and Jackson, 2004; Schweiger and Weber, 1989; Weber and Tarba, 2010). However, empirical studies on the impact of human resource practices on

acquisition performance remain scarce (Weber and Drori, 2011; Weber and Fried, 2011a; 2011b).

The following section reviews M&A studies drawing on the organizational behaviour perspective. Section 2.1.4.2 discusses M&A studies that focus on human resource practices.

2.1.3.1. Organizational behaviour

Studies drawing on the organizational behaviour perspective have relied on a number of theories to understand individuals' emotional and behavioural reactions to M&As. Several studies ascribe negative reactions on the part of employees to the anxiety and uncertainty that they often experience following M&As regarding their future career and wellbeing (Ivancevich et al., 1987; Schweiger, Ivancevich and Power, 1987; Weber and Drori, 2011). In line with this argument, several empirical studies show that when organizational members have negative post-acquisition expectations and imagine worst-case scenarios, they experience severe stress and anxiety, which in turn can lead to integration difficulties due to negative attitudes (Fried, Tieg, Naughton, Ashforth, 1996; Kavanagh and Ashkanasy, 2006; Van Dick, Ullrich and Tissington, 2006), lower levels of cooperation (Rentsch and Schneider, 1991) and reduced creativity (Zhou, Shin and Cannella, 2008).

Second, social identity theory builds on the notion that individuals can have different types of identities with different functions. Tajfel (1972) distinguishes between social and personal identities, and argues that in addition to a 'personal identity' – which refers to an individual's characteristics that make him/her unique (Terry and O'Brien, 2001), individuals also have a 'social identity' that is derived from a sense of belonging to a social group, for example the organization in which they work (Ashforth and Mael, 1989; Hogg and Terry, 2000). A strong social identity can help individuals make sense of situations (Oakes, 2002) and can provide them with a sense of self worth (Brown, 2000). When individuals' social identities become threatened, however, they often form 'ingroup-outgroup' categorizations – or conceptions of 'us' versus 'them' – which can lead to intergroup discrimination and conflict (Tajfel, Billig, Bundy and Flament, 1971).

Considering that acquisitions often represent disrupting events that call into question the beliefs, status and identities of individuals in the merging firms (e.g. Buono and Bowditch, 1989; Terry and O'Brien, 2001), it is not surprising that a considerable amount of research has been devoted to understanding how social identities are shaped in – and impact – acquisitions (Terry, Carrey and Callan, 2001; Vaara et al., 2003b; Van Dick, Wagner and Lemmer, 2004). A number of empirical studies show that acquisitions often represent a threat to individuals' existing organizational identities (Bartels, Douwes, De Jong and Pruyn, 2006; Empson, 2001; Terry, Callan and Sartori, 1996; Ullrich, Wieseke and Van Dick, 2005; Van Dick et al., 2006; Zaheer, Schoemaker and Genc, 2003). These studies have pointed to the negative consequences of social identifications that lead to ingroup-outgroup categorizations, such as anxiety and stress (Buono and Bowditch, 1989; Cartwright and Cooper, 1993b; Schweiger et al., 1987), change resistance (Jemison and Sitkin, 1986; Kühlman and Dowling, 2005), and organizational conflict (Marks and Mirvis, 1985; Olie, 2005; Sarala, 2010).

Furthermore, it has been argued that individuals in the target firm tend to perceive the merger situation as more threatening because of their 'lower status' relative to the

acquirer (e.g. Haspeslagh and Jemison, 1991; Jemison and Sitkin, 1986). Consequently, individuals in the target firm are more likely to construct ingroup-outgroup categorizations – or notions of ‘us’ versus ‘them’ – in order to protect their existing organizational identities (Schweiger et al., 1987; Terry and Callan, 1998; Van Knippenberg, Van Knippenberg, Monden and De Lima, 2002). Members of the acquiring firm have also been found to engage in similar categorizations. For example, Terry and O’Brien (2001) show that acquirers create ingroup-outgroup categorizations in order to enhance their self image and status, and to verify their position of dominance vis-a-vis the target. Such categorizations are likely to increase the acquirer’s use of political tactics such as pressure or coercion in order to influence the target (Steensma and Van Milligen, 2003). This is, however, likely to create resentment and resistance in the target firm (Steensma and Van Milligen, 2003), which can exacerbate existing ingroup-outgroup categorizations and further reduce the target’s willingness to cooperate.

Third, social exchange theory rests on the assumption that individuals’ behaviour is the result of weighing the costs and benefits of current and future interactions with others (Gouldner, 1960) concerning their material value in terms of money and immaterial value relating e.g. to friendship, status or knowledge (Homans, 1958). According to this theory, individuals are likely to modify what they bring to a relationship (their ‘input’) depending on the expected value of the partner’s future contributions (Blau, 1964); the more the exchange partners expect to benefit from each other, the more they will invest in the relationship (Gouldner, 1960).

This theory thus describes the strength of a social relationship between individuals or groups as depending on mutual contributions and commitment that create benefits for both parties. Social exchanges, however, involve a high degree of uncertainty – both about the value of contributions and whether the partner will reciprocate – and require some degree of trust towards the exchange partner (Muthusamy and White, 2005). Because individuals generally contribute as much to a relationship as they expect to receive from it, perceptions of fairness and expectations of partner reciprocity can greatly impact how much they invest in a relationship, at least initially. Empirical studies that draw on social exchange theory in the context of M&As are scarce. Existing studies have, however, found that expectations of social exchanges influence individuals’ psychological and behavioural reactions to mergers (Empson, 2001; Lusch, Brown and O’Brien, 2011).

Fourth, organizational justice theory has examined how perceptions of injustice or unfairness can create human resource problems such as unwillingness to cooperate or employee turnover in M&As (Seo and Hill, 2005). More specifically, it has been found that the psychological and behavioural reactions of individuals to M&As are influenced by their perceptions of fairness in M&As in terms of distributive justice – i.e. fairness of outcomes (Cobb, Wooten and Folger, 1995), procedural justice – i.e. fairness of procedures in decision making (Ellis, Reus, and Lamont, 2009; Lipponen, Olkkonen, and Moilanen, 2004), interactional justice – i.e. fairness in terms of how affected individuals are treated (e.g. Eby and Buch, 1998; Fried, Tieg, Naughton and Ashforth, 1996), informational justice – i.e. fairness in terms of how much effort the acquirer expends in order to justify decisions and procedures (e.g. Ellis et al., 2009; Schweiger and DeNisi, 1991) as well as a combination of these (Citera and Stuhlmacher, 2001; Lin and Wei, 2006; Melkonian, Monin and Noorderhaven, 2011).

Fifth, role conflict theory suggests that individuals experience psychological tension and distress when they are expected to perform multiple roles that are not compatible,

or when they experience role ambiguity – i.e. they do not know what is expected of them in their role (Seo and Hill, 2005). This theory has proved useful in explaining post-acquisition human resource problems; post-acquisition integration often disrupts existing structures and work arrangements, which can create both role conflict and role ambiguity (Bastien, 1987; Ivancevich et al., 1987; Seo and Hill, 2005; Vaara, 2001).

Sixth, job characteristics theory has been applied to understand the motivation and job satisfaction of individuals following M&As. Hackman and Oldham (1975), who created the theory, focused on a few ‘core’ job characteristics, namely skills, variety, task identity, significance, autonomy and feedback. M&A studies have also included other dimensions such as career paths, social relationships at work, status differences and job security (Schweiger and Walsh, 1990; Seo and Hill, 2005). Because M&As can involve considerable changes in employees’ jobs, researchers have attempted to explain negative employee reactions as consequences in changes in job characteristics and working conditions (e.g. Fried et al., 1996; Newman and Krzystofiak, 1993; Schweiger et al., 1987; Seo and Hill, 2005), such as individuals’ loss of autonomy or relative standing (Hambrick and Cannella, 1993; Lubatkin, Schweiger and Weber, 1999).

Finally, acculturation can create human resource problems such as dysfunctional post-acquisition behaviour, as an outcome of acculturative stress – also referred to as ‘culture clash’ – that can result from cultural changes (e.g. Nahavandi and Malekzadeh, 1988; Sarala, 2010; Styhre, Börjesson and Wickenberg, 2006). This perspective is discussed in greater detail in the ‘process perspective’ section (2.1.2.1) as part of broader integration approaches and in the ‘socio-cultural integration’ section (2.1.5.2) because it is a central part of the cultural perspective in acquisitions.

Taken together, studies drawing on the organizational behaviour perspective have tended to rely on perceptual measures for capturing the impact of acquisitions on organizational members, which has mostly been described as negative. Most studies have used qualitative measures from case studies (Blake and Mouton, 1985; Ivancevich et al., 1987; Kühlman and Dowling, 2005; Marks and Mirvis, 1992; Olie, 2005; Schweiger and DeNisi, 1991), with a few studies relying on quantitative measures (Cartwright and Cooper, 1993b; Fried et al., 1996; Melkonian et al., 2011; Sarala, 2010; Terry et al., 1996; Very, Lubatkin and Calori, 1996) or both (Kavanagh and Ashkanasy, 2006).

Human resource problems have also been linked to negative acquisition outcomes such as top management turnover (Hambrick and Cannella, 1993; Lubatkin et al., 1999), employee withdrawal and intention to leave (Fried et al., 1996), lower post-acquisition performance (Van Dick et al., 2006; Very et al., 1996,) lower levels of knowledge transfer (Empson, 2001), and higher levels of conflict (Sarala, 2010; Marmenout, 2010). The organizational behaviour perspective thus highlights the importance of paying attention to socio-cultural aspects following M&As, which, however, are often ignored (Greenwood, Hinings and Brown, 1994).²⁰

Empirical research addressing the impact of employee reactions on acquisition outcomes has been based on both perceptual measures from qualitative case studies (e.g. Empson, 2001; 2004; Westphal and Shaw, 2005), quantitative studies (Creasy, Stull and Peck, 2009; Fried et al., 1996; Marmenout, 2010; Melkonian et al., 2011; Van Dick et al., 2006; Van Leeuwen, Van Knippenberg and Ellemers, 2003; Very et al., 1996), or studies using mixed methods (e.g. Birkinshaw et al., 1999; Larsson and Finkelstein, 1999). Studies examining the effect of human resource factors on top

²⁰ See section 2.1.4 for a more detailed discussion of cultural differences and socio-cultural integration.

management turnover have, in turn, tended to rely on measures obtained from other sources, such as databases that contain company information (e.g. Hambrick and Cannella, 1993; Krug and Hegarty, 2001) or perceptual quantitative measures (Lubatkin et al., 1999).

2.1.3.2. *Human resource practices*

The studies presented in the previous section, which draw on the organizational behaviour perspective, have increased our understanding of how individuals react to M&As. However, they have not systematically addressed how individuals' reactions and behaviour can be managed through formal policies and everyday actions. This is more closely related to the domain of human resource management and has been less researched in the M&A context (Weber and Fried; 2011a; 2011b; Weber and Tarba, 2010). Many of the studies that have applied this perspective have focused on specific human resource concerns, and proposed interventions, relating to pre-acquisition and post-acquisition phases (e.g. Ivancevich et al., 1987; Schweiger and Weber, 1989; Teerikangas et al., 2011).

Concerning the *pre-acquisition* phase, several researchers have pointed to the importance of assessing organizational fit – i.e. the compatibility between the merging firms' cultures, structures and human resource practices and policies, in addition to strategic fit – i.e. how well the target firm complements the acquirer's strategy and will be able to contribute to reaching organizational and financial goals, as part of pre-acquisition due diligence (Bijlsma-Frankema, 2001; Cartwright and Cooper, 1993a; Harding and Rouse, 2007; Ivancevich et al., 1987; Jemison and Sitkin, 1986; Marks and Mirvis, 2001; Schraeder and Self, 2003; Weber, 1996). In addition to a cultural assessment, it has been argued that acquirers should already consider the desired cultural end-state before the acquisition is completed (Harding and Rouse, 2007; Marks and Mirvis, 2011). It has been argued that identifying and communicating the desired endstate to the target can help create roles and guidelines for the integration process and clarify expectations of acquisition partners (Marks and Mirvis, 2011). This can also reduce post-acquisition acculturative stress if both parties are able to agree on the desired cultural endstate (Nahavandi and Malekzadeh, 1988).

Whilst assessing pre-acquisition cultural fit has received a lot of attention (Chaudhuri and Tabrizi, 1999; Harding and Rouse, 2007; Marks and Mirvis, 2011; Schuler et al., 2004; Tanure and Gonzalez-Duarte, 2007; Weber, 1996), researchers have also prompted acquirers to pay attention to several other issues. For example, Chaudhuri and Tabrizi (1999) highlight the importance of assessing how the target firm's capabilities can be used to create short- and long-term value in high-tech acquisitions. Several scholars also stress the importance of addressing post-acquisition staffing needs prior to an acquisition, including whom to retain and how to retain key employees (Chaudhuri, 2005; Chaudhuri and Tabrizi, 1999; Harding and Rouse, 2007; Schuler et al., 2004). Furthermore, Chaudhuri (2005) argues that acquirers need to assess the amount of learning effort needed to create synergies from knowledge transfer. M&A researchers have in general recommended that acquirers try to learn as much as possible about the target business and its cultural and legal context (Schweiger, Csiszar and Napier, 1993). For example, Evans et al. (2011) list over twenty issues that acquirers can consider in a 'human resource due diligence checklist'.

Researchers have also emphasized the potential benefits of involving target firm executives in the pre-acquisition planning process in order to secure their motivation to

contribute to realization of the strategic goals of the acquisition after the deal has been made (Lakshman, 2011; Teerikangas et al., 2011). More specifically, some have recommended creating a transition team that is responsible for coordination and integration after the acquisition (Evans et al., 2011; Marks and Mirvis, 2011; Schweiger et al., 1993), preferably by involving individuals from both the acquiring and target firms (Lakshman, 2011). Others have highlighted the importance of communicating about the acquisition to employees on all levels in the merging firms in order to reduce their uncertainty and anxiety concerning the potential acquisition (Ivancevich et al., 1987; Schweiger et al., 1993; Tanure and Gonzalez-Duarte, 2007). Furthermore, the study by Teerikangas et al. (2011) shows how designating an integration manager in the planning stage can help lay the groundwork for building a mutually trusting relationship with the target.

Communication has also been argued to play a critical role in the *post-acquisition* integration phase by mitigating negative reactions on part of employees (e.g. Bastien, 1987; Chaudhuri and Tabrizi, 1999; Schuler et al., 2004; Schweiger and DeNisi 1991; Schweiger et al., 1987; Schweiger et al., 1993; Schweiger and Weber, 1989), enhancing the acquiring and target firms' understanding of each others' cultures and practices (Evans et al., 2011; Schweiger and Goulet, 2005), building trust between the merging firms (Melkonian et al., 2011; Stahl, Larsson, Kremershof and Sitkin, 2011), enhancing knowledge transfer (Bresman et al., 1999; Castro and Neira, 2005; Lakshman, 2011; Ranft, 2006; Ranft and Lord, 2002) and by supporting the integration process in general (Weber and Tarba, 2010; Weber, Rachman-Moore and Tarba, 2011a).

M&A studies have also focused on staffing issues following acquisitions. After identifying key employees to be retained as well as employees that are no longer needed, acquirers need to handle these different dimensions of staffing. Concerning the latter, researchers have advocated providing information about lay-offs as early as possible and handling them in a fair and just manner in order to mitigate negative reactions on part of employees (e.g. Ellis et al., 2009; Fried et al., 1996; Schweiger and DeNisi, 1991). Acquirers are, for example, advised to base termination decisions on the job performance or specific competencies of those individuals who are needed in the new organization and to conduct the termination process in an open and transparent way in order to secure the commitment of the employees who stay and to maintain their morale (Evans et al., 2011; Schweiger et al., 1987; Schweiger et al., 1993). Human resource practices such as providing outplacement services, extended benefits, retraining programs or making internal transfers can make the process seem more fair (Ivancevich et al., 1987; Schweiger et al., 1987; Schweiger et al., 1993; Schweiger and Weber, 1989).

In addition to handling potential lay-offs, acquirers need to consider how to retain key employees and keep them motivated after the deal has been made (Evans et al., 2011; Schweiger et al., 1987). Researchers have proposed different types of incentives to retain employees and to build motivation after an acquisition. These include financial incentives such as increased salaries, bonuses (Castro and Neira; Cooke and Huang, 2011; Ivancevich et al., 1987) and stock options (Chaudhuri and Tabrizi, 1999; Ranft and Lord, 2002). In turn, it has been argued that the intrinsic motivation of individuals is enhanced by autonomy (Ranft and Lord, 2002; Ranft, 2006; Schweiger et al., 1987), visible leadership and commitment (Evans et al., 2011; Chaudhuri and Tabrizi, 1999; Schweiger et al., 1987), making employees feel part of the new organization through socio-cultural integration efforts (Chaudhuri and Tabrizi, 1999; Ivancevich et al., 1987; Shrivastava, 1986; Van Dick et al., 2006), and by providing employees with prospects of interesting new projects (Chaudhuri and Tabrizi, 1999; Castro and Neira, 2005).

Several researchers have also pointed to the need to establish a transition team (Ivancevich et al., 1987; Marks and Mirvis, 2011; Schuler et al., 2004; Tanure and Gonzalez-Duarte, 2007) and/or to designate an integration manager (Evans et al., 2011; Lakshman, 2011; Teerikangas et al., 2011) as early as possible in order to manage the change process. It has been argued that these teams and/or managers play important roles during the integration process by making staffing decisions (Ivancevich et al., 1987), acting as gatekeepers, creating 'connective tissue' and communication links between the merging firms, and thereby helping them to understand each others' practices (Evans et al., 2011), cultures (Lakshman, 2011), and competences better (Teerikangas et al., 2011). Furthermore, the transition teams and/or integration managers can facilitate the integration process by providing appropriate training when needed (Lakshman, 2011; Weber and Fried, 2011a; 2011b; Weber and Tarba, 2010), e.g. in handling cultural differences (Schuler et al., 2004; Schweiger et al., 1987), resolving conflicts (Schweiger et al., 1993) or building teams (Ivancevich et al., 1987). They can also provide opportunities for individual mentoring, coaching (Chaudhuri, 2005; Chaudhuri and Tabrizi, 1999; Schuler et al., 2004) or learning on the job (Schweiger, et al., 1993; Tanure and Gonzalez-Duarte, 2007)²¹.

Researchers have also pointed to the importance of appraising the new systems, organizational structure and culture, as well as employees' performance after an acquisition (Schuler et al., 2004). It has been argued that this supports integration by providing clear norms and expectations that can guide employee behaviour (Evans et al., 2011; Lakshman, 2011; Marks and Mirvis, 2011). However, implementing a new appraisal system – or any human resource practices – that differ from the target's existing practices can be challenging because it can evoke change resistance in the target firm (Cooke and Huang, 2011; Marks and Mirvis, 2011).

Most of the studies that have focused on human resource practices in M&As have tended to apply qualitative measures from case studies (Castro and Neira, 2005; Chaudhuri, 2005; Chaudhuri and Tabrizi, 1999; Cooke and Huang, 2011; Ranft and Lord, 2002; Schweiger and DeNisi, 1991; Tanure and Gonzalez-Duarte, 2007; Teerikangas et al., 2011), with a few studies relying on quantitative measures (Ranft, 2006; Schweiger and Weber, 1989; Weber et al., 2011a). There is thus a need for larger-scale quantitative research that addresses how employee reactions can be managed both before and after acquisitions.

Taken together, although the human resource perspective on M&As has addressed the shortcomings of studies that focus solely on financial and strategic perspectives, it does not focus on social factors on a broader level such as the organizational or national level. It has also been suggested that such factors influence acquisition outcomes (e.g. Calori et al., 1994; Weber, 1996).

2.1.4. Cultural perspective

In the 1980s, researchers became interested in using 'culture' as an explanatory factor for M&A outcomes. Since then, M&A studies taking a cultural perspective have proliferated, which has resulted in the cultural perspective coming to be viewed as one of the most dominant paradigms in acquisition studies (Angwin and Vaara, 2005; Marmenout, 2010). In general the cultural perspective has tended to emphasize the

²¹ See section 2.1.4.2 for a discussion of socio-cultural integration and section 2.2.4 for a discussion of managerial processes and knowledge transfer.

detrimental effects of cultural differences and also the difficulties involved in achieving cultural changes and socio-cultural integration.

2.1.4.1. *Cultural differences*

One of the main interests in the cultural perspective on M&As has been to examine the link between post-acquisition outcomes and both organizational cultural differences (e.g. Chatterjee, Lubatkin, Schweiger and Weber, 1992; Stahl, Mendenhall, and Weber, 2005; Stahl and Voigt, 2008) and national cultural differences (Calori et al., 1994; Morosini, Shane, and Singh, 1998; Weber et al., 1996; Chakrabarti, Gupta-Mukherjee and Jayaraman, 2009). The main assumption in these studies has been that cultural differences – both organizational and national – have disruptive effects on acquisitions and create human resource problems such as ingroup-outgroup categorizations, conflicts, change resistance and reluctance to cooperate, which in turn lowers acquisition performance (e.g. Björkman et al., 2007; Nahavandi and Malekzadeh, 1988). The majority of empirical studies support this notion: for example Chatterjee et al. (1992), Datta (1991) and Weber (1996) found that organizational cultural differences have a negative impact on performance and the studies of Brock (2005), Reus and Lamont (2009) and Steigner and Sutton (2011) show a negative relationship between national cultural differences and acquisition performance.

A few studies have contested the assumption that cultural differences lower acquisition performance: some have found no relationship between performance and organizational (e.g. Ellis et al., 2009; Weber, 1996) or national cultural differences (e.g. Datta and Puia, 1995), whereas others have even found a positive link between performance and organizational (e.g. Homburg and Bucerius, 2006; Krishnan et al., 1997) or national cultural differences (e.g. Chakrabarti et al., 2009; Morosini et al., 1998). Taken together, rather than showing consistent negative effects, research on cultural differences seems to have produced mixed results.

One explanation for these inconsistent findings is that many studies do not distinguish between the effects of organizational versus national cultural differences on acquisition performance (Stahl and Voigt, 2008; Teerikangas and Very, 2006). In addition, a number of variables are likely to exist that may moderate the relationship between cultural differences and acquisition performance. For example, the study by Slangen (2006) showed that the level of post-acquisition integration influenced the effect of national cultural differences on acquisition performance: performance was lower at a high levels of integration combined with high levels of national cultural differences, but performance was higher in the context of low integration and high levels of national cultural differences. Weber et al. (1996), in turn, show that organizational cultural differences impact post-acquisition integration in different ways: In domestic acquisitions, organizational cultural differences were found to be negatively related to M&A-integration, cooperation and commitment. In contrast, these factors were positively related with organizational cultural differences in international M&As. Weber et al. (1996) also show that depending on the particular dimension of national cultural differences, it can have either favourable (differences in individualism and uncertainty avoidance) or unfavourable (differences in masculinity) effects on integration.

Research focusing on the effect of pre-acquisition *organizational* cultural differences on performance have relied on both qualitative case studies (e.g. Bajaj, 2009; Hasegawa, 2000) and quantitative studies (e.g. Ellis et al., 2009; Homburg and

Bucerius, 2006; Weber et al., 1996). These studies have, however, been criticized for using measures that are based mainly on the subjective perceptions of managers (Stahl and Voigt, 2008; Teerikangas and Very, 2006). Because managers have been found to use notions of cultural differences as rhetorical tools in order to further their own agendas in acquisitions (e.g. Riad, 2005; Vaara, 2002, see also section 2.1.6), the reliability of their accounts of cultural differences can be questioned. In contrast, studies examining the impact of *national* cultural differences on acquisitions have used more 'objective' measures, such as Hofstede (1997) scores (e.g. Brock, 2005; Morosini et al., 1998; Slangen, 2006) or GLOBE scores that build on research by House, Hanges, Javidan, Dorfman, and Gupta (2004) (e.g. Reus and Lamont, 2009; Sarala and Vaara, 2010)²². These national cultural difference scores have been based on measures of employees' values in one multinational company (Hofstede, 1997) or their values and actual practices in three multinational firms (House et al., 2004), which have then been aggregated to represent national values and practices. In some cases geographic scope – i.e. international versus domestic acquisitions – have been used as a proxy for national cultural differences (e.g. Harris and Ravenscraft, 1991; Very et al., 1996). In terms of acquisition outcomes, researchers have used quantitative financial measures such as stock market data (e.g. Chakrabarti et al., 2009; Datta and Puia, 1995; Harris and Ravenscraft, 1991), accounting based measures (Krishnan et al., 1997; Weber, 1996) or both (Stahl and Voigt, 2008; Steigner and Sutton, 2011), as well as perceptual qualitative measures (e.g. Brock, 2005; Morosini et al., 1998; Weber et al., 1996) and qualitative measures from case studies (e.g. Bajaj, 2009; Hasegawa, 2000).

2.1.4.2. *Socio-cultural integration*

Recent studies have urged scholars to look beyond pre-acquisition cultural differences and to concentrate on post-acquisition change processes such as socio-cultural integration when trying to explain acquisition outcomes (e.g. Teerikangas and Very, 2006). Consequently, researchers have turned their focus towards factors that influence post-acquisition socio-cultural integration, and how this in turn influences post-acquisition performance.

Socio-cultural integration has been defined in various ways in the M&A literature, and a number of terms have been used to describe it. For example, Birkinshaw et al. (2000) call it 'human integration', and describe it as the creation of a shared identity among the personnel of the merging firms, as well as changes in the merging firms' cultures that causes them to become more similar over time. Shrivastava (1986), in turn, uses the term 'cultural integration' when referring to "developing a new corporate culture with compatible value systems" (p. 72). Sarala and Vaara (2010) further break cultural integration into cultural convergence – i.e. the acquiring and target firms become more similar along existing cultural dimensions, and cultural crossvergence – i.e. a new shared culture and identity is created between the acquiring and target firms. Because organizational culture provides a source of identity for individuals (e.g. Schein, 1984), it is difficult to separate the processes of integrating organizational cultures and identities from each other. Therefore, the term 'socio-cultural integration' in this thesis refers to any type of integration effort that involves changes in the acquirer's and/or target's culture and/or identity, or the creation of a new shared culture and/or identity between them.

²² The studies relying on Hofstede and GLOBE scores reported in this thesis have all measured cultural differences using a formula developed by Kogut and Singh (1988).

Concerning factors that influence socio-cultural integration, Nahavandi and Malekzadeh (1988) pioneered with a theoretical model of acculturation in acquisitions, which is based on Berry's (1983) theory of acculturation in anthropology. Acculturation refers to cultural changes in social groups that come into contact with each other, as a result of adaptation (Berry, 1983; Nahavandi and Malekzadeh, 1988). These changes can be either one-directional or two-directional, depending on whether one social group tries to dominate the other, and to what extent the social groups identify with their own culture and with that of the other group. Nahavandi's and Malekzadeh's (1988) model of acculturation in acquisitions, however, focused solely on cultural changes in the target firm as a result of its willingness to adapt to the acquirer's culture. More specifically, it was proposed that the target's willingness depends on the extent to which the target wants to preserve its own culture and the degree to which it perceives the acquiring firm's culture as attractive²³.

After Nahavandi's and Malekzadeh's (1988) research was published, a number of conceptual (Cartwright and Cooper, 1993a; 1995; Elsass and Veiga, 1994; Schweiger et al., 1993), qualitative (e.g. Froese, Pak and Chong, 2008; Gomes, Donnelly, Morris and Collis, 2007; Styhre et al., 2006; Zaheer et al., 2003) and quantitative studies (e.g. Sarala, 2010; Very et al., 1996; Very, Lubatkin, Calori and Veiga, 1997) have examined different acculturation modes, and their social and organizational effects, depending on the general acquisition approach and the acquisition partners' pre-merger social or cultural identifications. Most studies have focused on acculturation in the target (e.g. Elsass and Veiga, 1994; Froese et al., 2008; Styhre et al., 2006), with fewer studies also focusing on the acquiring firm (e.g. Sarala, 2010).

A common assumption in these studies has been that acquisitions represent a threat to individuals' social identification with the pre-merger organization, which can create tensions between the merging firms and lead to ingroup-outgroup categorizations and inter-group conflict (e.g. Van Leeuwen et al., 2003). This, in turn, can create cooperation problems (Weber et al., 1996) and undermine post-acquisition socio-cultural integration (Nahavandi and Malekzadeh, 1988; Ullrich et al., 2005). In contrast, it has been suggested that admiration for the partner's culture supports socio-cultural integration (Nahavandi and Malekzadeh, 1988). These propositions have been largely supported by empirical studies, which have found that threats to the acquisition partners' existing identities impede socio-cultural integration (Styhre et al., 2006; Zaheer et al., 2003), whereas partner attractiveness supports it (Froese et al., 2008; Gomes et al., 2007; Sarala, 2010; Teerikangas, 2006; Very et al., 1996; 1997).

Beyond the acculturation approaches discussed above, it has been suggested that other methods support socio-cultural integration. One example is 'decategorization', where members of the merging firms – one of them or both – are encouraged to give up their pre-merger identities in order to reduce tensions between these groups. It has been suggested that this strategy facilitates the creation of a common post-acquisition identity between the acquisition partners by breaking up previous categorizations between 'ingroups' and 'outgroups' (Seo and Hill, 2005). A few empirical studies lend support to this idea, showing that decategorization supports socio-cultural integration (Buono and Bowditch, 1989; Haunschild, Moreland and Murrell, 1994).

Another socio-cultural integration strategy involves the creation of a new 'superordinate identity' for the merging firms – i.e. a new culture and identity that is shared by both the acquirer and the target (Sarala and Vaara, 2010; Shrivastava, 1986).

²³ See section 2.1.1.1 for a more detailed discussion of Nahavandi and Malekzadeh's (1988) model.

Sarala and Vaara (2010) call this ‘cultural crossvergence’. Empirical qualitative studies (Blake and Mouton, 1985), quantitative studies (Creasy et al., 2009) and studies using both methods (Birkinshaw et al., 2000, Larsson and Lubatkin, 2000; Łupina-Wegener, Schneider, Van Dick, 2011; Schweiger and Goulet, 2005) have supported the notion that the creation of a ‘superordinate identity’ strategy supports socio-cultural integration by facilitating informal interaction and enhancing the partners’ mutual understanding.

Finally, scholars have suggested a ‘dual identity’ approach that involves creating a superordinate identity for the merging firms, whilst simultaneously encouraging them to preserve their pre-merger identities (Vermeulen, 2005). This approach has been found to support socio-cultural integration in a number of qualitative (Barmeyer and Mayrhofer, 2008; Empson, 2004; Olie, 1994; Ullrich et al., 2005) and quantitative (Van Dick et al., 2006) studies.

Turning from broader socio-cultural integration approaches to specific actions that support socio-cultural integration, empirical studies have highlighted the importance of a number managerial practices, namely: extensive communication (Birkinshaw et al., 2000; Blake and Mouton, 1985; Calori et al., 1994; Kavanagh and Ashkanasy, 2006; Lodorfos and Boateng, 2006; Saunders, Altinay and Riordan, 2009), the creation of shared goals (Blake and Mouton, 1985; Styhre et al., 2006; Ullrich et al., 2005), cultural continuity (Creasy et al., 2009; Van Dick et al., 2006), competent management (Creasy et al., 2009), visible leadership (Birkinshaw et al., 2000; Kavanagh and Ashkanasy, 2006; Saunders et al., 2009; Styhre et al., 2006; Ullrich et al., 2005), fair and equal treatment of individuals (Barmeyer and Mayrhofer, 2008; Creasy et al., 2009), cultural attractiveness of the partner (Brannen and Peterson, 2009; Sarala, 2010; Very et al., 1996; 1997), employee retention (Birkinshaw et al., 2000), rotation of employees (Barmeyer and Mayrhofer, 2008), training (Barmeyer and Mayrhofer, 2008; Lodorfos and Boateng, 2006), teamwork and cooperation (Barmeyer and Mayrhofer, 2008; Calori et al., 1994; Lodorfos and Boateng, 2006), participative problem solving (Blake and Mouton, 1985), cultural learning (Barmeyer and Mayrhofer, 2008; Buono and Bowditch, 1989; Brannen and Peterson, 2009; Schweiger and Goulet, 2005), integrating functions (Lodorfos and Boateng, 2006), career planning (Barmeyer and Mayrhofer, 2008), using social control mechanisms (Calori et al., 1994; Larsson and Lubatkin, 2001), and creating legitimacy for the new organizational identity (Zaheer et al., 2003) and for cultural changes (Kavanagh and Ashkanasy, 2006).

Most of the findings from the empirical studies discussed above are based on qualitative case studies, with fewer studies drawing on larger-scale quantitative data (Buono and Bowditch, 1989; Calori et al., 1994; Creasy et al., 2009; Sarala, 2010; Van Dick et al., 2006; Very et al., 1996; 1997) or on mixed methods (Birkinshaw et al., 2000; Brannen and Peterson, 2009; Kavanagh and Ashkanasy, 2006; Larsson and Lubatkin, 2001; Saunders et al., 2009; Schweiger and Goulet, 2005). There is thus a need for studies that rely on larger-scale quantitative data from.

Taken together, a general assumption in this stream of research has been that socio-cultural integration has a positive effect on acquisition performance. Indeed, qualitative case studies (e.g. Barmeyer and Mayrhofer, 2008; Schweiger et al., 1993), quantitative studies (e.g. Creasy et al., 2009; Very et al., 1997) and studies using mixed methods (e.g. Birkinshaw et al. 2000; Brannen and Peterson, 2009) support this notion. These studies have mostly relied on perceptual measures collected from top managers, which

carries the risk of social desirability bias²⁴ (Zollo and Meier, 2008). There is a lack of studies that link socio-cultural integration to financial outcomes using e.g. stock-market criteria or accounting data (Zollo and Meier, 2008). It can therefore be questioned whether socio-cultural integration will lead to financial improvements in all cases. For example, the studies by Gomes et al. (2007) and Carroll and Harrison (2002) indicate that socio-cultural integration can be supported by high employee turnover in the target firm. They argue that the exit of 'cultural misfits' can even be more effective for socio-cultural integration than the use of socialization mechanisms. The loss of key employees can, however, drain the acquisition partners' knowledge bases (Zander and Zander, 2010), which is likely to reduce the potential for knowledge synergies.

Furthermore, more critically oriented studies have questioned the notion that cultural differences cause poor performance, and that socio-cultural integration mechanisms support it. For example, the study by Vaara, Tienari and Sääntti (2003d) shows how constructing metaphors of 'us' and 'them' can help acquisition partners understand differences between their cultures. However, the authors also point out that this kind of cultural awareness exercise can simultaneously reinforce cultural stereotypes and thereby undermine the construction of a new culture. The study by Vaara et al. (2003d) thus shows how difficult it can be to manage socio-cultural integration. It also questions whether cultural differences per se affect socio-cultural integration or whether the question of *how* cultural differences are perceived and dealt with may be more relevant. In addition, Meyer and Altenborg (2008) argue that it is the lack of attention to cultural issues in general that causes social conflict and lowers acquisition performance and that aiming for any type of socio-cultural integration may be better than ignoring cultural issues altogether. Finally, the notion of 'culture' can also be used as a rhetorical tool to justify and legitimize integration decisions, to explain poor acquisition performance (Vaara, 2002), to further acquisition partners' own agendas, or to attach blame to post-acquisition failure (Riad, 2005). Taken together, these studies indicate that the effects of cultural factors in M&As remain poorly understood.

2.1.5. Political perspective

The political perspective on M&As focuses on conflicts of interest between the acquisition partners before and after acquisitions. It takes a critical view on conventional perspectives that have tended to dominate the literature, which view enhancement of organizational performance and creation of value for shareholders as the principal goals of managers (Vaara, Tienari and Hammarkvist, 2003c). These conventional perspectives have tended to view human concerns or reactions – such as managerial agency or change resistance – as problems that should be 'solved' rather than something that is a 'natural' consequence of acquisitions (Vaara et al., 2003c). Although the political perspective has not been as popular as other more conventional perspectives, it provides an alternative viewpoint that criticizes the notion that managers' and shareholders' interests are always aligned.

Power and politics are central themes in M&A studies that take a political perspective. In general, power has been explored from a multitude of angles and has been conceptualized rather differently depending on which perspective has been used: it has been viewed as something that is influenced by resources, relationships and/or

²⁴ Social desirability bias refers to respondents providing answers that are more likely to be viewed in a positive light by others, i.e. over-/underestimating positive/negative aspects, especially if they relate to respondents own actions.

contingencies (Astley and Sachdeva, 1984; Clegg, Courpasson, Phillips, 2006; Emerson, 1962). In general, however, power can be understood as the extent to which one party can influence the decisions or actions of another party (Hickson, Hinings, Lee, Schneck and Pennings, 1971; Salancik and Pfeffer, 1974). Politics, in turn, can be understood as behaviour intended to exert one's power and influence over others (Farrell and Petersen, 1982; Mayes and Allen, 1977) in order to preserve or to increase one's existing power base.

It has generally been argued that organizational politics cause dysfunctional attitudes and behaviour on the part of individuals such as change resistance and rule breaking (Buchanan, 2008) or lower levels of trust (Kumar and Ghadially, 1989). Few researchers have focused on politics as something necessary or useful in organizations (e.g. Gotsis and Kortezi, 2009). M&A research has tended to perceive power and politics in much the same light, i.e. as 'illegitimate', 'unproductive' and something that should be minimized (Vaara, 2001). Because most researchers have preferred to focus on the more 'legitimate' aspects of acquisitions, such as value creation that benefits shareholders (e.g. Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999), the topic of power and/or politics has been underexplored in M&As.

The few studies that take a political perspective on M&As have tended to emphasize detrimental consequences of power asymmetries and political games on acquisition outcomes (e.g. Hambrick and Cannella, 1993; Piekkari, Vaara, Tienari and Sääntti, 2005; Riad, 2005; Seth, 1990b; Schmid and Daniel, 2009; Trautwein, 1990; Vaara, 2003; Vaara and Monin, 2010). For example, attempts by managers to increase their personal power bases and spheres of influence at the expense of shareholders' gains have been described as one of the 'less legitimate' motives (Seth, 1990a; 1990b; Trautwein, 1990).

The post-acquisition integration period has been described as fertile ground for power struggles and politicking due to the high levels of uncertainty acquisition partners experience concerning future outcomes (Steensma and Van Milligen, 2003). Power struggles, in turn, can reduce the potential for post-acquisition value creation (Vaara, 2003). For example, Jemison and Sitkin (1986) write about 'management system misapplication' which they describe as the result of acquirer arrogance and target defensiveness. More specifically, acquirers often view their own systems and practices as superior to the targets', and consequently try to impose them on the target through formal integration efforts (Jemison and Sitkin, 1986). This is, however, often resented and perceived as threatening by target firm members (Steensma and Van Milligen, 2003) and can cause them to engage in political tactics to defend their existing status and power bases, e.g. through change resistance (Jemison and Sitkin, 1986). Furthermore, Hambrick and Cannella (1993) show that the departures of target firm executives are contingent on the level of status that is bestowed on them after an acquisition; lower levels increase departures whereas higher levels reduce them. The study by Vaara (2001), in turn, illustrates how political struggles between top managers in the merger between a Finnish and a Swedish steel company created conflicts that led to a dissolution of the merger. The study by Vaara and Monin (2010) of the merger between two French pharmaceutical companies also shows that politicking can have negative effects on post-merger performance. In the case that they studied they found that managers tended to emphasize the most obvious or promising sources of synergies to the media, and downplay other aspects. Whilst this served to legitimize the merger, it also diverted their attention from other important aspects of the merger and ultimately led them to consider fewer alternative sources of synergies.

Most studies that have taken a political perspective on acquisitions have either been conceptual (e.g. Jemison and Sitkin, 1986) or based on data from qualitative case studies (e.g. Riad, 2005; Vaara, 2001; Vaara and Monin, 2010), with the exception of the quantitative study by Hambrick and Cannella (1993). Furthermore, most studies have tended to emphasize ‘negative’ or problematic aspects of power and politics in M&As. Although Riad (2005) tried to present power and politics in a more ‘neutral’ light – i.e. as an attempt to understand acquisition processes – the outcomes of these processes were presented as rather negative; they were associated with change resistance and lack of cooperation.

Taken together, the political perspective on acquisitions provides an alternative viewpoint to studies that view the alignment of managers’ and shareholders’ interests as unproblematic. However, few studies take a political perspective, and therefore more research is needed in this area. The fact that researchers did not focus much on the political perspective in M&As until the 1990s is one reason why there is a rather limited number of studies on this aspect of the topic. Furthermore, decision makers tend to describe their actions in terms of shareholders’ interests rather than their own, which makes it difficult to study political aspects in organizations in general, and in acquisitions in particular.

2.1.6. Discursive perspective

Similar to the political perspective on acquisitions, the discursive perspective represents an alternative and critical standpoint towards more traditional M&A research²⁵. Discourse analysis, which is used by M&A studies in this perspective, provides a basis for understanding how organizational members make sense of M&As based on analysing discourses – i.e. sets of languages and practices that give insights about how individuals construct meanings about different issues in particular contexts and points in time (Riad, 2005). It aims to provide a richer picture of acquisitions by examining how issues such as acquisition motives, processes, outcomes and consequences are socially constructed (e.g. Vaara, 2002; Riad, 2007). Although a few earlier M&A studies have used a discursive perspective (Hirsch, 1986; Schneider and Dunbar, 1992), it is a relatively new form of inquiry into M&As and only started to receive more attention from M&A researchers less than a decade ago.

M&A studies in this perspective have examined discourses in the media (e.g. Fürsich, 2002; Hellgren, Löwstedt, Puttonen, Tienari, Vaara and Werr, 2002; Risberg, Tienari and Vaara 2003; Tienari, Vaara and Björkman, 2003; Vaara and Tienari, 2002; Vaara, Tienari and Laurila, 2006), key actors’ accounts of M&As (e.g. Comtois, Denis and Langley, 2004; Riad, 2005; 2007; Vaara, 2002; Vaara, Risberg, Söderberg and Tienari, 2003a; Vaara et al., 2003b) or a combination of these (e.g. Vaara and Monin, 2010).

As an example of media discourse studies, Hellgren et al. (2002) analyzed how the media constructed notions of ‘winners’ and ‘losers’ in a merger between a Swedish and a British pharmaceutical company by drawing on different types of discourses. Risberg et al. (2003) examined how the media created different perceptions of cultural identities as well as power relations in the merger between a Swedish and a Finnish bank. Furthermore, Vaara et al. (2006) studied how a Swedish-Finnish merger in the pulp and paper industry was legitimized in the media.

²⁵ Indeed, many of the studies applying political and discursive perspectives overlap.

Turning to individuals' accounts, Riad (2005; 2007) analysed how notions of 'organizational culture' were constructed and re-constructed by key actors in a merger between two government organizations in New Zealand, and how these notions were used to make sense of the merger, as well as to legitimize and delegitimize issues in the integration process. As another example, Vaara (2002) studied discourses used by decision makers in eight Finnish-Swedish M&As to explain their success/failure, to legitimize their own actions, as well as to ascribe responsibility when discussing success/failure. Furthermore, Vaara et al. (2003b) studied discourses – called 'sensemaking processes' in the paper – around knowledge transfer in a Nordic financial services group that was created through three consecutive mergers between Swedish, Finnish, Danish and Norwegian companies.

Taken together, M&A studies drawing on the discursive perspective have been based on qualitative data from media texts or from key actors' accounts. Scholars taking this perspective have tended to take a critical stance towards studies that mainly focus on how post-acquisition integration can create value for shareholders. Instead, they have focused on how discourses can be used to further political agendas in acquisitions (e.g. Comtois et al., 2004; Riad, 2005; Vaara, 2002) or to legitimize acquisitions to the media (e.g. Fürsich, 2002; Vaara et al., 2006; Vaara and Monin, 2010). These studies show that because individuals' perspectives and agendas differ depending on actors' organizational positions, their accounts and 'sensemaking' are likely to vary as well. Research that draws on multiple levels and methods is likely to capture some of these differences. However, such research is scarce and difficult to conduct due to limited data access that is caused by the secrecy and confidentiality that often surrounds acquisitions.

2.1.7. Knowledge-based perspective

The knowledge-based view (KBV), which became popular in the late 1990s, is closely related to the strategic perspective on acquisitions and it cuts across many of the M&A perspectives discussed earlier. However, it deserves a section of its own because it has recently gained so much popularity and because it focuses specifically on knowledge as central source competitive advantage (Grant, 1996; Spender and Grant, 1996). A key argument in the KBV is that firms that possess valuable and unique knowledge that is difficult to imitate will be better able to create sustainable competitive advantage (Grant, 1996; Winter and Szulanski, 1999). It has been argued that firms able to develop, transfer and exploit this type of knowledge between units are in an even better position to sustain their competitive edge (Argote and Ingram, 2000; Zander and Kogut, 1995).

In line with this reasoning, M&A research that draws on the KBV has emphasized the importance of knowledge transfer for value creation and performance (e.g. Eschen and Bresser, 2005; Vermeulen and Barkema, 2001). By accessing knowledge from the target firm, or by finding new ways of combining the acquiring and target firms' knowledge resources, acquisition partners can realize different types of synergies (Barney, 1988; Eschen and Bresser, 2005; Vermeulen and Barkema, 2001). The KBV on M&As suggests that it is specifically the combination of the firms' unique and complementary knowledge assets that offers most potential for value creation (Haspeslagh and Jemison, 1991; Björkman et al., 2007). Complementary knowledge can be understood as the distinct and non-redundant knowledge of acquisition partners that they can use to "fill out, or complete, each other's performance" (Jap, 1999: 465). Haspeslagh and Jemison (1991) argue that complementary knowledge increases the

acquisition partners' interdependence, as well as the need for post-acquisition integration, in order to create value by making use of the partners' knowledge. Consequently, post-acquisition integration is viewed as vital for realizing knowledge-based synergies (e.g. Björkman et al., 2007).

Empirical research supports the notion that knowledge transfer is important for M&A value creation. For example, studies show that many firms prefer to acquire new knowledge through M&As rather than develop it internally, because internal development is often viewed as more time consuming and risky (Chaudhuri and Tabrizi, 1999). Companies also tend to prefer M&As over alliances when they aim to access or transfer knowledge that is closely related to their core business (Hagedoorn and Duysters, 2002). Furthermore, research shows that merging firms can create synergies by making use of new knowledge that resides in the partner firm or by combining their complementary knowledge in new ways (Capron, 1999; Capron et al., 1998; Capron and Pistre, 2002), which in turn enhances post-acquisition financial performance (Zollo and Meier, 2008).

However, post-acquisition knowledge transfer is not an easy task; it can be both difficult and time consuming (Bresman et al., 1999; Empson, 2001), especially in international acquisitions that involve greater geographic and cultural distances (Brock, 2005; Vaara et al., 2003b). Furthermore, the post-acquisition integration process is often plagued by human resource, socio-cultural or political problems (e.g. Blake and Mouton, 1985; Marks and Mirvis, 1985), which can impede knowledge transfer. Consequently, a stream of research is emerging that aims to identify and explain which factors enhance or impede knowledge transfer in the post-acquisition integration context (e.g. Empson, 2001; Lam, 1997; Westphal and Shaw, 2005). This thesis draws on strategic, human resource, cultural, political and knowledge-based perspectives to explain post-acquisition knowledge transfer. More specifically, it draws on theories concerning M&A integration (process and strategic perspectives), social identification and social exchange (human resource perspective), socio-cultural integration (cultural perspective) as well as power and politics (political perspective).

To summarize, although scholars have used a variety of perspectives for understanding M&As, they have been criticized for being overly fragmented (Larsson and Finkelstein, 1999) and particularly concerning knowledge transfer, which limits our understanding of the relative importance of explanatory variables on M&A knowledge transfer. By drawing on a combination of process, strategic, human resource, cultural, political and knowledge-based perspectives on acquisitions, this thesis aims to provide a more complete understanding of how factors from these different perspectives influence M&A knowledge transfer. The following section aims to provide an overview of knowledge transfer literature that is relevant in the M&A context and to link it to the perspectives discussed in this section. More specifically, it concentrates on factors that are likely to support/impede knowledge transfer in M&As.

2.2. Research on M&A knowledge transfer

Scholars examining knowledge transfer in MNCs (Jansen, Van den Bosch and Volberda, 2005; Szulanski, 1996), alliances (Simonin, 1999a; 1999b) and M&As (Zhou and Ghauri, 2008) have described it as a process that consists of different stages. Although the theoretical models vary, they generally involve the following two stages: First, a decision is made to transfer knowledge after the sender and/or receiver have identified useful knowledge that can be leveraged in the recipient firm. Second,

knowledge is shared and consequently absorbed and applied by the receiver. The second stage can involve direct replication (Szulanski, 1996) or adaptation of the knowledge to fit the recipient's particular context (Zou and Ghauri, 2008).

The studies discussed above portray knowledge transfer as a process involving distinct and subsequent stages. Some scholars have, however, pointed out that M&A knowledge transfer can be more 'messy' than this, and involve several processes that can occur simultaneously or iteratively (Buono, 1997). For example, some M&A scholars advise acquirers to identify valuable knowledge in the target firm already before an acquisition (Chaudhuri and Tabrizi, 1999). Others argue, however, that acquisition partners need to continue exploring possibilities for knowledge transfer in the integration period due to the limited information that can be gained from pre-acquisition due diligence (Teerikangas et al., 2011). Researchers have thus not agreed on a specific 'process model' for knowledge transfer. This is partly due to the lack of empirical studies that examine different stages of knowledge transfer in general (Van Wijk et al., 2008).

Irrespective of the particular stage, researchers have identified a number of factors that can influence M&A knowledge transfer. Taken together, variables from prior research on knowledge transfer that are relevant in the context of acquisitions can be divided into the following four categories: 1) characteristics of the knowledge that is to be transferred, 2) characteristics of the sending and receiving organizations (and differences between them), 3) the relationship between the sender and the receiver, and 4) managerial processes (see Table 2)²⁶. By drawing on these categories, this section aims to provide an overview of previous research on post-acquisition knowledge transfer and to position this thesis within this stream of research. The first four sub-sections below (2.2.1-2.2.4) are linked to research questions 1 and 2. They provide an overview of factors that have been found to influence post-acquisition knowledge transfer from the acquirer to the target and vice versa. The fifth sub-section (2.2.5) discusses interrelationships between these determinants and their indirect effects on post-acquisition knowledge transfer. Section 2.3 presents an overview of the theoretical framework used in this thesis.

Study	Study design	International scope	Industry	Knowledge type	Variables examined	Direction of transfer
Buono (1997)	qualitative (1 case)	no	IT & communication	technological	management	NA
Lam (1997)	qualitative (1 case)	yes	electronics	technological	knowledge	both

²⁶ The 'knowledge' category in Table 2 includes variables such as knowledge tacitness, social embeddedness and specificity. The 'sender/receiver' category describes the acquisition partner(s) and differences between them, e.g. target size and age, relative size of knowledge bases, knowledge complementarity, relatedness, and cultural differences. The 'relationship' category captures factors that describe the relationship between the acquiring and target firms, e.g. partner affinity, social conflict and elapsed time. The 'management' category contains variables that relate to how the post-acquisition integration process is managed, e.g. the degree of operational and socio-cultural integration, target firm autonomy and communication.

Capron et al. (1998)	quantitative (survey)	yes	manufacturing	several: e.g. manufacturing, R&D, marketing	sender/receiver relationship	both
Bresman et al. (1999)	quantitative (survey) and qualitative (interviews)	yes	several: automation, chemicals, decanter	technological (patents and know-how)	knowledge sender/receiver relationship management	both
Capron (1999)	quantitative (survey)	yes	manufacturing	several: e.g. manufacturing, R&D, marketing	management	both
Chaudhuri and Tabrizi (1999)	qualitative (53 cases)	NA	high-tech firms	technological	sender/receiver management	NA
Ranft and Lord (2000)	quantitative (survey)	no	several: e.g. biotechnology, computer software	technological	sender/receiver relationship	NA
Ahuja and Katila (2001)	quantitative (secondary data) ²⁷	yes	chemicals (high & low tech)	technological (patents)	sender/receiver	T->A
Capron et al. (2001)	quantitative (survey)	yes	manufacturing	several: e.g. manufacturing, R&D, marketing	sender/receiver	both
Empson (2001)	qualitative (3 cases)	no	professional service firms	technical and client related	sender/receiver relationship	both
Schoenberg (2001)	quantitative (survey)	yes	several: e.g. engineering, financial services	several: e.g. manufacturing, R&D, finance, marketing	knowledge	NA
Ranft and Lord (2002)	qualitative (7 cases)	no	several: e.g. biotechnology, computer software	technological	knowledge management	T->A
Vaara et al. (2003b)	qualitative (3 cases)	yes	financial services	best practices (types not specified)	relationship management	both
Bröchner et al. (2004)	qualitative (1 case), quantitative (small survey)	yes	engineering consultancy	business concepts and technical expertise	sender/receiver management	both
Brock (2005)	quantitative (survey)	yes	not specified	not specified	sender/receiver	NA

²⁷ The study had a longitudinal design.

Castro and Neira (2005)	qualitative (3 cases)	no	IT	several: e.g. marketing, design, technological	knowledge sender/receiver relationship	NA
Chaudhuri (2005)	qualitative (2 cases)	no	high-tech	several: product development, manufacturing, sales	knowledge sender/receiver relationship management	both
Schweizer (2005)	qualitative (4 cases)	yes	pharmaceutical and biotech	technological	knowledge management	both
Westphal and Shaw (2005)	qualitative (7 cases)	yes	several: e.g. automotive, tele-communication, media	several: e.g. marketing, technological	knowledge sender/receiver relationship management	NA
Puranam et al. (2006) ²⁸	quantitative (secondary data)	NA	IT hardware	technological	sender/receiver management	T->A
Ranft (2006)	quantitative (survey)	NA	high-tech firms	technological	knowledge sender/receiver management	T->A
Castro & Neira (2007)	quantitative (survey)	no	several: e.g. construction, chemicals, tele-communication	not specified	knowledge sender/receiver management	T->A
Puranam and Srikanth (2007)	quantitative (secondary data)	NA	several: computing, communication, pharmaceutical	technological (patents)	sender/receiver management	T->A
Tsang (2008)	qualitative (8 cases)	yes	several: e.g. construction materials, industrial equipment	not specified	knowledge sender / receiver relationship management	A->T
Zou and Ghauri (2008)	qualitative (8 cases)	yes	several: sugar, manufacturing, paper, biotech	several: e.g. production, market and technological	sender / receiver management	both

²⁸ Acquiring firms were in the IT hardware industry, target firms could also be from other industries. The dependent variable was measured in terms of bringing new innovations to market.

Makri et al. (2010) ²⁹	quantitative (secondary data)	NA	several: drug, chemical, electronics	technological (patents)	sender / receiver	T->A
Sarala and Vaara (2010)	quantitative (survey)	yes	several, but not specified	several: e.g. R&D, sales and marketing, management	sender / receiver management	NA
Cooke and Huang (2011)	qualitative (4 cases)	yes	IT	technological and HRM related	relationship management	both
Tarba et al. (2011)	qualitative (2 cases)	yes	pharmaceutical	several: e.g. business culture, technological	sender/receiver relationship management	both
Teeri-kangas et al. (2011)	qualitative (9 cases)	yes	several: e.g. tele-communication, surgical machinery	several: e.g. technology	sender/receiver relationship management	both
Vaara et al. (2012)	quantitative (survey)	yes	several, but not specified	several: e.g. R&D, sales and marketing, management	sender / receiver relationship management	NA

NA = not available, T->A = knowledge transfer from the target to the acquiring firm, A->T = knowledge transfer from the acquiring to the target firm, both = knowledge transfer in both directions.

Table 2 An overview of empirical knowledge transfer studies in M&As

2.2.1. Knowledge characteristics

In line with the KBV discussed in section 2.1.7, several acquisition studies view the transfer of knowledge between the acquirer and the target as crucial to post-acquisition value creation (Björkman et al., 2007; Bresman et al., 1999; Haspeslagh and Jemison, 1991). M&A scholars have been particularly interested in finding out how easily knowledge can be transferred depending on its characteristics. The simplest categorization of knowledge types distinguishes between explicit and tacit knowledge, although a number of other classifications have been created³⁰. Explicit knowledge can be described as knowledge that can be relatively easily articulated, codified and taught (Ranft, 2006). Tacit knowledge, which lies on the other end of the spectrum, is more difficult to transfer because it is often embedded in the context in which it has been shaped (Castro and Neira, 2005) and because it is often based on accumulated experiences that can be difficult to frame or articulate (Ranft, 2006).

Research on M&A knowledge transfer has mostly focused on the role of knowledge tacitness (Bresman et al., 1999; Castro and Neira, 2005; Ranft and Lord, 2002; Westphal and Shaw, 2005), social embeddedness (Ranft and Lord, 2002; Tsang,

²⁹ The dependent variables were measured in terms of patent counts (invention quantity), patent citations (invention quality), and range of technology classes in the patent portfolio (novelty).

³⁰ See section 1.2 for a definition of knowledge and knowledge transfer.

2008), and context specificity of knowledge (Schweizer, 2005; Westphal and Shaw, 2005). The KBV suggests that socially embedded, tacit and context specific knowledge that is rare and difficult to imitate has the most potential to create value through synergies (e.g. Argote and Ingram, 2000; Kogut and Zander, 1993; Zander and Kogut, 1995). However, it is difficult to transfer such knowledge between the acquirer and the target because it cannot be easily articulated (e.g. Castro and Neira, 2005; Ranft and Lord, 2002). For example, Lam (1997) studied knowledge transfer in a merger and found that in addition to the differences in the acquisition partners' knowledge bases, the socially embedded nature of the partners' knowledge severely impeded knowledge transfer. Moreover, Bresman et al. (1999) found that in the early stages of acquisitions mostly explicit knowledge was transferred from the acquiring firm to the target. According to them, one reason for this may be that it is easier to transfer codified knowledge compared to tacit knowledge when the acquisition partners have not yet developed a close and trusting relationship.

Whilst the knowledge characteristics described above have received relatively much attention from M&A scholars, other types of knowledge have been less explored. More specifically, complexity and causal ambiguity of knowledge have been suggested to impede knowledge transfer in alliances (Simonin, 1999a; 1999b). However, the empirical evidence linking knowledge complexity to knowledge transfer is scarce and mainly based on small-scale case studies (e.g. Lam, 1997). Similarly, the effect of causal ambiguity on post-acquisition knowledge transfer has only been addressed in a conceptual paper by Lakshman (2011), who argues that causal ambiguity concerning 'organizational inputs and results' is likely to impede the transfer of cultural knowledge between acquisition partners.

This thesis examines the effects of these less explored knowledge characteristics. More specifically, Essay 3 proposes that causal ambiguity is a central barrier to knowledge transfer, and tests this proposition on larger-scale survey data. Similarly, Essay 4 tests hypotheses on larger-scale survey data regarding the effects of knowledge complexity on managerial processes (cultural learning and collective teaching) that are expected to facilitate knowledge transfer. Finally, Essay 2 includes knowledge explicitness as a control variable.

2.2.2. Characteristics of the sender and the receiver

Another category of factors that have been found to influence post-acquisition knowledge transfer relate to characteristics of the sender and the receiver and to differences between them. No matter how codified or articulated the knowledge is, the receiving party needs to be able to understand and make use of it for effective knowledge transfer to take place (Lane and Lubatkin, 1998; Minbaeva et al., 2003; Mahnke, Pedersen and Venzin, 2005). It has been argued that absorptive capacity – described by Minbaeva et al. (2003) as the ability and motivation of individuals to learn – is one of most significant determinants of knowledge transfer in alliances (e.g. Lane and Lubatkin, 1998; Simonin, 1999a; 1999b) and MNCs (e.g. Gupta and Govindarjan, 2000; Minbaeva et al., 2003; Minbaeva, 2007). Similarly, disseminative capacity – which has been described as the motivation and ability of individuals to frame, articulate and teach their knowledge – is important for effective knowledge transfer in MNCs (Minbaeva, 2007). Taken together, both the ability and motivation of individuals to transfer and absorb knowledge can be viewed as central for knowledge transfer (Minbaeva, 2007; Minbaeva et al., 2003). It has also been argued that absorptive capacity has a collective dimension, which is distinct from the individual level (Cohen

and Levinthal, 1990; Zhao and Anand, 2009). More specifically, collective absorptive capacity refers to “structural and cultural attributes of the receiving organization as a whole that are conducive to acquiring and assimilating new knowledge” (Zhao and Anand, 2009: 962). Although it has not been explicitly addressed in previous research, it is likely that disseminative capacity is also influenced by individual and collective aspects. Taken together, an organization’s absorptive and disseminative capacities are likely to depend on both individual (ability and motivation) and collective (structure and culture) dimensions.

Research on the effects of organizational absorptive and disseminative capacities on M&A knowledge transfer is very limited (for a notable exception see the study of Björkman et al., 2007 on individual absorptive capacity and M&A knowledge transfer). Regarding the collective level of absorptive or disseminative capacities, to the author’s knowledge, no prior studies have explicitly addressed how organizational characteristics (structural and cultural) of the merging firms influence their organizational absorptive and disseminative capacities. Rather, most studies on M&A knowledge transfer have tended to focus on structural and organizational differences (e.g. Björkman et al., 2007) or on changes in organizational structures and cultures (e.g. Haspeslagh and Jemison, 1991; Sarala and Vaara, 2010)³¹. Because prior research in other contexts indicates that there are separate individual and collective dimensions of absorptive (Zhao and Anand, 2009) and disseminative capacity, studies on M&A knowledge transfer would benefit from taking these aspects into consideration.

Concerning the *individual* level, researchers have found a number of factors that can influence individuals’ absorptive and disseminative capacities. Regarding the ability dimension, researchers focusing on knowledge transfer in MNCs (e.g. Minbaeva, 2007) and alliances (e.g. Simonin, 1999a; 1999b) have argued that relevant prior knowledge and a shared language enhance the ability of individuals to absorb knowledge. These aspects are also likely to enhance the ability of individuals to disseminate knowledge because they will be better able to communicate and explain their knowledge to the receiver (Zellmer-Bruhn, 2003). In line with these arguments, similarity between acquisition partners has been found to facilitate knowledge transfer due to greater familiarity with, and usefulness of, the partners’ knowledge (Capron et al., 2001; Westphal and Shaw, 2005). In contrast, dissimilarities in the sender’s and receiver’s firm sizes, knowledge bases (Ahuja and Katila, 2001), and cultures (Brock, 2005; Lam, 1997; Ranft and Lord, 2002; Westphal and Shaw, 2005) have been found to have the opposite effect. Even though the ability and motivation of individuals are likely to influence each other (Vroom, 1964), they are separate constructs that are influenced by different factors. Turning to the motivation dimension, the willingness of individuals to absorb/share knowledge largely depends on the quality of the relationship between the merging firms; whether they perceive the partner as trustworthy and their knowledge as useful and whether they expect to benefit or lose from a knowledge exchange (e.g. Cabrera and Cabrera, 2005; Husted et al., 2005). Since section 2.2.3 about relationship quality addresses these aspects specifically, the motivation dimension will be discussed in greater detail there. The rest of this section concentrates on the ‘ability side’ of absorptive and disseminative capacities.

Turning to the ability dimension of *organizational* absorptive and disseminative capacities, cultural differences in M&As tend to reflect differences in the mentalities and interests of partners, which can limit the usefulness and applicability of each

³¹ See section 2.1.4 for a more extensive discussion of acquisition research on cultural differences and socio-cultural integration.

others' knowledge (Björkman et al., 2007). This may be especially problematic in international acquisitions where national cultural differences may reduce the receiver's ability to understand the value or usefulness of the sender's knowledge and thereby impede knowledge transfer (Castro and Neira, 2005; Tarba, Almor and Benyamini, 2011; Vaara et al., 2003b). Findings concerning the effects of cultural dissimilarities in M&As are, however, not clear-cut. For instance, Castro and Neira (2005) argue that organizational cultural differences can impede knowledge transfer, whereas Sarala and Vaara (2010) find that national cultural differences have a positive effect on it. These mixed findings may be due to the fact that few studies examine the moderating effect of acquisition contexts. For example, Weber et al. (1996) show that organizational and national cultural differences have different effects (positive/negative) in international versus domestic M&As. It is thus possible that cultural differences also have different effects on M&A knowledge transfer, depending on how they interact with the acquisition context. Adding to the debate, Björkman et al. (2007) argue that the link between cultural differences and the complementarity of the partner's knowledge is curvilinear. More specifically, they propose that both small and large cultural differences reduce complementarity and thereby the value of the partner's knowledge, whereas 'moderate' differences increase it.

Continuing the previous point, knowledge complementarity has been suggested to increase the potential for knowledge transfer in M&As by creating interdependencies between the partners (Haspeslagh and Jemison, 1991). In line with this, conceptual studies (Björkman et al., 2007; Eschen and Bresser, 2005) have linked complementary knowledge to increased M&A knowledge transfer. Empirical papers, however, remain scarce. Although a few quantitative studies have linked complementarity to knowledge transfer (Capron et al., 1998) or innovation outcomes (Makri et al., 2010), other studies addressing the link between complementarity and knowledge transfer have relied on case studies (Castro and Neira, 2005; Westphal and Shaw, 2005; Zou and Ghauri, 2008), which limits the generalizability of the findings.

In addition to sender-receiver differences, acquisitions of larger targets have been found to offer more potential for knowledge transfer, because the target has a more extensive knowledge base to draw on (Bresman et al., 1999). Furthermore, knowledge transfer is likely to be of greater importance in acquisitions in knowledge intensive industries, e.g. between high-tech companies (Bresman et al., 1999) and professional service firms (Empson, 2001).

Each of the essays in this thesis addresses sender/receiver characteristics. More specifically, in Essay 1 it is argued that knowledge complementarity supports knowledge transfer by influencing the integration process, and by enhancing the acquisition partners' organizational absorptive and disseminative capacities. Organizational absorptive and disseminative capacities, in turn, are conceptualized as consisting of distinct individual (ability and motivation) and collective (structure and culture) aspects. Furthermore, it is argued that absorptive capacity – individual and collective – also relates to the receiver's ability and willingness to detach itself from old knowledge. Concerning sender/receiver characteristics in the empirical papers, Essay 2 controls for the target's size, the industry, international/domestic acquisitions, and for organizational cultural differences. Essay 3 includes control variables for the target's size, the industry and national cultural differences. Finally, Essay 4 proposes a positive relationship between knowledge complementarity and the use of managerial processes (cultural learning and collective teaching) that are likely to support knowledge transfer. It also controls for both national and organizational cultural differences.

2.2.3. Relationship characteristics

The quality of the relationship between the acquisition partners is also likely to impact M&A knowledge transfer. It is closely related to the human resource and political perspectives on M&As discussed in sections 2.1.3 and 2.1.5. Previous research on post-acquisition knowledge transfer has suggested that the motivation of the acquisition partners to share knowledge with each other and to make use of each others' knowledge is vital for efficient knowledge transfer (Empson, 2001; Lakshman, 2011; Westphal and Shaw, 2005). It may be even more important in M&As than in other contexts, such as in MNCs or alliances, because the post-acquisition period is often characterized by great uncertainty and ambiguity about the future for the individuals that are involved, and this may reduce their motivation to engage in knowledge transfer (e.g. Bresman et al., 1999; Husted et al., 2005). By drawing on social exchange theory and social identity theory from the human resource perspective, and the political perspective – which were discussed in previous sections – this study aims to gain a more comprehensive understanding of which factors shape the motivation of the acquisition partners to share and absorb knowledge. These theoretical perspectives are discussed more thoroughly in relation to M&A knowledge transfer in the following sections.

2.2.3.1. Expectations of reciprocity

Social exchange theory – which emphasizes expectations of gains versus losses from knowledge transfer – may be most useful for describing the sender's motivation to share knowledge. Conceptual papers on knowledge transfer in alliances (Chen and Choi, 2005; Muthusamy and White, 2005) and within firms (Cabrera and Cabrera, 2005; Gagné, 2009) have highlighted the importance of expectations of mutual benefits and perceptions of trust and fairness in facilitating knowledge transfer. In this perspective, knowledge transfer can be regarded as one form of social exchange, where individuals' propensity to share their knowledge is based on what they expect to gain from the receiver in return. A number of empirical papers on knowledge transfer between alliance partners (Muthusamy and White, 2005; Rolland and Chauvel, 2000) and within organizations (Bartol and Srivastava, 2002; Bock and Kim, 2002; Bock, Zmud and Kim, 2005; Burgess, 2005; Liao, 2008; Staples and Webster, 2008; Watson and Hewett, 2006) support this notion.

Studies on M&A knowledge transfer that use social exchange theory are scarce and most of them are either conceptual or based on qualitative case studies. Regarding conceptual papers on this topic, Lakshman (2011) argues that integration managers need to create proper incentives to motivate individuals to share knowledge. Husted et al. (2005), in turn, write that individuals' motivation to share knowledge is likely to be reduced if they are afraid that their knowledge will be exploited by the acquisition partner. They continue that fears of exploitation are likely to be exacerbated if knowledge receivers are perceived as having less valuable knowledge than the sender(s). This is confirmed in Empson's (2001) case study of knowledge transfer between service firms in three UK mergers, which shows that the 'fear of exploitation' – i.e. the sender's fear that their knowledge will be exploited by the receiver – reduces post-merger knowledge transfer. In contrast, Westphal and Shaw (2005) find in their case study that perceived commitment and procedural justice on part of the acquirer supports knowledge transfer, perhaps by increasing the target firm member's trust in the acquirer. This would be in line with other M&A studies that have suggested that perceived distributive and procedural justice increase cooperative behaviour by enhancing target firm members' trust in the acquirer (Ellis et al., 2009; Melkonian et

al., 2011). It has also been argued that the trust of firm members is critical for enhancing socio-cultural integration and M&A performance in general (Stahl et al., 2011). Because knowledge transfer requires that individuals trust each other to some extent in order to be willing to collaborate, trust and its antecedents are likely to play important parts in M&A knowledge transfer. Nevertheless, studies on this topic are rare.

To summarize, although a few conceptual and exploratory studies have contributed to our understanding on how individuals' expectations of reciprocity influence M&A knowledge transfer, they are limited in the extent to which they can be generalized. Furthermore, because these studies do not control for the effects of other determinants (e.g. knowledge characteristics or managerial processes), the ability of social exchange theory to explain M&A knowledge transfer has not yet been firmly established. In addition, the effects of social factors such as trust on M&A knowledge transfer are likely to differ depending on the direction of the transfer (Bresman et al., 1999). This area of research therefore needs empirical work that draws on larger samples of data and includes other determinants and the direction of knowledge transfer as well.

Essay 2 aims to partly bridge this research gap by developing and testing hypotheses based on social exchange theory. More specifically, by building on a case study conducted by Empson (2001) it is hypothesized that the sender's 'fear of exploitation' – i.e. the sender's fear that its knowledge will be exploited by the receiver without being offered knowledge of equal value in return – will reduce knowledge transfer from the sender. This proposition is tested on larger-scale empirical data on knowledge transfer from the acquirer to the target and vice versa, together with control variables that have been found to influence knowledge transfer in previous research.

2.2.3.2. Social identification

Social identity theory has also been linked to knowledge transfer within firms in conceptual studies (Cabrera and Cabrera, 2002; Kane, 2010; Vora and Kostova, 2007), to empirical studies on knowledge transfer in organizational networks (Bond, Houston and Tang, 2008) and to knowledge transfer within firms (Burgess, 2005; Kane, Argote and Levine, 2005). These empirical studies have pointed to a positive influence of a shared social identity on knowledge transfer (Bond et al., 2008; Kane et al., 2005), whereas social ingroup-outgroup categorizations have been shown to impede it (Burgess, 2005).

These types of social categorizations are likely to be especially problematic in M&As, which are often perceived as threatening to the existing social identities of merging firm members (Terry and O'Brien, 2001; Van Dick et al. 2006). Acquisition partners are also more likely to identify with their pre-merger social groups, rather than the newly combined organization (Terry and O'Brien, 2001). Weber and Drori (2011) argue that identification with the premerger firm rather than the new organization is likely to create negative attitudes and reduce individuals' willingness to collaborate with the partner firm. Furthermore, when organizational members identify with the premerger rather than the newly combined firm, they are more likely to withdraw psychologically from work and to express intentions to leave the firm (Fried et al., 1996; Weber and Drori, 2011). It has been argued that employee turnover is detrimental for M&A knowledge transfer because it drains intellectual capital and creates a negative atmosphere (Castro and Neira, 2005; Ranft and Lord, 2002). In light of this, it is interesting that only a few studies have examined M&A knowledge transfer through the

social identity perspective. Studies that do take this perspective have mainly been conceptual (Husted et al., 2005) or relied on a few case studies (Empson, 2001; Westphal and Shaw, 2005; Tsang, 2008) (for a notable exception see Sarala and Vaara, 2010). They show that the creation of a new, shared identity between the acquisition partners can support knowledge transfer (Sarala and Vaara, 2010), whereas ingroup-outgroup categorizations reduce receivers' willingness to absorb knowledge (Tsang, 2008), due to fears of being associated with a 'lower status' group (Empson, 2001). In contrast, the perceived expertise of the knowledge sender – which can increase the attractiveness of the sender's 'ingroup' – has been found to have a positive impact on M&A knowledge transfer (Tsang, 2008).

This thesis draws on social identity theory and examines the direct (Essays 2 and 3) and indirect (Essays 4) relationships between the social identifications of acquiring and target firm members and M&A knowledge transfer. Essay 2 builds on Empson's (2001) case study, in which the receiver's 'fear of contamination' – which can be understood as the ingroup's fear of having its social identity contaminated or tainted by a threatening outgroup – was found to be a significant barrier to knowledge transfer. More specifically, it is hypothesized that the receiver's fear of contamination will reduce its motivation to make use of the sender's knowledge, thus impeding knowledge transfer. This hypothesis is tested on larger-scale survey data. Essay 3 also uses survey data to examine the hypothesis that the attractiveness of the knowledge sender facilitates knowledge transfer by increasing the receiver's social identification with the sender (Hogg and Terry, 2000, Westphal and Shaw, 2005). Finally, by drawing on larger-scale survey data, Essay 4 examines how identification by target firm members with the acquiring firm's organizational culture versus identification with their own culture indirectly affects M&A knowledge transfer by influencing the use of managerial processes (cultural learning and collective teaching).

2.2.3.3. Power and politics

Knowledge transfer has also been examined through the perspectives of power and politics in conceptual studies on joint ventures (Zhao, Anand and Mitchell, 2005) and empirical studies on alliances (Mundambi and Navarra, 2004) and within firms (Han, Chiang, Chang, 2010; Hong, Snell and Easterby-Smith, 2009; Morris, 2001; Singh and Premarajan, 2007; Wong, Ho and Lee, 2008). Drawing on social exchange theory, power can be viewed in terms of exchange relations (Emerson, 1962). More specifically, it can be conceptualized as the extent to which one party can influence another party through exchanges by either promising rewards – e.g. to contribute valuable resources or by threats of punishments – e.g. to withhold valuable resources (Belaya and Hanf, 2009; Blau, 1964). Knowledge can thus be conceptualized as a potential source of bargaining power for individuals, which can be shared with or withheld from others (Bowman and Swart, 2007; Singh and Premarajan, 2007). Similar to the social exchange theory discussed earlier (2.2.3.1), individuals are likely to be reluctant to share their knowledge with others unless they expect to receive something of equal value in return (Morris, 2001). In contrast, the sender's and receiver's commitment to create mutual benefits – which is related to power sharing between the parties and mutual decision making – can increase knowledge transfer (Han et al. 2010; Hong et al., 2009).

Turning to M&As, power and politics may have a particularly salient effect on knowledge transfer in this context because acquisitions typically involve power asymmetries between the merging firms from the outset, even when they are called

'mergers of equals' (Marmenout, 2010). Furthermore, M&As represent situations where individuals experience great degrees of uncertainty regarding future outcomes, which is likely to make them engage in political behaviour in order to protect or promote their interests (Steensma and Van Milligen, 2003). Acquisitions have therefore been described as fertile ground for power struggles and political behaviour (Cartwright and Cooper, 1990; Steensma and Van Milligen, 2003). Acquiring and target firm members can engage in political behaviour in order to enhance or protect their power bases (Vaara, 2003). Individuals may be reluctant to share their knowledge due to fears of losing bargaining power or status if the receiving party is expected to exploit the knowledge without offering anything valuable in return (Empson, 2001; Husted et al., 2005). Individuals may also be unwilling to take up the sender's knowledge because they fear that the new knowledge will replace their existing knowledge, making their own knowledge redundant and thereby reducing their bargaining power (Vaara et al., 2003b). Target firm members in particular are likely to feel threatened if the acquirer dominates in the acquisition process and tries to impose its knowledge on the target (Jemison and Sitkin, 1986). For example, Cooke and Huang (2011) found in their case study that target firms that possessed valuable technological knowledge were able to resist knowledge transfer from the acquirer due to their enhanced bargaining power. In line with this, when knowledge receivers perceive a threat to their power or status they may decide not to absorb the sender's knowledge in order to protect their knowledge (power) bases and maintain status quo (Husted et al., 2005; Tsang, 2008).

This thesis examines the links between power, politics and M&A knowledge transfer. More specifically, it aims to address two research gaps. First, there is a general lack of studies that examine socio-political aspects of M&A knowledge transfer (Vaara et al., 2003b). Second, M&A studies that link power/politics to knowledge transfer have largely relied on qualitative case studies (Empson, 2001, Tsang, 2008; Vaara et al., 2003b), which limits the generalizability of their results. However, the lack of M&A studies on power/politics that have used quantitative methods is understandable. It is difficult to measure or capture power/politics via quantitative constructs e.g. in surveys, because people who have power tend to downplay it, whereas those who aspire to get more do not want to appear as if they are seeking it (Karkouljian and Osman, 2007). Nonetheless, there has been a call for research that would test theories and propositions made about links between knowledge transfer, power and politics with larger-scale data (Vince et al., 2002).

Concerning the first research gap, Essay 1 (a conceptual paper) examines the indirect effects of political behaviour on M&A knowledge transfer. It also addresses a call for studies that explore more complex relationships and the indirect effects between knowledge transfer determinants (Foss et al., 2010).

Essays 2 and 4 address the second research gap. More specifically, Essay 2 builds on social exchange theory and social identity theory (discussed in previous sections). From the first perspective knowledge can be viewed as a source of power, which reduces individuals' willingness to share it. The latter view suggests that adopting knowledge from the sender may pose a threat to the receiver's existing status and power base, as part of its social identity. These propositions are tested on quantitative data from a sample of Finnish corporate acquisitions.

Essay 4 examines the effect of knowledge complementarity on managerial processes (cultural learning and collective teaching) that are expected to support knowledge transfer. Knowledge complementarity implies that both parties bring unique skills to

the relationship, which can bring about benefits that neither partner could have achieved on their own (Eschen and Bresser, 2005). Complementarity can thus be expected to reduce fears on the part of the acquisition partners regarding their knowledge being exploited or substituted by the partner (Westphal and Shaw, 2005). Acquisition partners with complementary knowledge are therefore likely to initiate and participate more readily in managerial processes that can facilitate knowledge transfer, in order to create value that benefits them both. These hypotheses are tested on larger-scale quantitative data.

2.2.4. Managerial processes

This section aims to provide an overview of how managerial processes related to socio-cultural integration (discussed in section 2.1.4.2) and operational integration (discussed in section 2.1.1) influence M&A knowledge transfer³². The dynamic capabilities perspective suggests that the way a firm's knowledge is used, through specific managerial processes, represents a significant source of competitive advantage (Teece, Pisano and Shuen, 1997)³³. Applied to the context of knowledge transfer in M&As, the dynamic capabilities perspective suggests that managerial processes influence the ability to successfully transfer knowledge between the acquiring and target firms. These processes can function both as coordination and knowledge-sharing mechanisms through which resources are reconfigured and transformed (Teece et al., 1997).

Managerial processes related to operational and socio-cultural integration have been suggested to impact M&A knowledge transfer (Björkman et al., 2007) by acting as 'transmission channels' for knowledge. The main focus in this thesis is on socio-cultural integration because it has been described as especially critical for M&A knowledge transfer (Bresman et al., 1999; Castro and Neira, 2005; Marks and Mirvis, 2011; Sarala and Vaara, 2010). Socio-cultural integration has, however, been described as particularly difficult to achieve (Shrivastava, 1986) due to human resource problems and political problems that are common in acquisitions (e.g. Blake and Mouton, 1985; Marks and Mirvis 1985; Steensma and Van Milligen, 2003). In conceptual studies, researchers have suggested that socio-cultural integration facilitates knowledge transfer by creating stronger ties between merging firm members (Björkman et al., 2007). Whilst a few qualitative (Westphal and Shaw, 2005) and quantitative (Bresman et al., 1999; Sarala and Vaara, 2010) studies support this notion, more research that examines the processes through which socio-cultural integration impacts M&A knowledge transfer is needed (Zander and Zander, 2010).

Findings related to the effects of operational integration have, however, been mixed. This may be due to the trade-off that has been argued to exist between target firm autonomy and operational integration (Haspeslagh and Jemison, 1991; Ranft and Lord, 2002). On the one hand, it has been argued that preserving the target firm's organizational autonomy protects the target firm's knowledge base and thereby supports subsequent knowledge transfer by enhancing employee retention and motivation (Castro and Neira, 2005; Chaudhuri and Tabrizi, 1999; Cooke and Huang,

³² Teece et al. (1997) discuss managerial and organizational processes that influence competitive advantage: coordination/integration of activities, individual and organizational learning as well as reconfiguration in the form of organizational changes. In this thesis, for simplicity, I refer to these as managerial processes because the processes examined in this thesis all involve managerial actions.

³³ Teece et al. (1997: 516) define dynamic capabilities 'as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments'.

2011; Westphal and Shaw, 2005) and by allowing target firm members to continue their premerger innovative activities undisturbed (Puranam, Singh and Zollo, 2006; Puranam and Srikanth, 2007; Puranam, Singh and Chaudhuri, 2009). On the other hand, studies have shown that target firm autonomy can impede knowledge transfer by limiting interaction between the acquisition partners (Schweizer, 2005), especially in the absence of socio-cultural integration mechanisms (Ranft and Lord, 2002).

In a series of studies, Puranam and colleagues shed some light on the trade-off between target firm autonomy versus operational integration in high-tech acquisitions. More specifically, Puranam et al. (2006) find that operational integration has different effects on bringing new innovations to market after acquisitions depending on the developmental stage of target's innovation trajectory; it disrupts innovation in early exploration phases, but supports it in later exploitation phases. Puranam and Srikanth (2007) similarly show that operational integration helps leverage the target firm's knowledge in the acquiring firm, but undermines the target's ability to produce future innovations. In contrast, autonomy preserves the target's innovative capability, but limits the acquirer's ability to make use of the target's knowledge. Furthermore, Puranam et al. (2009) show that acquirers tend to opt for operational integration when there is a high degree of interdependence between the merging firms. However, when the merging firms share 'common ground' – i.e. are technologically related – acquirers are more likely to grant the target autonomy. The authors argue that the common ground is likely to enhance the merging firms' absorptive capacities, and thereby allow them to transfer knowledge through integration mechanisms – such as informal communication – that are less disruptive than operational integration. This is in line with the study by Ranft and Lord (2002), which shows that rich communication between merging firms facilitates knowledge transfer when the target's autonomy is preserved. Although these studies shed light on the effects of operational integration and autonomy on M&A knowledge transfer, this topic is still relatively unexplored and would benefit from future research.

In addition to examining how broader integration approaches impact M&A knowledge transfer, scholars have examined specific human resource practices aimed at supporting operational and/or socio-cultural integration and thereby M&A knowledge transfer. More specifically, they have suggested that M&A knowledge transfer can be enhanced by retaining key employees (Castro and Neira, 2005; Chaudhuri and Tabrizi, 1999; Ranft and Lord, 2000; Ranft and Lord, 2002; Tarba et al., 2011; Zou and Ghauri, 2008), offering appropriate incentives and rewards (Buono, 1997; Castro and Neira, 2005; Ranft and Lord, 2002; Westphal and Shaw, 2005), inter-firm communication and socialization (Buono, 1997; Bresman et al., 1999; Castro and Neira, 2005; Leroy and Ramanantsoa, 1997; Ranft and Lord, 2002; Zou and Ghauri, 2008), transferring personnel (Buono, 1997; Tsang, 2008), appointing an integration manager (Teerikangas et al., 2011), creating joint projects between the acquirer and the target (Castro and Neira, 2005), attempting to legitimize the sender's knowledge (Tsang, 2008), facilitating cultural learning (Buono, 1997) and inter-project learning (Bröchner et al., 2004), setting up acquisition workshops (Leroy and Ramanantsoa, 1997), allowing users to initiate knowledge transfer, and having organizational norms and expectations for knowledge transfer (Westphal and Shaw, 2005). Furthermore, acquirers play an important role in facilitating knowledge transfer by creating goodwill in the target firm through visible leadership (Bröchner et al., 2004; Buono, 1997), demonstrations of commitment towards the target (Westphal and Shaw, 2005), taking decisions together with target firm executives (Zou and Ghauri, 2008), and by initiating socio-cultural integration before operational integration (Bröchner et al., 2004). The majority of the results presented here are, however, based on qualitative case studies

(for a notable exception see Bresman et al., 1999). Hence, studies drawing on larger-scale quantitative data that examine how different managerial processes impact M&A knowledge transfer are needed.

Similar to target firm autonomy, empirical studies on the speed of integration have yielded mixed results concerning effects on M&A knowledge transfer: Westphal and Shaw (2005) find that a quick and dynamic integration process contributes to knowledge transfer by keeping organizational members used to receiving new knowledge. Ranft and Lord (2002) argue, however, that the effect of integration pace is better represented through a more complex inverted U-curve. On the one hand, a fast-paced integration process can be disruptive for the target firm's knowledge base. This is especially the case when the aim is to transfer complex and culturally embedded tacit knowledge from the target, which can be slow and time consuming. On the other hand, slow integration that keeps the merging firms autonomous reduces opportunities to collaborate and share knowledge. Similar to studies on socio-cultural integration and M&A knowledge transfer, the findings concerning operational integration have also mainly relied on qualitative case studies.

Taken together, a number of managerial processes (socio-cultural and operational integration) have been proposed to influence M&A knowledge transfer. However, most research on this topic to date has either been conceptual (e.g. Husted et al., 2005) or based on a small-sample case studies (e.g. Empson, 2001; Westphal and Shaw, 2005), which limits the generalizability of these findings. Whilst the studies discussed in this section indicate that human resource practices – such as communication, training, cross-unit teams and meetings – play an important role in M&A knowledge transfer, the impact of specific human resource practices has been underexplored regarding M&A integration in general (Weber and Fried, 2011a; 2011b) and M&A knowledge transfer in particular (Weber and Tarba, 2010). It is likely that the impact of managerial processes on M&A knowledge transfer differs depending on the context. For example, Bresman et al. (1999) show that the transfer of tacit knowledge requires greater use of socio-cultural integration mechanisms than to the transfer of explicit knowledge. Furthermore, Weber et al. (2011a) find that acquirers use human resource practices – training, communication and autonomy – to different degrees depending on the acquirer's country of origin. They also find that depending on the acquirer's nationality, these human resource practices exert different effects on acquisition performance. In light of this, future M&A studies would benefit from taking into account contextual factors such as acquirer nationality that also could moderate the relationship between managerial processes and M&A knowledge transfer.

This thesis aims to address the above-mentioned research gap that relates to the generalizability of previous studies on M&A knowledge transfer by drawing on larger-scale survey data in all of the empirical essays (2-4). More specifically, Essay 2 includes the effects of communication and operational integration effort on M&A knowledge transfer (although only as control variables). Essay 4 focuses on cultural learning and collective teaching initiatives as central determinants of M&A knowledge transfer. Concerning moderating effects, Essay 3 examines how the effects of socio-cultural integration mechanisms (cultural convergence and crossvergence) on M&A knowledge transfer differ depending on the degree to which the sender's knowledge is causally ambiguous.

2.2.5. *Interrelationships between determinants of knowledge transfer*

As discussed in the previous sections, M&A studies have identified a number of factors that can influence knowledge transfer, and consequently post-acquisition value creation (Capron et al., 1998; Schoenberg, 2001). To summarize, knowledge transfer can be viewed as a function of knowledge characteristics, characteristics of the sender and receiver (including their differences), characteristics of the relationship between the sender and the receiver, and managerial processes. Whilst previous studies have added significantly to our understanding of M&A knowledge transfer, we do not know enough about the indirect and interactive effects of these independent variables, or their relative importance to knowledge transfer in general (Foss et al., 2010; Hansen and Løvås, 2004; Kane, 2010; Minbaeva, 2007) and in M&As in particular (Bresman et al., 1999).

Empirical studies on knowledge transfer in alliances (e.g. Simonin, 1999a; 1999b) and MNCs (Szulanski et al., 2004), and conceptual studies in M&As (Björkman et al., 2007; Yildiz and Fey, 2010) suggest that the relationships between knowledge transfer and the different determinants described in the previous section may not only be direct, but can also include important interactions (Szulanski et al., 2004; Yildiz and Fey, 2010) and indirect relationships (Björkman et al., 2007; Simonin, 1999a; 1999b) between the determinants. Furthermore, the importance of different knowledge transfer determinants are likely to differ (Hansen and Løvås, 2004; Minbaeva, 2007) depending on the direction of knowledge transfer (Bresman et al., 1999).

Consequently, this thesis explores the relative importance of M&A knowledge transfer determinants, as well as their indirect and interactive effects. More specifically, Essay 1 describes M&A knowledge transfer as a dynamic process that ultimately depends on absorptive and disseminative capacities (sender/receiver characteristics). It is proposed that organizational absorptive and disseminative capacities, in turn, are influenced by knowledge complementarity (knowledge characteristic), operational and cultural integration (managerial processes), as well as political behaviour (relationship characteristic). Essay 3 examines the moderating relationships between causal ambiguity of knowledge (knowledge characteristic), partner attractiveness (relationship characteristic) and cultural convergence and crossvergence (managerial processes). Finally, Essay 4 examines the indirect effects of knowledge complementarity (sender/receiver characteristic), knowledge complexity (knowledge characteristic) and cultural acceptance and preservation (relationship characteristics) on M&A knowledge transfer, through their indirect effect on cultural learning and collective teaching initiatives (managerial processes).

2.3. Theoretical framework of this thesis

Taken together, this thesis builds on the process perspective, which views the post-acquisition integration period as particularly important for creating synergies and value from the acquisition. More specifically, it draws on the knowledge-based view and also incorporates aspects of acquisitions from the human resource perspective (social exchange theory and social identity theory), the cultural perspective (cultural differences and socio-cultural integration) and the political perspective. These perspectives are, in turn, related to four categories of knowledge transfer determinants, namely knowledge characteristics, sender and receiver characteristics (including sender-receiver differences), relationship characteristics, and managerial processes. Figure 1 illustrates the theoretical framework used in this thesis.

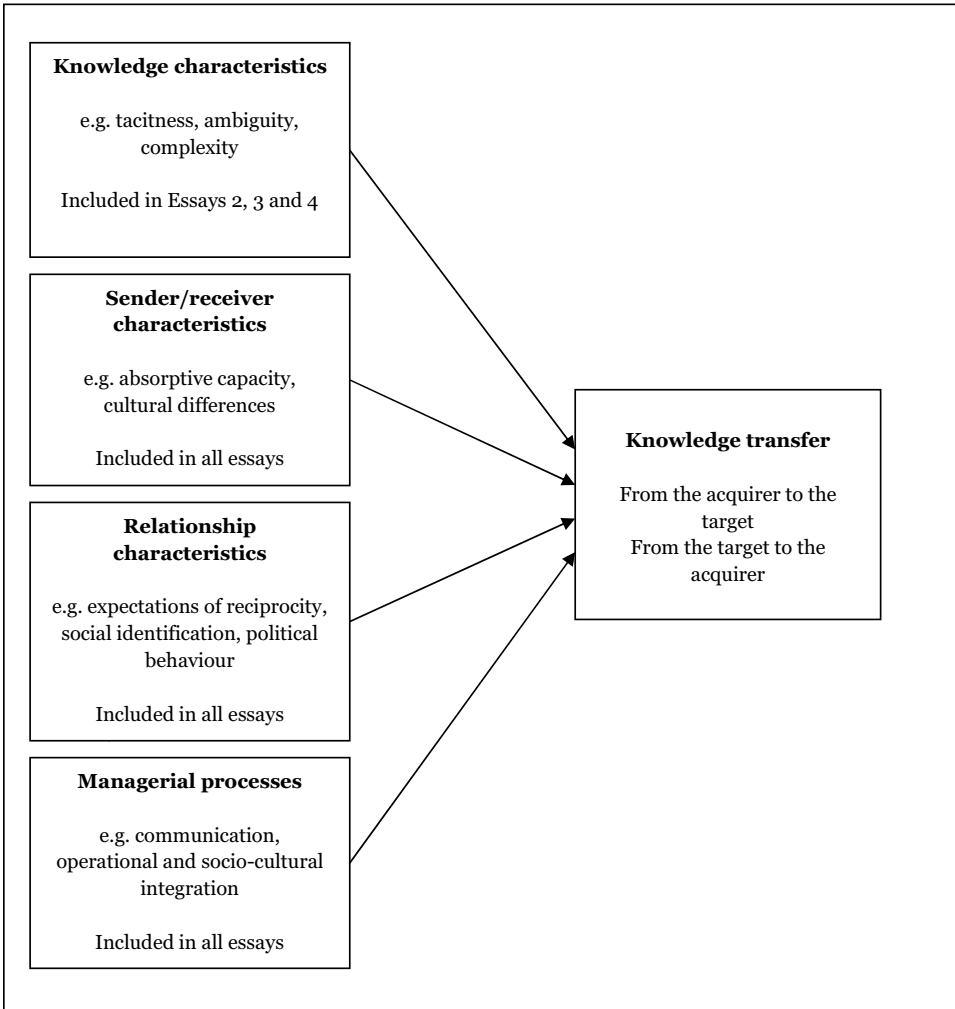


Figure 1 Theoretical framework of this thesis

3 METHODS

This chapter provides an overview of the empirical methods used in the thesis. First, the data collection process, the samples and the measures are described. Then the validity and reliability of this research are discussed, followed by a brief description of the main data analysis methods used for testing the hypotheses in the study.

3.1. Data collection and measures

This thesis examines determinants of M&A knowledge transfer, which is argued to be central for post-acquisition value creation (e.g. Capron, 1999; Haspeslagh and Jemison, 1991). More specifically, the research questions concern how socio-cultural and political factors and knowledge characteristics influence post-acquisition knowledge transfer and whether these factors impact knowledge transfer differently, depending on the direction of the transfer - from the acquirer to the target or from the target to the acquirer. Because the thesis aims to extend the research results beyond single case studies, the above-mentioned research questions were addressed by applying quantitative research methods to empirical data from three datasets. Survey data about the acquisitions of Finnish companies in Finland and abroad were collected for all datasets.

For the 1st dataset, data were collected as part of the research project 'Finnish Corporate Acquisitions' together with another doctoral student and two master's degree students. The author collected data for the 2nd dataset alone. For the 3rd dataset, data were collected together with the co-author of Essay 4. The first survey covered acquisitions made from 2001 through 2004 and was conducted in the spring of 2005. The data for the second and third datasets were collected by the author with a web-based survey. The web-based survey was used for two reasons: First, it has been suggested that the web-based survey method provides more reliable answers than mail surveys due to the ease of monitoring response patterns. Also, the response rate for survey items has proved better than that in mail surveys (Grant, Teller and Teller, 2005). Second, because the author collected data for the second dataset alone, a web-based survey was sent to respondents via email. This method took less time and fewer resources, and was therefore a more convenient option. The second and third surveys covered the periods from January 2006 to September 2009 and October 2009 to October 2010, and they were conducted in the summer of 2010 and the summer of 2011 respectively. Acquisitions were identified for both datasets from the Finnish business magazine *Talouselämä*, which lists all acquisitions conducted by Finnish companies. Essay 2 is based on the first dataset, Essay 3 is based on datasets one and two, and Essay 4 is based on datasets two and three.

In order to collect the most relevant data, a set of criteria was used against which all acquisitions were selected. First, acquisitions were included only if they involved a Finnish-owned company because one of the aims of the research project 'Finnish Corporate Acquisitions' was to examine the behaviour of Finnish acquirers. Acquisitions of Finnish companies by foreign firms were therefore also excluded, as were acquisitions made by companies in Finland that were subsidiaries of foreign companies. Second, acquisitions were included only if they were assumed to involve some degree of integration, and consequently knowledge transfer. Management buy-outs and purely financial acquisitions were excluded, because they do not necessarily involve any efforts to integrate the acquirer and the target. Third, because we were only

interested in pure acquisitions (not mergers), only cases where the acquiring party had gained a majority stake of the target firm were included (owning < 50% before the acquisition and > 50% after). Finally, small acquisitions, where the target's turnover was below 3 million euro, were excluded from all datasets.

To obtain high quality responses, we contacted the CEOs of acquiring companies before sending out the survey. This was done via telephone when data were collected via mail for the first dataset and by email when data were collected through a web-based survey for the second and third datasets. In all survey rounds we asked the CEOs of acquiring companies to name potential respondents who had played a central role in the acquisition and would have sufficient knowledge to complete the survey. We then mailed the questionnaire to the respondents identified by the CEOs from the acquiring and target firms. All respondents received identical questionnaires. The survey was sent via post for the first dataset, and it was emailed with links to an electronic survey for the second and third datasets. Because the differences in the data collection methods may have biased the results, t-tests were conducted between responses in datasets 1 and 2 for all variables used in Essay 3 (because some of the variables in datasets 1 and 2 were identical, both were used in Essay 3), and between responses in datasets 2 and 3 of variables used in Essay 4 (the second and third surveys were identical). The t-tests showed no differences between the respondents' answers to the constructs used in the essays or the variable acquisition size³⁴. Furthermore, a chi2-test did not show any differences between the numbers of acquisitions in the service sector versus other sectors between datasets 1 and 2 or between datasets 2 and 3. Taken together, these tests indicate that there were no significant differences between the datasets.

The 1st, 2nd and 3rd datasets included 103 responses from 92 acquisitions, 92 responses from 79 acquisitions, and 31 responses from 27 acquisitions, and the response rates were 20%, 17% and 18% respectively. Although these response rates are not very high, they can be considered reasonable, given the difficulty of gaining access to data on acquisitions from executives via surveys (Datta, 1991); many respondents consider it to be of a sensitive nature and highly confidential, and are reluctant to give out this type of information. Furthermore, the response rate is above the 15% threshold recommended by Malhotra and Birks (2000) concerning non-response bias (Grant et al., 2005). The response rates of the datasets in this research also compare relatively well with similar acquisition research: Morosini et al. (1998) received responses from 25% of the surveys concerning acquisitions in Italy. Datta (1991) and Mukherjee, Kiyamaz and Baker (2004) received responses from 27% and 12% respectively in surveys relating to acquisitions in the U.S. Capron (1999) received a response rate of 15% in a survey sent to acquirers in the USA, Canada and Europe. Furthermore, the aim in the surveys was to identify respondents who were most knowledgeable about the acquisitions and to obtain responses from them, rather than to collect as many responses as possible. Even though this may have reduced the number of responses, those received were likely to be more accurate and reliable.

The number of single and multiple responses from acquisitions in datasets 1, 2 and 3 were as follows: single responses from 82 acquisitions and multiple responses from 21

³⁴ Whilst t-tests did not show any differences in the time elapsed between datasets 1 and 2, they did show that less time had elapsed after the acquisitions in dataset 3. This was because the acquisitions in dataset 3 were conducted between October 2009 and October 2010 and the data were collected in May 2011. Thus, less time had elapsed after the acquisitions conducted in dataset 3 than after those in the other datasets. Although dataset 3 differs from datasets 1 and 2 in this aspect, no other differences were found between them, as pointed out in this section as well as in section 3.2. Thus it can be considered acceptable to use the responses from dataset 3.

respondents in 10 acquisitions in dataset 1, single responses from 70 acquisitions and multiple responses from 22 respondents in 9 acquisitions in dataset 2, single responses from 23 acquisitions and multiple responses from 8 respondents in 4 acquisitions in dataset 3. Datasets 1, 2 and 3 contained 84, 63 and 24 responses from acquirers and 19, 29 and 7 from targets respectively. In practice, almost all acquisitions in the datasets were related, i.e. the acquiring and target firms were in the same industry. The following respondents completed the survey in datasets 1, 2 and 3: top managers (42.7%, 52.2%, 35.5%), CEOs (42.7%, 42.4%, 54.8%), and other members of the management team or members of the board of directors (14.6%, 4.4%, 9.7%) respectively. Based on the positions of the respondents it can be assumed that they had enough knowledge and experience to answer the questions in the survey. More information about the data is provided in Table 3.

	Dataset 1	Dataset 2	Dataset 3
Response rate	20%	17%	18%
Number of acquisitions	92	79	27
Number of acquisitions with single responses	82	70	23
Number of acquisitions with multiple responses	10	9	4
Number of responses	103	92	31
Number of single responses	82	70	23
Number of multiple responses	21	22	8
Number of responses from acquiring firm	84	63	24
Number of responses from target firm	19	29	7
Number of domestic acquisitions	51	50	19
Number of international acquisitions	41	29	8
Respondents: CEOs	44	39	11
Respondents: Top managers	44	49	17
Respondents: Other members of the management group and board members	15	4	3
Used in Essay 2	yes	no	no
Used in Essay 3	yes	yes	no
Used in Essay 4	no	yes	yes

Table 3 Description of datasets

A Finnish company was the acquirer in all of the acquisitions in the datasets and the target was either a domestic or a foreign company. The international acquisitions in datasets 1 (45%), 2 (35%) and 3 (30%) involved companies from the following countries: Austria, Belarus, Belgium, Canada, China, the Czech Republic, Denmark, Estonia, France, Germany, Great Britain, Hong Kong, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, and the USA.

The questions in the surveys of all datasets were based on a seven-point Likert-type scale. This broad scale was expected to result in more variation in the respondents answers because the respondents would be able to specify their opinions on a broader scale, rather than on a more limited five-point scale. All survey questions were based on perceptual measures and hence carry a risk of potential subjective bias. This issue is addressed in section 3.2.2.

3.1.1. Measures used in the datasets

This section describes the measures that were used in the questionnaires for datasets 1, 2 and 3. Many of the measures in the datasets were based on two previous larger-scale surveys – one from the period 1993 to 1996 and the other from 1997 to 2000 – that had been conducted as part of the same research project on Finnish Corporate Acquisitions. This was done, in part, in order to get data that could be combined with the previous surveys.

All questionnaires began with general ‘background’ questions about acquisition experience. The first (2005) questionnaire also contained questions about involvement of the respondents in the acquisition process and the second (2010) and third (2011) questionnaires contained questions about acquisition motives. The questions that followed in each questionnaire concerned more specifically the integration process – with background, process and outcome variables. The operationalizations of the most central questions in the datasets are described below, in Table 4. The full questionnaire used in the 3rd dataset can be found in Appendix 1³⁵. The validity and reliability of the measures are discussed separately in section 3.2.

Construct	Operationalization	Adapted from	In dataset	In Essay
Knowledge transfer from target to acquirer	To what extent have resources from the acquiring company been used to assist the target company?: a) management expertise, b) product innovation capabilities, c) know-how in manufacturing processes, d) sales and marketing expertise, e) supplier relations, and f) distribution and logistics expertise. The scale ranged from 1=‘not at all’ to 7=‘very much’	Capron (1999)	1, 2 and 3	2, 3 and 4
Knowledge transfer from acquirer to target	Same questions and scale as in the previous construct, except that they referred to the acquirer’s use of the target’s knowledge	See previous construct	1, 2 and 3	2, 3 and 4
Acquirer’s fear of exploitation	People in the acquiring company are afraid that a) the knowledge exchange process is not fair, b) they will get nothing in return in the knowledge exchange, and c) the acquired company will take advantage of their knowledge. The scale ranged from 1=‘do not agree’ to 7=‘completely agree’	Empson (2001)	1, 2 and 3	2

³⁵ The latest survey was included in the appendix, because it contains all central (independent and dependent) variables used in this study. The control variable ‘operational integration effort’, however, was not included in this questionnaire. See the ‘Measures’ section in Essay 2 for a description of this variable.

Target's fear of exploitation	Same questions and scale as in the previous construct, except that they referred to the target's fears	See previous construct	1, 2 and 3	2
Acquirer's fear of contamination	People in the acquiring company are afraid that knowledge transferred from the acquired company will: a) harm their operations, b) weaken their competitiveness, and c) damage their reputation. The scale ranged from 1='do not agree' to 7='completely agree'	See previous construct	1, 2 and 3	2
Target's fear of contamination	Same questions and scale as in the previous construct, except that they referred to the target's fears	See previous construct	1, 2 and 3	2
Causal ambiguity of acquirer's knowledge	How would you describe the knowledge residing in the acquiring company that could be used in the target company?: a) the acquirer's knowledge is easily transferable to the target company, b) the extent to which the association between causes and effects, inputs and outputs, and actions and outcomes related to the knowledge of the acquiring company is clear. The scale ranged from 1='do not agree' to 7='completely agree'. The questions were reverse-coded in order to build a construct for causal ambiguity	Simonin (1999a; 1999b)	1, 2 and 3	3
Causal ambiguity of target's knowledge	Same questions and scale as in the previous construct, except that they referred to the target's knowledge	See previous construct	1, 2 and 3	3
Organizational cultural convergence	In separate questions, the respondents assessed the extent of organizational cultural differences before the acquisition and at the time of the survey across the organizational functions: a) management and control, b) sales and marketing, c) production, d) R&D, e) company values in general or f) values of decision-makers. The scale ranged from 1='no differences' to 7='significant differences'. The change in cultural differences was determined by deducting cultural differences at the time of the survey from cultural differences prior to the acquisitions	Birkinshaw et al. (2000), Sarala and Vaara (2010)	1, 2 and 3	3

Organizational cultural crossvergence	To what extent has a) a new culture or b) a new identity, shared by both companies, been created after the acquisition? The scale ranged from 1='not at all' to 7='very much'	Larsson and Lubatkin (2000), Marks and Mirvis (1992), Sarala and Vaara (2010)	1, 2 and 3	3
Attractiveness of the acquirer	How did the personnel of the acquired company view: a) the practices or b) the values of the acquiring company? The scale ranged from 1='very negative' to 7='very positive'	Birkinshaw et al. (2000), Buono and Bowditch (1989), Nahavandi and Malekzadeh (1988), Sarala (2010)	1, 2 and 3	3
Attractiveness of the target	Same questions and scale as in the previous construct, except that they referred to the target's attractiveness	See previous construct	1, 2 and 3	3
Knowledge complementarity	Please assess the knowledge of the acquiring and target companies: a) the acquirer and target contribute different capabilities to the relationship, b) the acquirer and target have complementary strengths that are useful to the relationship or c) the acquirer and target have separate abilities that, when combined together, enable them to achieve goals beyond their individual reach. The scale ranged from 1='strongly disagree' to 7='strongly agree'	Jap (1999)	2 and 3	4
Complexity of the acquirer's knowledge	How would you describe the knowledge residing in the acquiring company that could be used in the target company? The knowledge is a) a part of various structures and processes, b) is deeply embedded in the acquirer's culture or c) consists of highly interdependent routines, individuals and technologies. The scale ranged from 1='do not agree' to 7='completely agree'	Haspeslagh and Jemison (1991), Minbaeva (2007), Simonin (1999a; 1999b)	2 and 3	4
Complexity of the target's knowledge	Same questions and scale as in the previous construct, except that they referred to the target's knowledge	See previous construct	2 and 3	4

Target's acceptance of the acquirer's culture	To what extent did the personnel of the target company a) think that the acquirer's culture has valuable aspects, b) see why their colleagues at the acquiring company are proud of their organizational culture or c) think that there are parts of the acquiring company's culture that they like and would enjoy working within? The scale ranged from 1='not at all' to 7='very much'	Schweiger and Goulet (2005)	2 and 3	4
Target's cultural preservation	To what extent did the personnel of the target company want to preserve a) its own organizational culture or b) its own organizational practices? The scale ranged from 1='not at all' to 7='very much'	Nahavandi and Malekzadeh, (1988), Sarala (2010)	1, 2 and 3	4
Cultural learning initiatives	To what extent have the acquirer and target arranged a) for supervisors from the acquiring and target companies to introduce members of each company to each other, b) informal gatherings for all employees from the acquiring and target companies, c) cultural awareness seminars to explore cultural differences between the acquirer and target and how they can be managed or d) activities to decide which cultural or attributes should be retained, eliminated or adopted, and how to integrate the acquirer's and target's cultures? The scale ranged from 1='not at all' to 7='very much'	Schweiger and Goulet (2005)	2 and 3	4
Acquirer's collective teaching initiatives	To what extent has the acquiring company a) involved the target in their cross-functional meetings, b) involved the target in carrying out joint projects with its employees, c) demonstrated to the target how its employees resolve cross-functional issues as a team or d) demonstrated to the target how its employees jointly plan and carry out projects? The scale ranged from 1='not at all' to 7='very much'	Zhao and Anand (2009)	2 and 3	4
Target's collective teaching initiatives	Same questions and scale as in the previous construct, except that they referred to the target's initiatives	See previous construct	2 and 3	4

Table 4 Operationalization of variables

3.2. Validity and reliability

In this section I will discuss two central aspects relating to the quality of empirical research, namely validity and reliability. Validity refers to the extent to which the constructs used in the study measure what they are intended to measure and reliability refers to the degree to which the measure is consistent and free of errors, which influences whether the study can be replicated (Bryman and Bell, 2003). The quality of a study is often assessed by evaluating construct validity, internal validity, external validity and reliability. These aspects are discussed in separate sections below.

3.2.1. Construct validity

Construct validity refers to whether a measure assesses the construct it is supposed to assess (Bryman and Bell, 2003). This was addressed in three ways in this thesis. First, when designing the questionnaire, all of the measures for the constructs used in this thesis were firmly grounded in theory (see Table 4). More specifically, the independent variables in Essay 2 were based on the study by Empson (2001). The operationalization of the measures in Essay 3 mainly relied on the studies by Birkinshaw et al. (2000), Buono and Bowditch (1989), Larsson and Lubatkin (2000), Marks and Mirvis (1992), Nahavandi and Malekzadeh (1988) and Simonin (1999a; 1999b). Finally, the studies by Jap (1999), Minbaeva (2007), Sarala (2010), Schweiger and Goulet (2005), Simonin (1999a; 1999b) and Zhao and Anand (2009) were particularly influential in Essay 4.

Second, most of these constructs were operationalized by using or adapting measures that had been validated in the studies mentioned above (Chang, van Witteloostuijn and Eden, 2010).

Third, for a few constructs for which validated measures from previous studies were not available, new constructs were built by drawing on central studies: on Empson (2001) for the fear of exploitation and contamination constructs in Essay 2, on Buono and Bowditch (1989), and Nahavandi and Malekzadeh (1988) for attractiveness of the acquirer/target in Essay 3, and on Schweiger and Goulet (2005) for the cultural learning initiatives construct in Essay 4. Each essay in this thesis contains detailed accounts of the items used in the constructs, as well as the studies on which they are based. Furthermore, the measures used in all datasets were pre-tested on both professors and managers. Some of the questions in the original version were modified on the basis of the results of the pre-tests.

3.2.2. Internal validity

Internal validity refers both to whether the proposed explanatory variable causes the outcome variable and to how rigorously the study was conducted, which influences how well the results can be interpreted (Bryman and Bell, 2003). Regarding the first point, although the relationships between the explanatory and dependent variables that were proposed in the empirical essays in this thesis were based on previous theory, the cross-sectional nature of the collected data did not allow for testing causal relationships. This would require longitudinal research. In other words, the results in the empirical papers in this study represent correlations between the variables, not causal relationships. Regarding the second point, several measures were taken to improve the accuracy of the measures.

First, results of studies that mainly use data from single respondents may be affected by common method variance (CMV) (Podsakoff, MacKenzie, Jeong-Yeon and Podsakoff, 2003). The extent to which CMV might pose a problem was addressed by conducting Harman's single-factor test in all of the empirical essays. In this test, all of the items used in a study are included in an exploratory, unrotated principal component analysis. The results of the analyses showed that the first and second factors explained low levels of variance in all of the empirical papers, which suggests that the sample data were not significantly affected by CMV (Podsakoff and Organ, 1986)³⁶. Furthermore, Essays 3 and 4 included complex relationships between the dependent and independent variables (i.e. moderating relationships in Essay 3 and a multilevel model in Essay 4) that are unlikely to be part of the cognitive maps of the individual respondents. The inclusion of these complex relationships is therefore likely to reduce the probability of CMV (Chang et al., 2010).

Second, the sample for each dataset was drawn from a limited period – 2001 to 2004 for the first dataset, January 2006 to September 2009 for the second dataset, and October 2009 to October 2010 for the third dataset – in order to reduce the risk of retrospective bias. Even within these limited periods the respondents may have perceived past circumstances more positively than the current situation, which may have biased answers about issues that concern the past and the present (Golden, 1992). The risk of potential retrospective bias was therefore assessed with independent sample t-tests of those variables used in the essays that did not concern the outcome or the current state of the acquisition³⁷ in early (2001 in dataset 1, 2006 in dataset 2 and 2009 in dataset 3) and late (2004 in dataset 1, 2009 in dataset 2 and 2010 in dataset 3) acquisitions. All of the t-tests were non-significant, i.e. answers from older acquisitions were not significantly different from answers from more recent acquisitions, which suggests that retrospective bias did not significantly influence the responses. This is in line with Finkelstein (1992) and Gutek (1978), who did not find that attitudinal or behavioural data would have become less accurate over a period of 10 years (Weber, 1996).

Third, concerning the extent to which the answers may suffer from subjective bias, multiple responses (10 cases in the 1st dataset, 9 cases in the 2nd dataset, and 8 cases in the 3rd dataset) were used to validate the answers by testing for the inter-rater reliability of the responses with intraclass correlations, using all of the responses in a given dataset. Most multiple responses had significant intraclass correlation coefficients, providing evidence of a high level of inter-rater reliability. However, in dataset 1, which was used in Essay 2, the intraclass correlation coefficient was not significant in one case. The data used in Essay 3, which contained variables from both datasets 1 and 2, included three cases that were not significant. Furthermore, the data used in Essay 4 that combined answers from datasets 2 and 3 included two cases that were not significant. In order to improve the reliability of the data the non-significant cases were removed from the analyses. This is in line with previous acquisition studies (e.g. Calori et al., 1994). Taken together, the inter-rater reliability tests showed that the answers in most multiple cases were highly correlated.

Fourth, convergent and discriminant validity of the constructs were assessed by conducting partial least square analyses (PLS). Convergent validity refers to the extent to which a set of indicators or items sufficiently represent the underlying construct (Henseler, Ringle and Sinkovics, 2009). The average variance extracted (AVE) scores

³⁶ See Essays 2-4 for more details about the results of Harman's single-factor test.

³⁷ These variables include organizational cultural differences prior to the acquisition and knowledge characteristics (tacitness, ambiguity, complementarity and complexity).

were examined for the constructs in each empirical essay, and most of them were greater than the suggested threshold level of 0.50 which suggests sufficient convergent validity (Fornell and Larcker, 1981)³⁸. Discriminant validity, which relates to what extent items from one construct are different from items that are supposed to represent other constructs (Henseler et al., 2009), was determined in two ways. First, the criterion that the square root of average variance should be greater than all corresponding correlations was satisfied for all constructs in the empirical essays in this thesis (Fornell and Larcker, 1981). Second, the cross loadings between all items and the constructs in the empirical essay showed that all items loaded highest on their respective constructs (White, Varadarajan and Dacin, 2003). Taken together, these results indicate that the convergent and discriminant validities of all the constructs in the empirical essays were acceptable.

Fifth, the survey responses may be influenced by consistency and priming effects, which can distort results (Salancik and Pfeffer, 1977). The former refers to the tendency of respondents to be aware of how they have answered past questions, which will influence how they answer subsequent questions, so as to keep the answers logical and consistent (Salancik and Pfeffer, 1977). The latter refers to how questions and information are being presented – i.e. whether some information is highlighted at the expense of other equally relevant information – which influences what respondents pay attention to, and may therefore bias the results (Salancik and Pfeffer, 1977). In order to minimize the risks of consistency and priming effects, the survey included questions that were not used in each study (Chang et al., 2010). Furthermore, in order to reduce social desirability bias, respondents were told that their responses would be treated confidentially (Chang et al., 2010).

3.2.3. External validity

External validity can be understood as the extent to which a study's findings can be generalized (Bryman and Bell, 2003). The external validity of this study was established in the following ways: First, effort was made during the data collection process to maximize the variation of the observations by including all acquisitions that matched our selection criteria (see section 3.1). Potential non-response bias was also assessed by comparing the time elapsed after the acquisition and the size of the target company with independent sample t-tests of mean differences, because these variables may have influenced the respondents' perceptions and biased their answers (Kitcing, 1967; Sales and Mirvis, 1984; Weber, 1996). The t-tests were not significant, suggesting that non-response bias was not a problem in either dataset. This supports the generalizability of the findings in the empirical essays for acquisitions in different post-acquisition stages and acquisitions of different sizes as well.

Second, apart from the acquisitions that did not meet our selection criteria, all Finnish acquisitions that were conducted during the specific time periods in datasets 1, 2 and 3 were included in our sample. In addition, the response rate seems sufficient (see section 3.1). It can thus be argued that it is possible to generalize the findings from these studies to the population of Finnish acquisitions.

Third, a sample of Finnish acquisitions was selected, instead of conducting a multi-country survey, because many organizational constructs are not universally applicable across cultural contexts and may therefore cause methodological problems (e.g.

³⁸ AVE = 0.44 for the control variable 'operational integration effort' in Essay 2.

Suddaby, 2010). Furthermore, use of integration practices by the acquirers has been shown to differ between countries (e.g. Calori et al., 1997). By drawing on a sample of only Finnish acquisitions, it is possible to isolate the cultural effects on the acquirer's nationality. However, this may also limit the generalizability of the empirical findings to other national contexts. In contrast, it can also be argued that the findings in the empirical essays can be generalized beyond the particular national context in which they were conducted because the research questions concern 'general' theoretical propositions about relationships between variables, rather than descriptive statistics of e.g. the extent to which acquirers use certain practices in specific contexts (Blair and Zinkhan, 2006). This issue is discussed further in the limitations section (5.3).

3.2.4. Reliability

As mentioned earlier in this section, reliability refers to what extent measures used in a study are free of errors and how consistent the items are that make up the measures, which affects whether the study can be repeated (Bryman and Bell, 2003). The reliability of the measures used in this study was addressed as follows. First, it has been suggested that the mail survey used in dataset 1, provides better reliability than interviews because the risk of interviewer bias is eliminated (Whitley, 1985). Furthermore, it has been proposed that the web-based survey method used in datasets 2 and 3 provides even more reliable answers than mail surveys because it is easier to monitor response patterns and respondents are likely to answer more questions in web-based surveys than in mail surveys (Grant et al., 2005). Monitoring response patterns enables the researcher to distinguish between early and late responses and consequently to test for differences between them, which impacts the reliability of the data.

Concerning the first point made by Grant et al. (2005), whilst information was not collected that would have allowed the testing of differences between early and late responses in dataset 1, this was possible in datasets 2 and 3³⁹. T-tests for the constructs used in Essay 4 (which is based on datasets 2 and 3) showed no significant differences between early and late responses, which indicates that the data were not affected by how long it took respondents to complete the survey. Furthermore, the percentage of missing values for items used in the empirical essays was slightly higher in dataset 1 (ranging from 1.1% to 15.4%), which was collected through a mail survey, than in datasets 2 (ranging from 0% to 11.7%) and 3 (ranging from 0% to 11.5%), which were collected through a web-based survey. These findings support the argument made by Grant et al. (2005) that web-based surveys provide better response rates for the individual survey items.

Second, in order to ensure that respondents understood the questions, and to reduce the risk of inconsistent answers, Finnish respondents were given the option of answering the questionnaire in Finnish or English, and non-Finnish respondents received a questionnaire in English. Both the Finnish and English versions of the questionnaires were pre-tested with managers and scholars fluent in both languages in

³⁹ Data were collected for the 2nd survey in 2010, between the beginning of June and the beginning of September. This lengthy data collection process was necessary because of the summer holidays that are usually taken in July in Finland; almost no responses were received during this month. The respondents were reminded of the survey in the beginning of August. Based on this, responses were divided into early (June-July) late responses (August-September). The data collection process for the 3rd survey was relatively short: we sent out surveys in the beginning of April 2011 and sent a reminder two weeks later. Based on this, responses were categorized as early (5.4.-25.4.2011) or late (25.4.-12.5.2011).

order to improve the face validity of the constructs. Furthermore, t-tests were conducted to explore whether there were differences between Finnish and English answers; in most of the cases the results were non-significant⁴⁰. It was therefore considered acceptable to combine Finnish and English responses in the analyses.

Third, summated scales were used in the regression analyses in Essays 2 and 3 in order to improve the reliability of the constructs (Hair, Anderson, and Black, 1998). In other words, the constructs were based on several items that measured the same concept. These items were summed and their average value was used in the analyses. Cronbach's alpha was used to measure the reliability of the constructs in Essays 2 and 3, and composite reliability was also assessed in Essay 4, as reported in the essays. Almost all of the key variables exceeded the threshold of 0.7 (Henseler et al., 2009)⁴¹. Furthermore, standardized factor loadings for the items in the empirical essays were assessed using PLS, and most were above the threshold of 0.7 (Henseler et al., 2009)⁴². Taken together, these analyses lend support for the reliability of the measures used in this study. Finally, the assessment of discriminant and convergent validity – which was discussed earlier in the internal validity section – also indicates that the measures of this study were reliable.

3.3. Data analysis

This section describes the main methods of data analysis that were employed in this thesis. Hypotheses were tested using regression analyses in Essays 2 and 3 and using the partial least squares (PLS) analysis method in Essay 4. These two methods belong to a group of multivariate data analysis methods that are used when multiple constructs and relationships are measured at the same time (Hair et al., 1998). They are described in brief below.

⁴⁰ Only 'explicitness of the target's knowledge' – which was used as a control variable in Essay 2 – was rated lower by respondents answering in English than by those answering in Finnish. Because most acquiring company respondents replied in Finnish and most target company respondents replied in English, this finding may be due to language differences between the acquirer and target – which may have rendered their knowledge less articulable and explicit (Simonin, 1999a; 1999b) – rather than due to how the questions that measured explicitness were phrased.

⁴¹ The constructs with alpha values below 0.7 were as follows: the control variable 'operational integration effort' ($\alpha=0.59$) in Essay 2, the independent variable 'causal ambiguity of the target's knowledge' ($\alpha=0.67$) in Essay 3, and the independent variables 'complexity of acquirer's knowledge' ($\alpha=0.66$) and 'complexity of target's knowledge' ($\alpha=0.66$) in Essay 4. Whilst these variables did not reach the recommended threshold value of 0.7 (Henseler et al., 2009), Nunnally (1967) has recommended that alpha values be equal to or greater than 0.6 for research purposes. Because the independent variables exceeded this 'minimum threshold', these values can be considered acceptable.

⁴² The items that had loadings below this threshold are as follows: One item in the construct 'organizational cultural differences' (0.44), one item in 'operational integration effort' (0.47), one item in 'use of acquirer's knowledge' (0.66), and one item in 'use of target's knowledge' (0.67) in Essay 2, one item in 'cultural convergence' (0.64) and one item in 'use of acquirer's knowledge' (0.63) in Essay 3, one item in 'organizational cultural differences' (0.60), and one item in 'complexity of target's knowledge' (0.55). Because none of the values were below the 'minimum threshold' value of 0.4, it was not considered necessary to drop any of the items from the analyses (Henseler et al., 2009).

3.3.1. Multiple regression analysis

The hypotheses in Essays 2 and 3 were tested by using multiple linear regression analyses with the Statistical Package for the Social Sciences (SPSS), version 17. Multiple regression analysis is a method that is used to predict or assess the relationships between multiple explanatory variables and a single dependent variable, by creating a regression variate of the explanatory variables (Hair et al., 1998). The regression variate – which is also commonly referred to as the regression model – is a linear combination of the explanatory variables, which are weighted by the regression to ensure maximal prediction (Hair et al., 1998).

Multiple linear regression analysis was used in Essay 2 because the aim was to examine linear relationships between multiple variables and a dependent variable. In addition to linear relationships, interaction effects – i.e. when the relationship between an explanatory and dependent variable is changed by a second explanatory variable – were also examined in Essay 3 (Hair et al., 1998). Furthermore, the sample sizes used in Essays 2 and 3 were relatively small: 92 and 171 acquisitions, respectively. Multiple regression analyses require smaller samples than structural equation modelling (SEM) techniques such as LISREL and AMOS: a general rule of thumb for multiple regression analysis is to include a minimum of five observations to each explanatory variable (Hair et al., 1998). However, for SEM analyses, which include more complex relationships, inclusion of a minimum of 100-200 observations is generally recommended (Hair et al., 1998). Taken together, multiple regression analysis was therefore considered the most appropriate method of data analysis for Essays 2 and 3.

Multiple regression analyses are usually estimated by assessing the overall fit of the model, as well as individual correlation coefficients between the explanatory variables and the dependent variable. The overall fit of the model is assessed with the coefficient of determination (R^2) that can range from 0 to 1, which indicates the proportion of the dependent variable's variance that is explained by the explanatory variables. The higher the variance explained, the better the explanatory power of the model (Hair et al., 1998). The correlation coefficients between the explanatory variables and the dependents variable illustrate whether these relationships are positive or negative, and how strong the relationships are (they can range from 0 to 1). Furthermore, significance testing in regressions based on t-tests allows for testing of hypotheses (Hair et al., 1998). Essays 2 and 3 provide more information about the values of the R^2 , the size and direction (+/-) of the correlations and the significance of the predicted relationships.

3.3.2. Partial least squares analysis

The hypotheses in Essay 4 were tested by using partial least squares (PLS), and the program SmartPLS was used to execute the analyses (Ringle, Wende and Will, 2005). The PLS method has been used extensively in management research (e.g. Birkinshaw, Morrison and Hulland, 1995; Johansson and Yip, 1994; Mezner and Nigh, 1995; Tiwana, 2008). PLS belongs to the family of SEM techniques such as LISREL and AMOS (Henseler et al., 2009). However, the PLS approach is based on variance-based techniques and uses ordinary least squares regressions, whereas LISREL and AMOS rely on covariance-based techniques (Gefen, Straub and Boudreau, 2000).

The PLS method was used in Essay 4 because it is better suited than regression analysis to estimate complex models with many latent and indicator variables (Henseler et al., 2009). Furthermore, PLS was chosen over other types of SEM methods because PLS is

more accurate for smaller sample sizes (Gefen et al., 2000). An adequate sample size for PLS should in general be greater or equal to “(1) ten times the number of indicators of the scale with the largest number of formative indicators, or (2) ten times the largest number of structural paths directed at a particular construct in the inner path model” (Henseler et al., 2009: 292). This method was thus considered appropriate for the dataset of 106 cases. Furthermore, PLS takes all path coefficients and item loadings into account simultaneously, which minimizes the risk of biases and inconsistent parameter estimates in the equations (White et al., 2003).

PLS models are usually estimated in two steps. First the outer (measurement) model – that includes relations between the latent constructs and indicator variables – is assessed by examining the reliability and validity of the constructs (Henseler et al., 2009). Next, the inner (structural) model is estimated by examining whether the path coefficients are significant and the R² coefficient is sufficiently high (Gefen et al., 2000). These steps were followed when estimating the results obtained from the PLS model in Essay 4.

4 SUMMARIES OF THE ESSAYS

This chapter presents summaries of the four essays that are included in this thesis. The essays can be found in Appendix 2.

4.1. Essay 1: The dynamics of knowledge transfer in M&As

Authors: Paulina Junni, Riikka Sarala and Eero Vaara

Despite the fact that the outcomes are often disappointing (King, Dalton, Daily and Covin, 2004), acquisitions are often used to enter new markets and to close knowledge and resource gaps (Ahuja and Katila, 2001; Eschen and Bresser, 2005; Haspeslagh and Jemison, 1991). It has been argued that post-acquisition knowledge transfer is a key determinant of value creation (Birkinshaw et al., 2000; Haspeslagh and Jemison, 1991), as it allows the merging firms to access the knowledge that resides in the partner firm or to combine their knowledge resources in new and innovative ways (e.g. Capron and Pistre, 2002).

Previous studies have identified a number of variables that impact knowledge transfer in M&As: knowledge characteristics (Bresman et al. 1999; Ranft and Lord, 2002), characteristics of the sender and the receiver (Ahuja and Katila, 2001; Empson, 2001), the relationship between the acquirer and the target (Lam, 1997; Westphal and Shaw, 2005), and managerial processes related to the overall management of post-acquisition integration (Bresman et al. 1999; Sarala and Vaara, 2010; Vaara, Sarala, Stahl and Björkman, 2012). Whereas case studies have typically built more extensive models of different factors that may influence M&A knowledge transfer (e.g. Westphal and Shaw, 2005), larger-scale quantitative studies have tended to focus on a few explanatory variables (e.g. Bresman et al., 1999). In general, there is a lack of more complex and integrative models that examine both the indirect and direct effects of knowledge transfer determinants (Foss et al., 2010). In addition, we believe that previous knowledge transfer studies have not paid enough attention to the dynamic processes through which knowledge is transferred in M&As.

This study aims to provide an integrative model of knowledge transfer in M&As that builds on factors presented in previous work and also introduces new ones. This essay focuses on how knowledge complementarity, organizational absorptive and disseminative capacities, operational and cultural integration, as well as political behaviour influence M&A knowledge transfer. We argue that knowledge complementarity, as well as organizational absorptive and disseminative capacities, are central in explaining M&A knowledge transfer. Furthermore, we suggest that knowledge complementarity will have a positive effect on M&A knowledge transfer due to a greater potential for creating synergies through knowledge transfer (Eschen and Bresser, 2005). Knowledge complementarity is also likely to increase the knowledge sender's and receiver's motivation to share and absorb knowledge due to a greater potential to reap benefits from knowledge transfer (Björkman et al., 2007). We argue, however, that some degree of operational integration is needed in order to derive benefits from knowledge complementarities (Haspeslagh and Jemison, 1991).

Furthermore, we argue that organizational absorptive and disseminative capacities are central for M&A knowledge transfer. We propose that these capacities consist of both individual level and collective level factors. Individual level disseminative and

absorptive capacities concern the ability and motivation of individuals to disseminate (Minbaeva, 2007) and absorb (Minbaeva et al., 2003) knowledge. Collective disseminative and absorptive capacities, in turn, relate to the structural and cultural characteristics of the merging firms. More specifically, organizational structures that are characterized by extensive cross-functional interaction (e.g. Jansen et al., 2005) and organizational cultures that are cohesive and promote informal interaction (e.g. Khoja and Maranville, 2010) are likely to provide an environment that facilitates the dissemination and absorption of new knowledge.

In addition to their direct effects on knowledge transfer, we argue that organizational absorptive and disseminative capacities mediate the influence of operational and cultural integration, as well as political behaviour. We suggest that operational integration increases collective absorptive and disseminative capacities of the merging firms by creating cross-functional ties between the firms and by enhancing inter-firm coordination (e.g. Gupta and Govindarajan, 2000). However, because changes in the functions and structures of the merging firms can threaten the status quo and existing power bases of these firms, operational integration can induce potentially disruptive political behaviour on the part of organizational members (Jemison and Sitkin, 1986) that is geared towards protecting their existing power bases (Steensma and Van Milligen, 2003). Consequently, we argue that operational integration needs to be supplemented with cultural integration, in order to create mutual understanding and respect between the acquisition partners (Birkinshaw et al., 2000) that may mitigate some of the negative consequences of operational integration.

We suggest that cultural integration will enhance collective absorptive and disseminative capacities by creating shared values and norms (Schweiger et al., 1987) between the acquisition partners that facilitates the sharing and absorption of organizationally embedded knowledge. Furthermore, the creation of a shared organizational culture – e.g. through cultural seminars and informal gatherings – is likely to strengthen informal social ties between individuals in the merging firms (Schweiger and Goulet, 2005) and this may reduce their fears of ‘contamination’ and ‘exploitation’, which can otherwise impede knowledge transfer (Empson, 2001).

Finally, we propose that political behaviour on the part of individuals in the merging firms will reduce their motivation to share knowledge with a potentially ‘treacherous’ partner or to absorb the partner’s knowledge (Husted et al., 2005; 2001; Vaara et al., 2003b), thereby reducing individual absorptive and disseminative capacities. More specifically, concerning individual absorptive capacity (ACAP), the recipient firm members are likely to fear that they will be ‘contaminated’ by members from the sending firm (Empson, 2001) or that knowledge transfer will reduce the value of their existing knowledge base (Husted et al., 2005). In turn, individual disseminative capacity (DCAP) is likely to be reduced if members of the sending firm fear that their knowledge will be ‘exploited’ by individuals in the recipient firm (Empson, 2001; Husted et al., 2005). The theoretical framework is presented in Figure 2.

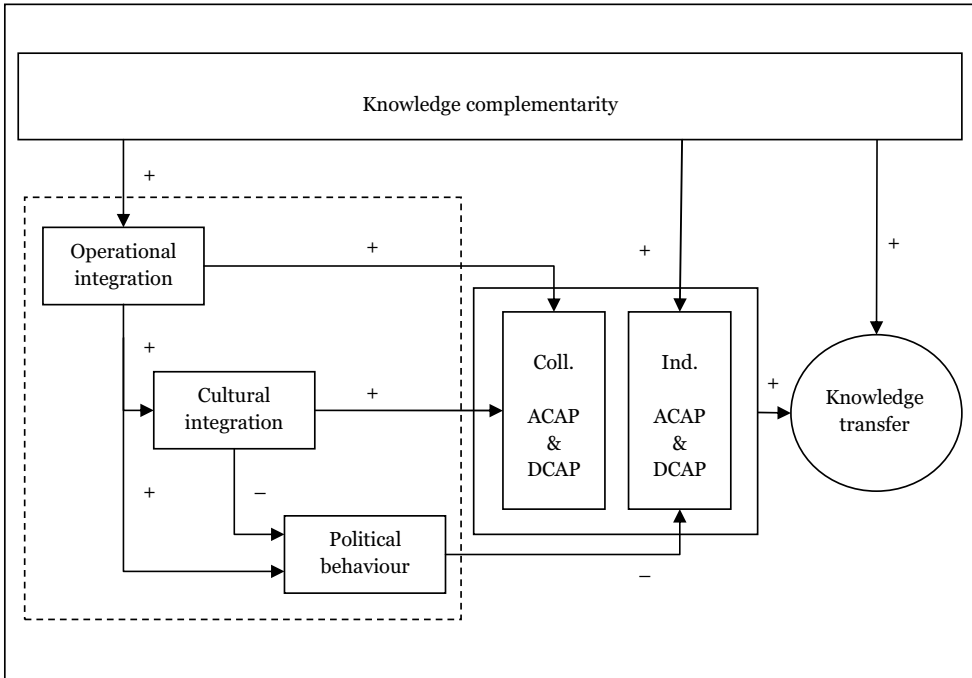


Figure 2 Theoretical model for Essay 1

This study adds to existing research by proposing complex indirect relationships between explanatory variables in M&A knowledge transfer. More specifically, we view M&A knowledge transfer as a dynamic process that ultimately relies on knowledge complementarity and the absorptive and disseminative capacities of the merging firms. In turn, we propose that organizational absorptive and disseminative capacities depend on operational and cultural integration as well as on political behaviour. Furthermore, the study conceptualizes organizational absorptive and disseminative capacities as consisting of individual and collective dimensions of ability and motivation. This adds to previous research on knowledge transfer in general, which has tended to emphasize the 'ability' dimension of the receiver's absorptive capacity at the expense of the 'motivation' dimension and the sender's disseminative capacity.

In addition, by examining how the strategic, social and political aspects of post-acquisition integration impact knowledge transfer, this study addresses a call for research on how the integration process impacts M&As performance in general (Haleblian et al., 2009) and M&A knowledge transfer in particular (Zander and Zander, 2010). It also adds to the broader knowledge transfer literature, which has rarely considered the impact of strategic, social and political factors simultaneously (Foss et al. 2010; Van Wijk et al., 2008).

4.2. Essay 2: Knowledge transfer in acquisitions: Fear of exploitation and contamination

Author: Paulina Junni

Data: Quantitative survey data collected in 2005 from respondents in 92 Finnish corporate acquisitions (domestic and international)

A number of studies have pointed to knowledge characteristics as central determinants of knowledge transfer in MNCs (e.g. Kogut and Zander, 1993), alliances (Simonin, 1999a; 1999a) and M&As (Lam, 1997). Some studies on knowledge transfer in MNCs (e.g. Szulanski, 1996) and in alliances (Simonin, 1999a; 1999b) have even suggested that knowledge characteristics play a more central role than the quality of the relationship between the sender and the receiver. In this paper, however, I argue that relationship characteristics (willingness to share and absorb knowledge) play a particularly important role in the post-acquisition context. M&As are often characterized by high levels of uncertainty and ambiguity for the parties involved (Bresman et al., 1999; Jemison and Sitkin, 1986), which may reduce the willingness of individuals to share and absorb knowledge.

Although previous studies have explored how motivation impacts M&A knowledge transfer (e.g. Ejenäs and Werr, 2005; Empson, 2001; Westphal and Shaw, 2005), these studies have relied on qualitative data from a few cases and hence cannot be generalized to larger populations. This paper draws on Empson's (2001) work from her case study of post-merger knowledge transfer between three service firms. This paper aims to extend her study by examining to what extent motivational factors – in relation to other variables – influence knowledge transfer in acquisitions. It also addresses a call for research on the relative impact of knowledge transfer determinants (e.g. Minbaeva, 2007; Van Wijk et al., 2008).

The core arguments of this paper relate to what extent the knowledge sender's 'fear of exploitation', and the receiver's 'fear of contamination', impede M&A knowledge transfer. More specifically, it is hypothesized that the fear of being exploited or contaminated by the other party will have a negative impact on knowledge transfer in acquisitions (Empson, 2001). The fear of exploitation relates to social exchange theory and refers to the sender's concern about losing personal 'value' or bargaining power by sharing its knowledge with a receiver who is not expected to provide anything valuable in return for the exchange (Gouldner, 1960). It is hypothesized that fear of exploitation on the part of the knowledge sender will reduce knowledge transfer by making the sender less willing to share its knowledge.

The fear of contamination is viewed as more 'affective' than the fear of exploitation and relates to whether the receiver has a favourable view of the knowledge sender or not. Drawing on social identity theory, studies on knowledge transfer in MNCs (Vora and Kostova, 2007) and between groups (Kane, 2010; Kane, Argote and Levine, 2005) have suggested that a positive view of and identification with the knowledge sender can create a collaborative atmosphere between the sender and receiver and thereby facilitate knowledge transfer. However, negative views often emerge in acquisitions where individuals tend to identify with their own ingroup and perceive the outgroup as less trustworthy and even threatening (Buono and Bowditch, 1989; Terry and O'Brien, 2001), which can reduce the receiver's willingness to absorb the sender's knowledge. It is hypothesized that when the receiver's fear that absorbing knowledge from the sender will damage its image or reputation, it will be reluctant to absorb this knowledge, and

consequently knowledge transfer will be reduced. The hypotheses are depicted in Figure 3.

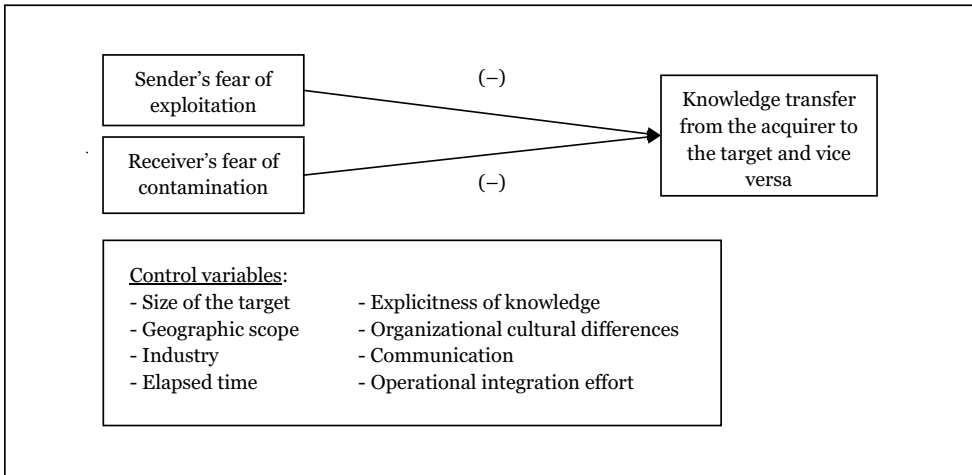


Figure 3 Theoretical model for Essay 2

Both hypotheses were supported by the empirical findings, which show that – in addition to knowledge characteristics and managerial processes – the quality of the relationship between the sender and the receiver is a central determinant of M&A knowledge transfer. More specifically, fear of exploitation and contamination on the part of individuals were shown to have as strong an impact as the explicitness of the sender's knowledge on knowledge transfer in either direction between the merging firms. Whether the resistance of individuals to engage in knowledge transfer is based on the sender's evaluations of the value of the exchange or on the receiver's identification with the sender, these findings show that knowledge transfer is less 'neutral' or lacking in value to the parties involved than previous studies suggest.

4.3. Essay 3: Causal ambiguity, partner attractiveness, and cultural integration as determinants of knowledge transfer: Evidence from Finnish acquisitions

Authors: Paulina Junni and Riikka Sarala

Data: Two sets of quantitative survey data collected in 2005 and 2010 from respondents in 171 Finnish corporate acquisitions (domestic and international)

Knowledge transfer has been described as a key determinant of post-acquisition value creation (Haspeslagh and Jemison, 1991; Eschen and Bresser, 2005). Consequently, an increasing number of studies have tried to identify factors that influence knowledge transfer in this context. These include characteristics of the knowledge that is to be transferred (e.g. Bresman et al., 1999; Ranft and Lord, 2002), characteristics of the sender and the receiver, and the relationship between them (e.g. Empson, 2001; Lam, 1997; Westphal and Shaw, 2005), as well as managerial processes to integrate the firms (e.g. Bresman et al., 1999; Sarala and Vaara, 2010).

However, few studies have incorporated these dimensions – knowledge characteristics, relationship characteristics, and managerial processes – in order to explore their direct effects on post-acquisition knowledge transfer in larger-scale quantitative studies (for a notable exception see Bresman et al., 1999). Most studies that examine these dimensions simultaneously have relied on case studies with small samples (Castro and Neira, 2005; Ranft and Lord, 2002; Tsang, 2008; Westphal and Shaw, 2005). Furthermore, scholars have called for research on how managerial processes that relate to socio-cultural integration impact knowledge transfer (Castro and Neira, 2005), as well as how interactions between knowledge and relationship characteristics influence knowledge transfer (Kane, 2010). By including moderating relationships that are tested on a sample of larger-scale quantitative data in the theoretical model, this study addresses the aforementioned research gaps. More specifically, it adds to our understanding of how the effects of relationship characteristics (attractiveness of the sender) and managerial processes (cultural convergence and crossvergence) on M&A knowledge transfer vary depending on the characteristics of the sender's knowledge (causal ambiguity).

More specifically, by drawing on the knowledge-based view (KBV) (Spender and Grant, 1996), social identity theory (Tajfel, 1972) and the dynamic capabilities perspective (Teece et al., 1997), this study addresses the aforementioned research gaps by developing and testing an integrated model of M&A knowledge transfer. First, drawing on the KBV, we focus on the role of a particular knowledge characteristic, which has not been examined before in empirical papers on M&A knowledge transfer, namely the causal ambiguity of knowledge (for a conceptual paper on causal ambiguity and the transfer of cultural knowledge in M&As see Lakshman 2011), which can be understood as unclear links between knowledge inputs and outputs (Simonin 1999a, 1999b). It is suggested that causal ambiguity of knowledge is a central barrier to M&A knowledge transfer.

Second, drawing on social identity theory, we view the relationship between the acquisition partners as a central determinant of knowledge transfer (Kane, 2010). More specifically, we argue that the attractiveness of the knowledge sender – i.e. how much the receiver admires and values the sender (Nahavandi and Malekzadeh, 1988) – enhances M&A knowledge transfer by motivating the receiver to absorb the sender's knowledge (Empson, 2001; Westphal and Shaw, 2005).

Third, based on the dynamic capabilities perspective, we view organizational cultural integration as a managerial process that can support M&A knowledge transfer. We distinguish between cultural convergence – where the organizational cultures of the acquisition partners become more similar along existing cultural dimensions, and cultural crossvergence – where elements of both acquisition partners' cultures are combined or entirely new cultural dimensions are created (Sarala and Vaara, 2010).

Fourth, by combining these theoretical views we propose indirect effects between knowledge characteristics (causal ambiguity of knowledge), relationship characteristics (attractiveness of the sender), and managerial processes (cultural integration). More specifically, in addition to suggesting that causal ambiguity of knowledge directly impedes knowledge transfer, we also hypothesize that it will weaken the positive effects of the sender's attractiveness, as well as of cultural convergence and crossvergence. These hypotheses are tested on a sample of larger-scale data of Finnish acquisitions.

The findings show that partner attractiveness and cultural crossvergence are positively associated with knowledge transfer from the target, whereas cultural convergence and

crossvergence are positively related to knowledge transfer from the acquirer. Furthermore, causal ambiguity is negatively related to knowledge transfer in both directions.

We also found that causal ambiguity of knowledge negatively affects knowledge transfer indirectly by decreasing the positive effect of partner attractiveness. This finding suggests that the attractiveness of the knowledge sender is not enough in itself to facilitate knowledge transfer, but that the receiver's ability to understand the sender's knowledge – which is influenced by causal ambiguity of knowledge – is equally important (Minbaeva et al., 2003). Even when the receiver views the sender as attractive, difficulties of comprehending the partner's knowledge can lower the receiver's motivation to absorb its knowledge (Empson, 2001; Lam, 1997), reducing the positive effect of partner attractiveness. The theoretical model is illustrated in Figure 4.

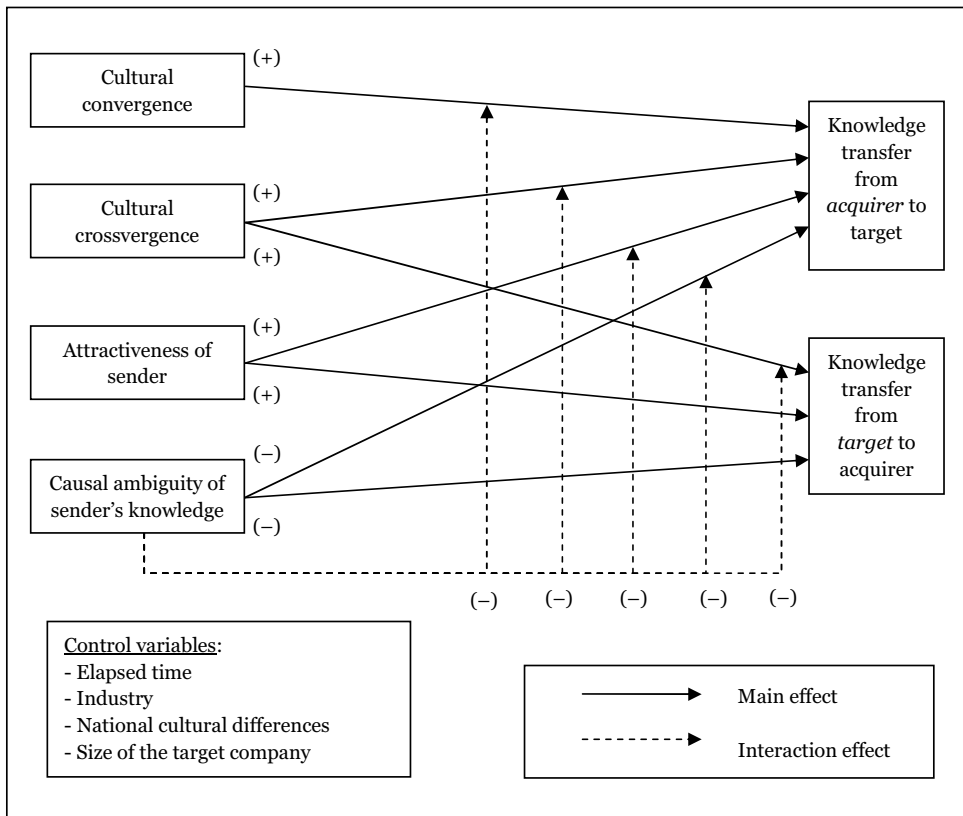


Figure 4 Theoretical model for Essay 3

Furthermore, the results show that, depending on the type of cultural integration, causal ambiguity can render cultural integration either less effective (in the case of the effect of crossvergence on knowledge transfer from the target) or more effective (in the case of convergence on knowledge transfer from the acquirer). One explanation for the negative indirect effect of causal ambiguity of knowledge on the relationship between cultural crossvergence and knowledge transfer from the target concerns the association between causal ambiguity of knowledge and organizational culture: Causal ambiguity of

knowledge generally arises from differences between organizational norms and actual practices (Nelson and Winter, 1982; Szulanski et al., 2004). This can make it difficult to identify and select cultural elements (values and norms) that should be included in the new, shared culture in order to promote behaviour that supports knowledge transfer.

The positive indirect effect of causal ambiguity of knowledge on the link between convergence and knowledge transfer from the acquirer may be explained by relating convergence to the 'absorption' integration mode (Haspeslagh and Jemison, 1991). When cultural changes are planned after an acquisition – with the aim of converging the acquisition partners' cultures – it usually implies that the target needs to adapt to the acquirer's culture (Haspeslagh and Jemison, 1991). Because there is low concern for preserving the target's existing culture or knowledge base in these types of acquisitions, cultural changes through convergence can be made by using a more direct 'hands on' integration style, which involves a lot of contact between the acquirer and the target and a faster integration pace. This type of integration allows the members of the target firm to experience and take part in the acquirer's culture and practices directly, which can help them understand the acquirer's knowledge, even when it is not clearly articulated as organizational norms and rules. Hence, cultural convergence supports the transfer of ambiguous knowledge that is embedded in the acquirer's culture (Simonin, 1999a; 1999b) without 'detaching' it from its context.

This essay makes several contributions to the literature on M&A knowledge transfer. First, it offers empirical evidence for the complex effects of the causal ambiguity of knowledge on M&A knowledge transfer. Second, it examines the direction of knowledge transfer, which has been addressed explicitly in only a few studies in the M&A context (Bresman et al., 1999, Bröchner et al., 2004). Third, it is a quantitative study on M&A knowledge transfer, and finally, it also examines the simultaneous effects of knowledge characteristics (causal ambiguity of knowledge), relationship characteristics (partner attractiveness) and cultural integration (convergence and crossvergence) on M&A knowledge transfer. Most previous work on this topic has employed either a conceptual or a case approach, while the few quantitative studies have tended to examine fewer variables.

4.4. Essay 4: The role of cultural learning and collective teaching initiatives in M&A knowledge transfer

Authors: Paulina Junni and Riikka Sarala

Data: Two sets of quantitative survey data collected in 2010 and 2011 from respondents in 106 Finnish corporate acquisitions (domestic and international)

According to the knowledge-based view (KBV), knowledge is a central resource for creating competitive advantage for firms (Spender and Grant, 1996). Acquisitions contribute to firms' value creation through knowledge transfer by providing access to new knowledge (Vermeulen and Barkema, 2001) and enabling unique combinations of the acquiring and target firm's knowledge-based resources (Björkman et al., 2007). Because of the importance of knowledge transfer in M&As, researchers have focused on identifying influencing factors that range from knowledge and relationship characteristics to managerial processes. Although certain factors such as knowledge tacitness and post-acquisition communication have received much attention in empirical research on M&A knowledge transfer (e.g. Bresman et al., 1999; Ranft and

Lord, 2002), other factors have been less explored. More specifically, the influence of dynamic factors that relate to the management of the integration process in general, and to M&A knowledge transfer in particular, have been less explored (Haleblian et al., 2009).

This study aims to explain M&A knowledge transfer by drawing on the dynamic capabilities perspective, the KBV and social identity theory. More specifically, by drawing on the dynamic capabilities perspective (Teece et al., 1997) we hypothesize that dynamic managerial processes involving cultural learning (Schweiger and Goulet, 2005) and collective teaching (Zhao and Anand, 2009) initiatives will have positive effects on M&A knowledge transfer. Cultural learning involves the members of both merging firms collectively, as they explore “the root values and assumptions of both organizations in order to understand why each, as a collective, functions the way it does” (Schweiger and Goulet, 2005: 1480). Cultural learning initiatives can be understood as managerially initiated collective activities that are aimed at generating employee’s cultural learning in both the acquiring and the target firms at the same time. We propose that cultural learning initiatives enhance the ability and motivation of the acquisition partners to transfer knowledge due to a better understanding of the acquisition partners’ underlying values and assumptions, as well as why they operate way they do. Collective teaching, in turn, refers to “a process in which members of the source organization collectively impart the knowledge, routines, and mindset of their organization to the individuals of the receiving organization” (Zhao and Anand, 2009: 962). Consequently, collective teaching initiatives are defined as managerially initiated collective activities that are aimed at improving the dissemination of knowledge. We suggest that collective teaching initiatives support knowledge transfer by increasing the recipient’s ability to understand the sender’s knowledge.

In addition, based on the KBV and social identity theory, we identify knowledge, sender /receiver and relationship characteristics that can influence the extent to which managerial processes (cultural learning and collective teaching initiatives) are initiated, and thereby impact M&A knowledge transfer. More specifically, we focus on knowledge characteristics – complexity (Haspeslagh and Jemison, 1991; Lam, 1997), sender/receiver characteristics – complementarity (Björkman et al., 2007; Westphal and Shaw, 2005), and relationship characteristics – cultural acceptance and cultural preservation (Nahavandi and Malekzadeh, 1988; Schweiger and Goulet, 2005).

Previous research on M&As has linked knowledge complementarity (Westphal and Shaw, 2005) and complexity (Lam, 1997) to knowledge transfer directly. We propose, however, that these sender/receiver and knowledge characteristics influence knowledge transfer indirectly, through their impact on the use of managerial processes. More specifically, we suggest that complementarity increases interdependence between acquirer and target, and consequently increases the use of the managerial processes mentioned above (Haspeslagh and Jemison, 1991). Furthermore, we suggest that the transfer of complex knowledge requires more extensive communication and interaction in order to make the sender’s knowledge understandable to the receiver (Simonin, 1999a; Winter, 1987). We therefore hypothesize that the complexity of the sender’s knowledge will be associated with an increased use of managerial processes (cultural learning and collective teaching initiatives).

Based on social identity theory, we view the relationship between the acquirer and the target as central for post-acquisition collaboration in general (Marks and Mirvis, 1985; Olie, 2005; Weber et al., 1996), and for post-acquisition knowledge transfer in particular (Empson, 2001; Husted et al., 2005). More specifically, we focus on the

target's cultural acceptance and preservation as key aspects of this relationship (Nahavandi and Malekzadeh, 1988). More specifically, we suggest that the target's acceptance of the acquirer's culture creates an atmosphere that encourages the use of managerial processes (Haspeslagh and Jemison, 1991; Nahavandi and Malekzadeh, 1988). In turn, we hypothesize that the target's desire to preserve its culture reduces the target's willingness to collaborate with the acquirer by initiating and participating in managerial processes (Nahavandi and Malekzadeh, 1988; Weber et al., 1996). These hypotheses are illustrated in Figure 5.

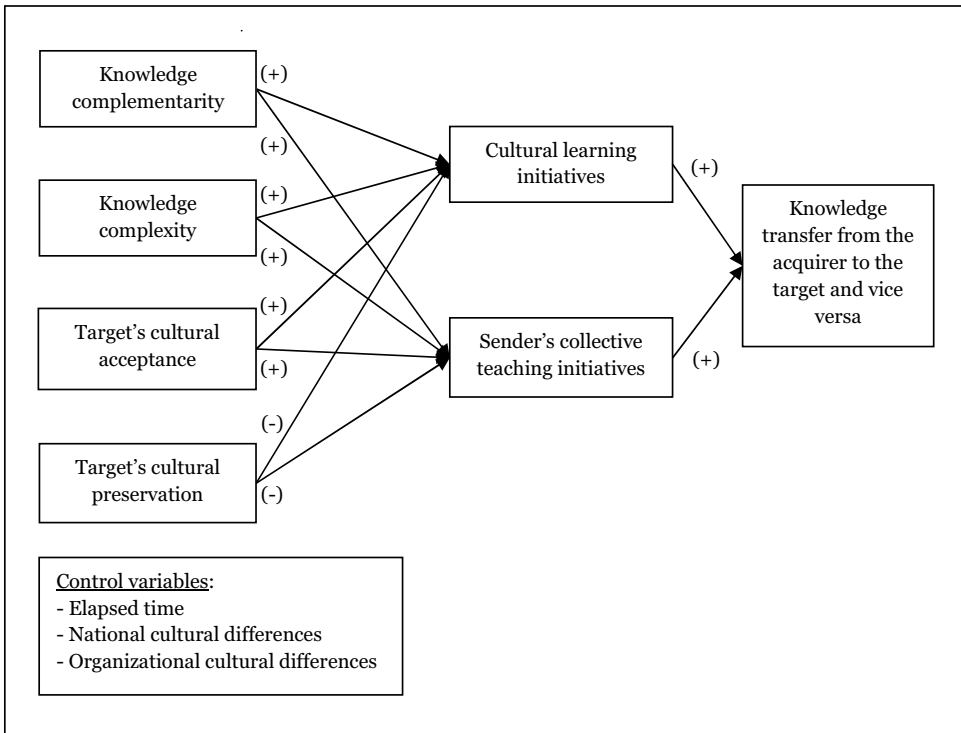


Figure 5 Theoretical model for Essay 4

The findings of this study show that both cultural learning and collective teaching initiatives are important managerial processes that support post-acquisition knowledge transfer. Cultural learning initiatives are particularly important for knowledge transfer from the target, whereas collective teaching initiatives contribute to knowledge transfer in both directions.

Concerning sender/receiver characteristics, we found that knowledge complementarity was positively related with both cultural learning and collective teaching initiatives. These results are in line with previous research that has proposed that knowledge complementarity facilitates knowledge transfer in acquisitions (Björkman et al., 2007; Westphal and Shaw, 2005). However, our study contributes by showing that knowledge complementarity influences knowledge transfer particularly through its impact on the increased use of managerial processes (cultural learning and collective teaching initiatives) that support knowledge transfer.

Regarding knowledge characteristics, and in line with our hypotheses, we found that the complexity of the acquirer's knowledge was positively related to the acquirer's collective teaching initiatives. This suggests that acquiring firm managers were aware of the need to support the articulation and dissemination of their complex knowledge (Winter, 1987) through direct involvement and extensive social interaction in the form of collective teaching efforts (Zhao and Anand, 2009). In contrast, the complexity of the target's knowledge was not related to collective teaching initiatives, which suggests that knowledge controlled by the acquiring firm is managed differently than knowledge residing in the target firm. One reason for the lack of a relationship between these variables may be that whilst knowledge complexity increases the need for managerial processes (Simonin, 1999a), the use of managerial processes can disrupt the target's knowledge base (Haspeslagh and Jemison, 1991). In order to protect its knowledge base, the target may thus have refrained from initiating activities that involve extensive contact with the acquirer, such as collective teaching initiatives.

Interestingly, cultural learning initiatives were not related to the complexity of either partner's knowledge. This implies that the acquisition partners did not perceive cultural aspects as central for supporting the transfer of complex knowledge. Taking into account that cultural learning supported knowledge transfer from the target to the acquirer, the acquisition partners may not be taking full advantage of the potential to use cultural learning initiatives for this purpose.

Regarding relationship characteristics, and in line with our hypotheses, we found that the target's acceptance of the acquirer's culture was positively related to the acquirer's collective teaching initiatives. This may be due to the target being more willing to learn about the acquirer's practices when the acquiring company's organizational culture was considered to be valuable (Nahavandi and Malekzadeh, 1988), which may have encouraged the acquirer to promote collective teaching initiatives. Contradicting our hypotheses, the target's acceptance of the acquirer's culture was negatively related to the target's collective teaching effort. This indicates that when the target's attitude towards the acquirer is positive, it is more interested in learning about the acquirer's culture and practices (Hogg and Terry, 2000) than in trying to convey its own knowledge to the acquirer. However, the target's cultural acceptance was not significantly related to cultural learning initiatives. One explanation for this may be that acquirers viewed mutual cultural learning as less necessary when the target already had a positive view of the acquirer's culture.

The target's cultural preservation was found to be negatively related to cultural learning initiatives as well as to the collective teaching initiatives of the acquirer and the target. This suggests that the target's strong cultural ingroup identity reduces the target's willingness to collaborate with the outgroup (Nahavandi and Malekzadeh, 1988) in the form of participating in cultural learning or collective teaching initiatives. This, in turn, is likely to have reduced knowledge transfer between the partners.

This study contributes by increasing our understanding of the direct effects of managerial processes (cultural learning and collective teaching initiatives) and the indirect effects of their antecedents (knowledge, sender/receiver and relationship characteristics) on M&A knowledge transfer. This study also responds to a call for research on more complex relationships and indirect effects of explanatory variables on knowledge transfer (Foss et al., 2010) in general, and in particular what factors enhance and impede the implementation of managerial processes that can be used to create value in M&As (Haleblian et al., 2009; Zollo and Singh, 2004).

5 DISCUSSION AND CONCLUSION

This chapter provides an overview of the main findings of the essays in this thesis and also of their contributions to the M&A and knowledge transfer literatures. It is followed by a discussion of the general limitations of the study, after which suggestions for future research are discussed. Finally, the managerial implications of the research findings are discussed.

5.1. Main findings

The overall aim of this thesis was to increase our understanding of how socio-cultural factors, political factors and knowledge characteristics influence post-acquisition knowledge transfer and consequently value creation (e.g. Haspeslagh and Jemison, 1991; Eschen and Bresser, 2005). More specifically, I have examined conceptually and statistically how knowledge characteristics (explicitness, ambiguity and complexity), sender/receiver characteristics (knowledge complementarity, organizational absorptive and disseminative capacities), relationship characteristics (fear of exploitation and contamination, partner attractiveness, cultural acceptance and preservation), managerial processes (communication, operational integration effort, cultural convergence and crossvergence, and cultural learning and collective teaching initiatives) influence M&A knowledge transfer. The research questions of this thesis were as follows:

- 1) How do socio-cultural and political factors, as well as knowledge characteristics influence post-acquisition knowledge transfer?
- 2) Do socio-cultural and political factors, as well as knowledge characteristics have different effects on knowledge transfer, depending on the direction of the transfer – from the acquirer to the target or from the target to the acquirer?

In order to clarify the nature of the relationships found between socio-cultural factors, political factors and knowledge characteristics on M&A knowledge transfer, the findings are divided into direct and indirect effects. Section 5.1.1 discusses the direct effects of the above mentioned variables on M&A knowledge transfer. Section 5.1.2 presents findings related to the indirect effects of these variables, i.e. the moderating variables and antecedents to the independent variables. Section 5.1.3 provides a summary of the findings of this study.

5.1.1. *Direct effects on M&A knowledge transfer*

Research questions 1 and 2 in this thesis concerned how socio-cultural and political factors, as well as knowledge characteristics influence M&A knowledge transfer directly and whether the influence of these variables differs depending on the direction on knowledge transfer – from the acquirer to the target or vice versa. I will first discuss the main findings in each essay that relate to these questions and then move on to the combined findings of the essays.

5.1.1.1. *Direct effects in Essay 1*

In Essay 1, we reviewed the literature on post-acquisition knowledge transfer and developed a dynamic model of M&A knowledge transfer with factors that have received scant attention in previous research. More specifically, we proposed that knowledge transfer is mainly the outcome of organizational absorptive and disseminative capacities (sender/receiver characteristics), which are in turn determined by knowledge complementarity (sender/receiver characteristic), operational and cultural integration (managerial processes) and political behaviour (relationship characteristic). This essay contributes by providing an integrative model of how the strategic, social and political aspects of the post-acquisition integration process impact M&A knowledge transfer.

5.1.1.2. *Direct effects in Essay 2*

Essay 2 examined to what extent relationship characteristics influence knowledge transfer. More specifically, it aimed to extend Empson's (2001) case study, which revealed two common barriers to knowledge transfers in M&As: the fear of exploitation and the fear of contamination. In support of Empson's (2001) research, the findings of Essay 2 showed that the sender's fear of exploitation and the receiver's fear of contamination were central impediments to knowledge transfer.

In contrast, explicitness (knowledge characteristic) was found to facilitate knowledge transfer. This supports previous research which suggests that knowledge that can be easily communicated or codified can be transferred more readily in M&As (Bresman et al., 1999; Westphal and Shaw, 2005). The finding is also in line with the results of Essay 3, which showed that the causal ambiguity of knowledge severely limited M&A knowledge transfer (see sections 4.3 and 5.1.1.3).

Communication and operational integration effort (managerial processes) were also found to support knowledge transfer. This is in line with previous research that has shown a positive association between communication and knowledge transfer in M&As (Bresman et al., 1999; Ranft and Lord, 2002). Previous empirical studies have, however, produced mixed results regarding the effect of operational integration on M&A knowledge transfer. Some studies have suggested a negative relationship (Westphal and Shaw, 2005; Zou and Ghauri, 2008), while others have indicated a positive relationship (e.g. Vaara et al., 2012) or suggested that too much autonomy can impede knowledge transfer (Haspeslagh and Jemison, 1991; Schweizer, 2005). The positive link between operational integration effort and M&A knowledge transfer found in this study suggests that integration is not necessarily as disruptive as suggested in previous research (e.g. Haspeslagh and Jemison, 1991). However, 'social disintegration' in the form of increased fear of exploitation and contamination clearly has a very negative effect on M&A knowledge transfer.

As shown in Table 5 on the following page, however, the impact of the factors mentioned above differed slightly depending on the direction of knowledge transfer. Knowledge transfer *from the target* was affected by knowledge characteristics (explicitness), relationship characteristics (the target's fear of exploitation and the acquirer's fear of contamination) and managerial processes (operational integration effort). Although not significant, organizational cultural differences were negatively related to knowledge transfer from the target. This is in line with research which suggests that cultural differences can impede M&A knowledge transfer (Castro and Neira, 2005). The control variables – elapsed time, size of the target, geographic scope

(international vs. domestic) and industry (service vs. others) – were not related to knowledge transfer in this direction.

	Variable name	Relationship with knowledge transfer from the acquirer	Relationship with knowledge transfer from the target
Explanatory variable	Sender's fear of exploitation and receiver's fear of contamination	-	-
Control variables	Explicitness of sender's knowledge	+	+
	Organizational cultural differences	+	NS
	Communication	+ (MS)	NS
	Operational integration effort	+	+
	International acquisition (vs. domestic)	-	NS
	Size of the target	NS	NS
	Industry	NS	NS
	Elapsed time	- (MS)	NS

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 5 Direct effects in Essay 2

Knowledge transfer *from the acquirer* was largely influenced by the same factors as discussed above. However, it was also positively affected by the sender/receiver characteristic 'organizational cultural differences' and the managerial process 'communication'. These findings indicate that organizational cultural differences were perceived by acquirers as providing an opportunity to share their valuable knowledge with the target, whose existing knowledge base differed from their own. This supports the argument that cultural distance means that there is less overlap between the knowledge bases of the acquirer and target and that they have more to learn from each other (Björkman et al., 2007).

Taken together, these findings support the notion that the relationship between the acquisition partners is central for M&A knowledge transfer (e.g. Empson, 2001; Westphal and Shaw, 2005). They also indicate that acquirers tend to view organizational cultural differences as an opportunity to transfer their knowledge to the target rather than vice versa. One reason for this can be that due to the limited extent of common ground, organizational cultural differences reflect a distant and arduous relationship between the acquisition partners. Because the social relationship between the merging firms is particularly important for supporting knowledge transfer from the

target (Bresman et al., 1999), organizational cultural differences may thus impede this transfer by complicating the relationship.

Furthermore, knowledge transfer from the acquirer was found to be lower in international acquisitions, which supports research indicating that national cultural differences can impede post-acquisition knowledge transfer (Brock, 2005). International acquisitions were, however, not associated with lower levels of knowledge transfer from the target. One explanation for this can be that acquirers of international targets are particularly interested in obtaining knowledge about the local market or local business practices from the target firm (Schoenberg, 2001). Finally, knowledge transfer from the acquirer was negatively related to elapsed time, but it was not associated with knowledge transfer from the target. This provides some support for the study of Bresman et al. (1999), who found that acquirers tended to transfer more knowledge to the target in the early stages of post-acquisition integration, often by imposing it, and that knowledge flows tends to even out in later stages.

The main contribution of this study is that it includes knowledge characteristics (explicitness), sender/receiver characteristics (organizational cultural differences, geographic scope, size of the target, industry), relationship characteristics (fears of exploitation and contamination), and managerial processes (operational integration effort, communication) in the same statistical model, which has rarely been done in prior knowledge transfer research and which makes it possible to examine the relative impact of these different factors (e.g. Hansen and Løvås, 2004; Minbaeva, 2007). This study also considers both operational and socio-cultural aspects in M&A knowledge transfer. In contrast to research suggesting that operational integration can impede M&A knowledge transfer (e.g. Björkman et al., 2007; Westphal and Shaw, 2005), this study found that operational integration effort is positively associated with it. However, in line with studies emphasizing the importance of socio-cultural factors (e.g. Empson, 2001), the fears of exploitation of contamination had a greater impact on M&A knowledge transfer than operational integration effort.

5.1.1.3. *Direct effects in Essay 3*

Essay 3 showed that the causal ambiguity of the sender's knowledge was a major barrier to knowledge transfer – both from the acquirer to the target and vice versa. However, in other respects the determinants of knowledge transfer differed depending on the direction of knowledge transfer. Knowledge transfer *from the acquirer* was enhanced by cultural convergence and crossvergence (managerial processes), but not by acquirer attractiveness (relationship characteristic). Furthermore, the size of the target firm was negatively associated with knowledge transfer from the acquirer. This is in line with research suggesting that acquisitions of larger companies will pose integration problems, e.g. due to pressure to give the target firm more control and autonomy (Nahavandi and Malekzadeh, 1988; Ranft and Lord, 2000).

Knowledge transfer *from the target* was supported by crossvergence – but not convergence, and was weakly supported by the attractiveness of the target. In addition, national cultural differences were negatively related to knowledge transfer from the target, which suggests that national cultural differences can impede knowledge transfer (Brock, 2005; Björkman et al., 2007). Table 6 provides a summary of the findings associated with the direct relationships in Essay 3.

	Variable name	Relationship with knowledge transfer from the acquirer	Relationship with knowledge transfer from the target
Explanatory variables	Cultural convergence	+	NS
	Cultural crossvergence	+	+
	Attractiveness of sender	NS	+ (MS)
	Causal ambiguity of sender's knowledge	-	-
Control variables	National cultural differences	NS	- (MS)
	Elapsed time	NS	NS
	Industry	NS	NS
	Size of the target	- (MS)	NS

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 6 Direct effects in Essay 3

Taken together, these findings suggest that relationship characteristics (sender attractiveness) are particularly important for transferring knowledge *from the target* to the acquirer (Bresman et al., 1999). It is possible that the target's attractiveness reduced 'fear of contamination' and the 'not-invented-here syndrome' (Empson, 2001; Szulanski, 1996) on the part of the acquirer, who had a better image of the target.

Furthermore, the findings concerning managerial processes (cultural integration), suggest that cultural convergence and crossvergence are related to different integration types. Cultural convergence – which was positively related to knowledge transfer from the acquirer – seems to be associated with the 'absorption' (Haspeslagh and Jemison, 1991) or 'assimilation' integration strategy (Nahavandi and Malekzadeh, 1988), in which the cultures of the merging firms become more similar by the target adapting to the acquirer. In contrast, crossvergence – which was associated with knowledge flows in both directions – seems to be related to the 'symbiosis' (Haspeslagh and Jemison, 1991) or 'integration' (Nahavandi and Malekzadeh, 1988) strategy, where the merging firms become more similar by adapting to each others' cultures or by building an entirely new culture and identity.

In terms of direct effects, Essay 3 contributes by highlighting the importance of relationship characteristics (sender attractiveness) for knowledge transfer from the target to the acquirer. Furthermore, it shows that managerial processes – in terms of cultural integration styles – serve important, but different purposes, in terms of post-acquisition integration in general and the direction of knowledge transfer in particular.

5.1.1.4. Direct effects in Essay 4

Essay 4 focused on how two managerial processes – cultural learning initiatives and collective teaching initiatives – impact M&A knowledge transfer. The findings showed that cultural learning initiatives were positively related to knowledge transfer *from the target*, but not from the acquirer. This implies that cultural learning initiatives to build a collaborative atmosphere (Schweiger and Goulet, 2005) are especially important for transferring knowledge from the target (Bresman et al., 1999). This is similar to the findings in Essay 3, which showed that the quality of the acquisition partner's relationship is particularly important for transferring knowledge from the target. The results relating to the direct relationships in Essay 4 are depicted in the following table:

	Variable name	Relationship with knowledge transfer from the acquirer	Relationship with knowledge transfer from the target
Explanatory variables	Cultural learning initiatives	NS	+
	Sender's collective teaching initiatives	+	+
Control variables	Elapsed time	NS	NS
	National cultural differences	- (MS)	NS
	Organizational cultural differences	+ (MS)	NS

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 7 Direct effects in Essay 4

Concerning the control variables, national cultural differences had a negative effect on knowledge transfer *from the acquirer*, but not from the target. Similar to Essay 3, this provides evidence that national cultural differences complicate M&A knowledge transfer (Brock, 2005; Björkman et al., 2007). However, interestingly the effects of national cultural differences were on knowledge from the target, not from the acquirer, as in Essay 3. In addition, and similarly to Essay 2, organizational cultural differences were positively related to knowledge transfer from the acquirer in this essay. One explanation for this finding could be that the acquirers in the sample of this study tried to leverage organizational cultural differences (Björkman et al., 2007) by transferring their knowledge – e.g. in the form of best practices to the target – in order to improve the target's performance (Ambrosini et al., 2011).

Finally, the collective teaching initiatives of both the acquirer and the target were positively related to knowledge transfer. This suggests that the ability to directly

‘experience’ and take part in the sender’s knowledge through collective teaching initiatives is vital for transferring knowledge (Zhao and Anand, 2009) in acquisitions.

Concerning direct effects on knowledge transfer, this paper contributes by showing the relative importance of managerial processes linked to socio-cultural integration for transferring knowledge, depending on the direction of the transfer. It is also a response to the call to examine the impact of senders’ teaching efforts in addition to receivers’ learning efforts on knowledge transfer in general (e.g. Zhao and Anand, 2009; Zhao, Anand and Mitchell, 2004).

5.1.1.5. *Combined direct effects*

Taken together, the findings in the *empirical* essays have highlighted a number of factors that influence M&A knowledge transfer in *both directions*, namely knowledge characteristics (explicitness and causal ambiguity), sender/receiver characteristics (national cultural differences), relationship characteristics (sender’s fear of exploitation and the receiver’s fear of contamination), and managerial processes (operational integration effort, cultural crossvergence and the sender’s collective teaching initiatives).

These findings suggest that fears of exploitation and contamination – which are based on a lack of trust towards the other party and social categorizations of ‘us versus them’ (Empson, 2001) – disrupt knowledge transfer in both directions. It is possible that differences between the sender and the receiver, such as national cultural differences, exacerbate these fears (Empson, 2001). Although the links between national cultural differences and fears of exploitation and contamination were not examined in this thesis, it did show that national cultural differences impeded knowledge transfer from the target to the acquirer (Essay 3) and from the acquirer to the target (Essay 4). The effect of national cultural differences was not, however, consistent in the empirical essays, nor symmetrical concerning the direction of knowledge transfer. Future studies could investigate more closely the direct and indirect effects national cultural differences on M&A knowledge transfer. It was also interesting to note that knowledge characteristics (explicitness and causal ambiguity) exerted a strong influence on knowledge transfer in both directions, supporting studies that have highlighted knowledge explicitness (e.g. Ranft and Lord, 2002) and ambiguity (Simonin, 1999a; 1999b; Szulanski, 1996) as the most central determinants. The combined findings from the empirical papers (Essays 2-4) that relate to the direct effects of the determinants on M&A knowledge transfer are shown in Table 8 at the end of this section.

These findings suggest that acquirers who aim for two-directional knowledge transfer should try to mitigate fears on the part of the sender and the receiver by adopting an ‘integration’ (Nahavandi and Malekzadeh, 1988) or ‘symbiosis’ type of integration strategy (Haspeslagh and Jemison, 1991)⁴³, where the merging firms’ adapt to each others’ cultures and operational styles or create new ones, thereby supporting the identification and transfer of knowledge between both partners (Vaara et al., 2003b). These efforts can be supported by specific managerial actions aimed at reducing causal ambiguity and increasing the explicitness of the sender’s knowledge, e.g. through teaching initiatives where the sender collectively demonstrates and articulates the knowledge that it intends to transfer.

⁴³ See section 2.1.1.1 for a description of the integration strategies described by Haspeslagh and Jemison (1991) and Nahavandi and Malekzadeh (1988).

These findings also point to a number of *differences* between factors that influence knowledge transfer from the acquirer to the target and vice versa. More specifically, sender attractiveness (relationship characteristic), and cultural learning initiatives (managerial process) that are intended to enhance the partners understanding of each others' cultures and to build a collaborative climate between them (Schweiger and Goulet, 2005), were only related to knowledge transfer *from the target* to the acquirer. Furthermore, although cultural crossvergence (managerial process) influenced knowledge transfer in both directions, it had a stronger effect on knowledge transfer from the target than from the acquirer.

These findings are in line with the study of Bresman et al. (1999), which suggests that knowledge transfer from the target requires a 'social community' and a collaborative climate. However, contrary to the findings of Bresman et al. (1999), elapsed time did not have a positive effect on knowledge transfer from the target in any of the essays. This suggests that elapsed time as such may not have much influence on M&A knowledge transfer. Rather, it may relate to how the relationship between the acquisition partners has developed, which, in turn, can influence knowledge transfer. The findings from Essay 4 support this argument: even though it was not reported in the table above, elapsed time had a positive effect on the target's collective teaching initiatives, which in turn were associated with increased knowledge transfer from the target to the acquirer. In line with Bresman et al. (1999), these findings indicate that the 'social community' built during the integration process is linked to increased efforts to transfer knowledge from the target to the acquirer.

In contrast, organizational cultural differences before the acquisition (sender/receiver characteristic), post-acquisition communication and cultural convergence (managerial processes) were only related to knowledge transfer *from the acquirer* to the target. Furthermore, all of these factors were positively related to knowledge transfer in this direction. In addition to this, and in line with the study of Bresman et al. (1999), who argue that acquirers tend to 'impose' their knowledge mainly on the target in the early stages after an acquisition and that knowledge flows tend to become more mutual over time, elapsed time was negatively related to knowledge transfer from the acquirer in this study. These findings suggest that knowledge transfer from the acquirer is linked to the 'absorption' (Haspeslagh and Jemison, 1991) or 'assimilation' (Nahavandi and Malekzadeh, 1988) integration approach, where the acquirer aims to bridge organizational cultural differences by assimilating the target with the acquirer. This integration approach may be particularly prevalent in the early stages following acquisitions (Bresman et al., 1999), when there are large cultural differences between the merging firms.

	Variable name	Relationship with knowledge transfer from the acquirer	Relationship with knowledge transfer from the target	Influences knowledge transfer in both directions
Knowledge characteristics	Explicitness of sender's knowledge	+	+	Yes
	Causal ambiguity of sender's knowledge	-	-	Yes
Sender/receiver characteristics	Industry	NS	NS	No
	Size of the target	- (MS) / NS	NS	No
	International acquisition	-	NS	No
	National cultural differences	- (MS) / NS	- (MS) / NS	Yes (but not consistent)
	Organizational cultural differences	+	NS	No
Relationship characteristics	Sender's fear of exploitation and receiver's fear of contamination	-	-	Yes
	Attractiveness of sender	NS	+ (MS)	No
	Elapsed time	- (MS)	NS	No
Managerial processes	Communication	+ (MS)	NS	No
	Operational integration effort	+	+	Yes
	Cultural convergence	+	NS	No
	Cultural crossvergence	+	+	Yes
	Cultural learning initiatives	NS	+	No
	Sender's collective teaching initiatives	+	+	Yes

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 8 Combined direct effects from the empirical essays

5.1.2. Indirect effects on M&A knowledge transfer

This section relates to the indirect effects of socio-cultural factors, political factors and knowledge characteristics on M&A knowledge transfer. It addresses the need to examine more complex models including indirect effects and interactions between knowledge transfer determinants (Foss et al., 2010; Kane, 2010). This section first discusses the indirect effects examined in Essays 1, 3 and 4 (sections 5.1.2.1-5.1.2.3) and then turns to the combined findings of these essays (section 5.1.2.4).

5.1.2.1. Indirect effects in Essay 1

Essay 1 set out to conceptually explore the antecedents and effects of organizational absorptive and disseminative capacities (sender/receiver characteristics) on M&A knowledge transfer. It was suggested that these capacities are influenced by knowledge complementarity, operational and cultural integration (managerial processes) and political behaviour (relationship characteristic).

Essay 1 contributes to the M&A knowledge transfer literature in two ways. First the conceptual model in this essay integrates aspects from knowledge transfer research, which have not been explored together in the acquisition context. More specifically, organizational absorptive and disseminative capacities are argued to be central for M&A knowledge transfer. It was also proposed that they are influenced by the potential for transferring knowledge – i.e. the degree to which the acquirer's and target's knowledge is complementary – and also by factors related to the post-acquisition integration process. Some of these factors have also been explored in the empirical essays: knowledge complementarity in Essay 4, cultural integration in Essay 3, and fears of exploitation and contamination in Essay 2 that to some extent relates to the power perspective on organizations.

Second, this study emphasizes the importance of disseminative capacity – in addition to absorptive capacity – in influencing M&A knowledge transfer. This essay also distinguishes between collective and individual aspects of absorptive and disseminative capacities, which together make up an organization's absorptive/disseminative capacity. This has not been explicitly addressed in previous M&A research, and thereby provides more depth for the concepts. Finally, as a response to the call for building more complex models of knowledge transfer that also include indirect effects (Foss et al., 2010), this essay enriches our understanding of how operational and socio-political factors influence M&A knowledge transfer directly and indirectly.

5.1.2.2. Indirect effects in Essay 3

Essay 3 examined interactions between socio-cultural factors and knowledge characteristics, in addition to their direct effects on M&A knowledge transfer. More specifically, it was suggested that the causal ambiguity of the sender's knowledge moderates the effects of relationship characteristics (sender attractiveness) and managerial processes (cultural convergence and crossvergence) on M&A knowledge transfer.

The findings of this essay showed that causal ambiguity moderates the effect of sender attractiveness on knowledge transfer from the target by reducing the positive relationship. Although knowledge transfer from the acquirer was not directly

influenced by the acquirer's attractiveness, the ambiguity of the acquirer's knowledge was found to moderate this relationship: acquirer attractiveness had a significant and positive effect on knowledge transfer from the acquirer at low levels of ambiguity, whilst it was insignificant at high levels of ambiguity. These findings suggest that even if the acquirer is viewed as attractive, the target is likely to be less inclined to absorb the acquirer's knowledge if it is viewed as causally ambiguous and hence difficult to understand. The findings that relate to indirect effects in Essay 3 are presented in Table 9.

	Explanatory variable	Moderating variable	Relationship with knowledge transfer from the acquirer	Relationship with knowledge transfer from the target
Relationship characteristics	Attractiveness of the acquirer	Causal ambiguity of knowledge	NA	-
	Attractiveness of the target	Causal ambiguity of knowledge	- (MS)	NA
Managerial processes	Cultural convergence	Causal ambiguity of knowledge	+	NA
	Cultural crossvergence	Causal ambiguity of knowledge	NS	-

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 9 Indirect effects in Essay 3

Concerning managerial processes, the causal ambiguity of the sender's knowledge significantly weakened the positive effect of cultural crossvergence on knowledge transfer from the target to the acquirer, but not from the acquirer to the target. This provides evidence that the causal ambiguity of knowledge can reduce the effectiveness of this specific type of cultural integration, and that its effect is contingent on the direction of knowledge transfer.

Contrary to what was hypothesized, the causal ambiguity of the acquirer's knowledge moderated the relationship between cultural convergence and knowledge transfer from the acquirer by strengthening this relationship. One possible explanation is that cultural convergence is associated with the 'absorption' integration strategy, where the target is assimilated with the acquiring company. This often involves faster and more 'invasive' integration on the part of the acquirer, with a lower concern for preserving the target's knowledge base (Haspeslagh and Jemison, 1991). If cultural convergence – which aligns the acquisition partners' cultures – is associated with this type of integration, it may be particularly useful for supporting the transfer of the acquirer's ambiguous knowledge, which is likely to be embedded in the acquirer's culture (Simonin, 1999a; 1999b). In contrast, when the acquirer's knowledge is not ambiguous and therefore easier to transfer, cultural convergence may not be necessary and be thereby less effective for transferring knowledge from the acquirer to the target.

Essay 3 makes a number of contributions to the M&A knowledge transfer literature. First, it highlights the negative effect of causal ambiguity of knowledge on M&A knowledge transfer, which has not been explicitly examined in empirical M&A studies before. In addition, it shows that in the context of causally ambiguous knowledge, the positive effects of partner attractiveness and crossvergence on knowledge transfer are weakened. In contrast, cultural convergence supports the transfer of ambiguous knowledge from the acquirer. Second, this paper distinguishes between knowledge transfer from the acquirer to the target and vice versa, and shows that these two processes rely on different types of cultural integration. Whilst convergence was found to support knowledge transfer from the acquirer, crossvergence supports knowledge transfer in both directions. This builds on our previous understanding of how convergence and crossvergence influence M&A knowledge transfer (Sarala and Vaara, 2010).

5.1.2.3. Indirect effects in Essay 4

Essay 4 examined the indirect effects of sender/receiver characteristics (knowledge complementarity), knowledge characteristics (complexity) and relationship characteristics (cultural acceptance and preservation) on M&A knowledge transfer, through their influence on managerial processes (cultural learning and collective teaching initiatives).

Regarding sender/receiver characteristics, we showed that knowledge complementarity was positively related to cultural learning and collective teaching initiatives, both on part of the acquirer and the target, as expected. These results are in line with previous studies that have proposed that knowledge complementarity facilitates knowledge transfer in acquisitions (Björkman et al., 2007; Westphal and Shaw, 2005). Essay 4 expands on these studies by showing that complementarity supports knowledge transfer specifically through its impact on the increased use of managerial processes (cultural learning and collective teaching initiatives). In line with Haspeslagh and Jemison (1991), these findings indicate that knowledge complementarity increases the interdependence between the merging firms, which in turn is reflected in the choice of an integration approach that includes considerable learning and teaching efforts. Furthermore, the positive relationship between elapsed time and teaching initiatives on the part of the target support research that has shown increased knowledge flows from the target to the acquirer in later stages of M&As (Bresman et al., 1999). Similar to the findings in Essay 2, the negative association between organizational cultural differences and teaching initiatives on the part of the target indicate that cultural differences can impede knowledge transfer from the target.

Concerning knowledge characteristics, the complexity of the acquirer's knowledge was positively related to the acquirer's collective teaching initiatives, as hypothesized. This suggests that acquirers were aware of the need to support the transfer of more complex knowledge with increased social interaction (Simonin, 1999a) in the form of collective teaching initiatives. However, the target did not engage in more collective teaching initiatives when its knowledge was perceived as complex. This finding can be explained by the fact that the target is in a less powerful position than the acquirer (Jemison and Sitkin, 1986) and is not able to initiate managerial processes such as collective teaching to the same extent as the acquirer.

Contrary to what we hypothesized, cultural learning initiatives were not related to either partner's knowledge complexity. This was a surprising finding, because cultural

learning initiatives can be expected to support the transfer of complex, culturally embedded knowledge by providing the acquisition partners' with a better understanding of each others' cultures. These findings indicate that the acquisition partners may not have been taking full advantage of cultural learning initiatives to transfer complex knowledge. One explanation for this finding may be that collective teaching initiatives – which give organizational members of the receiving firm 'hands on' experience with the sender's collective routines and procedures (Zhao and Anand, 2009) – were viewed as more effective for transferring complex knowledge, compared to cultural learning initiatives. Cultural learning may therefore either have been 'overlooked' or simply viewed as less useful by acquisition managers. The results concerning the indirect effects are illustrated in Table 10.

	Explanatory variable	Relationship with cultural learning initiatives	Relationship with the acquirer's collective teaching initiatives	Relationship with the target's collective teaching initiatives
Knowledge characteristics	Knowledge complementarity	+	+	+
	Complexity of acquirer's knowledge	NS	+	NS
	Complexity of target's knowledge	NS	NS	NS
Relationship characteristic	Target's cultural acceptance	NS	+	- (MS)
	Target's cultural preservation	-	-	- (MS)

(+) = Positive relationship, (-) = negative relationship, MS = marginally significant relationship, NS = non-significant relationship, significant findings are highlighted in grey

Table 10 Indirect effects in Essay 4

Turning to the hypotheses concerning relationship characteristics, the target's acceptance of the acquirer's culture was related to an increased use of collective teaching initiatives on part of the acquirer, as was expected. We were, however, surprised to find that the target's acceptance of the acquirer's culture decreased the use of collective teaching initiatives by the target. This indicates that the target's acceptance of the acquirer's culture – which has been suggested to facilitate cultural assimilation with the acquirer (Nahavandi and Malekzadeh, 1988) – is associated with a passive attitude on part of the target: Rather than trying to initiate collective teaching themselves, target firm members seemed to be more interested in learning about the acquirer's culture and practices by participating in the acquirer's collective teaching initiatives. Furthermore, the target's acceptance of the acquirer's culture was not related to cultural learning initiatives. One explanation for this may be that when the target already views the acquirer's culture as attractive, mutual 'deep-level' cultural learning initiatives may not be necessary for assimilating the target's culture with that of the acquirer.

Finally, the findings showed that the target's cultural preservation was negatively associated with cultural learning initiatives and also with the acquirer's and target's collective teaching initiatives. This supports prior studies suggesting that cultural preservation increases social conflict (Sarala, 2010; Saunders et al., 2009) and reduces the ingroup's willingness to collaborate with the outgroup (Nahavandi and Malekzadeh, 1988; Weber et al., 1996), which in turn can impede knowledge transfer (Empson, 2001; Westphal and Shaw, 2005). These findings also relate to Essay 1, where it was suggested that social ingroup-outgroup categorizations can impede cultural integration. The finding that cultural preservation – which relates to social identification with the ingroup – reduced cultural learning, may be due to change resistance on the part of the target (e.g. Kühlman and Dowling, 2005) and reduced motivation on the part of the acquirer to convey its knowledge to a 'resistant' target.

Taken together, Essay 4 adds to our understanding of how sender/receiver characteristics (knowledge complementarity), knowledge characteristics (complexity) and relationship characteristics (cultural acceptance and preservation) indirectly influence M&A knowledge transfer through their impact on the use of managerial processes (cultural learning and collective teaching initiatives). This addresses a call for research to develop more complete and integrative models of the knowledge transfer process (e.g. Foss et al., 2010). Another novel aspect of this paper is that it includes teaching initiatives (Zhao and Anand, 2009) in addition to learning initiatives, and that it examines knowledge transfer both from the target to the acquirer and vice versa.

5.1.2.4. Combined indirect effects

In combination, the findings of Essays 1, 3 and 4 address the need to understand how socio-cultural and political factors, as well as knowledge characteristics influence knowledge transfer – not only directly – but also indirectly (Foss et al., 2010). These essays all highlight indirect effects between socio-cultural and political factors and M&A knowledge transfer.

We suggested in the conceptual Essay 1 that knowledge complementarity (sender/receiver characteristic), operational and cultural integration (managerial processes) and political behaviour (relationship characteristic) influence organizational absorptive and disseminative capacities (sender/receiver characteristics), which in turn facilitate M&A knowledge transfer.

The empirical Essay 3 showed that the causal ambiguity of the sender's knowledge (knowledge characteristic) impeded knowledge transfer – not only directly – but also by weakening the positive effects of sender attractiveness (relationship characteristics) and cultural crossvergence (managerial process). In contrast, ambiguity enhanced the positive effect of cultural convergence on knowledge transfer from the acquirer to the target. Hence, this essay also highlights the different effects knowledge ambiguity can have on knowledge transfer, depending on the direction.

In Essay 4, knowledge complementarity (sender/receiver characteristic) and complexity (knowledge characteristics) and cultural acceptance and preservation (relationship characteristics) were found to impact cultural learning and collective teaching initiatives (managerial processes) that, in turn, influence M&A knowledge transfer.

5.1.3. Summary of empirical findings

Taken together, the findings from the *empirical* essays (2-4) show that knowledge, sender/receiver and relationship characteristics, as well as managerial processes all influence M&A knowledge transfer to some extent. Depending on the direction of knowledge transfer, however, these factors have different effects. More specifically, the *sender/receiver characteristic* 'knowledge complementarity' was positively related to managerial processes (cultural learning and collective teaching initiatives) that supported knowledge transfer in both directions. In turn, national cultural differences had a slightly negative impact on knowledge transfer in both directions. In contrast, organizational cultural differences had mixed effects: they were positively related to knowledge transfer from the acquirer, but negatively related to knowledge transfer from the target.

Relationship characteristics – i.e. expectations of reciprocity or the lack thereof (Essay 2) and social ingroup and/or outgroup categorizations (Essays 2-4) – were related to knowledge transfer in both directions in most cases. Their influence was, however, more pronounced on knowledge transfer from the target. In addition, knowledge characteristics (ambiguity) moderated the effects of relationship characteristics (sender attractiveness) and managerial processes (cultural convergence and crossvergence) on M&A knowledge transfer (Essay 3). Furthermore, relationship characteristics (cultural acceptance and preservation) were found to influence managerial processes (cultural learning and teaching initiatives) in Essay 4.

Although most *knowledge characteristics* studied in this thesis were related to knowledge transfer in both directions, knowledge complexity was indirectly related to knowledge transfer from the acquirer to the target (but not from the target to the acquirer) through its impact on the acquirer's use of collective teaching efforts (Essay 4).

The *managerial processes* operational integration effort (Essay 2), cultural crossvergence (Essay 3) and collective teaching initiatives (Essay 4) were related to knowledge transfer in both directions. Post-acquisition communication (Essay 2) and cultural convergence (Essay 3), however, only impacted knowledge transfer from the acquirer. Finally, cultural learning initiatives only supported knowledge transfer from the target (Essay 4).

5.2. Contributions

The aim of this thesis was to examine how socio-cultural and political factors, as well as knowledge characteristics influence post-acquisition knowledge transfer. Moreover, it addressed whether these factors have different effects depending on the direction of knowledge transfer – from the acquirer to the target or vice versa. The thesis was set up against the premise that knowledge transfer is an important value creation mechanism in M&As, but that the M&A knowledge transfer process remains poorly understood (Weber and Fried, 2011a; Weber et al., 2011a; Zander and Zander, 2010). I argued that we do not know enough about the relative importance of different factors – relating to knowledge, sender/receiver and relationship characteristics as well as managerial processes – on M&A knowledge transfer in general, and more specifically regarding the direction of knowledge transfer. Furthermore, researchers have called for studies that examine the indirect effects of variables – such as moderating and mediating relationships – on knowledge transfer in general (Foss et al., 2010; Kane, 2010), and

particularly in the context of M&As (Björkman et al., 2007; Zander and Zander, 2010). Because the M&A knowledge transfer literature is largely based on small sample case studies, the quantitative analyses in this dissertation increase the robustness and generalizability of the knowledge on these phenomena.

This section summarizes the contributions of the essays on the research gaps mentioned above. Essay 1, which is a conceptual paper, attempts to enhance our understanding of how organizational processes impact M&A knowledge transfer by developing a model that includes dynamic aspects – i.e. operational and socio-cultural integration. By drawing on larger-scale quantitative data, essays 2 to 4 examine the direct and indirect effects and also the relative importance of knowledge transfer determinants, depending on the direction of the transfer. These empirical essays extend previous research by cross-fertilizing different perspectives of M&A integration – the strategic, human resource, cultural and political perspectives as well as the knowledge-based view (KBV), thereby providing a more integrative view of M&A knowledge transfer. The findings offer theoretical contributions to the literature on M&A knowledge transfer, as well as to the broader literatures on M&A integration management and knowledge transfer. These contributions are discussed in the following sub-sections.

5.2.1. Integrative framework

This thesis aimed to provide a more ‘complete’ picture of M&A knowledge transfer by integrating different perspectives from the M&A literature. It put particular emphasis on aspects that have been less explored in previous M&A research, namely socio-cultural integration (e.g. Teerikangas and Very, 2006), political behaviour (e.g. Riad, 2005; Vaara, 2001) and knowledge characteristics (e.g. Westphal and Shaw, 2005). More specifically, Essay 1 creates an integrative model by linking together the strategic, socio-cultural and political perspectives of M&A integration, as well as the KBV in order to explain M&A knowledge transfer⁴⁴. Essay 2, in turn, builds on the strategic, human resource and cultural perspectives in M&As, as well as the KBV to test the relative impact of knowledge transfer determinants. This is an issue that has been recognised as a gap in our current knowledge on knowledge transfer (Hansen and Løvås, 2004; Van Wijk et al., 2008)⁴⁵. By examining the impact of cultural convergence and crossvergence on M&A knowledge transfer, Essay 3 makes novel connections between the cultural and knowledge transfer discourses on M&As. It also links the cultural perspective to the KBV by examining the moderating effects of cultural integration and the causal ambiguity of knowledge. Finally, Essay 4 integrates the KBV and also the human resource and cultural perspectives in a multi-level model of M&A knowledge transfer determinants and their antecedents⁴⁶.

⁴⁴ In Essay 1, operational integration, socio-cultural integration and political behaviour relate to the strategic, cultural and political perspectives respectively. Knowledge complementarity and organizational absorptive and disseminative capacities relate to the KBV.

⁴⁵ In Essay 2, operational integration effort and communication relate to the strategic perspective and to integration management in general; the fear of exploitation and contamination relate to the organizational behaviour literature in the human resource perspective; organizational cultural differences relate to the cultural perspective; knowledge explicitness relates to the KBV.

⁴⁶ In Essay 4, knowledge complementarity and complexity relate to the KBV; target cultural acceptance and preservation relate to the cultural perspective; cultural learning and collective teaching relate both to socio-cultural integration and to integration management in general.

The integrated examination of these factors is important because it allows us to determine whether they substitute, complement, or reinforce one other. The findings of this thesis indicate that the success of M&A knowledge transfer cannot be reduced to one or two individual factors relating to knowledge, sender/receiver or relationship characteristics, or to managerial processes. Rather, it is the interplay between these variables during the integration process that ultimately impacts M&A knowledge transfer. Taken together, the results indicate that an 'ideal' setting for M&A knowledge transfer would involve acquisition partners that a) have complementary knowledge that is neither tacit nor causally ambiguous; b) are able and willing to disseminate their knowledge and/or absorb the partner's knowledge whilst detaching themselves from their old (redundant) knowledge; c) identify with and trust the partner and believe that knowledge transfer will be mutually beneficial; d) are willing to invest into managerial processes to promote knowledge transfer. Whilst previous work has highlighted some of these factors or their combinations (see Table 2 in section 2.2), studies that aim to create integrative models that explain these variables' exact roles remain scarce (e.g. Björkman et al., 2007; Zander and Zander, 2010).

The results highlight the complexity of implementing an acquisition strategy that is aimed at creating synergies from knowledge transfer. Essays 2 to 4 show that all of the examined variables – knowledge, sender/receiver and relationship characteristics as well as managerial processes – impact M&A knowledge transfer. Moreover, they illustrate that the effects of these variables depend on the direction of knowledge transfer and the type of knowledge that is being transferred. This echoes the conclusions of several studies, namely that acquisition performance is a multifaceted concept that is influenced by a number of interrelated factors (Haleblian et al., 2009; Weber and Tarba, 2010; Zollo and Meier, 2008).

Placing these findings within the broader stream of literature on post-acquisition integration outcomes will help to further clarify this thesis' contribution. Researchers have been trying to comprehend the main causes of M&A success or failure since the beginning of the 20th century when M&As became an increasingly prevalent element of corporate competitive strategies (Ribeiro, 2010). After decades of dedicated research that spans different industries and countries, applying various research methods, we still cannot explain what exactly makes acquisitions succeed. Some researchers (e.g. King et al., 2004) argue that we have been focusing too much on pre-acquisition factors concerning acquisition relatedness or strategic 'fit' (Chatterjee, 1986; Datta and Grant, 1990), acquisition experience (Al-Laham et al., 2010; Hayward, 2002) or the method of payment (Doukas, 1995; Steigner and Sutton, 2011). Others point to the importance of the integration process for post-acquisition value creation, but contend that too little is known about it (Haleblian et al., 2009), especially concerning the impact of specific managerial processes (e.g. Weber and Tarba, 2010; Zollo and Singh, 2004). By drawing on the broader process perspective on M&As – including human resource, cultural, political aspects – and the knowledge-based view, this thesis provides one point of departure for understanding the processes that contribute to acquisition performance.

This study also contributes to the broader literature on knowledge transfer, which focuses on other contexts such as knowledge transfer in alliances and across business units in large corporations. First, in a field that is generally dominated by theoretical and case studies based on small samples (Gagné, 2009), Essays 2-4 provide empirical evidence from larger-scale quantitative data about factors that determine knowledge transfer. Second, by developing multi-level models, Essays 1 and 4 address a call for research on more complex and indirect relationships between knowledge transfer determinants (Foss et al., 2010; Van Wijk et al., 2008), particularly concerning how

different factors interact with each other and in combination impact M&A knowledge transfer (Gagné, 2009; Kane, 2010). Third, by including variables relating to strategic, human resource, cultural and political aspects in the statistical model, essays 2 to 4 address a call for research to examine the relative importance of knowledge transfer determinants (Hansen and Løvås, 2004; Van Wijk et al., 2008). They also add to the broader knowledge transfer literature that rarely has simultaneously considered the impact of all of the factors mentioned above (Foss et al. 2010; Van Wijk et al., 2008). Fourth, by showing that the effects of knowledge transfer determinants vary depending on the direction of the transfer, the thesis draws attention to the importance of taking the sender's and the receiver's positions into account. It can also be expected that knowledge transfer determinants have different effects on knowledge transfer in other contexts such as alliances or MNCs, depending on the sending and receiving unit's particular roles or positions. For example, Wong et al. (2008) show that units' relative bargaining power affects knowledge flows within MNCs: more powerful units tend to receive more knowledge and transfer less knowledge than weaker counterparts. This implies that the relative position of the sender and receiver matter in terms of the direction of knowledge transfer. Furthermore, Teigland and Wasko (2009: 29) show that individuals' use of knowledge in MNCs differ depending on their functional roles and tasks. Hence, they contend that a 'standardized' or 'one-size-fits all' knowledge management system will not support knowledge transfer between all units in an MNCs. Future research could thus test the findings of this thesis in other contexts of knowledge transfer. Such research should examine more closely which mechanisms are likely to be most beneficial for sharing or obtaining knowledge depending on the functional roles and tasks of individuals in MNCs, alliances and M&As.

5.2.2. Direction of M&A knowledge transfer

Another contribution of this study pertains more specifically to the different effects of M&A knowledge transfer determinants, depending on the direction of the transfer – from the target firm to the acquirer or vice versa. Although the body of literature that has examined knowledge transfer in M&As is growing, only a few larger-scale studies have specifically addressed the direction of knowledge transfer (Bresman et al., 1999; Bröchner et al., 2004). Understanding how these factors influence knowledge transfer from the acquirer to the target and vice versa is important, because different acquisition contingencies may require different types of knowledge transfer, involving one-directional or mutual knowledge flows (Haspeslagh and Jemison, 1991).

The most notable differences in the direction of knowledge transfer concern the effects of organizational cultural differences, cultural integration and relationship characteristics: Organizational cultural differences were found to support knowledge transfer *from the acquirer* to the target. This was the opposite for knowledge transfer from the target. Regarding cultural integration, convergence enhanced knowledge transfer from the acquirer to the target but not in the opposite direction. One explanation for these findings can be that in M&As involving significant cultural differences, acquirers tend to impose their culture on target firms (Harding and Rouse, 2007). This is closely related to an 'absorption' (Haspeslagh and Jemison, 1991) integration approach, where the acquirer aims to assimilate the target's structure and culture, and thereby support knowledge transfer to the target.

In contrast, knowledge transfer *from the target* to the acquirer relied more on creating a close and trusting social relationship between the acquisition partners. More specifically, knowledge transfer in this direction was supported particularly by

relationship characteristics (partner attractiveness) and managerial processes that created a collaborative atmosphere and promoted mutual understanding (cultural crossvergence and cultural learning). These findings support the notion that knowledge transfer from the target is more contingent on socio-cultural factors, e.g. the creation of a 'social community' and a collaborative climate (Bresman et al., 1999; Zander and Zander, 2010).

5.2.3. Indirect effects of socio-cultural factors, political factors and knowledge characteristics

Another specific contribution of this thesis concerns responding to a call for exploring more complex and indirect relationships between knowledge transfer determinants (Foss et al., 2010; Gagné, 2009). The more in-depth understanding of the interactions and interrelationships between knowledge transfer determinants helps practitioners understand how to improve the knowledge transfer process. This thesis has attempted to shed light on how socio-cultural and political factors, in combination with knowledge characteristics, influence M&A knowledge transfer directly and indirectly. Essay 1 contributes by providing a more integrative model of M&A knowledge transfer, which has been called for in previous research (Zander and Zander, 2010). More specifically, M&A knowledge transfer is viewed as a dynamic process that is ultimately the result of the interplay between operational, socio-cultural and political factors. Whilst Essay 2 does not include indirect effects, it contributes by examining the relative importance of knowledge transfer determinants – i.e. knowledge, sender/receiver and relationship characteristics as well as managerial processes – drawing on larger-scale data, which has been called for in previous research (Hansen and Løvås, 2004; Minbaeva, 2007). By highlighting important moderating effects between knowledge and relationship characteristics as well as managerial processes, Essay 3 addresses the need to look beyond direct relationships in explaining knowledge transfer (Foss et al., 2010). This essay also responds to a call for researchers to examine how sociocultural integration affects M&A knowledge transfer (Castro and Neira, 2005) and how knowledge characteristics moderate the effects of relationship characteristics (Kane, 2010) and managerial processes on M&A knowledge transfer. In turn, Essay 4 contributes by testing an integrative model (Zander and Zander, 2010) that contains the antecedents and outcomes of managerial processes that are expected to influence M&A knowledge transfer.

5.3. Limitations and suggestions for future research

Like every study, this thesis has a number of limitations. This section addresses the generalizability of the findings in this thesis, the common method variance, and the cross-sectional nature of this study. It also discusses how the measures used could be improved.

5.3.1. Generalizability of the findings

Some caution is in order when considering the generalizability of the empirical findings in this thesis. The empirical data in all of the essays were based on domestic and international acquisitions conducted by Finnish acquirers. Acquirers have been found to use different integration mechanisms, depending on the country of origin (Calori et al., 1994; Calori et al., 1997; Lubatkin et al., 1998). Hence, one should be careful about

generalizing the findings regarding managerial processes employed by the acquirers and those regarding knowledge transfer between the merging firms.

Despite the concerns of empirical generalizability that need to be addressed with additional empirical data, a stronger case can be made for the theoretical generalizability or the applicability of arguments across research contexts. Most hypotheses in the empirical essays concern relationships that are independent of any particular attributes of the context. Thus, it can be argued that these findings can be generalized to other national contexts (Blair and Zinkhan, 2006). In addition, because acquiring firms had targets from a number of different countries, this is not a purely Finnish study. The results of this study are therefore likely to be more generalizable to other national contexts. By replicating this study in other contexts, researchers could find out to what extent the acquirer's nationality influences the acquisition strategy in general and the use of managerial processes aimed at enhancing knowledge transfer in particular.

5.3.2. Respondents

The empirical data relied mostly on subjective evaluations from single responses provided by higher level managers from acquiring firms. This increases the risk that common method variance may bias the results (Chang et al., 2010). Although we took several ex ante and ex post measures to reduce the likelihood of common method variance – e.g. we pre-tested the survey, used mostly previously validated measures, scattered questions in the questionnaire, emphasized confidentiality to respondents, and used complicated specifications of regression models (Chang et al., 2010; Podsakoff et al., 2003) – we cannot rule it out entirely.

In addition, the single responses obtained for this study may not necessarily represent both the acquirer's and target's opinions. Even though we did receive multiple responses for a small subset of the data, which allowed us to test for the reliability of these answers (Calori et al., 1994), it would have been useful to obtain more data from the target firm. This was, however, not possible in the current study because many respondents were reluctant to give access to this type of highly sensitive acquisition information. This also limited the response rate.

Furthermore, data in the empirical papers relied largely on responses from top managers. This methodological choice was made in order to obtain high quality responses from individuals who had key roles in the acquisitions and would therefore have sufficient knowledge to complete the survey. Whilst top management respondents are likely to have extensive knowledge of the firm, middle managers who are more familiar with the operational side may be better aware of the day-to-day activities concerning M&A integration and knowledge transfer (Mäkelä, Björkman and Ehrnrooth, 2009). Future studies would thus benefit from including respondents from multiple sources and organizational levels.

5.3.3. Cross-sectional nature of the study

The cross-sectional nature of the survey used in all of the empirical papers in this thesis provides a limited picture of how dynamic processes evolve over time. It would therefore be interesting to examine changes over time with longitudinal data. For example, the study of Bresman et al. (1999) shows that M&A knowledge transfers can

change over time in terms of the direction of the transfer and the type of knowledge that is transferred. Although it was not a central focus on this study, the empirical papers in this thesis did include a time aspect in the sense that they controlled for the effect of elapsed time. Although we found that elapsed time had a positive effect on teaching initiatives on the part of the target firm in Essay 4, it was not significantly related to knowledge transfer in any of the empirical essays. It is thus possible that elapsed time per se does not impact M&A knowledge transfer, but that time influences knowledge transfer indirectly through the development of the acquisition partners' relationship. However, the 'dynamic aspect' of elapsed time – e.g. how cultural integration processes, cultural learning and collective teaching initiatives evolve over time – was not explicitly examined in this thesis. This would constitute an interesting topic for future research (Zander and Zander, 2010).

In addition, the causality of the proposed relationships in the empirical models cannot be shown with cross-sectional data. Rather, these data provide a snap-shot of relationships at a particular point in time. These are aspects that future studies could address by applying a longitudinal method. For example, they could examine how knowledge and relationship characteristics influence the use of managerial processes over time and consequently knowledge transfer. It would be especially valuable to examine these dynamic aspects with a sample of larger-scale data, in order to get results that can be generalized to larger populations. Quantitative longitudinal acquisition studies are, however, rare because of difficulties in gaining access to data of such a sensitive nature (Cartwright and Schoenberg, 2006).

5.3.4. Measures

Whilst most of the measures used in the empirical studies were based on previous research, several of these measures could be improved. In Essay 2, it was argued that the measures 'fear of exploitation' and 'fear of contamination' impede knowledge transfer by reducing the motivation of individuals to engage in knowledge transfer. These fears could also be examined through the lens of trust versus distrust. More specifically, it has been argued that the extent to which one party trusts another depends on several factors, namely the degree to which the other party is viewed as able, benevolent, having integrity (Schoorman, Meyer and Davis, 2007), being open, and having values similar to one's own or to those of one's organization (Stahl et al., 2011; Whitener, Brodt, Korsgaard and Werner, 1998). Comparing the above-mentioned fears with these antecedents of trust, the fear of exploitation relates to benevolence, i.e. the extent to which sending firm members expect receiving firm members to act in a way that benefits them both, rather than to exploit the sending firm members for their own benefit (Schoorman et al., 2007; Whitener et al., 1998). In turn, the fear of contamination on part of the receiver seems to relate to both to value congruence (Empson, 2001; Stahl et al., 2011) and to perceived ability (Empson, 2001; Schoorman et al., 2007). This construct could thus be refined to address whether this fear stems from recipient firm members viewing the sender's organizational values, norms (Stahl et al., 2011) or image (Empson, 2001) as too dissimilar to their own to benefit from the knowledge, or if the recipient is concerned about the partner not being competent or able to provide useful knowledge (Empson, 2001; Schoorman et al., 2007). In addition, future work could include measures about the perceived integrity of the partner – i.e. whether it will honour agreements (Schoorman et al., 2007) and the openness of the partner – i.e. whether it is willing to provide explanations for decisions as well as accurate information (Stahl et al., 2011; Whitener et al., 1998).

In Essay 3, the empirical measures of cultural convergence and crossvergence could be developed further to address the complexity of these processes. More specifically, the operationalization of cultural crossvergence as a two-item construct that measures the extent to which the acquirer and the target have created a shared culture and identity is relatively crude. Future studies could provide a more fine-grained measure by clarifying whether crossvergence took place by creating an entirely new culture and identity alongside of existing pre-acquisition identities, which is similar to the 'dual identity' socio-cultural integration strategy (e.g. Ullrich et al., 2005; Vermeulen, 2005), or if crossvergence was based on combining the acquisition partners' existing cultural dimensions, which is similar to the 'best of both' (Marks and Mirvis, 2011) or 'integration' (Nahavandi and Malekzadeh, 1988) integration approach. It would be important to make this distinction in future studies because in the first type of socio-cultural integration, acquisition partners are allowed to continue their existing cultures, which is likely to reduce the perceived 'threat' posed by the outgroup. Conversely, if acquisition partners are required to give up their existing cultures and identities for a new, shared common culture it is possible that they experience the acquisition as more threatening to their pre-merger identities, even if the new culture combines elements from both partners' pre-merger cultures.

Organizational cultural convergence, which measured whether the cultures of the acquisition partners became more similar over time, was mainly based on the work of Sarala and Vaara (2010). As mentioned by them, one important limitation of this measure is that respondents were asked to make post hoc longitudinal comparisons of cultural changes (Sarala and Vaara, 2010: 1382). Ideally, evaluations of cultural differences would have been collected separately before and after the acquisition to avoid any possible retrospective bias in the pre-acquisition evaluations. However, this would have been impractical, if not impossible, considering the number of acquisitions in the samples, the reluctance of managers to respond to questions about the acquisition when the deal is still being negotiated, and the confidentiality of the pre-acquisition stage. The cultural convergence measure could also be developed by taking into account whether the cultural changes took place mainly in the acquiring firm, the target or in both firms, in order to establish which partner was culturally more dominant.

Similar to cultural crossvergence, the measures on partner attractiveness and causal ambiguity of knowledge in Essay 3 and also cultural preservation in Essay 4 were operationalized as two-item constructs and could be improved. Furthermore, Cronbach's alpha for the constructs causal ambiguity of the target's knowledge ($\alpha=0.67$) in Essay 3 and the complexity of the acquirer's and target's knowledge ($\alpha=0.66$ for both constructs) in Essay 4 were below the recommended 0.7 (Henseler et al., 2009), although not much lower. Consequently, these constructs could be refined and improved in future studies.

Finally, although a number of knowledge characteristics were included in this study (explicitness, ambiguity, complementarity and complexity), their interrelationships were not examined. This would be an interesting area for future research, as knowledge transfer has become an increasingly important motive for contemporary acquisitions (Ambrosini et al., 2011; Zander and Zander, 2010). In addition, it has been suggested that other knowledge characteristics, such as its demonstrability (Kane, 2010), specificity (Simonin, 1999a; 1999b) and availability (Minbaeva, 2007) influence knowledge transfer in MNCs and alliances. It would be interesting to extend the aforementioned research to the M&A context by examining how these knowledge characteristics are related to M&A knowledge transfer, as well as whether they interact

with each other and other knowledge characteristics. The following section provides a more detailed discussion about potential avenues for future research.

5.4. Suggestions for future research

This thesis opens up a number of interesting research areas that are worth exploring in the future. Although the essays aimed to provide a more ‘complete’ picture of M&A knowledge transfer by drawing on a number of perspectives on post-acquisition integration, the main focus was on socio-cultural and political factors, as well as knowledge characteristics. There is a need for more interdisciplinary research on M&As that ties together different streams of research – financial, strategic, human resource, cultural and political perspectives – and that combines factors from both the pre- and post-acquisition stages (e.g. Weber and Fried, 2011a). More specifically, future studies could develop and test more comprehensive models that link together pre- and post-acquisitions activities and outcomes.

Future studies could also integrate research from areas that have so far received less attention in M&A research. For example, we have limited knowledge about how human resource practices such as training and development, incentives and employee engagement impact M&A knowledge transfer. Although it may seem intuitive that such human resource practices would have positive effects on M&A integration and knowledge transfer, the study by Weber et al. (2011a) shows that that this is not always the case. Rather, they find that human resource practices can have positive, non-significant and even negative effects on acquisition performance, depending on the nationality of the acquirer. Furthermore, it has been suggested that the extent to which acquirers invest in human resource practices varies depending on the nationality of the acquirer (Child et al., 2000; Weber et al., 2011a; Weber and Tarba, 2010). In light of this, it would be fruitful to explore moderating relationships between managerial practices and knowledge, sender/receiver and relationship characteristics. For example, future studies could examine whether the effects of different socio-cultural integration mechanisms on M&A knowledge transfer vary depending on the context – e.g. the general acquisition strategy, geographic scope, the intended direction of knowledge transfer, the degree of national and cultural differences, the degree of relatedness between the knowledge bases of the merging firms, elapsed time, industry sector, or the type of relationship the partners had prior to the acquisition.

Continuing the previous point, the concepts of power, politics and identity have also been explored less in M&A studies in general, and concerning M&A knowledge transfer in particular. In this thesis it was argued that power struggles and political behaviour impede M&A knowledge transfer by increasing the sender’s fear that its knowledge will be ‘exploited’ and the receiver’s fear that its knowledge base and identity will be ‘contaminated’ (Essay 2) or become obsolete by accepting the sender’s knowledge (Essay 1). It was also suggested in Essay 1 that operational integration – which can involve significant organizational re-structuring – can give rise to political behaviour as individuals try to ‘protect their turfs’. However, these essays did not address other factors that can cause political behaviour or power struggles in M&As. This is a topic that future studies could focus on. Some researchers have, for example, argued that M&A knowledge transfer can be viewed as particularly threatening to the recipient firm if it involves uprooting the firm’s culturally embedded knowledge – which is closely tied to its identity and status – or if it is viewed as an act of domination by the sending firm. Receiving firm members have been found to draw on differences between the merging firms – e.g. in their national cultures (Vaara et al., 2003b), professional cultures,

knowledge bases and images (Empson, 2001) – in order to legitimize their resistance to adopting the sender's knowledge, which has been deemed as 'unsuitable' or even harmful for their operations. It would be interesting to examine how pre-acquisition factors – such as prior collaboration, differences in the merging firms' cultures, strategies, knowledge bases and bargaining power – influence how individuals construct their social identities following acquisitions. It would also be interesting to examine when processes of identity construction are related to political behaviour that can be detrimental to M&A knowledge transfer. Research taking a discursive perspective may be particularly useful in illustrating how individuals construct notions of 'valuable' versus 'worthless' knowledge in order to enhance or protect their identities and power bases (Vaara et al., 2003b).

Furthermore, and similar to many other M&A studies, this thesis portrayed political behaviour as something disruptive that should be 'minimized' in order to enhance knowledge transfer. Some researchers argue, however, that political behaviour can also be 'constructive', depending on what kinds of political tactics are used – e.g. coercion or pressure versus consultation or rational persuasion (Steensma and Van Milligen, 2003). Future research could try to map out what kinds of political tactics are commonly used in M&As, which pre-acquisition conditions – e.g. differences in the merging firms' cultures or knowledge bases – give rise to different types of political tactics, and which tactics, in turn, are associated with 'better' or 'worse' outcomes in different types of acquisitions.

In line with previous research (e.g. Szulanski, 1996; Zhou and Ghauri, 2008), this thesis viewed M&A knowledge transfer as a process that 'begins' when one of the acquisition partners identifies useful knowledge that it can share with or absorb from the partner, and 'ends' when one partner makes use of the other's knowledge. It has, however, been argued that M&A knowledge transfer can be less straightforward than this and that it can involve several starts, stops and iterations (Buono, 1997). For example, Essay 1 examined how knowledge complementarity, operational and cultural integration as well as political behaviour influence organizational absorptive and disseminative capacities, and thereby M&A knowledge transfer. It is, however, possible that some of these relationships could be viewed in 'reverse': When the receiver has institutionalized the sender's knowledge, the new knowledge becomes embedded in its routines and processes of the receiving firm (Kostova and Roth, 2002), thus changing the receiver's organizational context. Such organizational and behavioural changes can influence the ability and motivation of individuals to disseminate or absorb knowledge in the future. Future research is thus needed that focuses on the dynamics of M&A knowledge transfer, in order to create a grounded 'processes model' of M&A knowledge transfer and its different stages.

Continuing the previous point, it would also be interesting to explore learning and unlearning processes in M&A knowledge transfer in greater depth. In Essay 4, it was argued that cultural learning and collective teaching initiatives facilitate knowledge transfer. In Essay 1, we argued that effective knowledge transfer requires that the receiver discards its 'old' knowledge, which is akin to organizational unlearning. We did not, however, explore the different dimensions of learning and unlearning. For example, Leroy and Ramanantsoa (1997) found that behavioural learning without cognitive learning reduces the receiver's capacity to fully make use of the sender's knowledge in M&As. Concerning normative learning – i.e. the extent to which the recipient views the norms and values of the sender as compatible with its own – Kane (2010) shows, in a study of knowledge sharing between students, that social identification with the sender increases the willingness of receivers to expend time and

effort to learn the about the sender's knowledge. In turn, this enhances the receiver's ability to recognize the value of the sender's knowledge and consequently their willingness to make use of it (Kane, 2010). Yildiz and Fey (2010) argue that unlearning processes – cognitive, behavioural and normative – are also vital for M&A knowledge transfer. Future research could address what is required for organizational members to depart from their existing knowledge, and whether learning initiatives need to be supported by 'unlearning initiatives' for effective knowledge transfer to take place. In addition, they could examine how these learning and unlearning processes interact with each other (Leroy and Ramanantsoa, 1997) and with other factors, such as knowledge (Kane, 2010), sender/receiver and relationship characteristics.

Future studies applying longitudinal, grounded research methods are needed in order to provide a more nuanced and richer picture of how the M&A knowledge transfer process develops and unfolds over time. Grounded research that focuses on the micro-level and integrates different viewpoints from multiple organizational levels is likely to be more closely tied to the day-to-day activities related to M&A knowledge transfer than survey-based research. However, longitudinal research – be it quantitative or qualitative – is needed in order to gain a better understanding of the causal relationships in processes related to M&A integration (Weber and Fried, 2011b) and to knowledge transfer in general (van Wijk et al., 2008).

This thesis was built on the notion that knowledge transfer is a key value creation mechanism in acquisitions that require some degree of integration (Haspeslagh & Jemison, 1991). More specifically, acquiring and target firms were argued to benefit from filling their 'knowledge gaps' by drawing on each other's new and unique knowledge, by combining their knowledge in new and unique ways (Björkman et al., 2007; Vermeulen and Barkema, 2001) or by replacing one of the partner's knowledge with 'superior' knowledge from the other (Vaara et al., 2003b). This argument was derived from the knowledge-based view (KBV), which perceives knowledge transfer as important for creating and sustaining firms' competitive advantage (Grant, 1996; Gupta and Govindarajan, 2000). In line with this, previous research has shown that post-acquisition knowledge transfer is related to improved M&A financial performance (Capron, 1999; Capron and Pistre, 2002; Zollo and Meier, 2008). However, this thesis does not explicitly address the link between knowledge transfer and acquisition performance. By using stock-market or accounting criteria, future studies could examine to what extent knowledge transfer influences post-M&A performance, depending on the direction of the transfer as well as on contextual factors such as acquisition motives, industry characteristics, cultural differences, the stage of post-acquisition integration, and knowledge characteristics of the acquiring and target firms. Furthermore, future research could examine more specifically which types of knowledge – e.g. related to research and development, product innovation, marketing or general management – are associated with better performance in M&As. For example, King, Slotegraaf and Kesner (2008) find that complementary knowledge – i.e. when the acquirer and target possesses marketing and technological knowledge respectively – is associated with better performance than substitutable knowledge – i.e. when both acquirer and target possess technological knowledge. In addition, it can be expected that the transfer of general management expertise – which concerns knowledge e.g. about strategy, business, leadership and management – may constitute a specific source of synergy in unrelated acquisitions where functional knowledge transfer is lower or where a 'preservation' integration approach is applied by the acquirer (Haspeslagh and Jemison, 1991). Future research could for example aim to develop a typology of acquisitions and explore the relevance of knowledge transfer in different acquisition types.

5.5. Managerial implications

Earlier sections in this thesis have focused on theoretical arguments and empirical findings concerning M&A knowledge transfer. This section moves on to discuss practical implications of this thesis' findings for managers who are planning to conduct acquisitions or who are currently involved in post-acquisition integration.

By combining strategic, human resource, cultural, political and knowledge-based perspectives on M&A integration, the essays in this thesis have aimed to provide a more comprehensive picture of what M&A knowledge transfer entails. The overview obtained from this thesis can help managers understand the challenges and dynamics related to M&A knowledge transfer.

This thesis also identifies several factors that influence M&A knowledge transfer individually. Being aware of these factors allows managers to consider how knowledge transfer opportunities can be exploited and challenges overcome by applying specific managerial practices. These factors are discussed as follows:

First, this thesis draws attention to the important link between *knowledge complementarity* and M&A knowledge transfer. The degree of knowledge complementarity indicates to what extent knowledge transfer can contribute to post-acquisition value creation by filling the acquisition partners' 'knowledge gaps'. It also reflects the amount of learning and teaching efforts needed to realize synergies from knowledge transfer. Managers should already evaluate at the pre-acquisition stage to what extent the merging firms' knowledge bases are complementary. Being aware of the degree of complementarity can help managers outline an appropriate integration approach. More specifically, when the merging firms' knowledge bases are complementary, they need to make greater efforts to integrate the firms operationally and socio-culturally in order to benefit from knowledge transfer. However, acquirers need to be simultaneously careful about not disrupting the target's knowledge base by interfering too much in its operations. By identifying specific functions or departments in the target firm that contain complementary knowledge, acquirers may be able to 'buffer' these parts and proceed more cautiously in their integration.

Second, the thesis points to the importance of being aware of the *type of knowledge* that is to be transferred. It shows that it is generally difficult to transfer causally ambiguous knowledge – i.e. when the recipient does not understand the links between actions and outcomes related to the sender's knowledge. In turn, explicit knowledge, which can be codified and articulated, is transferred more easily. Consequently, acquirers can benefit from evaluating what kind of knowledge the merging firms possess during pre-acquisition due diligence. In addition, they should consider whose knowledge will be transferred as part of the overall acquisition strategy; that of the acquirer, the target or of both firms'? This allows acquirers to estimate potential difficulties and costs relating to M&A knowledge transfer. It can also help them to plan an integration strategy that supports knowledge transfer. For example, operational integration that combines the acquirer's and target's formal structures and systems can help build a common 'platform' that supports knowledge transfer. The transfer of more ambiguous or complex knowledge may require greater efforts at socio-cultural integration – such as cultural learning initiatives – to increase the acquisition partners' understanding of each other's socially and culturally embedded knowledge.

Third, the findings in this thesis highlight the importance of the *quality of the relationship* between the acquisition partners. More specifically, they show that

knowledge transfer is enhanced when the acquisition partners view each other's cultures and knowledge bases as valuable, when they expect knowledge transfer to be mutually beneficial, and when they are not overly concerned about preserving their own culture or knowledge base. These aspects seem to be particularly important for transferring knowledge *from the target* to the acquirer. Managers are thus advised to pay attention to relationship characteristics before making an acquisition as well as during post-acquisition integration. Pre-acquisition due diligence that commonly focuses on strategic, structural and financial aspects is not likely to be enough to evaluate how the acquisition partners' relationship will develop after the acquisition. A 'human resource due diligence' can alert acquirers about relationship challenges that could otherwise remain hidden and potentially undermine an acquisition that in other respects seems like a good deal. It can also help managers plan how to deal with human resource challenges after an acquisition, should they decide to pursue an acquisition in spite of them.

Fourth, this thesis sheds light on how *cultural differences* impact M&A knowledge transfer and thereby value creation. Echoing several academic and consultant reports, the findings indicate that *national cultural differences* have a negative effect on post-acquisition value creation by reducing M&A knowledge transfer in both directions to some extent. Similarly, it was found that *organizational cultural differences* were negatively related to knowledge transfer *from the target*, although the association was not very strong. In contrast, organizational cultural differences were strongly and positively related to knowledge transfer *from the acquirer*. These findings show that cultural differences can have quite different effects on acquisition outcomes, depending on the type of knowledge transfer that is sought. Therefore, it is important that managers pay attention to national and organizational cultural differences already when planning an acquisition.

This thesis also points to clear differences in how managerial practices impact M&A knowledge transfer, depending on the direction of the transfer. In order to facilitate knowledge transfer *from the acquirer*, managers need to make extensive efforts to assimilate the target with the acquirer both operationally and culturally, especially if the acquirer's knowledge is ambiguous. In contrast, knowledge transfer *from the target* requires greater socio-cultural integration efforts in the form of cultural learning initiatives and in attempting to create a new shared culture between the merging firms. Finally, collective teaching initiatives that involve members from both merging firms are likely to support knowledge transfer in *both directions*. Taken together, these findings provide managers with a better understanding of specific mechanisms that facilitate one- and two-directional knowledge transfer in M&As.

Whilst this thesis brings forth a number of factors that impact M&A knowledge transfer individually, it also shows that knowledge transfer does not depend on any single factor. Rather, all of the factors discussed in this section – knowledge, sender/receiver and relationship characteristics as well as managerial processes – influence it together. This points to the complexity of managing acquisitions in general and knowledge transfer in particular. It also suggests that managers need to consider how the *combination* of several factors impacts M&A knowledge transfer, rather than emphasizing any single factor.

5.6. Concluding remarks

This study began as an attempt to gain a better understanding of how value is created following acquisitions, by examining factors that support or impede knowledge transfer. Drawing on the knowledge-based view, the essays in this thesis contribute by enhancing our understanding of the complex impact mechanisms of M&A knowledge transfer – particularly concerning socio-cultural and political factors. Focusing on post-acquisition knowledge transfer as a central value-creation mechanism provides an alternative viewpoint in M&A research, which has tended to emphasize pre-acquisition factors. Future research can build on the knowledge-based view in order to further our understanding of M&A processes and to offer new insights concerning why some acquisitions succeed and others fail.

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APPENDIX 1 RESEARCH QUESTIONNAIRE FROM 2011

HANKEN SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION Research on Finnish Corporate Acquisitions	
Acquirer:	_____
Target:	_____

Please think back to the time of the acquisition when answering the following questions:

Name: _____

Position and employer at the time of acquisition? _____

1. Please evaluate:	
a) How many acquisitions your company has made during the <u>5 years before</u> this acquisition?	
b) The number of employees in the <u>acquiring company before</u> the acquisition	

2. How important were the following motives in acquiring the target business?	Not important						Very important
a) To achieve economies of scale	1	2	3	4	5	6	7
b) To reduce overcapacity in the industry	1	2	3	4	5	6	7
c) To increase market share in your current market	1	2	3	4	5	6	7
d) To expand into a related business	1	2	3	4	5	6	7
e) To expand into an unrelated business	1	2	3	4	5	6	7
f) To access foreign markets	1	2	3	4	5	6	7
g) To obtain patents, R&D or technological knowledge from the target	1	2	3	4	5	6	7
h) To obtain other of types knowledge from the target (sales, management etc.)	1	2	3	4	5	6	7

3a. How important are the following areas of knowledge to the acquiring company's operations?	Not important						Very important
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7

3b. How important are the following areas of knowledge to the <u>target</u> company's operations?	Not important				Very important		
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7

4a. The <u>acquiring</u> company has expertise in the following knowledge areas	Not at all				Great expertise		
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7
4b. The <u>target</u> company has expertise in the following knowledge areas	Not at all				Great expertise		
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7

5a. How would you describe the knowledge residing in the <u>acquiring</u> company that could be used in the <u>target</u> company	Do not agree				Completely agree		
a) The knowledge is easily transferable to the <u>target</u> company	1	2	3	4	5	6	7
b) The association between causes and effects, inputs and outputs, and actions and outcomes related to the knowledge is clear	1	2	3	4	5	6	7
c) If there was a problem with the knowledge, the precise reasons for the failure could not be articulated even after the event	1	2	3	4	5	6	7
d) It is well known how the components related to the knowledge interact to produce the knowledge's output	1	2	3	4	5	6	7
e) The knowledge is easily codifiable (in blueprints, instructions, formulas, etc.)	1	2	3	4	5	6	7
f) The knowledge is more explicit than tacit	1	2	3	4	5	6	7
g) The knowledge is well documented	1	2	3	4	5	6	7
h) All of this knowledge can be sufficiently explained in writing (in code comments, written reports, manuals, e-mails, faxes, etc.)	1	2	3	4	5	6	7
i) The knowledge is a product of many interdependent techniques, routines, individuals, and resources	1	2	3	4	5	6	7
j) The knowledge is a part of various structures and processes	1	2	3	4	5	6	7
k) The knowledge is deeply embedded in the acquirer's culture	1	2	3	4	5	6	7
l) The knowledge consists of highly interdependent routines, individuals and technologies	1	2	3	4	5	6	7
m) To develop its knowledge, the <u>acquiring</u> company has had to invest significantly in specialized equipment and facilities	1	2	3	4	5	6	7
n) To develop its knowledge, the <u>acquiring</u> company has had to invest significantly in skilled human resources	1	2	3	4	5	6	7

5b. How would you describe the knowledge residing in the <u>target company</u> that could be used in the <u>acquiring company</u>	Do not agree							Completely agree						
a) The knowledge is easily transferable to the <u>acquiring company</u>	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) The association between causes and effects, inputs and outputs, and actions and outcomes related to the knowledge is clear	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) If there was a problem with the knowledge, the precise reasons for the failure could not be articulated even after the event	1	2	3	4	5	6	7	1	2	3	4	5	6	7
d) It is well known how the components related to the knowledge interact to produce the knowledge's output	1	2	3	4	5	6	7	1	2	3	4	5	6	7
e) The knowledge is easily codifiable (in blueprints, instructions, formulas, etc.)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
f) The knowledge is more explicit than tacit	1	2	3	4	5	6	7	1	2	3	4	5	6	7
g) The knowledge is well documented	1	2	3	4	5	6	7	1	2	3	4	5	6	7
h) All of this knowledge can be sufficiently explained in writing (in code comments, written reports, manuals, e-mails, faxes, etc.)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
i) The knowledge is a product of many interdependent techniques, routines, individuals, and resources	1	2	3	4	5	6	7	1	2	3	4	5	6	7
j) The knowledge is a part of various structures and processes	1	2	3	4	5	6	7	1	2	3	4	5	6	7
k) The knowledge is deeply embedded in the target's culture	1	2	3	4	5	6	7	1	2	3	4	5	6	7
l) The knowledge consists of highly interdependent routines, individuals and technologies	1	2	3	4	5	6	7	1	2	3	4	5	6	7
m) To develop its knowledge, the <u>target</u> company has had to invest significantly in specialized equipment and facilities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
n) To develop its knowledge, the <u>target</u> company has had to invest significantly in skilled human resources	1	2	3	4	5	6	7	1	2	3	4	5	6	7

6. How would you describe the <u>cultural differences</u> between the companies <u>before the acquisition</u> in the following areas	No differences							Significant differences						
a) Management and control	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) Sales and marketing	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) Production	1	2	3	4	5	6	7	1	2	3	4	5	6	7
d) Research and development	1	2	3	4	5	6	7	1	2	3	4	5	6	7
e) Finance	1	2	3	4	5	6	7	1	2	3	4	5	6	7
f) Company values in general	1	2	3	4	5	6	7	1	2	3	4	5	6	7
g) Values of the decision makers	1	2	3	4	5	6	7	1	2	3	4	5	6	7

7a. How would you describe the culture of the <u>acquiring company</u> before the <u>acquisition</u>?													
a) Contains many different cultural groups	1	2	3	4	5	6	7	Contains few different cultural groups					
b) High level of valuing cultural diversity	1	2	3	4	5	6	7	Low level of valuing cultural diversity					
c) High tolerance of cultural diversity	1	2	3	4	5	6	7	Low tolerance of cultural diversity					
d) Multiculturalism is encouraged	1	2	3	4	5	6	7	Uniculturalism is encouraged					

7b. How would you describe the culture of the <u>target company</u> before the <u>acquisition</u>?								
a) Contains many different cultural groups	1	2	3	4	5	6	7	Contains few different cultural groups
b) High level of valuing cultural diversity	1	2	3	4	5	6	7	Low level of valuing cultural diversity
c) High tolerance of cultural diversity	1	2	3	4	5	6	7	Low tolerance of cultural diversity
d) Multiculturalism is encouraged	1	2	3	4	5	6	7	Uniculturalism is encouraged

8a. How did the personnel of the <u>acquiring company</u> view	Very negative						Very positive							
a) The personnel of the target company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) The practices of the target company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) The values of the target company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8b. How did the personnel of the <u>target company</u> view	Very negative						Very positive							
a) The personnel of the acquiring company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) The practices of the acquiring company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) The values of the acquiring company	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Please think about the entire integration process when answering the following questions:

9. Please assess the acquiring and target companies' knowledge	Strongly disagree						Strongly agree							
a) The acquirer and target contribute different capabilities to the relationship	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) The acquirer and target have complementary strengths that are useful to the relationship	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) The acquirer and target have separate abilities that, when combined together, enable them to achieve goals beyond their individual reach	1	2	3	4	5	6	7	1	2	3	4	5	6	7
d) The <u>acquirer</u> has the knowledge or expertise to take over the target's work	1	2	3	4	5	6	7	1	2	3	4	5	6	7
e) The <u>target</u> has the knowledge or expertise to take over the acquirer's work	1	2	3	4	5	6	7	1	2	3	4	5	6	7

10. Please assess the extent to which the acquiring and target companies depend on each other	Not at all						To a great extent							
a) To obtain the information and knowledge needed to do their work, how much do members of the <u>acquiring company</u> have to rely on the target?	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b) To obtain the information and knowledge needed to do their work, how much do members of the <u>target company</u> have to rely on the acquirer?	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c) To what extent do employees in the <u>acquiring company</u> rely on knowledge and information from the target to do their work?	1	2	3	4	5	6	7	1	2	3	4	5	6	7
d) To what extent do employees in the <u>target company</u> rely on knowledge and information from the acquirer to do their work?	1	2	3	4	5	6	7	1	2	3	4	5	6	7
e) The <u>acquirer</u> delegates work to the target	1	2	3	4	5	6	7	1	2	3	4	5	6	7
f) The <u>target</u> delegates work to the acquirer	1	2	3	4	5	6	7	1	2	3	4	5	6	7
g) The acquirer and target develop projects <u>jointly</u>	1	2	3	4	5	6	7	1	2	3	4	5	6	7

11a. To what extent have resources from the acquiring company been used to assist the target company	Not at all			Very much			
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7
11b. To what extent have resources from the target company been used to assist the acquiring company	Not at all			Very much			
a) General management expertise	1	2	3	4	5	6	7
b) Product innovation capabilities	1	2	3	4	5	6	7
c) Know-how in manufacturing processes	1	2	3	4	5	6	7
d) Sales and marketing expertise	1	2	3	4	5	6	7
e) Supplier relations	1	2	3	4	5	6	7
f) Distribution and logistics expertise	1	2	3	4	5	6	7

24a. 12a. Characteristics of the acquiring company	Strongly disagree			Strongly agree			
a) The <u>acquiring</u> company has maintained a low level of hierarchies and cross-function barriers in the organization structure	1	2	3	4	5	6	7
b) The <u>acquiring</u> company has been adaptive and flexible to structural changes aimed at improving work efficiency	1	2	3	4	5	6	7
c) The <u>acquiring</u> company has adopted a team-based performance appraisal and compensation system	1	2	3	4	5	6	7
d) The <u>acquiring</u> company has adopted an excellent information infrastructure for employees to share information and knowledge	1	2	3	4	5	6	7
12b. Characteristics of the target company	Strongly disagree			Strongly agree			
a) The <u>target</u> company has maintained a low level of hierarchies and cross-function barriers in the organization structure	1	2	3	4	5	6	7
b) The <u>target</u> company has been adaptive flexible to structural changes aimed at improving work efficiency	1	2	3	4	5	6	7
c) The <u>target</u> company has adopted a team-based performance appraisal and compensation system	1	2	3	4	5	6	7
d) The <u>target</u> company has adopted an excellent information infrastructure for employees to share information and knowledge	1	2	3	4	5	6	7

13. Communication	Not at all			Very much			
a) Please indicate the <u>amount</u> of the information communicated during the integration process to those affected by the acquisition	1	2	3	4	5	6	7
	Not effective			Very effective			
b) Please indicate the <u>effectiveness</u> of the information communicated during the integration process to those affected by the acquisition	1	2	3	4	5	6	7

14. To what extent have the acquirer and target	Not at all			Very much			
a) Communicated about each firm's history and the general values and beliefs that defined each organization?	1	2	3	4	5	6	7
b) Communicated about the vision and strategy of the combined organization, and the firms' roles in achieving the vision?	1	2	3	4	5	6	7
c) Arranged for supervisors from the acquiring and target companies to introduce members of each company to each other?	1	2	3	4	5	6	7
d) Arranged informal gatherings (such as picnics, excursions or parties) for all employees from the acquiring and target companies?	1	2	3	4	5	6	7
e) Arranged cultural awareness seminars to explore cultural differences between the acquirer and target, and how they can be managed?	1	2	3	4	5	6	7
f) Arranged activities to decide which cultural attributes should be retained, eliminated or adopted, and how to integrate the acquirer's and target's cultures?	1	2	3	4	5	6	7

15. The acquiring company's and target's relationship	Extremely tight control			Fully independently				
a) Under how tight control has the <u>target</u> been operating after the acquisition?	1	2	3	4	5	6	7	
	Not at all			Very much				
b) To what extent have the values of the <u>acquiring company</u> dominated in the integration process?	1	2	3	4	5	6	7	
c) How much has possible organizational <u>change resistance</u> affected decisions?	1	2	3	4	5	6	7	
d) The <u>acquiring</u> company influences the target company's operations	1	2	3	4	5	6	7	
e) The <u>target</u> company influences the acquiring company's operations	1	2	3	4	5	6	7	
f) The changes have been based on the <u>acquiring</u> company's practices	1	2	3	4	5	6	7	The changes have been based on the <u>target</u> company's practices
g) The management of the <u>acquirer</u> has dominated the integration decisions	1	2	3	4	5	6	7	The management of the <u>target company</u> has dominated the integration decisions

16a. To what extent has the acquiring company	Not at all			Very much			
a) Involved the target in their cross-functional meetings	1	2	3	4	5	6	7
b) Involved the target to carry out joint projects with its employees	1	2	3	4	5	6	7
c) Demonstrated to the target how its employees resolve cross-functional issues as a team	1	2	3	4	5	6	7
d) Demonstrated to the target how its employees jointly plan and carry out projects	1	2	3	4	5	6	7

16b. To what extent has the <u>target</u> company	Not at all			Very much			
a) Involved the acquirer in their cross-functional meetings	1	2	3	4	5	6	7
b) Involve the acquirer to carry out joint projects with its employees	1	2	3	4	5	6	7
c) Demonstrated to the acquirer how its employees resolve cross-functional issues as a team	1	2	3	4	5	6	7
d) Demonstrated to the acquirer how its employees jointly plan and carry out projects	1	2	3	4	5	6	7

17a. Employees of the <u>acquiring</u> company are motivated to:	Not at all			Very much			
a) Share their knowledge with the <u>target's</u> employees	1	2	3	4	5	6	7
b) Help the <u>target's</u> personnel resolve unexpected problems	1	2	3	4	5	6	7
c) Analyze how to transfer knowledge <u>to the target</u>	1	2	3	4	5	6	7
d) Analyze how to adopt knowledge <u>from the target</u>	1	2	3	4	5	6	7
e) Absorb the <u>target's</u> knowledge	1	2	3	4	5	6	7
f) Communicate their knowledge needs to the <u>target</u> company	1	2	3	4	5	6	7
17b. Employees of the <u>acquiring</u> company:	Not at all			Very much			
a) Understand the goals of transferring knowledge <u>to the target</u> company	1	2	3	4	5	6	7
b) Have a clear division of roles and responsibilities to transfer knowledge <u>to the target</u> company	1	2	3	4	5	6	7
c) Have the technical and managerial competence to transfer knowledge <u>to the target</u> company	1	2	3	4	5	6	7
d) Understand the goals of absorbing knowledge <u>from the target</u> company	1	2	3	4	5	6	7
e) Have a clear division of roles and responsibilities to absorb knowledge <u>from the target</u> company	1	2	3	4	5	6	7
f) Have the technical and managerial competence to absorb knowledge <u>from the target</u> company	1	2	3	4	5	6	7

18a. Employees of the <u>target</u> company are motivated to:	Not at all			Very much			
a) Share their knowledge with the <u>acquirer's</u> employees	1	2	3	4	5	6	7
b) Help the <u>acquirer's</u> personnel resolve unexpected problems	1	2	3	4	5	6	7
c) Analyze how to transfer knowledge <u>to the acquirer</u>	1	2	3	4	5	6	7
d) Analyze how to adopt knowledge <u>from the acquirer</u>	1	2	3	4	5	6	7
e) Absorb the <u>acquirer's</u> knowledge	1	2	3	4	5	6	7
f) Communicate their knowledge needs to the <u>acquiring</u> company	1	2	3	4	5	6	7
18b. Did employees in the <u>target</u> company:	Not at all			Very much			
a) Understand the goals of transferring knowledge <u>to the acquiring</u> company	1	2	3	4	5	6	7
b) Have a clear division of roles and responsibilities to disseminate knowledge <u>to the acquiring</u> company	1	2	3	4	5	6	7
c) Have the technical and managerial competence to disseminate knowledge <u>to the acquiring</u> company	1	2	3	4	5	6	7
d) Understand the goals of absorbing knowledge <u>from the acquiring</u> company	1	2	3	4	5	6	7
e) Have a clear division of roles and responsibilities to absorb knowledge <u>from the acquiring</u> company	1	2	3	4	5	6	7
f) Have the technical and managerial competence to absorb knowledge <u>from the acquiring</u> company	1	2	3	4	5	6	7

19a. People in the <u>acquiring</u> company are afraid that	Do not agree			Completely agree			
a) The knowledge exchange process is not fair	1	2	3	4	5	6	7
b) They will get nothing in return in knowledge exchange	1	2	3	4	5	6	7
c) The target company will take advantage of their knowledge	1	2	3	4	5	6	7
d) Knowledge transferred from the target will harm their operations	1	2	3	4	5	6	7
e) Knowledge transferred from the target will weaken their competitiveness	1	2	3	4	5	6	7
f) Knowledge transferred from the target will damage their reputation	1	2	3	4	5	6	7

19b. People in the <u>target</u> company are afraid that	Do not agree			Completely agree			
a) The knowledge exchange process is not fair	1	2	3	4	5	6	7
b) They will get nothing in return in knowledge exchange	1	2	3	4	5	6	7
c) The acquiring company will take advantage of their knowledge	1	2	3	4	5	6	7
d) Knowledge transferred from the acquirer will harm their operations	1	2	3	4	5	6	7
e) Knowledge transferred from the acquirer will weaken their competitiveness	1	2	3	4	5	6	7
f) Knowledge transferred from the acquirer will damage their reputation	1	2	3	4	5	6	7

20a. To what extent did the personnel of the <u>acquiring</u> company	Not at all			Very much			
a) Want to preserve its own organizational culture	1	2	3	4	5	6	7
b) Want to preserve its own organizational practices	1	2	3	4	5	6	7
c) Think that the <u>target's</u> culture has valuable aspects	1	2	3	4	5	6	7
d) See why their colleagues at the <u>target</u> company are proud of their organizational culture	1	2	3	4	5	6	7
e) Think that there are parts of the <u>target</u> company's culture that they like and would enjoy working within	1	2	3	4	5	6	7

20b. To what extent did the personnel of the <u>target</u> company	Not at all			Very much			
a) Want to preserve its own organizational culture	1	2	3	4	5	6	7
b) Want to preserve its own organizational practices	1	2	3	4	5	6	7
c) Think that the <u>acquirer's</u> culture has valuable aspects	1	2	3	4	5	6	7
d) See why their colleagues at the <u>acquiring</u> company are proud of their organizational culture	1	2	3	4	5	6	7
e) Think that there are parts of the <u>acquiring</u> company's culture that they like and would enjoy working within	1	2	3	4	5	6	7

Please think about the outcomes of the acquisition when answering the following questions:

21. How would you describe the <u>cultural differences</u> between the companies at this moment?	No differences				Significant differences		
a) Management and control	1	2	3	4	5	6	7
b) Sales and marketing	1	2	3	4	5	6	7
c) Production	1	2	3	4	5	6	7
d) Research and development	1	2	3	4	5	6	7
e) Finance	1	2	3	4	5	6	7
f) Company values in general	1	2	3	4	5	6	7
g) Values of the decision makers	1	2	3	4	5	6	7

22. New culture	Not at all				Very much		
a) Has a <u>new common culture</u> , shared by both companies, been created after the acquisition?	1	2	3	4	5	6	7
b) Has a <u>new common identity</u> , shared by both companies, been created after the acquisition?	1	2	3	4	5	6	7
c) The practices have been standardized by <u>changing old practices</u> to better fit each other	1	2	3	4	5	6	7
					The practices have been standardized by creating <u>new practices</u>		

23. How would you describe the <u>current degree of integration</u> between the companies in the following operations?	No integration				Total integration		
a) Management and control	1	2	3	4	5	6	7
b) Sales and marketing	1	2	3	4	5	6	7
c) Production	1	2	3	4	5	6	7
d) Research and development	1	2	3	4	5	6	7
e) Finance	1	2	3	4	5	6	7

24. How has the performance of the acquiring and target companies changed after the acquisition?	Significantly declined				Significantly improved		
a) Operating profit % of the <u>acquiring company</u>	1	2	3	4	5	6	7
b) Operating profit % of the <u>acquired company</u>	1	2	3	4	5	6	7
c) Productivity of the <u>acquiring company</u>	1	2	3	4	5	6	7
d) Productivity of the <u>acquired company</u>	1	2	3	4	5	6	7
e) Market share of the <u>acquiring company</u>	1	2	3	4	5	6	7
f) Market share of the <u>acquired company</u>	1	2	3	4	5	6	7

25. Acquisition benefits	Acquirer				Target		
a) In your opinion, which company has benefited more from <u>synergistic benefits</u> ?	1	2	3	4	5	6	7
b) In your opinion, which company benefited more from <u>knowledge transfer</u> ?	1	2	3	4	5	6	7
c) In your opinion, which company benefited more from the <u>acquisition</u> ?	1	2	3	4	5	6	7

26a. As a result of the acquisition, have there been any of the following organizational problems in the acquiring company?	Not at all						Very much
a) Uncertainty about the future	1	2	3	4	5	6	7
b) Lack of motivation	1	2	3	4	5	6	7
c) Increase in absenteeism	1	2	3	4	5	6	7
d) Decrease in productivity	1	2	3	4	5	6	7
e) Resistance to change	1	2	3	4	5	6	7
f) Loss of key persons	1	2	3	4	5	6	7

26b. As a result of the acquisition, have there been any of following organizational problems in the target company?	Not at all						Very much
a) Uncertainty about the future	1	2	3	4	5	6	7
b) Lack of motivation	1	2	3	4	5	6	7
c) Increase in absenteeism	1	2	3	4	5	6	7
d) Decrease in productivity	1	2	3	4	5	6	7
e) Resistance to change	1	2	3	4	5	6	7
f) Loss of key persons	1	2	3	4	5	6	7

27. In your opinion, have there been problems in cooperation between the companies?	Not at all						Very much
a) Different opinions	1	2	3	4	5	6	7
b) Cooperation problems	1	2	3	4	5	6	7
c) Conflicts	1	2	3	4	5	6	7
d) Mistrust between the employees of two companies	1	2	3	4	5	6	7

APPENDIX 2 ESSAYS

- Essay 1: Junni, P., Sarala, R.M. and Vaara, E. The dynamics of knowledge transfer in M&As. In Weber, Y. (ed.), *Handbook for mergers and acquisitions research*. Cheltenham, UK: Edward Elgar, forthcoming 2012.
- Essay 2: Junni, P. 2011. Knowledge transfer in acquisitions: Fear of exploitation and contamination. *Scandinavian Journal of Management*, 27(3): 307-321.⁴⁷
- Essay 3: Junni, P. and Sarala, R.M. 2011. Causal ambiguity, partner attractiveness, and cultural integration as determinants of knowledge transfer: Evidence from Finnish acquisitions. *European Journal of International Management*, 5(4): 346-372.⁴⁸
- Essay 4: Junni, P. and Sarala, R.M. The role of cultural learning and collective teaching initiatives in M&A knowledge transfer. *European Journal of Cross-Cultural Competence and Management*, forthcoming 2012.

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⁴⁸ Reprinted from *European Journal of International Management*, Vol. 5, No. 4, 2011, Junni, P. and Sarala R.M., Causal ambiguity, cultural integration and partner attractiveness as determinants of knowledge transfer: Evidence from Finnish acquisitions, pp. 346-372, Copyright (2011), with permission from Inderscience Publishers.

THE DYNAMICS OF KNOWLEDGE TRANSFER IN M&AS

ABSTRACT

Knowledge transfer is one of the key determinants of performance in contemporary mergers and acquisitions (M&As). Nevertheless, few studies have mapped the complex mechanisms that impact knowledge transfer in this context. We build on previous studies on M&As and on knowledge transfer and present a theoretical model on mechanisms of knowledge transfer in M&As. We focus on key factors that facilitate or impede knowledge transfer: knowledge complementarity, organizational absorptive and disseminative capacities, operational and cultural integration, and political behavior. We outline an integrative model that maps some of the complex interrelations between these factors and provide suggestions for further theoretical and empirical work.

INTRODUCTION

Mergers and acquisitions (M&As) are a popular means to enter new markets, access new resources, and transfer knowledge (Ahuja & Katila, 2001; Haspeslagh & Jemison, 1991; Vermeulen & Barkema, 2001) despite the fact that acquisition outcomes are often disappointing (King, Dalton, Daily, & Covin, 2004). While acquisition performance is affected by a large number of variables, one of the key determinants is *knowledge transfer* (Birkinshaw, Bresman, & Håkanson, 2000; Haspeslagh & Jemison, 1991) – defined as the level of utilization of the source’s knowledge by the recipient (Minbaeva, Pedersen, Björkman, Fey, & Park, 2003). Through knowledge transfer, the merging firms create value by accessing new knowledge that resides in the acquisition partner or by combining the resources of the two firms in new ways (Capron & Pistre, 2002; Eschen & Bresser, 2005).

Regardless of the importance of knowledge transfer in M&As, relatively few studies have examined the complex mechanisms that impact knowledge transfer in this context (for exceptions see e.g. Björkman, Stahl, & Vaara, 2007; Ranft & Lord, 2002; Sarala & Vaara, 2010; Westphal & Shaw, 2005). In particular, there is a lack of integrative models that spell out how key mechanisms facilitate or impede knowledge transfer in general (Kane, 2010) and in acquisitions in particular (Haleblian, Devers, McNamara, Carpenter & Davidson, 2009). This is what we aim to provide in this chapter. We portray post-acquisition knowledge transfer as a dynamic process which ultimately relies on organizational absorptive and disseminative capacities that depend on knowledge complementarity, operational and cultural integration, and political behavior.

The paper is structured as follows. We will first discuss the knowledge transfer process in general and in the particular context of M&As. Then, we will present our theoretical model of the dynamic aspects of post-acquisition knowledge transfer: knowledge complementarity, organizational absorptive and disseminative capacities, operational and cultural integration, and political behavior. We conclude the paper by discussing the implications of our model and avenues for future research in this area.

THEORETICAL BACKGROUND

Knowledge Transfer Process

Although researchers differ in their definitions of knowledge transfer, most agree that it is a complex process that involves much more than simple sharing of information (e.g. Hedlund 1994; Kogut & Zander, 1993; Nonaka & Takeuchi, 1995). Knowledge consists of individuals' conceptual understanding ('know-what'), practical skills and expertise ('know-how'). Knowledge results from personal experiences (Blackler, 1995) and increases individuals' capacity to do something more efficiently and effectively (Zander & Kogut, 1995). Knowledge is socially constructed by individuals on the basis of their interpretations and explanations of reality, which in turn are shaped by previous learning experiences, values, and the social context (Boisot & Canals, 2004; Schultz, 2001; Zander & Kogut; 1995). Thus, we view knowledge as subjective and dynamic – changing as new information is received and interpreted, and expectations are changed – rather than something objective or passive.

In a similar vein, knowledge transfer is influenced by individuals' values and accumulated learning experiences. We understand knowledge transfer as a dual process that includes both the dissemination of knowledge from the source and the consequent absorption and use by the recipient (Minbaeva et al. 2003). Thus, knowledge transfer requires effective framing and articulation of knowledge by the source and the subsequent recontextualization and reapplication of knowledge in a new context by the recipient (Foss & Pedersen, 2002; Minbaeva et al. 2003).

The type of knowledge that is transferred can vary extensively, depending on what the source has available and what is useful for the recipient. For instance, external knowledge is related to the business environment and includes detailed knowledge about the local institutional environment and business practices and networks (Hamel, 1991; Kostova & Roth, 2002; Simonin, 1999) whereas internal knowledge is connected to the firm's different functions, such as management, manufacturing or R&D (Kogut & Zander, 1993; Zander & Kogut, 1995). Also, knowledge can be explicit or tacit, which relates to how easily it can be articulated, codified, and transferred (Kogut & Zander, 1993; Simonin, 1999). Furthermore, knowledge can reside at different organizational levels. While individual knowledge refers to the skills and competencies possessed by single organizational members, an organization's knowledge base is not simply the sum of individuals' knowledge (Zhao & Anand, 2009). Rather, it also includes collective knowledge, which relates to interpersonal routines and requires coordination and information sharing between individual members. More specifically, Zhao and Anand (2009: 962) define collective knowledge as "the knowledge embedded among organizational members regarding how to coordinate, share, distribute, and recombine individual knowledge." Thus, an organization's knowledge base consists of both individuals' knowledge as well as collective knowledge, which coexist and complement each other (Zhao & Anand, 2009).

A number of issues have been identified that can influence knowledge transfer. In general, these factors can be divided into four categories: characteristics of knowledge, characteristics of the source and recipient including their similarities and differences, the relationship between the source and recipient, and knowledge integration mechanisms. Regarding the characteristics of knowledge, one of the most commonly cited barriers to knowledge transfer relates to the level of tacitness of knowledge because such knowledge is difficult to identify and "package" in a way that is useful for

the recipient. This contributes to what Szulanski (1996) calls the “stickiness” of knowledge. Another barrier to knowledge transfer is complexity, defined as the number of interdependent individuals, routines, and/or technologies that knowledge is related to (Simonin, 1999). In contrast, knowledge that is reliable (Szulanski, 1996) and/or complementary (Lane & Lubatkin, 1998) can facilitate knowledge transfer.

As to the characteristics of the source and recipient, the level of absorptive capacity has been described as a central determinant of knowledge transfer (Gupta & Govindarajan, 2000; Lane & Lubatkin 1998, Szulanski, 1996). Cohen & Levinthal (1990; p. 128, emphasis added) define absorptive capacity as “the *ability* to recognize the value of new external information, assimilate it, and apply it to commercial ends.” Minbaeva et al. (2003), however, argue that individuals’ *motivation* to take up and make use of new knowledge is an equally important component of absorptive capacity. Similar to absorptive capacity, disseminative capacity refers to the source’s *ability* and *motivation* to share their knowledge with the recipient (Minbaeva, 2007). The ability to absorb (Cohen & Levinthal, 1990) and to disseminate (Minbaeva, 2007) knowledge is enhanced when the source and recipient have relevant prior knowledge, are familiar with each other’s knowledge and practices, and share the same language. Thus, differences in key organizational aspects such as knowledge bases, organizational structures, compensation policies (Lane & Lubatkin, 1998), and strategy, practices and culture (Lam, 1997; Westphal & Shaw, 2005) can undermine knowledge transfer efforts. However, some differences in the source’s and recipient’s knowledge bases – stemming for instance from cultural differences – may be necessary to generate knowledge transfer because completely overlapping knowledge stocks may offer few benefits for the recipient (Lane & Lubatkin, 1998).

Furthermore, the relationship between the source and the recipient organizations is likely to influence knowledge transfer. Organizational members are more likely to be motivated to absorb knowledge if they trust the source and expect to benefit from knowledge transfer (Cabrera & Cabrera, 2005). Similarly, organizational members are more likely to be motivated to disseminate their knowledge in a reciprocal trusting relationship in which they expect to receive something valuable in return (Husted & Michailova, 2002). Simonin’s (1999) study highlights the importance of the source’s motivation to share its knowledge by identifying the protectiveness of organizational members regarding their knowledge as one of the main barriers to knowledge transfer.

Finally, operational and socio-cultural integration can facilitate knowledge transfer by increasing coordination and control through the alignment of structures, practices and values (Birkinshaw et al., 2000). Operational integration combines the operational aspects of different firm units and includes factors such as the level of decision-making autonomy (Nohria & Ghoshal, 1994) and ongoing task related inter-unit communication (Gupta & Govindarajan, 2000). Socio-cultural integration, in turn, increases interpersonal linkages and creates a shared culture and identity between different organizational units in order to create trust and increase the organizational members’ understanding of each other (Gupta & Govindarajan, 2000; Björkman, Barner-Rasmussen, & Li, 2004).

Knowledge Transfer in Mergers and Acquisitions

It has been argued that knowledge transfer is particularly important in the context of M&As because it is essential for value creation (Haspeslagh & Jemison, 1991; Larsson & Finkelstein, 1999). Furthermore, the knowledge transfer process can be more complex in M&As than in other settings because they deal with knowledge transfer between two previously separate organizations that are in the process of being integrated. In addition, M&As often involve high levels of ambiguity and uncertainty about the future (Bresman et al., 1999; Vaara, Tienari, & Björkman, 2003), which may reduce the ability and motivation of the organizational members to transfer knowledge (Empson, 2001).

Since the late 1990s, when research on knowledge transfer in M&As commenced, empirical studies have shown that a number of variables can impact knowledge transfer. Large-scale surveys have tended to focus on only a few explanatory variables. For example, one of the more comprehensive studies by Bresman, Birkinshaw and Nobel (1999) includes only four variables. Case studies have typically provided more comprehensive views on the effects of several knowledge transfer determinants. For example, Westphal and Shaw's (2005) extensive study includes twenty variables. Table 1 provides an overview of key empirical studies from scholarly journals in this area. It includes the variables studied and their impact on knowledge transfer.

Authors	Method	Category	Variables studied	Impact on knowledge transfer
Lam (1997)	Case study (one)	Source/recipient	Differences in knowledge bases	+
			Knowledge asymmetry	+
		Knowledge	Different functional areas of knowledge	+ in R&D, manufacturing and marketing - in managerial capabilities in general
			Relationship	Direction of knowledge transfer
Bresman et al. (1999)	Survey and interviews	Knowledge	Tacitness	-
		Relationship	Direction of knowledge transfer	- in the beginning more from acquirer to target, later bilateral knowledge flows
			Elapsed time	+
		Management	Communication	+
Capron (1999)	Survey	Relationship	Direction of knowledge transfer	Multilateral flows: +
				Unilateral flow from target to acquirer: -

Ranft and Lord (2000)	Survey	Source/recipient	Employee retention	+
Ahuja and Katila (2001)	Survey	Source/recipient	Non-technological acquisitions	Not significant
			Absolute size of the target's knowledge base	+
			Relative size of knowledge bases	-
			Relatedness of knowledge bases	Inverted U-curve
Capron et al. (2001)	Survey	Source/recipient	Strategic similarity	+
		Relationship	Direction of knowledge transfer	+ for multilateral flows in strategically similar acquisitions Also used as explanatory variable to predict asset divestiture: +
Empson (2001)	Case studies (three)	Relationship	Fear of exploitation and contamination	-
Schoenberg (2001)	Survey	Knowledge	Different functional areas of knowledge	+ in marketing, distribution, finance
				- in R&D, supply, investment appraisal
Capron and Pistre (2002)	Survey	Relationship	Direction of knowledge transfer	Used as explanatory variable to predict abnormal returns: + for unilateral flows from acquirer to target but not vice versa, and + for multilateral flows
Ranft and Lord (2002)	Case studies (seven)	Knowledge	Tacitness	-
			Social embeddedness	-
		Management	Communication	+
			Integration speed	Inverted U-curve
Bröchner et al. (2004)	One case with a small survey (32 responses)	Source/recipient	Knowledge asymmetry	+ influences direction of knowledge transfer
		Management	Type of communication (email, face-to-face etc.)	Different effect on KT depending on language skills and preferences
Castro and Neira (2005)	Case studies (three)	Knowledge	Tacitness	-
		Source/recipient	Employee retention	+ (especially tacit knowledge)

			Cultural differences	-
		Relationship	Acquisition motive (to achieve market presence or access complementary knowledge)	+
Schweizer (2005)	Case studies (four)	Knowledge	Specificity	-
		Management	Target autonomy	-
Westphal and Shaw (2005)	Case studies (seven)	Knowledge	Tacitness	-
			Specificity	-
			Usefulness	+
		Source/recipient	Knowledge complementarity	+
			Knowledge asymmetry	+
			Organizational and strategic differences	-
			Performance differences	+
		Relationship	Affinity for partner	+
			Professional respect	+
			Positive attitude toward deal	+
			Relative identification with the new firm	+
			Relationship quality	+
		Management	High structural flux	+
			Information-sharing norms	+
			Acquirer commitment	+
			Procedural fairness	+
			Level of normative integration	-
			Informal vs. formal interaction	+
			User- vs. source-initiated knowledge transfer	+

			Group vs. individual work	+
			Group vs. individual incentives	+
Tsang (2008)	Case studies (eight)	Knowledge	Social embeddedness	-
		Source/recipient	Age of company	-
			Tendency to revert to old routines	-
		Relationship	Elapsed time	+
			Perceived expertise of source by recipient	+
		Management	Deployment of experts/expatriates	+
Zou and Ghauri (2008)	Case studies (four)	Source/recipient	Knowledge complementarity	+
		Management	Target autonomy	+
			Communication	+
Sarala and Vaara (2010)	Survey	Source/recipient	National cultural differences	+
			Organizational cultural differences	Not significant
		Management	Cultural integration	+
Vaara et al. (2010)	Survey	Source/recipient	National cultural differences	+
			Organizational cultural differences	+
		Relationship	Social conflict	-
		Management	Operational integration	+
Juni & Sarala (2011)	Survey	Knowledge	Causal ambiguity	-
		Relationship	Partner attractiveness	+
		Management	Cultural integration	+ for cultural crossvergence on KT in both directions + for cultural convergence on KT from acquirer to target
Juni (2011)	Survey	Relationship	Fears of exploitation and contamination	-

Table 1 An overview of empirical knowledge transfer studies in M&As

Regarding knowledge characteristics, M&A researchers have mostly emphasized the role of tacitness (Bresman et al. 1999; Castro & Neira, 2005; Ranft & Lord, 2002; Westphal & Shaw, 2005), social embeddedness (Ranft & Lord, 2002; Tsang, 2008), ambiguity (Junni & Sarala, 2011), and the context specificity of knowledge (Schweizer 2005; Westphal & Shaw, 2005). Whereas it may be particularly valuable to transfer tacit and/or embedded knowledge, such knowledge may be more difficult to identify and “package” in a transferrable form (Lam, 1997). In addition, very specific knowledge may be less useful for the recipient because it is more difficult to adapt to a new context (Schweizer, 2005).

As to the source and recipient and their similarities/differences, M&A studies have included factors such as the size of the target company’s knowledge base (Ahuja & Katila, 2001), personnel retention (Ranft & Lord, 2000; 2002), the age of the recipient company, and the recipient’s tendency to revert back to old practices (Tsang, 2008). Out of these factors, the size of the target firm and its knowledge base as well as personnel retention have been identified as facilitators of knowledge transfer, while the tendency to revert to old practices has been found to impede knowledge transfer. Researchers have also focused on the interrelatedness of the knowledge bases in terms of their relative size and relatedness (Ahuja & Katila, 2001), complementarity (Westphal & Shaw, 2005; Zou & Ghauri, 2008), asymmetry (Capron et al. 1998; Westphal & Shaw, 2005), strategic similarity (Capron, Mitchell, & Swaminathan, 2001; Westphal & Shaw, 2005), and overall differences (Lam, 1997). In addition, the national and organizational cultural differences of the merging firms have been examined (Castro & Neira, 2005; Sarala & Vaara, 2010; Vaara, Sarala, Stahl & Björkman, 2010). These studies have found that strategic similarity, knowledge complementarity and asymmetry tend to facilitate knowledge transfer. In contrast, dissimilarities in relative sizes, knowledge bases, and cultures often hinder knowledge transfer. However, the empirical evidence is not clear-cut. For instance, whereas Castro and Neira (2005) suggest an overall negative effect of cultural differences, other studies have found a positive relationship (Sarala & Vaara, 2010; Vaara et al., 2010). Ahuja and Katila (2001), in turn, established an inverted U-curve relationship between differences in knowledge bases and knowledge transfer.

In terms of the relationship between the acquiring and target firms, knowledge transfer in the M&A context has been suggested to be particularly problematic due to uncertainty and ambiguity inherent in acquisitions, as well as the lack of a social community between the merging firms in early stages of the integration process (Bresman et al., 1999). More specifically, studies have concentrated on elapsed time (Bresman et al., 1999), fear of exploitation/contamination on the part of the source/recipient (Empson, 2001; Junni, 2011), the perceived expertise of the source (Tsang 2008), social conflict (Vaara et al., 2010), procedural fairness (Westphal & Shaw, 2005), as well as the perceived quality of the relationship with the partner (Junni & Sarala, 2011; Westphal & Shaw, 2005).

Another popular topic has been the direction of knowledge transfer in acquisitions (Bresman et al. 1999; Bröchner, Rosander, & Waara, 2004; Capron, 1999). In general, the findings of the studies discussed above indicate that a “negative” relationship characterized by fears of exploitation and contamination and social conflict impede M&A knowledge transfer. In contrast, a “positive” relationship – in which the acquisition process is perceived as fair and just and the acquisition partners have a high affinity for each other – supports M&A knowledge transfer. Furthermore, concerning the direction of knowledge transfer, the study of Bresman et al. (1999) showed that whereas acquirers mostly “imposed” knowledge on targets in early post-acquisition

integration stages, knowledge flows tended to become more “balanced” and mutual in later stages. The direction of knowledge transfer is also affected by acquisition strategy. More specifically, in “absorption” acquisitions the acquirer is more likely to impose its knowledge on the target, in order to achieve synergies (Haspeslagh & Jemison, 1991). In contrast, “symbiosis” and “preservation” acquisitions – where the acquirer is interested in preserving and accessing knowledge from the target (Haspeslagh & Jemison, 1991) – are likely to involve more knowledge transfer from the target or even mutual two-directional transfers.

Finally, it has also been argued that management of the post-acquisition integration is vital for successful knowledge transfer. One of the topics has been the optimal speed of integration (Westphal and Shaw, 2005). Operational integration, mostly in terms of the level of autonomy granted for the target (Castro & Neira, 2005; Ranft & Lord, 2002; Schweizer, 2005; Zou & Ghauri, 2008; Vaara et al., 2010) has also been studied. Furthermore, researchers have explored the effect of socio-cultural integration (Bresman et. al., 1999; Castro & Neira, 2005; Junni & Sarala, 2010; Sarala & Vaara, 2010). Finally, regarding specific integration mechanisms that support operational and socio-cultural integration, previous research has focused on the positive role of inter-firm communication and interaction (Bresman et al. 1999; Bröchner et al. 2004; Castro & Neira, 2005; Ranft & Lord, 2002; Zou & Ghauri 2008), deployment of experts and expatriates (Tsang, 2008), creation of information-sharing norms (Westphal & Shaw, 2005).

The results indicate that a fast paced integration process contributes to knowledge transfer by keeping recipients used to receiving new knowledge (Westphal & Shaw, 2005). Ranft and Lord (2002) argue, however, that the effect of integration pace is a more complex inverted U-curve: a “too fast” integration process is disruptive for the target firm’s knowledge base, but a very slow integration process reduces opportunities to collaborate and share knowledge. Also, in general a high level of socio-cultural integration facilitates knowledge transfer (Bresman et al., 1999; Castro & Neira, 2005; Junni & Sarala, 2011; Sarala & Vaara, 2010). However, the findings are more mixed related to the effects of operational integration. While it has been argued that too much integration can destroy the target firm’s knowledge base (Castro & Neira, 2005) and thus undermine knowledge transfer potential (Westphal & Shaw, 2005; Zou & Ghauri, 2008), other studies have showed a positive relationship between operational integration and M&A knowledge transfer (Vaara et al., 2010). Similar to this, studies have found that high levels of target autonomy reduce knowledge transfer (Ranft & Lord, 2002). However, it has been argued that autonomy is beneficial if the target is converted into a center of excellence (Schweizer, 2005).

As discussed above, a number of factors have been found to influence knowledge transfer in M&As. However, there is a need to develop more complex and integrative models on knowledge transfer in general (Kane, 2010; Minbaeva, 2007; Van Wijk, Jansen and Lyles, 2008) and in M&As in particular (Haleblian et al., 2009). Especially socio-political aspects – which have tended to receive less attention (Empson, 2001; Vaara et al., 2003) – require further specification. First, few studies have explicitly addressed the more complex associations between knowledge complementarity, acquisition integration strategy, and political behavior in order to examine the processes through which knowledge transfer is realized (for notable exceptions see Björkman et al., 2007; Haspeslagh & Jemison, 1991, see also Table 1). In this paper, we build on previous research and explicitly address how knowledge complementarity influences the post-acquisition integration strategy in terms of operational and cultural integration. Second, concerning source/recipient characteristics, while individual

absorptive capacity has been linked to M&A knowledge transfer (Björkman et al., 2007), disseminative capacity as well as collective aspects of absorptive and disseminative capacities have received little attention. Third, regarding relationship characteristics, scant research has been devoted to explaining the role of political behavior (for exceptions see Empson, 2001; Tsang, 2008; Vaara et al., 2003). Fourth, the influence of post-acquisition integration on knowledge transfer needs further specification (Haleblian et al., 2009). As discussed earlier, the results concerning operational integration are mixed and relatively few studies have addressed the complexities of cultural integration. In the following, we will propose an integrative theoretical model that focuses on these strategic and socio-political aspects of knowledge transfer and maps out their relationships in M&As. Figure 1 provides a summary of this model.

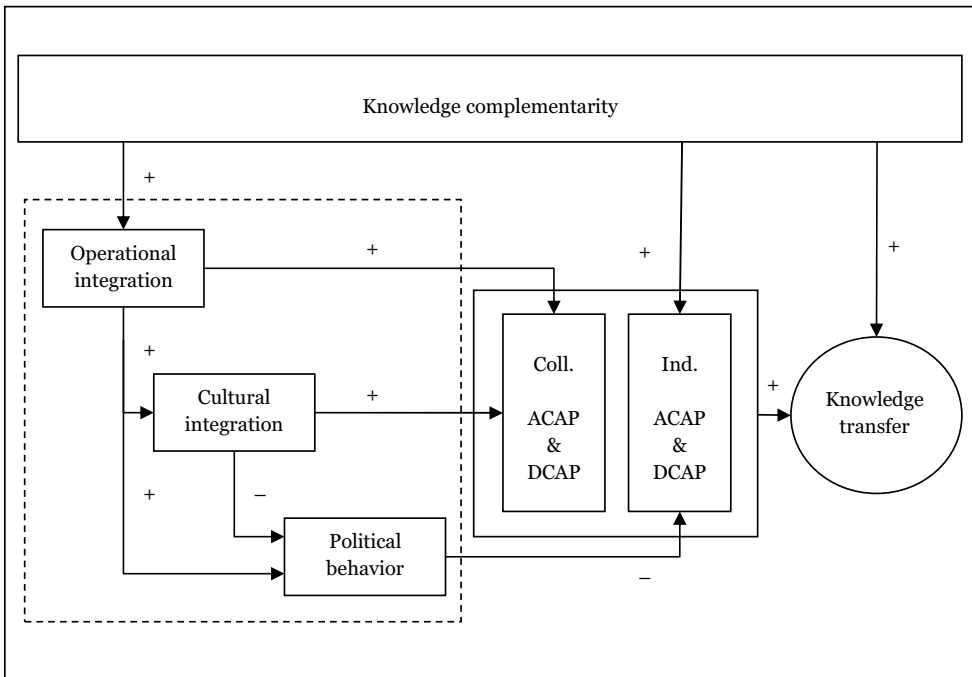


Figure 1 A Theoretical Framework of Knowledge Transfer in M&As

KNOWLEDGE TRANSFER IN M&AS: A DYNAMIC THEORETICAL FRAMEWORK

Knowledge Complementarity

It is a common theme in M&A research that synergies contribute to value creation (Haspeslagh & Jemison, 1991) and several studies indicate that knowledge transfer is actively sought by acquiring companies to achieve this aim. In order to create synergies, acquirers tend to either seek targets with complementary knowledge that can strengthen their existing knowledge base, or targets with weaknesses that they can overcome by using the acquirer's knowledge (Capron et al, 1998; Capron et al, 2001;

Castro & Neira, 2005; Schoenberg 2001). *Knowledge complementarity* refers to the extent of gaps in the knowledge bases of the acquiring and target companies that can be filled by using the partner's knowledge to create synergies, which the acquisition partners could not have created on their own (Eschen & Bresser, 2005). Thus, knowledge complementarity increases the potential to create synergies through knowledge transfer (Björkman et al., 2007; Eschen & Bresser, 2005; Larsson & Finkelstein, 1999). Some acquisitions can involve the transfer of substitutable or duplicative knowledge in order to standardize processes and create economies of scale. However, it has been argued that the transfer of complementary knowledge is a more common acquisition motive because it offers greater potential for value creation than the transfer of duplicative knowledge (Castro & Neira, 2005; Eschen & Bresser, 2005; Haspeslagh & Jemison, 1991; Westphal & Shaw, 2005). Consequently, the presence of complementary knowledge is likely to increase M&A knowledge transfer (Björkman et al., 2007; Eschen and Bresser, 2005; Westphal and Shaw, 2005; Zou and Ghauri, 2008).

The existence of knowledge complementarities, in turn, increases the need for operational integration due to greater interdependencies between the merging firms (Haspeslagh & Jemison, 1991). Because knowledge is embedded in the structures, collective procedures and practices of the merging firms, knowledge can only be transferred through operational integration that increases coordination and task related inter-unit interaction between the merging firms so that complementarities can be realized (Haspeslagh & Jemison, 1991; Zhao & Anand, 2009).

Furthermore, knowledge complementarity is likely to increase the motivation of individuals to share their knowledge, because of the greater potential to create value for the partners (Björkman et al., 2007). In addition, complementarity is likely to reduce fears on the part of the sender that its knowledge will be “exploited” by the recipient, without receiving equally valuable knowledge in return (Empson, 2001). In addition, complementary knowledge tends to be perceived as more valuable by the recipient than substitutable knowledge and thereby increase the recipient's motivation to absorb knowledge from the source, while detaching itself from its old knowledge. This is also likely to result in reduced fears of knowledge contamination and “not-invented-here syndrome” on the part of the recipient (Empson, 2001; Gupta & Govindarajan, 2000). In addition, acquisitions characterized by complementary rather than supplementary knowledge are less likely to involve large-scale personnel reductions (Capron et al. 2001; Larsson & Finkelstein, 1999), which can make knowledge transfer less threatening (Westphal & Shaw, 2005).

Organizational Absorptive and Disseminative Capacities

Organizational Absorptive Capacity

Absorptive capacity is a central concept in the literature on knowledge transfer and learning. In their seminal paper Cohen and Levinthal (1990: 128) describe a firm's *organizational absorptive capacity* as “the firm's ability to recognize the value of new information, assimilate it, and apply it to commercial ends.” Organizational absorptive capacity is influenced by a wide variety of factors, such as individual members' knowledge bases, cognitive processes and experience, HR practices, organizational culture and structure, as well as R&D expenditure (Cohen & Levinthal, 1990). This suggests that we can distinguish between individual and collective components that together make up an organization's absorptive capacity (Zhao & Anand, 2009). In

addition, we argue that organizational absorptive capacity requires that recipient firm members discard old knowledge, which is also referred to as organizational “unlearning” (Hedberg, 1981; Yildiz & Fey, 2010). When the recipient organization is attached to its old knowledge, knowledge transfer becomes less effective because the new knowledge is not fully used (Tsang, 2008, Vaara et al., 2003). Discarding old knowledge can be intentional or unintentional (Tsang & Zahra, 2008). For example, in M&As acquisition partners can intentionally set out to eliminate old knowledge and practices, in favor of new knowledge (Vaara et al., 2003) whereas unintentional discarding of old knowledge may e.g. result from unexpected personnel turnover (Tsang & Zahra, 2008).

Concerning *individual absorptive capacity*, the outcomes of any human endeavor can be described as depending on individuals’ ability *and* motivation to behave in a certain way (Baldwin, Magjuka & Loher, 1991). An individual’s *ability* has been defined as “a group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (Mayer, Davis & Schoorman, 1995: 717). In relation to individuals’ absorptive capacity in M&As, ability thus refers to the skills, competencies and characteristics of individuals that enable them to make use of the acquisition partner’s knowledge and to discard their old knowledge. To be able to absorb new knowledge, individuals need to develop new frames of reference that increase their understanding about past and future actions, and how effective these are likely to be (Fiol & Lyles, 1985). The more familiar the recipient is with the source’s knowledge base or domain, the easier it will be to understand and learn the source’s knowledge (Simonin, 1999). In line with this, Lam (1997) found that a lack of experience with the source’s knowledge base impeded post-merger knowledge transfer. The ‘ability’ dimension of individual absorptive capacity also relates to discarding old cognitive frames of reference in order to be able to take up new ones (Yildiz & Fey, 2010). If recipients are not familiar with the partner’s knowledge, and thus less able to recognize the value and usefulness of new knowledge, they will be less likely to actively give up their old knowledge in order to take up new knowledge from the sender (Tsang, 2008). This reduces their individual absorptive capacity.

Concerning the ‘motivational’ side, an individual’s work *motivation* can be understood as “a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration” (Pinder, 1998: 11). This dimension relates to the recipient’s intention to learn from the partner (Hamel, 1991; Simonin, 2004). The recipient’s motivation to absorb new knowledge also relates to normative aspects. More specifically, if the source’s knowledge is not perceived as legitimate by the recipient, (s)he will be less motivated to take up the source’s knowledge, even if it is more useful than the recipient’s old knowledge (Kostova & Roth, 2002). In the context of M&As, decision makers commonly try to legitimize their motives and actions (Vaara & Monin, 2010) in order to enhance the motivation on the part of individuals to be receptive to new knowledge (Vaara et al., 2003). The ‘motivation’ dimension of individual absorptive capacity is also linked to discarding old knowledge. In order for knowledge transfer to take place, individuals need to be motivated to give up old practices (Yildiz & Fey, 2010). De-legitimizing and de-institutionalizing old practices can be time consuming and difficult, requiring significant effort from the source (Yildiz & Fey, 2010). In addition, organizational members are often emotionally attached to their existing practices and routines, which can reduce the motivation to discard them and thus hamper knowledge transfer (Vaara et al, 2003). Individuals’ attachment to their old knowledge depends on the length of time that they have worked together as a group. The longer members in the receiving firm have worked together, the stronger their

feelings of social identity and belonging, and the less motivated they are to detach themselves from their old knowledge and change their practices (Husted & Michailova, 2002; Tsang, 2008). In addition, if the partners are afraid that they will lose their existing power structures by adopting new knowledge and practices, they will be less willing to “give up” their old knowledge (e.g. Empson, 2001; Vaara et al, 2003). Although ability and motivation are separate dimensions of individual absorptive capacity, they have been shown to support knowledge transfer best in combination (Minbaeva et al., 2003). More specifically, low ability can dampen motivation and low motivation in turn can hamper efforts to increase ability (Vroom, 1964).

Concerning *collective absorptive capacity*, while Minbaeva et al. (2003) and Minbaeva (2007) view organizational absorptive capacity as being the sum of individuals’ motivation and ability to absorb knowledge, Zhao and Anand (2009) expand the concept by including a ‘collective dimension’. They argue that knowledge is not limited to individual abilities and skills, but is also embedded within the organizational structure and culture (Nonaka & Takeuchi, 1995; Zhao & Anand, 2009). Collective absorptive capacity is thus defined as the “structural and cultural attributes of the receiving organization as a whole that are conducive to acquiring and assimilating new knowledge” (Zhao & Anand, 2009: 962). To extend this definition, we maintain that collective absorptive capacity also involves supporting the discarding of old knowledge.

We suggest that structural and cultural attributes conducive for knowledge transfer include an organizational structure that is characterized by extensive task-related inter-unit interaction and routines (Gupta & Govindarajan, 2000; Jansen et al., 2005), as well as a cohesive organizational culture that encourages informal communication, mutual understanding and respect (Bock et al., 2005; Kayworth & Leidner, 2004; Khoja & Maranville, 2010). A functionally and socially inter-connected organizational structure enhances the *ability* of individuals to interpret issues and build new frames of reference that allow them to understand new knowledge (Daft & Lengel, 1986). Also, a culture that is cohesive and encourages informal communication will generate a high level of shared meaning, affiliation and trust between individuals, which is likely to *motivate* them to seek out knowledge from their colleagues (Bock et al., 2005). Furthermore, a cohesive organizational structure and culture create cognitive systems, and memories that are shared by organizational members (Fiol & Lyles, 1985), which increases the likelihood that new knowledge which has been absorbed by individuals will impact the organization as a whole (Crossan, Lane, & White, 1999; Zhao & Anand, 2009).

Collective absorptive capacity also involves discarding old knowledge. An organizational structure that is characterized by extensive cross-functional activities and routines is likely to make recipient firm members more used to interacting with individuals from different functions with diverse backgrounds, which increases their *ability* to re-consider and re-evaluate their existing knowledge base (Jansen et al., 2005). Furthermore, a cohesive organizational culture that encourages informal communication is likely to create trust in the partner’s knowledge (Bock et al., 2005; Kayworth & Leidner, 2004) and thus *motivate* the recipient to discard old knowledge. This kind of structural and cultural environment is thus likely to encourage individuals to question their existing assumptions and cognitive maps and to discard them in favor of new and potentially more useful knowledge.

To conclude, organizational absorptive capacity – which consists of individual and collective aspects – is expected to influence knowledge transfer by increasing individuals’ ability and motivation to absorb new knowledge from the partner, while

discarding their old knowledge. Furthermore, we contend that while individual and collective absorptive capacities are distinctive factors, they also influence and support each other. On the one hand, organizational structure and culture lay out the internal context that individuals need to operate within, and adapt their behavior to (Zhao & Anand, 2009). On the other hand, individuals' abilities, attitudes and personalities also shape the organization and can, over time, change aspects of the organizations' structure and culture. Together, individual and collective absorptive capacities make up the recipient's organizational absorptive capacity.

Organizational Disseminative Capacity

Few studies have addressed knowledge transfer from the source's viewpoint by including disseminative capacity (for notable exceptions, see Gupta & Govindarajan, 2000; Minbaeva, 2007; Zhao & Anand, 2009). Similar to organizational absorptive capacity, we understand *organizational disseminative capacity* as consisting of individual and collective aspects that are distinctive but support each other.

Concerning *individual disseminative capacity*, we distinguish between the *ability* and *motivation* of individuals to impart or "teach" their knowledge to the recipient (Minbaeva, 2007). The '*ability*' dimension of the source's individual disseminative capacity relates to how well the members of the source organization are able to make their knowledge understandable to recipient firm members. If members of the source firm are familiar with the recipient firm's knowledge domain and its organizational practices, they are better able to communicate their knowledge to individuals in the recipient firm (Lane & Lubatkin, 1998). In addition, it is necessary to legitimize the knowledge that is intended for knowledge transfer in order to increase the recipient's motivation to learn to give up its old knowledge and practices (Kostova & Roth, 2002). Thus, it is important that individuals in the source firm can communicate and convey their knowledge to members of the recipient firm in such a way that it is viewed as legitimate, e.g. by showing how the new knowledge can contribute to the recipient firm's existing knowledge and practices. As to the '*motivation*' dimension, if the members of the source firm are afraid that individuals in the recipient firm may exploit their knowledge without offering anything valuable in return, they will be less motivated to depart from their knowledge (Empson, 2001; Husted et al., 2005). This will reduce opportunities for learning about the source's knowledge, and consequently reduce knowledge transfer. Studies on alliances and M&As have focused on the motivation dimension (Empson, 2001; Simonin, 1999). However, we maintain that both the ability and motivation of individuals play important roles in facilitating knowledge transfer (Minbaeva et al., 2003). More specifically, we suggest that the ability and motivation dimensions are interconnected through perceived self-efficacy: when individuals believe that they are able to disseminate knowledge, they are also likely to be more motivated to do so (Cabrera, Collins, & Salgado, 2006).

Similar to collective absorptive capacity, which encompasses both structural and cultural aspects of the recipient organization (Kayworth & Leidner, 2004; Van den Bosch et al., 1999), we define *collective disseminative capacity* as the structural and cultural attributes of the source organization as a whole that are conducive to knowledge transfer. Concerning the '*ability*' dimension of collective disseminative capacity, if the source organization's structure supports inter-unit task-related communication and collaboration among its members, the members are likely to have a better understanding of the kind of knowledge possessed by different organizational members and teams/units (Zhao & Anand, 2009), which will increase their ability to

identify and to recombine their knowledge in such a way that it is more useful for the recipient. This is also likely to improve the source's ability to communicate its knowledge to the recipient (Zhao & Anand, 2009). Otherwise, knowledge can be easily misinterpreted or distorted by the recipient (Zellmer-Bruhn, 2003). This is especially important when the knowledge that is to be transferred is highly tacit and greater efforts to explain or "teach" the knowledge to the recipient are required (Winter, 1987). Concerning *motivational* aspects of collective disseminative capacity, if the organizational culture is cohesive (Nahavandi & Malekzadeh, 1988), individuals are more likely to feel that their culturally embedded practices and knowledge are valuable, and thus be motivated to transfer this knowledge to others. Furthermore, in a cohesive organizational culture that encourages informal and open social interaction among individual members, individuals are more likely to trust that knowledge transfer will be reciprocal and will thus be more motivated to share their knowledge (Bock et al., 2005).

In sum, we conceptualize individual and collective disseminative capacities as distinctive yet interrelated factors, which together constitute the source's organizational disseminative capacity. Thus, if the source's structure supports horizontal cross-functional interaction as opposed to having clear boundaries between departments (Van den Bosch et al., 1999) and the source's culture is collaborative and open (Bock et al., 2005), we expect individuals to be better able and motivated to disseminate their knowledge to the recipient. We contend that while individual and collective absorptive capacities are distinctive factors, they also influence and support each other.

Post-acquisition integration process

Operational Integration

We understand *operational integration* as coordination and control between the merging firms through organizational structures and systems (Pablo, 1994), the aim of which is to create value by being able to reach organizational goals more effectively (Birkinshaw et al., 2000). Previous research suggests that post-acquisition operational integration takes place primarily through assimilation of the target firm to the acquirer or through symbiotic combination of the structures and systems of both firms (Haspeslagh & Jemison, 1991). In absorption acquisitions, coordination and control is achieved by imposing the acquirer's structures and systems on the target so that the acquirer and the target are fully consolidated (Haspeslagh & Jemison, 1991). In contrast, in symbiosis acquisitions the merging firms combine their existing structures and systems in order to "get the best out of both worlds" (Evans et al., 2011; Haspeslagh & Jemison, 1991).

Operational integration is likely to improve *collective absorptive and disseminative capacities*. By aligning the structures and systems of the two organizations, creating shared goals, structures and activities (Pablo, 1994), enhancing inter-firm coordination, and creating functional ties between the acquisition partners (Birkinshaw et al., 2000), operational integration creates a 'collective structural platform' that increases the ability of individuals to convey their knowledge to the members of the partner organization, as well as take up new knowledge from the partner (Jansen et al., 2005; Van den Bosch et al., 1999; Westphal & Shaw, 2005).

However, operational integration can involve extensive organizational re-structuring in the merging firms, including personnel reductions, which can have "unintended" negative consequences in terms of increased political behavior as individuals try to

“protect their turfs” from an “invading enemy” (Haspeslagh & Jemison, 1991; Jemison & Sitkin, 1986). The extent to which operational integration is likely to increase political behavior, however, depends on whether an absorption or symbiosis integration approach is used. Absorption acquisitions may require coercion and direct pressure on part of the acquirer, reducing the motivation of individuals to collaborate (Jemison & Sitkin, 1986; Steensma & Van Milligen, 2003). Symbiosis acquisitions are likely to involve less coercive operational changes in a sense that they have to be “negotiated” and “reasoned” between the merger partners in order to decide how different organizational aspects are to be integrated, which is likely to create perceptions of procedural fairness amongst organizational members in the target firm (Steensma & Van Milligen, 2003) and, as a result, reduce the risk of disruptive political behavior. However, even seemingly “neutral” symbiosis acquisitions or “mergers of equals” can become conflict ridden –and post-acquisition integration can turn into a political battle – when individuals in the merging firms try to balance between strategic and political considerations concerning post-acquisition changes (Marks & Mirvis, 2011).

Because of the possible negative effects on individuals, operational integration increases the need for cultural integration. More specifically, cultural integration is aimed to enhance the merging firm’s motivation to collaborate by creating positive interactions and a shared identity between the merging firms as well as an understanding of why operational integration is needed to achieve the common organizational goals. Birkinshaw et al. (2000) warn that if operational integration is achieved without paying attention to cultural integration, it can create a hostile environment between the acquisition partners and reduce their willingness to cooperate. Thus, in order to achieve the strategic objectives of operational integration, cultural integration is required to support the morale and to gain the commitment of organizational members to the merger objectives (Shrivastava, 1986). We will therefore focus next on cultural integration and discuss in greater detail how it supports collective absorptive capacity by reducing the political behavior that can result from operational integration.

Organizational Cultural Integration

Cultural integration represents the ideological and human side of the integration process. Following Shrivastava (1986), we understand *organizational cultural integration* as the development of a common organizational culture with shared espoused values and belief systems. Previous research suggests that cultural integration takes place primarily through the mechanisms of organizational cultural convergence and crossvergence (Sarala & Vaara, 2010). Organizational cultural convergence describes the process of the acquiring and target firms becoming increasingly similar along existing cultural dimensions (Sarala & Vaara, 2010). Usually, this is driven by changes in the target firm that are mandated by the dominant acquiring firm (Haspeslagh & Jemison, 1991) – that is, the acquirer’s culture is imposed on the target. In contrast, organizational cultural crossvergence describes cultural integration through the creation of a new shared culture that is distinct from the previous cultures of both the acquiring and the target firms (Sarala & Vaara, 2010). Crossvergence is thus inherently a more mutual, collaborative process in which specific cultural characteristics of both partners are combined or entirely new cultural dimensions are created by introducing values and beliefs distinct from those of the acquirer and the target and specific for the new merged organization.

We suggest that organizational cultural integration has a significant effect on *collective* absorptive and disseminative capacities. A common organizational culture created by cultural integration creates a shared frame of reference and vision for the members of both organizations (Schweiger et al., 1987; Schweiger and Goulet, 2005). This increases their ability to receive and disseminate knowledge by allowing for the reception and dissemination of tacit, complex, and culturally embedded knowledge (Haspeslagh & Jemison, 1991). A common organizational culture thus creates a shared ‘cultural platform’ that allows the merged organization, as a collective, to more efficiently store and process culturally embedded knowledge without having to separate it from the organizational context. Also, when cultural integration is supported by specific social integration mechanisms, such as cultural seminars, the process itself creates a network of informal social ties between the merging organizations (Jansen et al., 2005; Van den Bosch et al., 1999), which supports the absorption and dissemination of knowledge between them.

Without cultural integration, social identification with the pre-merger organizations can become problematic because it leads to stronger ingroup-outgroup categorizations between the acquirer and the target (Lipponen, Olkkonen, & Moilanen, 2004). The outgroup is perceived as threatening the status and legitimacy of the ingroup (Terry & O’Brien, 2001). Organizational members respond to this ‘threat’ by attempting to enhance and protect their power bases by increased political behavior (Steensma and Van Milligen, 2003). Thus, cultural integration reduces disruptive political behavior through the creation of a shared culture and identity.

We would expect that both convergence and crossvergence can effectively contribute to the creation of a shared frame of reference and shared ‘cultural platform’ that enhance the acquisition partners’ collective absorptive and disseminative capacities. However, we suggest that the positive effect will be stronger for crossvergence (Junni & Sarala, 2011), which – as a more mutual and collaborative process – is likely to be more conducive for the creation of an inter-organizational social network that increases individuals’ motivation to absorb and disseminate knowledge. While convergence has been shown to enhance M&A knowledge transfer (Sarala & Vaara, 2010), it is likely to better support the acquirer’s ability to disseminate its knowledge to the target than vice versa (Junni & Sarala, 2011). Although convergence reduces potential ingroup-outgroup categorizations (Birkinshaw et al., 2001), it usually involves assimilation of the target’s culture to the acquirer (Harding & Rouse, 2007) and is thus more likely to encourage knowledge dissemination from the culturally dominant acquirer to the target. In conclusion, we contend that cultural integration – be it through cultural convergence or crossvergence – is likely to have a positive effect on the acquisition partners’ collective absorptive and disseminative capacities by creating a shared identity and trust between them. This is also likely to reduce the risk of potentially disrupting political behavior that can result from social ingroup-outgroup categorizations (Steensma & Van Milligen, 2003; Terry & O’Brien, 2001).

Political Behavior

Political behavior can be viewed as an integral part of organizational life (Mintzberg, 1985), especially in acquisitions that involve a great degree of uncertainty for the parties involved (Cartwright & Cooper, 1990). In line with Hickson et al (1971) and Salancik and Pfeffer (1974), we view power as the influence that one party has on the decisions or actions of another. *Politics*, in turn, refers to behavior intended to influence others (Mayes & Allen, 1977; Farrell & Petersen, 1982) in order to preserve or

increase one's power. In general, however, individuals are more likely to resort to politicking, when they feel that their position is threatened, i.e. when they fear that they run the risk of losing outcomes (Steensma & Van Milligen, 2003). Power and politics are often overlooked aspects of M&As because most M&A research has tended to focus on "legitimate" aspects, such as value creation through synergies (Haspeslagh & Jemison 1991, Larsson & Finkelstein 1999). However, political behavior can have negative consequences on acquisition outcomes (Empson, 2001; Vaara, 2003). For example, Trautwein (1990) points to "managerialism" – which can be described as an attempt to increase managerial power at the expense of shareholders' – as a motivation for conducting M&As. In addition, the post-acquisition integration process can also be riddled with power games that can impede value creation (Vaara, 2003).

Previous research suggests that both the acquiring and target companies can resort to political behavior, in order to defend or enhance their power or status (Vaara, 2003), as they deal with uncertainties concerning future outcomes (Steensma & Van Milligen, 2003). This can reduce individuals' absorptive and disseminative capacities because motivation to make use of the partner's knowledge or to depart from knowledge is diminished (Empson, 2001; Vaara et al., 2003). Regarding absorption of knowledge, the acquirer has "position power," i.e. the ability to use rewards, coercion and their authority in order to influence the target (Steensma & Van Milligen, 2003). By drawing on this power base acquirers often use "hard" political tactics that are coercive and controlling, such as direct pressure, that does not give the target a choice of whether to comply with the acquirer (Steensma & Van Milligen, 2003). In line with this, it is common that the acquiring company views itself as "the conqueror" of the target, perceiving itself – along with its practices and knowledge – to be superior to the target (Jemison & Sitkin, 1986). This often leads to the acquirer trying to impose its "superior" knowledge and practices to the target – even when they are not directly applicable (Haspeslagh & Jemison, 1991; Jemison & Sitkin, 1986; Steensma & Van Milligen, 2003). In turn, this can create defensiveness and change resistance among target firm members and reduce their motivation to absorb the acquirer's knowledge. For example, Vaara et al. (2003) found that members in four merging firms in their study used rational persuasion – a "softer" political tactic (Steensma & Van Milligen, 2003) – to try to convince members of the other firms of why their practices were superior and should not be changed. Imposed changes can reduce the target's collective absorptive capacity if these changes break down existing social ties – e.g. through increased employee turnover (Haspeslagh & Jemison, 1991). Individuals' absorptive capacity can also be reduced if organizational members are unwilling to adopt the partner's "inferior" knowledge and practices, corresponding to Empson's (2001) fear of contamination' – defined as the fear on the part of individuals that their image will suffer as a result of absorbing new knowledge from the acquisition partner. This fear of contamination can be present on both sides of the merging firms. The decision to reject knowledge absorption may also be rooted in the desire to maintain the status quo, in order to shield the organization from disruptive changes (Haspeslagh & Jemison, 1991; Husted et al., 2005), as well as protecting individual positions and organizational identities (Buono & Bowditch, 1989).

Regarding knowledge dissemination, Husted et al. (2005) argue that individuals are more likely to use political tactics – such as hoarding knowledge – in the context of acquisitions, because of low levels of perceived psychological safety, and a fear of losing personal bargaining power. This reduces the motivation of the source to share its knowledge and thereby its individual disseminative capacity. In line with this, empirical studies have shown that fears of knowledge "exploitation" by members of the source firm can severely impede M&A knowledge transfer (Empson, 2001; Junni, 2011). This

type of fear can be especially prevalent among individuals in the target firm, who often perceive that their status and relative standing is lowered after an acquisition (Hambrick & Cannella, 1993).

Taken together, power games and political behavior are likely to disrupt M&A knowledge transfer by reducing the absorptive and disseminative capacities of individuals; especially when the acquirer uses “hard” political tactics that can create resentment and resistance in the target firm. Furthermore, the individuals in the target firm may be especially reluctant to share their knowledge because of fears of losing their bargaining power vis-a-vis the acquirer.

We summarize our propositions in Table 2.

P1: Knowledge complementarity will be <i>positively</i> associated with knowledge transfer.
P2: Knowledge complementarity will be <i>positively</i> associated with operational integration.
P3: Knowledge complementarity will be <i>positively</i> associated with individual absorptive and disseminative capacities (ACAP and DCAP).
P4: Organizational ACAP & DCAP, consisting of collective and individual ACAP and DCAP, will be <i>positively</i> associated with knowledge transfer.
P5: Operational integration will be <i>positively</i> associated with collective ACAP and DCAP.
P6: Operational integration will be <i>positively</i> associated with cultural integration.
P7: Operational integration will be <i>positively</i> associated with political behavior.
P8: Cultural integration will be <i>positively</i> associated with collective ACAP and DCAP.
P9: Cultural integration will be <i>negatively</i> associated with political behavior.
P10: Political behavior will be <i>negatively</i> associated with individual ACAP and DCAP.

Table 2 Propositions

DYNAMICS BETWEEN THE VARIABLES

We have discussed how knowledge transfer is influenced by knowledge complementarity and also organizational absorptive and disseminative capacities. More specifically, we argue that knowledge complementarity provides the basis within which acquisition partners aim to achieve synergies by transferring knowledge: the greater the knowledge complementarities, the greater the potential for knowledge transfer. Furthermore, we view organizational absorptive and disseminative capacities as consisting of individual and collective dimensions that together influence the effectiveness of knowledge transfer. While several studies have examined absorptive capacity, the recipient’s ability and motivation to discard old knowledge (‘unlearning’) as an important component of absorptive capacity has received less attention. Also, the source’s role in knowledge transfer – conceptualized as disseminative capacity – has not been applied to the M&A context.

Organizational absorptive capacity – individual and collective – relates to the recipient’s ability and motivation to receive knowledge from the partner firm and let go

of 'old' non-compatible knowledge. At the individual level of analysis we distinguish between ability and motivation to absorb knowledge. The recipient's ability to understand the source's knowledge, and to perceive it as valuable, will influence the extent to which it will take up new knowledge (Simonin, 1999) while letting go of old knowledge (Tsang, 2008). In turn, the motivational dimension of the recipient's individual absorptive capacity is related to whether the recipient views the source's knowledge as valuable and legitimate in its own context; if the source's knowledge is viewed as legitimate, the recipient is more likely to be motivated to adopt it (Kostova & Roth, 2002). Similarly, discarding old knowledge requires that the recipient de-legitimizes its old practices, which can be difficult and time consuming (Yildiz & Fey, 2010). Collective absorptive capacity includes structural and cultural aspects of the organization. It influences knowledge transfer by shaping the organizational framework to either encourage or constrain knowledge transfer (Bock et al., 2005; Zhao & Anand, 2009).

Disseminative capacity – individual and collective – refers to the source's ability and motivation to support the recipient in understanding and taking up its knowledge. The source's ability to share or teach its knowledge influences the recipient's ability to absorb the source's knowledge (Zellmer-Bruhn, 2003). The source's ability to package and convey its knowledge, so that it fits with the recipient existing context and is viewed as legitimate, also influences the recipient's motivation to absorb the source's knowledge (Kostova & Roth, 2002). Similarly, the source's ability to de-legitimize the recipient's knowledge will facilitate the discarding of old knowledge, which otherwise may hinder the recipient from effectively making use of the source's knowledge (Yildiz & Fey, 2010). Furthermore, collective disseminative capacity is likely to support knowledge transfer in two ways. First, an organizational structure that supports inter-unit, task-related communication increases organizational members' understanding of how to combine their individual knowledge as well as increasing their ability to explain or teach it to recipient firm members (Zhao & Anand, 2009). Second, a cohesive organizational culture creates stronger informal social ties between organizational members and increases organizational members' motivation to share knowledge because of increased interpersonal trust and expectations of reciprocity (Empson, 2001; Husted et al., 2005).

Absorptive and disseminative capacities are, in turn, influenced by operational and cultural integration, as well as political behavior. First, we propose that operational integration will enhance the acquisition partners' collective absorptive and disseminative capacities by creating a 'collective structural platform' that enhances inter-firm coordination and creates operational ties between the acquisition partners (Birkinshaw et al., 2000). However, because re-structuring can threaten the status quo of the merging firms, operational integration can give rise to political behavior (Jemison and Sitkin, 1986). More specifically, planned structural changes are likely to create a greater concern for the acquisition partners' own interests, which is likely to make them engage more readily in political behavior in order to protect or enhance their power bases (Steensma and Van Milligen, 2003). Thus, we contend that operational integration increases the need for cultural integration, which aligns the acquisition partners' cultures and identities in order to create mutual understanding and respect (Birkinshaw et al., 2000) that overcome at least some of the negative effects of operational integration. Second, we propose that organizational cultural integration has a positive effect on collective absorptive and disseminative capacities by creating a "collective cultural platform" of shared values and norms (Schweiger et al., 1987), which increases merging firm members' ability to convey and absorb complex and culturally embedded knowledge. In addition, when the acquisition partners share

an organizational culture, they are likely to be more motivated to share and absorb knowledge due to reduced fears of “contamination” and “exploitation” (Empson, 2001). Furthermore, the alignment of the acquisition partners’ cultures through cultural integration mechanisms, such as cultural awareness seminars or informal gatherings, enhances informal communication between the acquisition partners and strengthens their inter-unit social ties (Jansen et al., 2005; Schweiger & Goulet, 2005). This is likely to increase their motivation to collaborate and to engage in knowledge transfer. Third, we suggest that political behavior on part of the organizational members, which aims to increase or defend their existing power bases (Mayes & Allen, 1977; Farrell & Petersen, 1982), undermines individual aspects of absorptive and disseminative capacities by reducing motivation to depart from one’s own knowledge and to make use of the partner’s knowledge (Husted et al., 2005; 2001; Vaara et al., 2003). Regarding individual absorptive capacity, the recipient will be more reluctant to take up the source’s knowledge if it fears that it will be “contaminated” by the source (Empson, 2001) or it fears that knowledge absorption will cause disruptive changes to existing social ties and power structures (Husted et al., 2005). Concerning disseminative capacity, individuals may fear losing personal bargaining power by “giving away” their knowledge without receiving anything valuable in return (Empson, 2001; Husted et al., 2005).

CONCLUSION

In this paper, we set out to explore key mechanisms of knowledge transfer in M&As. We concentrated on the dynamic relationships between variables that influence knowledge transfer, highlighting aspects that have not received adequate attention in previous research. We argued that knowledge complementarity, organizational absorptive, and disseminative capacities are central in explaining M&A knowledge transfer. While previous studies have mainly focused on the effects of absorptive capacity at the individual level (Gupta & Govindarajan, 2000; Minbaeva et al. 2003; Simonin, 1999; Szulanski, 1996) we suggest that it is necessary to consider the effects of both individual and collective absorptive capacities (Zhao & Anand, 2009), as well as individual (Minbaeva, 2007) and collective disseminative capacities.

Several M&A studies have examined the influences of operational and cultural integration on performance in general (for a review of operational integration see e.g. Zollo & Meier, 2008, and for cultural integration see Stahl & Voigt, 2008) and on knowledge transfer in particular (e.g. Björkman et al., 2007; Ranft & Lord, 2002; Vaara et al., 2010). However, the relationship between these integration processes and absorptive and disseminative capacities remains less explored. We suggested that operational and cultural integration increase collective absorptive and disseminative capacities by creating a collective “structural platform” and “cultural platform” that increase the acquisition partners’ ability and motivation to disseminate and absorb knowledge respectively.

Finally, we proposed that operational integration can indirectly reduce individual absorptive and disseminative capacities by increasing political behavior (Steensma & Van Milligen, 2003), which decreases organizational members’ motivation to share and absorb knowledge. More specifically, operational integration is likely to lead to the politicization of integration issues and create organizational resistance (Jemison & Sitkin, 1986). This reduces individual absorptive and disseminative capacities by increasing fears of “contamination” and “exploitation” reported in the previous literature (Empson, 2001; Simonin, 1999; Szulanski, 1996).

Our contribution is two-fold. First, we integrate novelties from knowledge transfer research in other contexts to the specific context of M&As. A key aspect here is the specification of not only absorptive capacity but also disseminative capacity as main mechanisms of knowledge transfer in M&As. Also, distinguishing between different levels of absorptive and disseminative capacities in terms of the individual/collective and ability/motivation dimensions provides further depth for these concepts. Integrating these essential mechanisms enriches our understanding of knowledge transfer in M&As. Instead of linking factors directly to knowledge transfer, our model recognizes knowledge transfer in M&As as a process that depends on individual and collective capabilities. By doing this, our study responds to a call for research on how dynamic integration processes impact post-acquisition value creation (Haleblian et al., 2009).

Second, we highlight special complexities of the knowledge transfer process in the context of M&A integration. This is done by including socio-political factors that are likely to play a particularly important role in M&As. Operational integration is likely to pose a threat to the acquisition partners' existing structures (Steensma and Van Milligen, 2003), which increases the likelihood of politicization of integration decisions. It can be expected that power games and political behavior have an especially disruptive effect on M&A knowledge transfer (e.g. Vaara et al., 2003). Thus operational integration increases the need for cultural integration that creates a more positive atmosphere between the acquisition partners (Birkinshaw et al., 2001), in order to reduce the likelihood of disruptive political behavior that can result from ingroup-outgroup categorizations of culturally separate groups (Lipponen et al., 2004; Terry & O'Brien, 2001). Thus M&As represent a unique situation of strategic and social integration processes mixed in with political behavior, the effects of which have not yet been explored on knowledge transfer processes in the more general literature on knowledge transfer.

While we aimed to provide an integrative model on knowledge transfer in M&As, there are several aspects that could be developed in the future. It is crucial to keep integrating developments of the more general knowledge transfer literature (such as disseminative capacity) to our models of knowledge transfer in M&As. This ensures that the most current knowledge is included in the M&A studies and that consistent terminology and methodology is used across knowledge transfer studies. This also enables comparisons of knowledge transfer in different contexts. At the same time, researchers need to be aware of the specifics of the M&A integration process related in particular to the strategic and socio-political dynamics of post-acquisition integration. This means acknowledging the vital role of knowledge complementarity – which increases the need for operational integration, but also requires cultural integration in order to increase acquisition partners' motivation to engage in knowledge transfer while undertaking efforts to structurally integrate the two previously separate firms. Here the key is to incorporate advancements in strategic and socio-cultural research on M&As to the context of knowledge transfer. The message we want to send is that knowledge transfer is ultimately about knowledge transfer potential and people, which makes it crucial to focus on understanding the complex interactions between the members of the acquiring and target firms in M&As.

Future studies should also address the limitations of our model. We have focused on how operational and cultural integration, as well as political behavior build or undermine organizational absorptive and disseminative capacities, which in turn influence M&A knowledge transfer. We want to point out, however, that these variables are not static, but dynamic, and can therefore influence each other in the “opposite

direction” as well. For example, while organizational absorptive and disseminative capacities facilitate knowledge transfer (e.g. Minbaeva et al., 2003; Minbaeva, 2007; Zhao & Anand, 2009), knowledge transfer also influences subsequent organizational absorptive and disseminative capacities. Once the recipient accepts the source’s knowledge as “legitimate” and begins using it as part of its routines and processes, the knowledge becomes institutionalized (Kostova & Roth, 2002) and embedded within the recipient’s organization structure, processes and culture. This in turn influences the conditions for future knowledge transfer endeavors by giving rise to different types of organizational behavior (Bock et al., 2005; Fiol & Lyles, 1985). Thus, an important topic for future research would concern the possibly reverse relationships between the constructs identified in our model, as well as the long term consequences of processes related to operational and cultural integration.

Similarly, our model primarily included mediating effects in order to illustrate the interrelatedness of the variables. Further examination is required, however, to establish the complex nature of these relationships. One should look further into whether variables such as knowledge characteristics (Kane, 2010) or deal characteristics could moderate these relationships. It would also be valuable to explore whether we could find not only linear relationships but also curvilinear ones (Ahuja & Katila, 2001).

In addition, while we focused on the negative aspects of power and politics, “neutral” or “softer” political tactics such as consultation, inspirational appeals, rational persuasion and negotiation (Steensma & Van Milligen, 2003) could contribute to creating a better relationship between the acquisition partners and increase their motivation to share knowledge. Thus, we consider another fruitful area for future research the examination of the use of political tactics on the micro-level, in order to increase our understanding of how “hard”, “neutral” and “soft” political tactics influence M&A knowledge transfer.

The role of managerial interventions also requires specification. While we focused on the role of operational and cultural integration in value creation, it is important to distinguish the exact managerial actions that contribute to these processes. For instance, future human resource oriented studies could outline the HR practices most conducive for achieving operational and/or cultural integration and how these practices should be adjusted to reflect different strategic and cultural contexts (Hunt & Downing, 1990; Schuler & Jackson, 2001). Furthermore, we know little about the specific roles of managers – i.e. upper and middle level managers in the acquiring and target firms. These roles could be further explored in M&A integration in general (Graebner, 2004) and concerning M&A knowledge transfer in particular (Teerikangas, Very, & Pisano, 2011).

As a final point, although we have outlined a “process model” of M&A knowledge transfer, future research could go further in processual analysis. Our model is a variance model as it tries to explain why certain variables influence others (Van de Ven, 1992). Future analyses could build on the emerging process studies approach (Hernes & Maitlis, 2010; Langley, 2004; Van de Ven & Poole, 1995) and for example focus on the dialectical or dialogical processes in knowledge transfer. Some studies have already examined the *dynamics* of post-merger integration (Clark et al., 2010; Graebner, 2004; Vaara & Monin, 2010; Vaara & Tienari, 2011), but not in the case of knowledge transfer. Among other things, such analyses could elucidate the way in which previous actions and phases impact future ones – including emerging problems and opportunities and unintended consequences.

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KNOWLEDGE TRANSFER IN ACQUISITIONS: FEAR OF EXPLOITATION AND CONTAMINATION

ABSTRACT

Knowledge transfer plays an important role in the creation of synergies in acquisitions. Acquisitions provide opportunities for learning and are often justified on the basis of the new knowledge made available or created by them. Nevertheless, we do not know enough about the factors that influence knowledge transfer in the context of acquisitions. This paper focuses on the motivation on part of individuals in the acquiring and target companies to share their knowledge and make use of the knowledge of their partner. More specifically, it is hypothesized that the fear of being exploited or contaminated by the other party will have a profound negative effect on the transfer of knowledge in acquisitions. These hypotheses are tested on a sample of acquisitions by Finnish companies in 2001-2004 and they are largely supported by the empirical analyses.

INTRODUCTION

The performance of acquisitions is an important topic of study because their outcomes often fail to meet expectations (King, Dalton, Daily & Covin, 2004). Although many factors affect the outcome of acquisitions, it has been argued that knowledge transfer plays a crucial role in contemporary acquisitions. This is because acquisitions provide access to new knowledge or create it (Vaara, Tienari & Björkman, 2003; Vermeulen & Barkema, 2001). Furthermore, knowledge transfer is needed for the realization of synergies between the acquirer and the target (Capron, 1999; Capron and Pistre, 2002; Haspeslagh and Jemison, 1991). However, knowledge transfer in this context is challenging; in particular, uncertainty and ambiguity (Bresman et al., 1999; Ranft & Lord, 2002; Sarala, 2010; Vaara, 2003) tend to impede knowledge transfer (e.g. Husted, Gammelgaard & Michailova, 2005).

While we know a great deal about knowledge transfer in alliances or multinational corporations (MNCs) more generally, less is known about knowledge transfer in acquisitions. Furthermore, most studies on knowledge transfer in this context are based on case studies that cannot be generalized to larger populations (e.g. Ejenäs & Werr, 2005; Empson, 2001; Westphal & Shaw, 2005). Hence, there is a need to systematically examine the factors that facilitate and impede knowledge transfer in acquisitions. In particular, we suggest that the motivation of individuals to engage in post-acquisition knowledge transfer warrants special attention. Work motivation has been defined as “a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration” (Pinder, 1998, p. 11). In line with this definition, motivation on part of individuals to engage in knowledge transfer can be understood as the effort that they are willing to expend on sharing their knowledge with others as well as absorbing new knowledge from others (Minbaeva, 2007).

This paper draws on Empson’s (2001) work from her case study of post-merger knowledge transfer between three service firms. This paper aims to extend her study to examine to what extent motivational factors – in relation to other variables – influence knowledge transfer in acquisitions. More specifically, it is hypothesized that the fear of being exploited or contaminated by the other party will be negatively related to knowledge transfer in acquisitions, because individuals will be less motivated to

participate in knowledge transfer (Empson, 2001). These hypotheses were tested on a sample of 92 acquisitions made by Finnish companies in 2001-2004, both domestic and international.

This paper contributes to existing research on acquisitions by examining barriers to knowledge transfer, emphasizing the role of individuals who share, receive and use the knowledge, and on factors that (de)motivate them to do so. This study adds to previous research on knowledge transfer in acquisitions (e.g. Bresman et al., 1999; Ejenäs & Werr, 2005; Empson, 2001; Husted et al., 2005; Westphal & Shaw, 2005) by elucidating how fear of exploitation and contamination on the part of individuals relates to knowledge transfer.

THEORETICAL BACKGROUND

In the context of acquisitions, knowledge transfer is closely related to success in integrating the acquired unit with the acquirer. In order to achieve synergies some degree of integration is necessary (Larsson & Finkelstein, 1999). The integration process requires and is typically intended to foster ongoing and extensive communication, and consequently knowledge sharing (Bresman et al., 1999; Vaara et al., 2003) that supports value creation (Haspeslagh and Jemison, 1991). For example, Capron (1999) found that the post-acquisition redeployment of resources has a positive impact on the performance of horizontal acquisitions. In addition, Hagedoorn and Duysters' (2002) research shows that companies are more likely to acquire a business when their aim is to acquire or transfer knowledge that is closely related to their core business. However, knowledge transfer can be both difficult and time-consuming, especially in the post-acquisition integration period when the parties try to adapt to each others' practices (Vaara, 2003; Vaara et al., 2003).

This paper focuses on acquisitions that aim for some type of integration and thus require knowledge transfer. Naturally the types of synergies that acquiring companies seek and the methods they use for achieving them vary depending on the type of acquisition. The aim of 'absorption' types of acquisitions is to achieve 'hard synergies' through economies of scale and scope e.g. by standardizing practices (Haspeslagh & Jemison, 1991). Such standardization is typically attempted through efforts to transfer knowledge from the acquirer to the target, and by assimilating the target firm with the acquirer. Other acquisitions – e.g. preservation and symbiosis types – aim at achieving 'soft synergies' by also transferring knowledge from the target to the acquirer (Eccles, Lanes & Wilson, 1999; Haspeslagh & Jemison, 1991). In these types of acquisitions the acquirer has to proceed more carefully with the integration process in order not to disrupt the target's knowledge base that contains valuable tacit and culturally embedded knowledge sought by the acquirer (Haspeslagh & Jemison, 1991; Kale, Singh & Raman, 2009). Thus the motivation of individuals to share and absorb knowledge is especially relevant in acquisitions that aim to create 'soft synergies' through knowledge transfer.

Knowledge transfer in acquisitions

A number of factors have been found to influence the efficiency of knowledge transfer. Variables from prior research that are relevant in the context of acquisitions can be categorized into four groups: 1) characteristics of the knowledge that is transferred, 2) organizational characteristics, 3) post-acquisition integration mechanisms that support

knowledge transfer, and finally 4) the willingness of individuals to share and make use of knowledge.

First, the variable that has probably received the most attention from researchers is the type of knowledge that is transferred. The simplest categorization distinguishes between explicit and tacit knowledge, although a number of other classifications have also been created (e.g. Kogut & Zander, 1993; Simonin, 1999a; 1999b). Explicit knowledge can be described as knowledge in its simplest form that is easy to codify and to teach (Simonin, 1999a). Tacit knowledge, which lies on the other end of the spectrum, is more difficult to transfer because it is highly embedded in the context in which it has been shaped, and can for example be found in the routines and procedures of an organization (Kogut & Zander, 1993). Proponents of the resource-based view (RBV) claim that socially embedded knowledge, which is highly tacit, rare and difficult to imitate, also has the most potential to create value through synergies (Barney, 1991; Kogut & Zander, 1993). At the same time, since it cannot be easily coded, this type of knowledge is also the most difficult to transfer (Nonaka & Takeuchi, 1995; Ranft & Lord, 2002; Simonin, 1999a; 1999b). Lam (1997) studied knowledge transfer in a merger and found that in addition to the differences in their knowledge bases the highly embedded nature of the knowledge that resided in the two companies severely hampered knowledge transfer. Moreover, Bresman et al. (1999) found that in the early stages of acquisitions mostly explicit knowledge was transferred from headquarters to the subsidiary. They explained this finding by the fact that codified knowledge is easier to transfer. Moreover, a lack of personal relationships and trust in the early stages of post-acquisition integration may have inhibited the transfer of tacit knowledge.

Second, organizational characteristics have been found to influence knowledge transfer in acquisitions. No matter how codified or articulated the knowledge, in order for the transfer to be efficient, the receiving party has to be able to make use of it or 'absorb' it (e.g. Lane & Lubatkin, 1998; Mahnke, Pedersen & Venzin, 2005; Minbaeva, Pedersen, Björkman, Fey & Park, 2003). This 'absorptive capacity' has been defined by Minbaeva et al. (2003) as the capability and motivation to learn, and it is one of the most significant determinants affecting the success of knowledge transfer (Gupta & Govindarjan, 2000; Lane & Lubatkin, 1998; Minbaeva et al., 2003; Simonin, 1999a). Differences in the backgrounds, strategy, practices and culture of organizations can make it more difficult for the receiving party to absorb or make use of knowledge (Lam, 1997; Ranft & Lord, 2002; Simonin, 1999a). In line with this, research by Al-Laham, Schweizer & Amburgey (2010) shows that familiarity with the target's industry sector, and its "industry culture", has a positive effect of post-acquisition innovation. Further, Sarala (2010) found that perceived organizational cultural differences increase post-acquisition social conflict, which in turn can impede knowledge transfer (Björkman, Stahl & Vaara, 2007). Knowledge transfer may be especially problematic in international acquisitions where national cultural differences tend to reduce the absorptive capacity of the receiver and thus impede knowledge transfer (Vaara et al., 2003). However, Sarala and Vaara (2010) found that national cultural differences had a positive effect on knowledge transfer in acquisitions, and argue that national cultural differences can increase the potential for learning from the acquisition partner. On the other hand, Ahuja and Katila (2001) found that differences in the knowledge bases of firms had a curvilinear impact on knowledge transfer; whether they were too similar or too different, both had a negative effect.

Third, post-acquisition integration mechanisms can influence the extent to which knowledge is transferred between the merging organizations. These can be roughly classified as social and operational integration mechanisms (Birkinshaw, Bresman &

Håkanson, 2000; Björkman et al., 2007). Social integration activities that aim to build trust and foster close and open communication – such as inter-unit visits and trips, committees and teams that involve participants from multiple units – have been found to support knowledge transfer, especially when the aim is to share tacit knowledge (Björkman, Barner-Rasmussen & Li, 2004; Bresman et al., 1999; Gupta & Govindarjan, 2000; Minbaeva, 2007; Minbaeva et al., 2003). The effects of operational integration mechanisms that aim to increase the acquirer's control over the target are, however, complex and even contradictory. On the one hand, they can have a positive effect on knowledge transfer, if they create appropriate incentives and rewards to motivate people to share knowledge (Cabrera & Cabrera, 2002; Gupta & Govindarjan, 2000; Minbaeva et al., 2003). On the other hand, if the acquiring company imposes too many rules and procedures during the post-acquisition integration phase and tries to gain too much control, it can create resistance and resentment in the acquired company (Björkman et al., 2007; Datta & Grant 1990). According to Al-Latham et al. (2010) pre-acquisition alliance experience with the target provides the acquirer with valuable knowledge about how the target company works, which supports the acquirer in choosing an integration approach that is the most conducive for post-acquisition knowledge transfer and innovation.

Finally, it is up to the individuals in the organizations to share their knowledge and to make use of others' knowledge, and their motivation to do so is vital if knowledge transfer is to be efficient (e.g. Bresman et al., 1999; Empson, 2001; Minbaeva, 2007; Szulanski, 1996; Westphal & Shaw, 2005). This study focuses on economic reasoning on the part of individuals about the cost of knowledge transfer as well as the acquisition partners' social identification, which may both inhibit the transfer of knowledge. It has been argued that the greatest barriers to inter-firm knowledge transfer are caused by factors that relate to the knowledge itself, rather than by motivational factors such as jealousy, resistance to change, the not-invented-here syndrome and the like (e.g. Simonin, 1999a; Szulanski, 1996). In the post-acquisition context however, motivational factors probably play a more important role in knowledge transfer, because this time period is frequently characterized by high uncertainty and ambiguities for the parties involved (e.g. Bresman et al., 1999). After the knowledge management infrastructure and the integration mechanisms have been put in place, it is arguably the individuals who decide whether they want to share their knowledge and make use of their partner's knowledge (Ejenäs & Werr, 2005; Empson, 2001; Husted & Michailova, 2002; Westphal & Shaw, 2005).

To summarize the discussion above, the interplay of a variety of factors influences the extent of knowledge transfer in the context of acquisitions and ultimately the extent to which value will be created after an acquisition. Knowledge transfer can be viewed as a function of knowledge characteristics, organizational characteristics, post-acquisition integration mechanisms, and willingness to share and absorb knowledge. However, we do not know enough about the extent to which motivation to engage in knowledge transfer – in relation to other factors – influences knowledge transfer in acquisitions. Consequently, this aspect will be explored further in the following section.

HYPOTHESIS DEVELOPMENT

In this section hypotheses are developed on the basis of social exchange theory and social identity theory, which aim to explain the extent to which the unwillingness of individuals to share and absorb new knowledge influences knowledge transfer in acquisitions. Knowledge transfer has been conceptualized in a variety of ways; e.g. in

terms of costs and benefits (Kogut & Zander, 1993) or as a communication process that involves the sender, context, knowledge and receiver (Minbaeva, 2007). Following Minbaeva (2007), we view knowledge transfer as a process where the involvement of both a sender and a recipient is vital. First the sender needs to share and “teach” its knowledge to the recipient, after which the recipient needs to make use of the knowledge and adapt it to a new context (Minbaeva, 2007). Knowledge transfer can involve anything from local business practices (Schoenberg, 2001) to technical R&D knowledge (Bresman et al., 1999), depending on what is useful for the acquirer and target. While the aim of knowledge transfer in general is to achieve synergies, studies show that acquirers who misapply their systems and processes – by transferring them to the target without considering whether they work in this context – may unknowingly undermine the performance of acquisitions (Finkelstein & Halebian, 2002; Jemison & Sitkin, 1986).

Fears related to sharing knowledge

Empirical evidence suggests that knowledge transfer – which aims to benefit the recipient organization collectively – is largely dependent on willingness of individuals to share their knowledge (e.g. Minbaeva, 2007; Simonin, 1999a; 1999b; Szulanski, Cappetta & Jensen, 2004). However, it can be difficult to motivate individuals to share their knowledge. According to social exchange theory, when individuals engage in interactions, they weigh the costs and the benefits of these interactions and whether their efforts will be rewarded by something of equivalent value in the future (Gouldner, 1960). Individuals involved in knowledge transfer can thus be seen as rational agents that act out of self-interest (e.g. Eisenhardt, 1985; 1989; Jensen & Meckling, 1976). While knowledge transfer can benefit an organization collectively, individuals may want to hoard their knowledge in order to maximize their personal ‘value’ and bargaining power (Bowman & Swart, 2007; Coff, 1999).

Although individuals are generally viewed as rational and unemotional beings in social exchange theory (Lawler & Thye, 1999), reluctance to share knowledge can also be rooted in emotional factors. A loss in power or status – even if only anticipated – will result in negative feelings such as fear and anxiety in individuals (Kemper, 1990), which in turn can inhibit knowledge sharing. According to Husted and Michailova (2002) individuals may experience hostility towards knowledge sharing that can range from ‘mild hostility’ – which is mostly based on rational evaluations of the costs and benefits of sharing knowledge, to ‘strong hostility’ – which is often rooted in power games and politicking or serves as a strategy to deal with ambiguities or uncertainty. The post-acquisition context is frequently characterized by high uncertainty, low job security and ambiguity for the parties involved (e.g. Ranft & Lord, 2002; Vaara et al., 2003), which may consequently trigger more extreme hostility towards knowledge sharing (Husted et al., 2005). For example, Bartol, Liu, Zeng and Wu (2009) found that perceptions of low job security had a negative impact on the willingness of individuals to share knowledge. This type of ‘strong hostility’ to knowledge sharing can be more difficult to detect than ‘mild hostility’, and can simmer under the surface and undermine the acquisition’s potential (e.g. Buono, 2003; Marks & Mirvis, 1992).

This study focuses on ‘milder’ types of knowledge sharing hostility, or what Empson (2001) – who researched knowledge transfer in the mergers of three professional service firms – has termed ‘fear of exploitation’. According to Empson (2001), the ‘fear of exploitation’ mainly originates from differences in the knowledge bases of firms, and is characterized by a rational evaluation of the value of the other party’s knowledge.

Respondents in her study were more reluctant to share their knowledge with a recipient that had less valuable knowledge, and when they feared that they would be exploited by the other party they refused to share knowledge with them. In other words, when individuals in either the target or the acquiring company did not expect to get much of value in return from knowledge transfer, they were less willing to share their own. Although this ‘mild hostility’ to share knowledge – which builds on the economic rationale of doing so – may be less severe than the ‘strong hostility’ (Husted et al., 2005), it has been found to be a significant barrier to knowledge sharing in acquisitions (Ejenäs & Werr, 2005; Empson, 2001; Husted & Michailova, 2002). The first hypotheses can thus be formulated as follows:

Hypothesis 1. The target’s fear of exploitation will be negatively related to knowledge transfer from the target to the acquirer.

Hypothesis 2. The acquirer’s fear of exploitation will be negatively related to knowledge transfer from the acquirer to the target.

Fears related to receiving knowledge

While both the sender and recipient play important parts in the knowledge transfer process, research on knowledge transfer has tended to focus more on the recipient; particularly the recipient’s absorptive capacity (Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000; Lane & Lubatkin, 1998; Szulanski, 1996). Absorptive capacity has been conceptualized as the recipient’s *ability* to make use of new knowledge (Cohen & Levinthal 1990; Szulanski, 1996), which is influenced by differences between the source and recipient (Gupta & Govindarajan, 2000; Lane & Lubatkin, 1998). However, recent research shows that the *motivation* of individuals to absorb knowledge also influences absorptive capacity (Minbaeva, 2007; Minbaeva et al., 2003). This section focuses on the ‘motivation’ aspect of absorptive capacity; namely the recipient’s willingness to absorb knowledge.

The willingness of individuals to engage in knowledge transfer is affected by socio-psychological factors such as feelings of trust, belonging, shared views and a shared identity (Cabrera & Cabrera, 2002; Mooradian, Renzl & Matzler, 2006; Vora & Kostova, 2007). According to social identity theory, individuals derive a sense of personal identity from the social groups that they belong to (Hogg & Terry, 2000; Tajfel, 1972). Based on this perspective, social identity – which can be defined as individuals’ feelings of belonging to a social entity – can create trust and shared norms with individuals in the “ingroup”, which can facilitate knowledge transfer (Kane, 2010; Kane, Argote & Levine, 2005; Vora & Kostova, 2007). However, in the case of acquisitions, individuals tend to identify with the pre-acquisition organization and view it as their own “ingroup”, whereas members of the other firm are often categorized as belonging to the “outgroup”, and are consequently perceived as less trustworthy, and even threatening (Buono & Bowditch, 1989; Terry & O’Brien, 2001). Further, acquisitions in themselves often create situations that can be ambiguous and threatening to the employees involved (e.g. Buono, 2003; Buono & Bowditch, 1989; Marks & Mirvis, 1992; Vaara, 2003). Employees may not only fear losing their job, but also their social identification with their organization can become threatened (e.g. Bartels, Douwes, De Jong & Prunyn, 2006; Van Dick, Ulrich & Tissington, 2006). This threat can cause individuals to become more protective of their own knowledge as well as of their existing organizational social identity, which in turn can impede knowledge transfer (Husted et al., 2005). For example, Westphal and Shaw (2005) found in their exploratory study that one of the most significant factors in post-acquisition knowledge

transfer was the attitudes of individuals towards each other, and hence their motivation to share knowledge. In addition, recipients may fear that organizational changes may destabilize old routines and practices, or even worse, strip recipients of their power or status, and thus be reluctant to change the “status quo” (Husted et al., 2005). Tsang (2008), who studied unlearning in a joint venture acquisition, found that recipients – or those expected to “unlearn” old practices – often reverted to old routines, even when new ones had also been used for a considerable period of time. Empson (2001) calls the threat to individuals’ existing organizational identity ‘fear of contamination’. She found in her study that when the parties in the merging organizations did not identify with or trust each other, they were unwilling to share knowledge. Employees who saw themselves as more savvy or trendy feared that the other less classy or worthy party would contaminate their self image or corporate image, which in turn could harm their reputation and relations with clients. This can be expressed by the following hypotheses:

Hypothesis 3. The target’s fear of contamination will be negatively related to knowledge transfer from the acquirer to the target.

Hypothesis 4. The acquirer’s fear of exploitation will be negatively related to knowledge transfer from the target to the acquirer.

The hypotheses can be summarized in the following model:

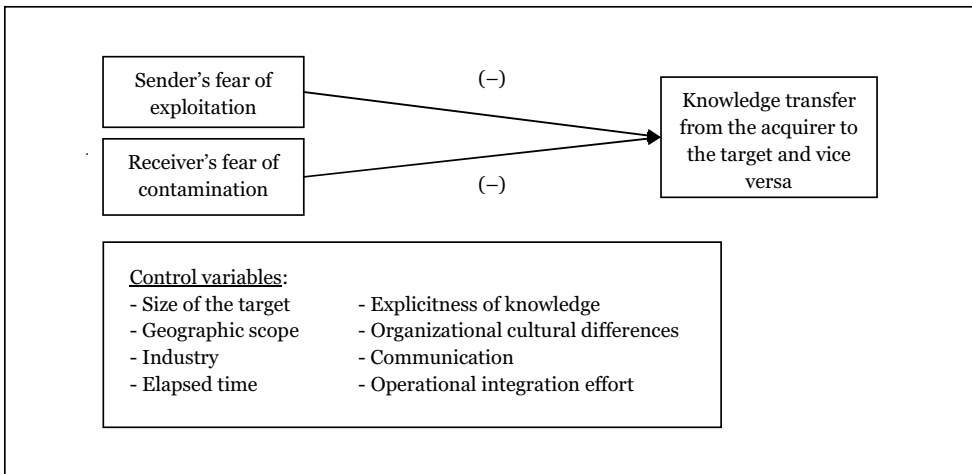


Figure 1 Theoretical model

To test these propositions, a survey was conducted of acquisitions carried out by Finnish companies. The methods of the survey are presented in the next section.

DATA COLLECTION

Data were collected for this study through a mail survey that was sent out in the spring of 2005, as part of a research project called Finnish Corporate Acquisitions (FCA), and the answers were collected during the summer and fall of the same year. The acquisitions were conducted between the years 2001-2004. This period was chosen in order to allow some time to pass after the acquisition and to produce more meaningful

results in examining the integration process (Haspeslagh & Jemison, 1991). The acquisitions were identified using data from the database of the Finnish magazine *Talouselämä* on acquisitions carried out by Finnish firms.

The reason for only including acquisitions completed by Finnish corporations was twofold. First, one of the main goals of the FCA research project was to examine the relationship between Finnish acquirers' post-acquisition behavior and acquisitions outcomes. Second, post-acquisition integration practices employed by acquirers have been found to differ between countries (e.g. Calori, Lubatkin & Very, 1994). Limiting the sample to Finnish acquisition allowed us to control for the effect of national cultural differences on acquirer's integration practices. However, this may also limit the generalisability of the empirical findings to other national contexts.

In order to target only acquisitions where integration and knowledge transfer were central components, we included the following criteria: First, we excluded financial holding-type acquisitions and management buy-outs. Second, we wanted to focus on acquisitions and thus only included cases where the acquirer had gained a majority holding of over 50% of the target company, which excludes joint ventures, minority ownerships and mergers. We also excluded small acquisitions, where the target company's turnover was below 3.4 million euro. All of the acquisitions in the final sample were in related industries. The acquisitions in this study thus represent cases where both the acquirer and target can be expected to benefit from knowledge transfer in either direction.

Before sending out the survey we contacted the CEOs of the acquiring companies by telephone, and explained the purpose of our study. We then asked the CEOs to name key-decision makers who had been involved in the acquisition and would be in a position to complete the questionnaire. This was done to ensure that respondents with the most insight and information about the acquisition at hand would answer the questions in the survey. After mailing the survey to the identified respondents, we waited two weeks before we sent out reminders to those who had not replied yet.

The final data set includes 103 responses from 92 acquisitions with a response rate of 20%. It covered companies from a wide range of industries: banking, building material and supplies, chemicals, communication, construction, electronics, energy, food, forest, furniture, graphics, hotels/restaurants, IT services, manufacturing, metal, retail, service firms, textile, transport, wholesale and import trade. Service firms in this sample accounted for ca. 65%.

We received single responses from 82 acquisitions and multiple responses from 10. Most of the cases with multiple responses consisted of one reply from the acquirer and one from the target (7 in total), with one case where the acquirer had provided two answers. In the other cases with multiple respondents we received two responses from the acquirer (in two cases) and in one case two responses from the target firm. Out of all responses, 84 were from the acquiring company, and 19 from the target's side.⁴⁹

⁴⁹ The asymmetry in the distribution of answers is largely due to how the survey was conducted. Because it was our aim to receive responses from the most knowledgeable respondents, we asked the CEOs of the acquiring companies to help us identify respondents that had been actively involved in the acquisition process, and thus were most suitable to answer our questions. Most of the respondents that were identified were from the acquiring company's side, with only a few respondents from the target's side.

To test for potential biases caused by the unbalanced sample, we conducted t-tests for responses from the acquirer's side and the target's side, with all the constructs involved in this study. The t-tests revealed that

Most of the respondents in this sample were at the top manager (43%) or CEO level (43%); the rest (14%) were other members of the management group or members of the board of directors.

The numbers of domestic and international acquisitions were almost equal; 51 were domestic (55%) and 41 were international (45%). The sample included acquisitions from the following countries: Austria, Belgium, Canada, China, the Czech Republic, Estonia, France, Germany, Great Britain, Hong Kong, Italy, Latvia, Lithuania, Norway, the Netherlands, Poland, Russia, Spain, Sweden, Switzerland, and the USA.

MEASURES

Several constructs were developed to measure the different dimensions that affect knowledge transfer in acquisitions. The ones used in this study were based on questions on a seven-point Likert-type scale and all rely on perceptual measures. To ensure face validity a pilot study was conducted, and the questionnaire was pre-tested on a group of professors and managers. Based on this the phrasing of some of the questions in the original version were modified. No single factor accounted for the majority of covariance among the measures (Podsakoff, Mac Kenzie, Lee & Podsakoff, 2003), and thus there was no evidence of common method bias. Because the data were not normally distributed in all of the cases, each variable in the model was standardized (z-transformed). The following section provides a description of the dependent and explanatory variables in this study, followed by the control variables.

Dependent variables

Knowledge transfer from target to acquirer

To measure the extent to which knowledge was transferred from the target to the acquirer, a construct was adapted from Capron's (1999) study. It consists of six items that measure to what extent the acquirer had made use of the target's knowledge in the following areas: a) general management expertise, b) product innovation capabilities, c) know-how in manufacturing processes, d) sales and marketing expertise, e) supplier

answers differed significantly with regard to only a few constructs. Respondents from the acquirer's side estimated a) larger amounts of knowledge transfer from the acquirer to the target and from the target to the acquirer, b) lower levels of fear of exploitation in the acquiring company and in the target company. The results of this study are thus somewhat biased in the sense that respondents from the acquirer's side had a more positive view than the targets, which should be taken into account when interpreting the results.

We also conducted t-tests with multiple responses received from both the target's and acquirer's side (7 cases in total). The acquirer's and target's responses did not differ significantly. While this t-test sample was small, it suggests that the responses were reliable at least for the multiple cases. In addition, we conducted the regression analyses using only the acquirer's responses. The same variables that were significant in the full sample were also significant when only the acquirer's replies were used. We thus believe that the sample adequately represents both the acquirer's and the target's views.

Finally, we tested for the multiple responses' inter-rater reliability by calculating intraclass correlation coefficients (Jones, Johnson, Butler & Main, 1983). Only one case out of the 10 multiple responses showed an intraclass correlation that was not significant at the $p < 0.01$ level. This case was removed in order to improve the reliability of the data.

relations, and f) distribution and logistics expertise. The scale ranged from 1-7, where 1 = “not at all” and 7 = “very much” (Cronbach’s Alpha was 0.88).

Knowledge transfer from acquirer to target

In much the same way as in the previous measure, this construct was operationalized by asking respondents to what extent the target had made use of the acquirer’s knowledge in the same areas as reported above, using an identical scale (Cronbach’s Alpha was 0.89).

Explanatory variables

Acquirer’s fear of exploitation

Inspired by Empson’s (2001) study, the questions for this construct were formulated as follows: People in the acquiring company are afraid that a) the knowledge exchange process is not fair, b) they will get nothing in return in the knowledge exchange, and c) the acquired company will take advantage of their knowledge. The scale ranged from 1-7, where 1 = “do not agree” and 7 = “completely agree” (Cronbach’s Alpha was 0.90).

Target’s fear of exploitation

The same questions were asked as in the measure above except that they concerned the target’s fears (Cronbach’s Alpha was 0.84).

Acquirer’s fear of contamination

Inspired by Empson’s study (2001), the following questions were used in this construct: People in the acquiring company are afraid that a) knowledge transferred from the acquired company will harm their operations, b) knowledge transferred from the acquired company will weaken their competitiveness, and c) knowledge transferred from the acquired company will damage their reputation. The scale ranged from 1-7, where 1 = “do not agree” and 7 = “completely agree” (Cronbach’s Alpha was 0.93).

Target’s fear of contamination

The same questions were used as in the previous measure, except that they concerned the target’s fears (Cronbach’s Alpha was 0.93).

Control variables

Size of the acquisition

The size of the acquisition can influence knowledge flows between the acquirer and target. For example, Bresman et al. (1999) found a positive correlation between the size of the target and the amounts of knowledge transferred in acquisitions. In this study net sales were used to control for the size of the acquisition.

Geographic scope

Geographical distance between the acquirer and target can be expected to have an inhibiting effect on knowledge transfer, at least due to the higher costs of face-to-face

communication. A binary dummy-variable was used to control for domestic versus cross-border acquisitions; 1 represented an international acquisition and 0 a domestic one.

Industry

In her study, Empson (2001) focused on knowledge transfer in mergers between professional service firms because knowledge represents one of the most important resources for employees in these types of organizations. By making a crude categorization that distinguishes between service firms and others, it was possible to test whether Empson's findings also apply to other types of firms. A binary-dummy variable was used for this purpose, where 1 represents a service firm and 0 any other type of firm.

Elapsed time

Bresman et al. (1999) found that knowledge flows changed both in amount and type as time passed after the acquisition. Whereas they were mostly imposed by the acquirer in the beginning, this changed over time and knowledge transfer in later stages was more balanced between the parties, and comprised both explicit and tacit knowledge. The acquisitions in the sample were between 1 to 4 years, as measured from the time that they were conducted to the time that we received the answers. We used the number of years that had passed after acquisition as a proxy for elapsed time in this study (1, 2, 3 or 4).

Explicitness of acquirer's knowledge

Prior research provides consistent evidence that explicit knowledge is more easily shared between organizations than highly tacit and embedded knowledge (e.g. Kogut & Zander, 1993; Simonin, 1999a). This construct was built on the basis of Simonin's (1999a) study, and included the following questions: a) the acquirer's knowledge is easily codifiable (in blueprints, instructions, formulas, etc.), and b) the acquirer's knowledge is more explicit than tacit. The scale ranged from 1-7, where 1 = "do not agree" and 7 = "completely agree" (Cronbach's Alpha was 0.81).

Explicitness of target's knowledge

In this construct the same questions were used as above, except that they related to the target's knowledge (Cronbach's Alpha was 0.70).

Perceived organizational cultural differences

The findings on the impact of organizational cultural differences on knowledge transfer have been mixed. On the one hand, different but complementary organizational cultures can be a source of synergies and value creation in acquisitions (Björkman et al., 2007; Haspeslagh & Jemison, 1991). On the other hand, large differences in the cultures of the acquirer and target can impede the transfer of knowledge (Lam, 1997). To take this into account respondents were asked to describe the extent of perceived organizational cultural differences between the acquirer and target in the following six dimensions: a) management and control, b) sales and marketing, c) production, d) research and development, e) finance, and f) company values in general. The scale ranged from 1-7, where 1 = "no differences" and 7 = "significant differences" (Cronbach's Alpha was 0.86).

Communication

Communication has been found to facilitate knowledge transfer, especially when the aim has been to share tacit knowledge (Björkman et al., 2004; Bresman et al., 1999; Gupta & Govindarjan, 2000; Minbaeva et al., 2003). To control for the effects of communication, or the lack thereof, a construct was adapted from the study by Birkinshaw et al. (2000). Respondents were asked about a) the amount, and b) effectiveness of the information communicated during the integration process to those affected by the acquisition, on a scale of 1 to 7, where 1 = “not at all” and 7 = “a great deal” (Cronbach’s Alpha was 0.79).

Operational integration effort

The type of knowledge transfer sought after an acquisition – in terms of the amount and direction – depends largely on the type of integration and synergies that are sought (Haspeslagh & Jemison, 1991). To control for the level of efforts on the acquirer’s part to achieve operational integration, we built a construct based on Sarala’s and Vaara’s (2010) study that included questions about: a) the extent of post-acquisition changes in the acquiring company and b) in the target, c) the extent to which overlaps between the acquirer and target had been eliminated during post-acquisition integration, and d) the extent to which there had been a tendency towards the standardization of practices. The scale for these first two questions ‘a’ and ‘b’ ranged from 1-7, where 1 = “no changes” and 7 = “significant changes”. The scale for the questions ‘c’ and ‘d’ ranged from 1-7, where 1 = “not at all” and 7 = “a great deal” (Cronbach’s Alpha was 0.59).

RESULTS

The inter-correlations between the variables in Table 1 provide some preliminary support for the hypotheses: fears of exploitation and contamination on the part of the acquirers and targets are significantly and negatively correlated with knowledge transfer to and from either party, but the target’s fear of exploitation is only marginally significant ($p < 0.1$ in knowledge transfer in either direction). There were also some noteworthy inter-correlations between the dependent variables and the control variables. The amount of knowledge transfer in domestic acquisitions was greater than in international ones, although this was only significant for knowledge flows from the acquirer to the target. One explanation can be that in international acquisitions the acquirer tries to obtain knowledge from the target firm about the local market (Schoenberg, 2001). In general, international acquisitions tend to be motivated by entry into new markets, whereas domestic acquisitions are more likely to aim at achieving synergies through economies of scale and scope (e.g. Davis, Shore & Thompson, 1991; Georgopoulos, Argyros & Boura, 2008). In particular, geographic proximity between the acquirer and the target in domestic acquisitions facilitates their ability to share resources, which can lead to improved efficiencies in scale and scope (Lehto, 2006). Thus, the finding that knowledge transfer from the acquirer to the target is greater in domestic acquisitions may be explained by the acquirer’s desire to create synergies through economies of scale and scope by standardizing practices (Eccles et al., 1999; Haspeslagh & Jemison, 1991).

In accordance with findings from previous studies, explicit knowledge (e.g. Kogut & Zander, 1993; Simonin, 1999a; 1999b), better communication (Bresman et al., 1999), and operational integration effort (Sarala & Vaara, 2010) were positively correlated with knowledge transfer in both directions. As mentioned earlier, perceived organizational cultural differences have received mixed results as to their influence on

knowledge flows. In this sample they had a positive impact on knowledge transfer from the acquirer to the target, but not vice versa. Although only marginally significant ($p < 0.1$), perceived organizational cultural differences had a negative effect on knowledge transfer from the target. These findings are interesting because it suggests that depending on the organization's position, acquirer versus target, perceived organizational cultural differences have opposite effects on knowledge transfer. In line with the study by Bresman et al. (1999), perceived organizational cultural differences – which may reduce trust and create misunderstandings between the merging firms – seem to constrain knowledge transfer from the target to the acquirer. In contrast, the findings indicate that acquirers try to capitalize on organizational cultural differences by transferring and leveraging their unique knowledge into the target firm (Björkman et al., 2007). Finally, the results indicate that the degree of perceived organizational cultural differences is not related to whether the acquisition is domestic or international, as one might expect.

Variable	N	Min	Max	Mean	S. E. mean	S. dev.	1	2	3	4
1. Elapsed time	91	-2.057	1.368	-0.006	0.105	1.004	1			
2. Size of acquisition	89	-0.512	4.312	0.002	0.107	1.005	0.001	1		
3. Geographic scope	91	0.000	1.000	0.440	0.052	0.499	0.134	0.334**	1	
4. Industry	91	0.000	1.000	0.451	0.052	0.500	-0.132	-0.120	-0.223*	1
5. Explicitness of acquirer's knowledge	81	-2.178	2.272	0.019	0.102	0.918	0.051	-0.109	0.110	-0.138
6. Explicitness of target's knowledge	83	-2.066	2.048	-0.009	0.098	0.890	0.167	-0.174	-0.080	-0.003
7. Perceived organizational cultural differences	86	-2.550	1.385	0.014	0.080	0.743	-0.109	-0.127	-0.027	-0.097
8. Communication	87	-2.661	1.694	-0.002	0.098	0.915	0.030	-0.073	-0.139	0.127
9. Operational integration effort	85	-1.723	1.606	0.015	0.073	0.674	0.156	-0.133	-0.039	-0.064
10. Acquirer's fear of exploitation	85	-2.604	0.941	-0.011	0.099	0.910	-0.256*	-0.009	-0.023	0.051
11. Acquirer's fear of contamination	85	-2.944	0.718	-0.008	0.102	0.938	-0.146	-0.040	0.014	0.034
12. Target's fear of exploitation	85	-2.411	1.224	-0.014	0.094	0.863	0.020	-0.047	0.128	-0.004
13. Target's fear of contamination	85	-2.798	0.860	-0.010	0.102	0.937	-0.017	0.002	0.144	-0.036
14. Use of acquirer's knowledge	88	-2.331	1.434	0.020	0.085	0.799	-0.039	-0.177	-0.223*	-0.055
15. Use of target's knowledge	89	-1.481	2.048	-0.004	0.084	0.795	0.151	0.006	-0.140	0.086

Variable	5	6	7	8	9	10	11	12	13	14
1. Elapsed time										
2. Size of acquisition										
3. Geographic scope										
4. Industry										
5. Explicitness of acquirer's knowledge	1									
6. Explicitness of target's knowledge	0.651***	1								
7. Perceived organizational cultural differences	0.147	-0.058	1							
8. Communication	0.187†	0.235*	-0.220*	1						
9. Operational integration effort	0.158	0.084	0.085	0.426***	1					
10. Acquirer's fear of exploitation	0.052	0.012	-0.033	-0.028	-0.225*	1				
11. Acquirer's fear of contamination	0.100	0.135	0.015	-0.066	-0.123	0.786***	1			
12. Target's fear of exploitation	0.176	0.318**	-0.077	0.104	-0.095	0.615***	0.610***	1		
13. Target's fear of contamination	0.105	0.173	-0.034	0.051	-0.174	0.659***	0.749***	0.759***	1	
14. Use of acquirer's knowledge	0.367***	0.337**	0.273*	0.314**	0.419***	-0.259*	-0.241*	-0.176	-0.209†	1
15. Use of target's knowledge	0.202	0.312**	-0.206†	0.335**	0.283**	-0.391***	-0.278**	-0.187†	-0.234*	0.370***

Pearson's bivariate correlations, Spearman's rho for variables geographic scope and industry.

Data in the table represent standardized beta coefficients.

† p < .1

* p < .05

** p < .01

*** p < .001

Table 1 Descriptive statistics and correlations

In addition to this, the explanatory variables were all strongly inter-correlated, indicating that there might be a problem with multicollinearity. We used a principal component analysis (PCA), to find out whether the independent variables that were expected to impede knowledge transfer from the target to the acquirer would load on the same factor (i.e. the 'target's fear of exploitation' and the 'acquirer's fear of contamination').⁵⁰ The PCA extracted only one factor with an eigenvalue above 1 (eigenvalue = 3.934), explaining 56.6% of the variance in the data. Taking this finding into account, it seemed to be more appropriate to use a construct that captures the attitudes of both the acquirer and target on a dyadic level, rather than to focus on the attitudes in a single unit. We thus took the average value of these items (Cronbach's alpha was 0.89).

A principal component analysis was also conducted on the variables that were expected to have a negative impact on knowledge transfer from the acquirer to the target (i.e. the 'acquirer's fear of exploitation' and the 'target's fear of contamination'). Only one factor with an eigenvalue of over 1 was extracted (eigenvalue = 4.239), and it explained 70.7% of the variance in the data. We took the average value of these items to build a new construct (Cronbach's alpha was 0.92).

Moreover, because most of the responses in this sample were from individual respondents, we assessed the extent to which common method variance (CMV) may affect the data in two ways. First, we conducted a Harman's single factor test, in which all items are included in an exploratory, unrotated principal component analysis. As the first and second factors resulting from this test showed relatively low levels of variance (25% and 14%), CMV does not seem to influence the data (Podsakoff and Organ, 1986).

Hypothesis testing

The hypotheses were tested with multiple regression analyses. Hypotheses 1 and 4 were tested by building a regression model with 'use of target's knowledge' by the acquiring firm as the dependent variable. Missing values were deleted listwise and each regression had 77 observations. In the baseline model only two control variables were significant. As expected, 'operational integration effort' and 'explicitness of the target's

⁵⁰ We conducted regression analyses with the independent variables (IVs) separately. In the first model, with the dependent variable 'use of target's knowledge', the IVs 'target's fear of exploitation' and 'acquirer's fear of contamination' were not significant separately. Apart from this, the regression results did not differ from the one with the combined variable 'target's fear of exploitation and acquirer's fear of contamination'. We conducted two additional regressions where the IVs were entered separately. In both models the respective IVs were significant at the $p < 0.05$ level, indicating that multicollinearity was a problem.

We also conducted a regression analysis for the 'use of acquirer's knowledge' with the IVs 'acquirer's fear of exploitation' and 'target's fear of contamination'. The results were otherwise similar to the regression with the combined variable 'acquirer's fear of exploitation and target's fear of contamination', except that the acquirer's fear of exploitation was significant at the $p < 0.05$ level, and the target's fear of contamination was not. In order to find out whether multicollinearity was a problem we conducted two additional regressions where the IVs were entered separately. The 'acquirer's fear of exploitation' was significant at the $p < 0.01$ level in the first model, and the 'target's fear of contamination' was significant at the $p < 0.05$ level in the second model. Taken together, these results indicate that multicollinearity indeed was a problem.

In light of these findings we considered it to be more appropriate to use a construct that captures the acquirer's and target's fears on a dyadic level, by measuring the average value of both parties' fears.

knowledge' were both positively and significantly correlated with knowledge transfer ($\beta = 0.348, p < 0.05$, and $\beta = 0.246, p < 0.05$ respectively).

Adding the independent variable that measured the average of both the target's fear of exploitation and the acquirer's fear of contamination improved the fit of the baseline model ($\Delta R^2 = 0.066, p < 0.01$) and was significant at the $p < 0.001$ level ($F = 4.264$). In this model hypotheses 1 and 4 were supported by the negative beta coefficient ($\beta = -0.290, p < 0.05$). The control variables did not change in the second model (see Table 2 for results).

Hypotheses 2 and 3 were tested by building a regression model with 'use of acquirer's knowledge' by the target firm as the dependent variable. After deleting missing values listwise, and deleting one outlier that was over three standard deviations from the mean, 75 observations remained in each regression. The same variables were used in this baseline model as in the previous one, except that we included a variable that measured the degree to which the acquirer's knowledge was explicit. In this model, knowledge transfer from the acquirer to the target was marginally lower in international acquisitions ($\beta = -0.242, p < 0.1$), which could be expected. The variables 'operational integration effort' and 'explicitness of acquirer's knowledge' were positively and significantly correlated with knowledge transfer ($\beta = 0.313, p < 0.01$, and $\beta = 0.188, p < 0.05$ respectively), which could also be expected. Interestingly, perceived organizational cultural differences were positively related to knowledge transfer ($\beta = 0.231, p < 0.05$) as well. One explanation for this could be that in the early stages of the post-acquisition integration process, there is a tendency for acquirers to transfer more knowledge to the target than vice versa (Bresman et al., 1999), perhaps in the form of best practices.

The explanatory power of the second model improved when the independent variable that measured the average of 'acquirer's fear of exploitation' and 'target's fear of contamination' was added. This improved the fit of the baseline model ($\Delta R^2 = 0.068, p < 0.01$) and was significant at the $p < 0.001$ level ($F = 5.982$). Hypotheses 2 and 3 received support from the negative beta coefficient ($\beta = -0.242, p < 0.01$). Three control variables changed in the second model. First, 'communication' became marginally significant and was positively related to knowledge transfer ($\beta = 0.143, p < 0.1$). Second, 'elapsed time' was also marginally significant but the relationship was negative ($\beta = -0.122, p < 0.1$ respectively). This finding is in line with the study of Bresman et al (1999), which reported more knowledge transfer from the acquirer to the target in the initial stages after an acquisition. However, knowledge flows tended to even out and be more reciprocal a few years after the acquisition. Finally, 'geographic scope' was no longer marginally significant ($\beta = -0.180, p > 0.1$). See Table 3 for results.

DISCUSSION AND CONCLUSION

This paper set out to explore the role of individuals' fears of exploitation and contamination as barriers to knowledge transfer in acquisitions. From a resource-based perspective, knowledge transfer plays a vital part in realizing synergies after the acquisition has taken place (Barney, 1991; Haspeslagh & Jemison, 1991). However, we do not know enough about factors that influence knowledge transfer – in terms of its amount and direction – between the acquirer and the target (for a notable exception see Bresman et al., 1999). While the literature review showed that a number of factors can influence knowledge transfer, previous studies have been criticized for not analyzing the effect of these factors simultaneously in order to determine their relative importance (Hansen & Løvås, 2004; Minbaeva, 2007). Furthermore, these factors may play different roles, depending on the direction of knowledge transfer - from the acquirer to target or vice versa (Bresman et al., 1999). This paper thus included control variables that have been found to influence knowledge transfer in previous studies, namely the type of knowledge, perceived organizational cultural differences, communication, and operational integration effort. In addition, this paper distinguished between the direction of knowledge transfer – from the acquirer to the target and vice versa – and explored differences in the relative influence of the determinants on knowledge transfer in each direction.

The main contribution of this study is that it examines barriers to knowledge transfer in acquisitions with a focus on individuals who share, receive and use the knowledge, and on the factors that (de)motivate them to do so. By examining two aspects that relate to knowledge transfer, namely fear of exploitation and contamination on the part of individuals, this study adds to previous research on both knowledge transfer and on problems faced in the post-acquisition integration period (e.g. Bresman et al., 1999; Ejenäs & Werr, 2005; Empson, 2001; Husted et al., 2005; Westphal & Shaw, 2005). More specifically, four hypotheses were developed to address the willingness of individuals to engage in knowledge transfer. The hypotheses were tested with data from 92 Finnish acquisitions. The results of the statistical analyses indicate that the fear of exploitation on the part of knowledge senders and the fear of contamination on the part of knowledge receivers are significant barriers to knowledge transfer in acquisitions. These results are presented in greater detail below.

The first analysis in the results section (see Table 2) focused on knowledge transfer from the *target to the acquirer*. After controlling for the factors mentioned above, the results showed that the target's fear of exploitation and the acquirer's fear of contamination, operational integration effort, and the degree to which the target's knowledge was explicit were all positively and significantly – and almost equally strongly – related to knowledge transfer from the acquirer to the target. While the characteristics of both the sender and the receiver have seldom been included in the same model in statistical analyses (for exceptions see Hansen & Løvås, 2004; Minbaeva, 2007), the results of this study are in line with studies that point to the importance of the motivation of individuals for knowledge transfer (e.g. Ejenäs & Werr, 2005; Empson, 2001; Husted & Michailova, 2002; Minbaeva, 2007; Minbaeva et al., 2003). These findings indicate that in order to achieve higher levels of knowledge transfer, both the sender and recipient need to be motivated to share and absorb knowledge. The post-acquisition integration period can involve a fair amount of upheaval, ambiguity and uncertainty for individuals in both the acquired and acquiring firm (e.g. Bresman et al., 1999; Ranft & Lord, 2002; Vaara et al., 2003). In the aftermath of an acquisition it is thus likely that many individuals experience fear that

their knowledge will be ‘exploited’ by the other party, as their energies shift from day-to-day tasks to concerns about potential loss of their jobs or status as a result of post-acquisition consolidation and organizational changes (Ejenäs & Werr, 2005; Husted et al., 2005). Compared with a more stable situation, it is likely that individuals are also more concerned about being ‘contaminated’ by the other party’s knowledge in the more unstable post-acquisition integration context (Empson, 2001). In such a situation self-categorization theory predicts that members of one group will become more cohesive and identify more strongly with their own ‘in-group’ unit, portraying the other ‘out-group’ unit as an enemy or a potential threat (Hogg & Terry, 2000). The creation of an ‘us versus them’ attitude between the acquirer and the acquired company is not uncommon (e.g. Blake & Mouton, 1985; Buono & Bowditch, 1989), and it may breed mistrust between the parties from the outset. These types of negative attitudes towards the partner may increase fears on the part of recipients that their operations, status or reputation will be harmed by accepting their partner’s knowledge.

While fears of exploitation and contamination on the part of individuals were identified as the main barriers to knowledge transfer from the *target to the acquirer*, other factors also exerted a strong influence. In line with many previous studies that point to the importance of knowledge characteristics (Kogut & Zander, 1993; Ranft & Lord, 2002; Simonin 1999a; 1999b; Szulanski, 1996), the more explicit the target’s knowledge, the more of it was transferred to the acquirer. Integration effort was also positively related to knowledge transfer from the target to the acquirer, providing support for previous studies (e.g. Björkman et al., 2004; Sarala & Vaara, 2010). In order to facilitate the transfer of explicit knowledge managers therefore need to put effort into integrating the formal knowledge management systems of the acquirer and target, e.g. databases, intranet, and repositories (Nonaka & Takeuchi, 1995). The transfer of tacit knowledge, which is socially embedded and difficult to articulate, requires more personal interaction between the members of the acquirer and the target to create a shared understanding and group identity between them (e.g. Bresman et al., 1999). The distinction between ‘explicit’ and ‘tacit’ knowledge can, however, be seen as rather simplistic, because knowledge that is worth sharing may consist of a combination of both types (Morris, 2001). Thus social integration is most likely important even in cases where the aim is to transfer knowledge that is mainly explicit.

The second analysis in the results section (see Table 3) focused on knowledge transfer from the *acquirer to the target*. Knowledge transfer in this direction was found to be somewhat different from knowledge transfer from the target to the acquirer. The acquirer’s fear of exploitation and the target’s fear of contamination, operational integration effort, and the degree to which the acquirer’s knowledge was explicit were all positively and significantly related to knowledge transfer from the acquirer to the target. However, the strongest relationship in this model was between knowledge transfer and a combination of the acquirer’s fear of exploitation and the target’s fear of contamination. These findings suggest that knowledge transfer from the acquirer to the target is affected by both ‘technical’ and ‘emotional’ aspects. Thus knowledge transfer in this direction can be facilitated by both formal operational integration (Ejenäs & Werr, 2005; Sarala & Vaara, 2010) socialization and communication that also support social integration (Björkman et al., 2004; Bresman et al., 1999). In addition, due diligence that focuses on social and cultural aspects in addition to operational and financial factors, as suggested by Harding & Rouse (2007), can also give clues about the level of the target’s fear of contamination, which may have its roots in change resistance and in a desire to maintain the status quo (Husted et al., 2005).

The findings in this study concerning the effect of perceived organizational cultural differences on post-acquisition knowledge transfer differed depending on the direction of knowledge transfer. Perceived organizational cultural differences were positively related to knowledge transfer from the *acquirer to the target*. This lends support to the view that cultural differences can provide more opportunities for the acquisition partners to learn from each other (Björkman et al., 2007). Although not significant, perceived organizational cultural differences were negatively related to knowledge transfer from the *target to the acquirer*, which suggests that they can also be a barrier to learning (e.g. Lam, 1997). Interestingly, international acquisitions were negatively associated with knowledge transfer from the acquirer. They were not, however, related to knowledge transfer from the target. The findings in Table 1 suggest that perceived organizational cultural differences do not correlate with geographic distance. Rather, perceived organizational cultural differences – as measured in this study – seem to represent a dimension that is independent from geographic distance. These results are similar to previous studies that have found that national and organizational cultural represented different dimensions (Sarala, 2010, Weber, Shenkar & Raveh, 1996). In light of these mixed findings, future studies could examine more carefully how organizational, national and institutional differences influence the amount and direction of knowledge transfer in acquisitions.

Another salient and unexpected finding of this study was the strong inter-correlation between the fears of exploitation and contamination on part of employees in the target company and those in the acquirer. This finding can be interpreted in two ways. One possible explanation is that respondents' answers were biased. For example, respondents from the acquiring firm's side could have had difficulties in gauging whether the attitudes to knowledge transfer of the employees in the target company differed from their own. Respondents may also have erroneously ascribed their own attitudes or emotions to the individuals in the partner firm, which is commonly referred to as 'projection bias' or 'the false consensus effect' (Ross, Greene & House, 1976). However, this 'projection bias' has also been called into question. For example, Dawes and Mulford (1996) argue that the empirical support for this effect is not adequate. Furthermore, their study shows a positive correlation between the degree to which respondents believe that others are similar to themselves and their accuracy in predicting the responses of others. Thus another plausible explanation for the finding is that the interdependence between the acquirer's and target's perceptions of problems encountered in the post-acquisitions integration process represents a "real" social phenomenon, not a bias, and that feelings such as fears of exploitation and contamination are inter-related and fuel each other (Schoorman, Mayer & Davis, 2007). Several studies show that feelings such as fear and trust tend to evolve reciprocally in dyadic relationships (e.g. Das & Teng, 1998; Serva, Fuller & Mayer, 2005). It is thus possible that the strong correlation between the acquirer's and target's fears is the result of a dynamic process, where both parties have adjusted their perceptions of each other over time. Furthermore, the fears of exploitation and contamination among members of both the acquiring and target firms are likely to be related to the unsettling nature of acquisitions in general, which can create significant ambiguity, uncertainty and fears for both parties (e.g. Bresman et al., 1999; Husted et al., 2005; Ranft & Lord, 2002).

Taken together, the results of this study show that it is challenging to try facilitate knowledge transfer in the post-acquisition context, as managers need to strike a balance between the technical integration of the acquirer's and target's knowledge management systems, e.g. databases and intranet (Ejenäs & Werr, 2005; Nonaka & Takeuchi, 1995) and integration of their human capital (Birkinshaw et al., 2000;

Empson, 2001). Managers can, however, try to mitigate the negative effects of 'human integration' problems such as fears of exploitation and contamination in a variety of ways. One approach is to conduct a due diligence before the acquisition that focuses on social and cultural aspects, to find out whether individuals perceive the acquisition as something positive or negative (Harding & Rouse, 2007). Based on analyzing how individuals in the acquiring and target firms are likely to respond to the acquisition, it will be easier in advance to formulate an appropriate communication strategy for all the stakeholders involved. In order to ease anxiety and fears of exploitation it is important that the acquirer communicates as early as possible what the acquisition will mean for the individuals involved, (Chaudhuri & Tabrizi, 1999). Social integration – especially through 'cultural crossvergence' where the acquirer and target aim to create a new common culture and identity – can facilitate knowledge transfer by shifting negative "us versus them" attitudes towards greater mutual understanding (Sarala & Vaara, 2010) and thereby reducing fears of contamination. More specifically, social integration – and consequently knowledge transfer – can be supported by frequent communication (Björkman et al., 2004; Bresman et al., 1999) socio-cultural training (Vaara et al., 2003), as well as joint action and collaboration that involve members of the acquirer and target firms (Ejenäs & Werr, 2005; Empson, 2001). Finally, individuals need to have appropriate incentives for sharing knowledge (Minbaeva et al., 2003; Gupta & Govindarjan, 2000; Cabrera & Cabrera, 2002), e.g. being appraised for knowledge insights gained from joint projects (Ejenäs & Werr, 2005).

This study only provided a snap-shot of the respondents' views on knowledge transfer at a certain point in time. The evolution of the relationship between the acquisition partners, and their attitudes towards knowledge transfer, should be explored in future studies over a longer period of time. For example, the research of Bresman et al. (1999) shows that time has a significant influence on knowledge transfer. In their study the acquirer transferred mostly explicit knowledge in the form of patents to the target in the early stages of the post-acquisition integration process. As time passed, the knowledge flows tended to become more even and include more tacit knowledge in the form of technological know-how. Although they were not significant in the present study, correlations between 'elapsed time' and 'knowledge transfer' did point in a similar direction; there was a tendency for knowledge transfer from the acquirer to the target to decrease over time, whereas it increased from the target. One explanation could be that as firms become more socially integrated more knowledge is transferred between the units (Kogut & Zander, 1993), although in the case of acquisition it seems that social integration is more important for facilitating knowledge transfer from the target to the acquirer than in the opposite direction. Thus, future research is needed that addresses which factors influence knowledge transfer from the target to the acquirer and vice versa.

There are also other areas worth exploring. First, this study did not address how the fear of exploitation and contamination evolve. Empson (2001) suggests that differences in the knowledge bases can reduce appreciation for the other party's knowledge, and hence increase fears of exploitation and contamination of both acquirer and target. Although the control variable called 'perceived organizational cultural differences' in this study seems to have influenced knowledge transfer, it did not have an impact on the fears of the merging companies. Other factors, such as prior cooperation between the companies and the creation of a shared identity between the merging firms, may alleviate fears. Future work is thus needed, both conceptual and empirical, to increase our understanding about the development of emotions such as trust in long-term relationships such as acquisitions.

To conclude, this study aimed at extending previous research by testing how the lack of motivation on the part of individuals affected knowledge transfer in acquisitions. It has pointed to the need to look beyond the organizational level when investigating knowledge transfer, and to address what motivates individuals to share and make use of knowledge. Although the findings from this study support prior research that has highlighted the importance of organizational mechanisms for transferring knowledge (such as facilitating communication, and codifying knowledge), it also shows that individuals' values and perceptions in the acquiring and target companies play an equally significant role in making knowledge transfer successful. Whether resistance on the part of individuals to sharing knowledge is based on individuals' economic reasoning or social identification, this research suggest that knowledge in itself may be less neutral or detached of value to the people involved than previous studies on the topic may have presumed.

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CAUSAL AMBIGUITY, PARTNER ATTRACTIVENESS, AND CULTURAL INTEGRATION AS DETERMINANTS OF KNOWLEDGE TRANSFER: EVIDENCE FROM FINNISH ACQUISITIONS

ABSTRACT

Knowledge transfer is an important value creation mechanism in acquisitions. This study aims to explain knowledge transfer in acquisitions by examining the impact of causal ambiguity of knowledge, partner attractiveness, and organizational cultural integration (convergence and crossvergence). We test our model on quantitative data from domestic and international acquisitions conducted by Finnish companies. The results provide evidence for a negative influence of causal ambiguity and for a positive impact of partner attractiveness and organizational cultural integration. The findings also show that causal ambiguity can moderate the effects of partner attractiveness and organizational cultural integration.

INTRODUCTION

Knowledge transfer is amongst the most central determinants of value creation in acquisitions (Haspeslagh and Jemison, 1991; Eschen and Bresser, 2005). Accordingly, an increasing number of studies have identified factors that influence knowledge transfer in this context (Ahuja and Katila, 2001; Björkman, Stahl, and Vaara, 2007; Empson, 2001; Sarala and Vaara, 2010; Westphal and Shaw, 2005). These include characteristics of the knowledge that is to be transferred (Bresman, Birkinshaw, and Nobel, 1999; Castro and Neira, 2005; Ranft and Lord, 2002; Schweizer, 2005; Tsang, 2008; Westphal and Shaw, 2005), characteristics of the relationship between the acquiring and the target firms (Empson, 2001; Westphal and Shaw, 2005), and managerial processes to integrate the firms (Bresman, Birkinshaw, and Nobel, 1999; Castro and Neira, 2005; Ranft and Lord, 2002; Sarala and Vaara, 2010). However, few studies have incorporated these dimensions – knowledge characteristics, relationship characteristics, and managerial processes – in order to explore their effects and interrelationships in large scale quantitative studies (for a notable exception see Bresman, Birkinshaw, and Nobel, 1999). Most studies that examine these dimensions simultaneously have relied on case studies with small samples (Castro and Neira, 2005; Ranft and Lord, 2002; Tsang, 2008; Westphal and Shaw, 2005).

Drawing on the resource-based view (Barney, 1991) and dynamic capabilities perspective (Teece, Pisano, and Shuen, 1997), we will address this research gap by developing and testing an integrated model of knowledge transfer in acquisitions. We conceptualize knowledge transfer in acquisitions as a process that involves utilization of the sender's knowledge by the recipient (Minbaeva, Pedersen, Björkman, Fey and Park, 2003) and can consist of knowledge flows from the acquirer to the target and/or from the target to the acquirer (Bresman, Birkinshaw, and Nobel, 1999). First, based on the resource-based view, we consider the role of firm resources in acquisition value creation. We focus on the role of a specific resource (knowledge) characteristic that has not been previously examined in the acquisition context: causal ambiguity of knowledge (Simonin, 1999a, 1999b; Szulanski, 1996; Szulanski, Cappetta, and Jensen, 2004), which refers to unclear links between knowledge inputs and outputs (Simonin 1999a, 1999b). We suggest that causal ambiguity of knowledge is a potential barrier to knowledge transfer. In addition, we suggest that the relationship between the acquisition partners constitutes a key organizational capital resource in acquisitions

(Barney, 1991; Dyer and Singh, 1998). We focus on a key characteristic of this relationship, namely the level of partner attractiveness, which we define as the extent to which one firm admires and values the culture, managerial style, and performance of the other firm (Nahavandi and Malekzadeh, 1988). We propose that partner attractiveness can facilitate knowledge transfer in acquisitions (Empson, 2001; Westphal and Shaw, 2005). Second, related to the dynamic capabilities perspective, we focus on organizational cultural integration as an important managerial process which facilitates knowledge transfer in acquisitions. Cultural integration consists of the development of an organizational culture with compatible beliefs, values, and norms between the acquiring and the target firms (Schein, 1996; Shrivastava, 1986). This can take place through convergence (organizational cultures becoming increasingly similar along existing cultural dimensions) or through crossvergence (a combination of elements of both cultures or a creation of entirely new cultural dimensions) (Sarala and Vaara, 2010). Third, we combine both theoretical views by suggesting novel links between resource characteristics (causal ambiguity of knowledge and partner attractiveness), and managerial processes (cultural integration). More specifically, we suggest that certain knowledge characteristics (causal ambiguity) not only directly impede knowledge transfer, but also hinder value creation by reducing the positive effects of relationship characteristics (partner attractiveness) and managerial processes (cultural integration). We then proceed to test our model on data from domestic and foreign acquisitions conducted by Finnish firms.

Our study contributes to the literature by offering empirical evidence for the complex effects of causal ambiguity of knowledge. Causal ambiguity negatively influences knowledge transfer both directly and indirectly through decreasing the positive effects of partner attractiveness. Depending on the type of cultural integration mechanism, causal ambiguity can render cultural integration either less effective (in the case of crossvergence) or more effective (in the case of convergence). In addition, the study emphasizes the positive role of partner attractiveness and cultural integration (both through convergence and crossvergence) in the knowledge transfer process. Furthermore, we consider the direction of knowledge transfer in acquisitions, which has previously only been addressed by a few studies in this context (Bresman, Birkinshaw and Nobel 1999, Capron, 1999; Capron, Dussauge, and Mitchell, 1998; Capron, Mitchell, and Swaminathan, 2001; Capron and Pistre, 2002). Finally, our sample consists of domestic and international acquisitions conducted by Finnish companies. Because a large majority of these deals were conducted within Europe, our study provides a novel perspective on value creation in European acquisitions.

The paper is structured as follows. First, we discuss the theoretical basis of our study. After this, we build hypotheses concerning the impact of causal ambiguity, partner attractiveness, and organizational cultural integration (convergence and crossvergence). To test our model, we conduct a series of regression analyses. We then discuss our empirical findings, and reflect on implications for future research and managerial practice.

KNOWLEDGE TRANSFER IN ACQUISITIONS

In recent years, the resource-based view (RBV) has become increasingly popular among both academics and practitioners. One of the central propositions of the RBV is that the resources that a firm controls are a main source of competitive advantage (Barney, 1991). These resources consist of physical, human, and organizational resources

(Barney, 1991). Among these resources, knowledge is viewed as particularly valuable (Grant, 1996).

Drawing on the RBV, several acquisition studies focus on analyzing the influence of acquiring and target firms' resources on knowledge transfer outcomes. Specific emphasis has been placed on knowledge as a firm's key resource and, consequently, on knowledge characteristics as determinants of knowledge transfer. While the degree of tacitness of knowledge has received the most attention from researchers (Bresman, Birkinshaw, and Nobel 1999; Castro and Neira, 2005; Ranft and Lord, 2002; Westphal and Shaw, 2005), also social embeddedness (Ranft and Lord, 2002; Tsang, 2008), and context specificity of knowledge (Schweizer 2005; Westphal and Shaw, 2005) have been put forward as barriers to knowledge transfer. On the other hand, complementarity of the knowledge stocks (Westphal and Shaw, 2005; Zou and Ghauri, 2008) has been shown to facilitate knowledge transfer. In addition, the relationship between the acquirer and the target can also be considered an important organizational resource (Barney, 1991), because it influences the firms' ability to collaborate efficiently and effectively (Dyer and Singh, 1998). A key characteristic of the relationship between the acquirer and target is how positively or negatively the partners perceive each other. Partner attractiveness facilitates collaboration between the partners by reducing social identification tendencies that could otherwise lead to detrimental ingroup-outgroup categorizations. Therefore, partner attractiveness has been suggested to contribute to knowledge transfer in acquisitions (Empson, 2001; Westphal and Shaw, 2005).

The dynamic capabilities perspective builds on the RBV by suggesting that also the way a firm's resources are used – through specific managerial processes – represents a significant source of competitive advantage (Teece, Pisano, and Shuen, 1997). Applied to the context of knowledge transfer in acquisitions, the dynamic capabilities perspective suggests that managerial processes influence the ability to successfully transfer knowledge between the acquirer and the target. These processes function both as coordination and knowledge-sharing mechanisms through which resources are reconfigured and transformed (Teece, Pisano, and Shuen, 1997). In previous acquisition studies, increased knowledge transfer has been linked to managerial processes that include both formal and social control mechanisms, such as decision-making autonomy (Castro and Neira, 2005; Haspeslagh and Jemison, 1991; Ranft and Lord, 2002), use of incentives (Ranft and Lord, 2002; Westphal and Shaw, 2005), communication (Bresman, Birkinshaw, and Nobel 1999; Castro and Neira, 2005), and cultural integration (Sarala and Vaara, 2010).

To explain knowledge transfer in acquisitions, we will now turn to the theoretical model of this paper. First, based on the resource-based view, we focus on the role of a knowledge characteristic that has not been explored in previous acquisition studies - causal ambiguity of knowledge (Simonin, 1999a, 1999b; Szulanski, 1996; Szulanski, Cappetta, and Jensen, 2004) and on an important resource characteristic - partner attractiveness (Nahavandi and Malekzadeh, 1988). Second, related to the dynamic capabilities perspective, we focus on cultural integration – both in terms of convergence and crossvergence (Sarala and Vaara, 2010). Third, we propose interactions between these constructs.

HYPOTHESES

Causal ambiguity of knowledge as a determinant of knowledge transfer

Causal ambiguity can be defined as how easy it is for the recipient to understand the links between the causes and effects that are related to the knowledge that is being transferred (Lippman and Rumelt, 1982; Simonin, 1999a; 1999b). Causal ambiguity stems from gaps between formal standards or norms and actual behavior (Szulanski, Cappetta, and Jensen, 2004). These gaps are the result of not having clear 'espoused rules' that govern behavior (Argyris and Schön, 1978; Szulanski, Cappetta, and Jensen, 2004). The lack of clear rules or norms in turn is often a consequence of work routines that require highly tacit knowledge that is difficult to articulate (Kogut and Zander 1992; Polanyi, 1962; Szulanski, Cappetta, and Jensen, 2004). In other words, when the knowledge related to organizational members' behavior or work routines is tacit it will be difficult to communicate clear rules and norms that should govern this behavior, which increases the causal ambiguity surrounding this knowledge. In line with this, Simonin (1999a; 1999b) contends that causal ambiguity and tacitness are conceptually separate, but that tacitness can be seen as one antecedent of causal ambiguity. Following Simonin, we view causally ambiguous knowledge as being separate from, but influenced by tacitness.

Causally ambiguous resources are a source of competitive advantage, because they are more difficult for competitors to imitate (Barney, 1991; Reed and DeFillippi, 1990). However, inimitability of causally ambiguous knowledge also makes it difficult to transfer (Nonaka and Takeuchi, 1995; Ranft and Lord, 2002; Simonin, 1999b). Previous studies show that, regardless of its potential, causal ambiguity of knowledge functions as a barrier for knowledge transfer in multinational corporations (MNCs) (Szulanski, 1996; Szulanski, Cappetta, and Jensen, 2004) and alliances (Simonin, 1999a, 1999b). We suggest that the causal ambiguity of the sender's knowledge is an even more important barrier in M&As. In this context, the motivation to engage in knowledge transfer is likely to be lower than in MNCs or strategic alliances, because acquisitions are often characterized by change resistance and a tendency to resist cooperation (Empson, 2001; Vaara, 2003). First, the sender may not be motivated to depart from his/her valuable knowledge (Husted, Gammelgaard, and Michailova, 2005). This tendency is likely to further intensify in the case of causally ambiguous knowledge, because codifying such knowledge – so that it can be understood by the receiver – is a difficult and time consuming effort that the sender may not be willing to invest in. For example, Simonin (2004) found that partner protectiveness effectively hinders knowledge transfer. Second, in the context of causally ambiguous knowledge, absorptive capacity is decreased if the receiver is equally unwilling to spend time and effort on understanding, de-coding and re-applying the sender's knowledge to a different context (Husted, Gammelgaard, and Michailova, 2005), which is essential for transferring ambiguous knowledge (Winter, 1987). Accordingly, the results of Szulanski, Cappetta and Jensen (2004) show a negative correlation between causal ambiguity and the sender's motivation to disseminate knowledge and the recipient's ability and motivation to absorb it, although these constructs were only included as control variables. We thus propose the following:

Hypothesis 1a: Causal ambiguity of the acquirer's knowledge is negatively associated with knowledge transfer from the acquirer to the target.

Hypothesis 1b: Causal ambiguity of the target's knowledge is negatively associated with knowledge transfer from the target to the acquirer.

Partner attractiveness as a determinant of knowledge transfer

We propose that organizational resources (Barney, 1991), such as the relationship between the acquirer and the target, can influence knowledge transfer. We focus on partner attractiveness as a key characteristic of this relationship. As discussed earlier, partner attractiveness relates to the extent to which one firm admires and values the culture, managerial style, and performance of the other firm (Nahavandi and Malekzadeh, 1988). Partner attractiveness alleviates organizational problems stemming from social identification processes that can hinder knowledge transfer. We understand social identification as organizational members' psychological sense of belonging to a social group (Hogg and Abrams, 1988; Tajfel, 1972). Social identification leads to ingroup and outgroup categorizations in which the acquisition partner is seen as the "outgroup". A large body of M&A research discusses problems stemming from such ingroup-outgroup categorizations. These include employee anxiety and stress (Buono and Bowditch, 1989; Ivancevich, Schweiger, and Power 1987), disloyalty (Newman and Krzystofiak 1993; Schweiger, Ivancevich and Power, 1987), and organizational conflict and change resistance (Kühlman and Dowling 2005, Marks and Mirvis 1985, Olie 2005), as well as negative attitudes towards cooperation (Weber, Shenkar, and Raveh, 1996). In addition, knowledge transfer can be hampered in acquisitions if the recipient does not identify with the sender's culture and perceives the sender's corporate image as unattractive (Empson, 2001; Westphal and Shaw, 2005). Social identity related problems, such as ingroup-outgroup categorizations that favor one's own in-group, can thus reduce the recipient's motivation to absorb knowledge from what is perceived as an "unattractive" or "treacherous" source (Husted, Gammelgaard, and Michailova, 2005).

In contrast, in the presence of partner attractiveness, organizational members are more motivated to receive knowledge from the acquisition partner because they are less likely to consider it to belong to a treacherous "outgroup" (Westphal and Shaw, 2005). Rather, they may want to learn from or be part of the attractive partner (Nahavandi and Malekzadeh, 1988), which will increase their motivation to receive and make use of the partner's knowledge. In addition, knowledge stemming from an attractive partner is less likely to be considered as a threat that may contaminate the organization's identity and knowledge base. As a result, "fear of contamination" and the "not-invented-here syndrome" (Empson, 2001; Szulanski, 1996) are both decreased. Thus, we hypothesize:

Hypothesis 2a: The attractiveness of the acquirer is positively associated with knowledge transfer from the acquirer to the target.

Hypothesis 2b: The attractiveness of the target is positively associated with knowledge transfer from the target to the acquirer.

Organizational cultural integration as a determinant of knowledge transfer

Drawing on the dynamic capabilities perspective, knowledge transfer is also influenced by managerial processes related to the integration of the acquirer and the target. From this theoretical view, post-acquisition integration efforts can be understood as managerial processes intended for controlling the activities of the acquiring and the target firms, and for reconfiguring and transforming their assets in order to create value through synergies and knowledge transfer (Haspeslagh and Jemison, 1991). Pre-

acquisition organizational cultural differences have been established as a major barrier for post-acquisition value creation (e.g. Chatterjee, Lubatkin, Schweiger and Weber, 1992). Cultural integration – as an integral part of post-acquisition integration – can be understood as a managerial process that develops an organizational culture with compatible beliefs, values, and norms between the acquiring and the target firm (Schein, 1996; Shrivastava, 1986) and thus effectively reduces organizational cultural differences. Cultural integration facilitates relationship building (Dyer and Singh, 1998) and creates an inter-organizational platform for knowledge transfer (Schweiger and Goulet, 2005). In addition, it facilitates the identification of those parts of complementary knowledge that are socially embedded (Haspeslagh and Jemison, 1991) and may require cultural integration to be effectively transferred.

To further develop the concept of cultural integration in the acquisition context, Sarala and Vaara (2010) distinguished between organizational cultural convergence and organizational cultural crossvergence. In cultural convergence, organizational cultural differences are reduced by acquisition partners becoming increasingly similar along existing cultural dimensions (Sarala and Vaara, 2010). Cultural convergence is driven by the culturally dominant partner (Harding and Rouse, 2007), which is usually the acquiring firm (Haspeslagh and Jemison, 1991). Imposing the acquirer's culture on the other firm reduces overall organizational cultural differences between the firms. Convergence is most likely to be related to the “absorption” integration mode, which aims at consolidating the activities of both firms primarily by assimilating the targets organizational structure and culture with those of the acquiring firm (Haspeslagh and Jemison, 1991).

Cultural convergence enables the acquirer to better articulate and teach its knowledge to the target, and makes it easier for the target to absorb this knowledge, because convergence reduces differences between the partners' basic assumptions and beliefs (Napier, Simmons, and Stratton, 1989). By creating an institutional platform for knowledge transfer (Schweiger and Goulet, 2005), cultural convergence thus facilitates knowledge transfer from the acquirer to the target. Cultural convergence also contributes to more effective governance because a common culture functions as a form of social control (Dyer and Singh, 1998; Teece, Pisano, and Shuen, 1997), which can facilitate knowledge transfer from the acquirer to the target.⁵¹ Therefore, we propose that:

Hypothesis 3a: Organizational cultural convergence is positively associated with knowledge transfer from the acquiring firm to the target.

In contrast, organizational cultural crossvergence refers to the alignment of the partners' cultures through the creation of a new culture that is distinct from the previous cultures of both the acquirer and the target. Sarala and Vaara (2010) suggest that crossvergence is either the result of the combination of value creating characteristics of both cultures, or of the development of entirely new cultural dimensions in terms of creating new beliefs, values, and norms (Hogg and Terry, 2000). Cultural crossvergence is likely to be related to the “symbiosis” integration

⁵¹ It can be argued that cultural convergence could potentially also increase knowledge transfer from the target to the acquirer in cases in which the target is the “culturally dominant” partner. However, it is much more common for the acquiring firm to be dominant (Haspeslagh and Jemison, 1991). To explore this possibility, in addition to testing hypothesis 3a, we tested the possible link between convergence and knowledge transfer from the target to the acquirer. The result was not significant which is in line with our theoretical reasoning in hypothesis 3a that proposes cultural convergence contributing specifically to knowledge transfer from the acquirer to the target.

mode in Haspeslagh's and Jemison's (1991) framework, which aims at creating synergies by drawing on the strengths of both organizations.

Similar to convergence, a reduction in organizational cultural differences results in the creation of an institutional platform that supports knowledge transfer (Schweiger and Goulet, 2005) and contributes to more effective governance (Dyer and Singh, 1998; Teece, Pisano, and Shuen, 1997). Even more importantly, crossvergence supports the development of a cooperative and trusting atmosphere that encourages mutual participation (Van Knippenberg and Van Leeuwen, 2001) and thus knowledge transfer (Bresman, Birkinshaw, and Nobel, 1999; Haspeslagh and Jemison, 1991). Because crossvergence consists of two-directional cultural changes, it is also likely to induce two-directional knowledge flows between the merging firms, when cultural elements from both firms are being combined or jointly created and shared. We thus suggest the following:

Hypothesis 3b: Organizational cultural crossvergence is positively associated with knowledge transfer from the acquiring firm to the target.

Hypothesis 3c: Organizational cultural crossvergence is positively associated with knowledge transfer from the target firm to the acquirer.

The indirect effects of causal ambiguity

We suggest that in addition to its direct relationship with knowledge transfer, causal ambiguity moderates the effects of partner attractiveness and cultural integration (convergence and crossvergence).

Whilst partner attractiveness is suggested to have a positive effect on knowledge transfer, we argue that its influence will be weaker when the sender's knowledge is causally ambiguous. As mentioned earlier, causal ambiguity reduces the recipients understanding of the sender's knowledge (Simonin, 1999a; 1999b; Szulanski, Cappetta, and Jensen, 2004). When the recipient's ability to understand the sender's knowledge is weakened, its motivation to try to de-code and re-apply it is also likely to be lower (Vroom, 1964). In such a situation – even if the sender as such is viewed as attractive – the recipient's attitude towards knowledge transfer from the sender is still likely to be more negative, because of the difficulties associated with understanding the partner's knowledge base (Empson, 2001; Lam, 1997). Frustration with the knowledge transfer process can exacerbate socio-cultural problems that are common in acquisitions – even in friendly acquisitions – such as ingroup-outgroup categorizations (Marks and Mirvis, 1985), or the “not invented here syndrome” (e.g. Husted, Gammelgaard, and Michailova, 2005). Thus, we expect that the ambiguity of the sender's knowledge will weaken the positive association between sender's attractiveness and knowledge transfer.

Hypothesis 4a: The positive association between the acquirer's attractiveness and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.

Hypothesis 4b: The positive association between the target's attractiveness and knowledge transfer from the target to the acquirer will be lower in acquisitions where the causal ambiguity of the target's knowledge is greater.

We also argue that causal ambiguity moderates the positive relationship between convergence and knowledge transfer from the acquirer to the target, by reducing the association.⁵² The causal ambiguity of the acquirer's knowledge is typically a reflection of general differences between organizational norms and rules, which are supposed to govern behavior, and organizational member's actual behavior (Nelson and Winter, 1982; Szulanski, Cappetta, and Jensen, 2004). These differences may stem from a vague organizational culture that does not clearly express organizational norms and 'espoused rules' (Argyris and Schön, 1978; Szulanski, Cappetta, and Jensen, 2004). Alternatively, and as mentioned earlier, if the organizational members' work routines are highly tacit it can be difficult to articulate precise rules and norms that should govern this behavior (Kogut and Zander 1992; Polanyi, 1962; Szulanski, Cappetta, and Jensen, 2004). This reduces the effectiveness of organizational culture as a factor that governs organizational members' behavior and actions. Consequently, imposing "vague" cultural values and norms on the target through cultural convergence is less likely to result in real changes in the target's behavior that would support knowledge transfer from the acquirer to the target. Thus, the influence of cultural convergence in the presence of the acquirer's causally ambiguous knowledge is likely to diminish. Therefore, we propose that:

Hypothesis 5a: The positive association between organizational cultural convergence and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.

Crossvergence requires the identification of cultural strengths of both companies in order to determine which parts of the cultures should be combined or be used as a basis for a new shared culture (Hogg and Terry, 2000; Sarala and Vaara, 2010). In the presence of causally ambiguous knowledge it is, however, more difficult to determine where valuable, culturally embedded complementarities are. This will complicate the identification of those cultural elements that in combination would have the most potential to contribute to knowledge transfer (Haspeslagh and Jemison, 1991). Furthermore, and as mentioned earlier, ambiguity can be understood as a reflection of gaps between organizational norms and rules and members' actual behavior (Nelson and Winter, 1982; Szulanski, Cappetta, and Jensen, 2004). Thus, building a new culture through crossvergence that is based on inexplicit and "hazy" components of the partners' cultures (such as values and norms), is not likely to encourage organizational behavior that would effectively facilitate two-directional knowledge transfer. Thus, it is more difficult to realize the full potential of crossvergence as a cultural integration mechanism that facilitates knowledge transfer when the partners' knowledge bases are ambiguous. Consequently, we suggest that cultural integration through cultural crossvergence will be less effective for knowledge transfer, and will result in fewer two-directional knowledge flows between the partners, than would be the case in the presence of less ambiguous knowledge. Hence, we suggest that:

Hypothesis 5b: The positive association between crossvergence and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.

⁵² Regarding convergence, we focus only on knowledge transfer from the acquirer to the target, because as argued earlier in Hypothesis 3a, in cultural convergence, the target is usually expected to assimilate the acquirer's culture which is likely to result in knowledge flows predominantly from the acquirer to the target (Haspeslagh and Jemison, 1991).

Hypothesis 5c: The positive association between crossvergence and knowledge transfer from the target to the acquirer will be lower in acquisitions where the causal ambiguity of the target's knowledge is greater.

The theoretical model is summarized in Figure 1.

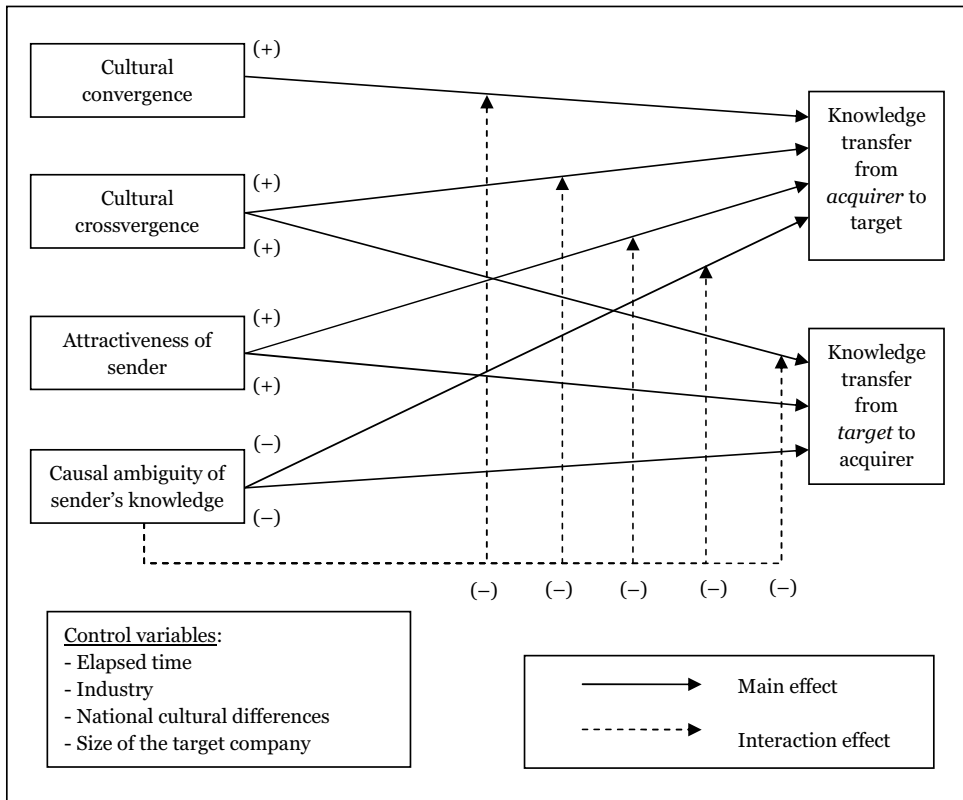


Figure 1 Theoretical model of knowledge transfer in M&As

METHOD

Data collection

We conducted two mail surveys of Finnish companies' acquisitions in Finland and abroad. The first survey was conducted in 2005 and covers acquisitions during the time period of 2001-2004. The second survey round was conducted in 2010 and covers the time period of 2006-2009. Both sub-samples are based on the database of Finnish "Talouselämä" business magazine that lists all acquisitions conducted by Finnish companies. We only included acquisitions where the acquiring party had gained a majority stake of the acquired firm (owning < 50% before the acquisition and > 50% after).

In order to ensure a high quality of the responses, the CEOs of the acquiring companies were contacted before sending out the survey; by telephone in the first survey round and via email in the second one. The CEOs were asked to identify potential respondents who had played a key role in the acquisition, and who would thus have enough knowledge and information to complete the survey. Following this, the survey was mailed to the respondents that the CEOs had named. The survey was sent via post in the first round, and emailed with links to an electronic survey in the second round. We also took several other measures to ensure the quality of data and to address common method variance (CMV). We pre-tested the questionnaire with managers and scholars, and used previously validated measures as much as possible in order to ensure that the questions were clear (Chang, van Witteloostuijn, and Eden, 2010). In addition, we scattered the study questions in the questionnaire and added questions irrelevant to this study in between (Chang, van Witteloostuijn, and Eden, 2010). Furthermore, we emphasized the confidentiality of all responses in order to address social desirability bias (Chang, van Witteloostuijn, and Eden, 2010). Finally, as reported in the results section, we used complicated specifications of regression models that included moderating effects, which has been suggested to reduce the likelihood of CMV, and conducted statistical tests to detect for any possible CMV effects (Chang, van Witteloostuijn and Eden, 2010).

The final data set includes 195 responses from 171 acquisitions. The response rate was 20% in the 1st round and 17% in the 2nd round⁵³. The responses consist of 152 single responses and 19 multiple responses. We used the multiple responses to test for the consistency in the answers. We tested for inter-rater reliability by calculating intraclass correlation coefficients. In the great majority of the cases, the answers showed a high level of inter-rater reliability as demonstrated by significant intraclass correlation coefficients. We found three cases in which the coefficients were not significant. Following the approach in previous acquisition studies (e.g. Calori, Lubatkin, and Very, 1994), we removed these cases from the analysis in order to improve the reliability of the data. We can conclude that, based on the inter-rater reliability tests, overall there was a high level of consensus between multiple respondents.

In the final data set, 147 responses were from the acquiring firm, and 48 responses were from the target firm. The following respondents completed the survey: top managers (47.7%), CEOs (42.6%), and other members of the management team or members of the board of directors (9.7%). We thus believe that the respondents in this study had the necessary knowledge and experience to answer the survey questions. More information about the data is provided in Table 1.

⁵³ When evaluating the response rates, it should be noted that data access in large-scale surveys on acquisition is challenging because many firms consider the data about acquisitions to be sensitive and confidential. To compare, in a survey of Italian cross-border acquisitions, Morosini et al. (1998) achieved a response rate of 25%. Datta (1991) reports a similar response rate (27%) in a survey on domestic acquisitions. We think that our response rates compare relatively well with these figures.

	Dataset 1	Dataset 2	Total
Response rate	20%	17%	-
Number of acquisitions	92	79	171
Number of responses	103	92	195
Number of single responses	82	70	152
Number of multiple responses	10	9	19
Number of responses from acquiring firm	84	63	147
Number of responses from target firm	19	29	48
Number of domestic acquisitions	51	50	101
Number of international acquisitions	41	29	70
Respondents: CEOs	44	39	83
Respondents: Top managers	44	49	93
Respondents: Other members of the management group and board members	15	4	19

Table 1 Description of datasets 1 and 2

In our sample 101 cases represent domestic acquisitions and 70 cases represent international acquisitions (see Table 1). A Finnish company was the acquirer in all cases, and 95% of the international acquisitions involved another European company as an acquisition target. The country distribution of the international acquisitions was as follows: Austria (1 acquisition), Belarus (1), Belgium (1), Canada (2), China (1), Czech Republic (2), Estonia (5), France (3), Germany (7), Great Britain (2), Hong Kong (1), Italy (3), Latvia (3), Lithuania (6), the Netherlands (4), Norway (4), Poland (3), Russia (2), Spain (1), Sweden (12), Switzerland (1), and USA (4).

Dependent variables

Knowledge transfer from the acquirer to the target

To measure the extent to which knowledge was transferred from the acquiring company to the target we adapted the construct of Capron (1999). The respondents were asked to which extent the acquirer's knowledge had been used in the target firm in the following six areas: general management expertise, product innovation capabilities, know-how in manufacturing processes, sales and marketing expertise, supplier relations, and distribution and logistics expertise. The scale ranged from 1-7, where 1 = "not at all" and 7 = "very much" (Cronbach's alpha = 0.85).

Knowledge transfer from the target to the acquirer

In order to measure knowledge transfer from the target to the acquirer, we asked to which extent the target firm's knowledge had been used by the acquirer. Using the same approach as in the previous construct, we measured this in terms of different types of knowledge using an identical 7-point scale (Cronbach's alpha = 0.86).

Independent variables

Causal ambiguity of acquirer's knowledge

This two-item construct was based on Simonin's (1999a; 1999b) studies. The respondents were asked to evaluate the extent to which i) the acquirer's knowledge is easily transferable to the target company and the extent to which ii) the association between causes and effects, inputs and outputs, and actions and outcomes related to the knowledge of the acquiring company is clear. The scale for both questions ranged from 1-7, where 1 = "do not agree" and 7 = "completely agree". The questions were reverse-coded in order to build a construct for causal ambiguity of acquirer's knowledge (Cronbach's alpha = 0.77).

Causal ambiguity of target's knowledge

The causal ambiguity of the target's knowledge was operationalized by using the same questions with identical scales as in the previous construct, except that they referred to the target's knowledge (Cronbach's alpha = 0.67).

Organizational cultural convergence

Building on Birkinshaw, Bresman and Håkanson (2000) and similar to Sarala and Vaara (2010), we measured cultural convergence between the acquirer and the target as the change in organizational cultural differences. The respondents first assessed the extent of organizational cultural differences before the acquisition. Then, in a separate question, they evaluated cultural differences at the time of the survey. Both questions included seven organizational functions: management and control, sales and marketing, production, R&D, finance, company values in general, and values of decision-makers. The change in cultural differences was determined by deducting cultural differences at the time of the survey from cultural differences prior to the acquisitions (Cronbach's alpha = 0.86):

$$CC = \sum(OCD_{before}) - \sum(OCD_{after})$$

where:

CC : cultural convergence

OCD_{before} : organizational cultural differences before the acquisition across different organizational functions and values

OCD_{after} : organizational cultural differences at the time of the survey across different organizational functions and values

Organizational cultural crossvergence

Drawing on the construct of Sarala and Vaara (2010), we measured organizational cultural crossvergence with two questions about the extent to which i) a new culture and ii) a new identity shared by both companies had been created after the acquisition. The respondents answered both questions on a Likert scale from 1 to 7 where 1 corresponded to “not at all” and 7 to “very much” (Cronbach’s alpha = 0.82).

Attractiveness of the acquirer

This measure was based on previous theoretical and qualitative work on partner attractiveness (Buono and Bowditch, 1989; Nahavandi and Malekzadeh, 1988) and on the quantitative study of Birkinshaw, Bresman, and Håkanson (2000). The attractiveness of the acquirer was measured by two questions based on how the target perceived i) the practices and ii) the values of the acquiring firm. The respondents answered each question on a 7-point Likert scale ranging from 1 = “very negative” to 7 = “very positive” (Cronbach’s alpha = 0.74).

Attractiveness of the target

Similarly, we measured attractiveness of the target by asking the respondents how the personnel of the acquiring firm viewed i) the practices and ii) the values of the target. The respondents answered each question on a 7-point Likert scale ranging from 1 = “very negative” to 7 = “very positive” (Cronbach’s alpha = 0.81).

Control variables

Size of the target

Compared to small organizations, larger companies tend to have more resources and slack to create knowledge and expertise, and may thus be able to transfer more knowledge (Bresman, Birkinshaw, and Nobel, 1999; Gupta and Govindarajan, 2000). To control for this effect we included the target’s size, measured as the net sales of the target at the time it was acquired.

Elapsed time

The amount of knowledge transferred between the acquiring company and the target is influenced by the time that has elapsed after an acquisition (Bresman, Birkinshaw, and Nobel, 1999). We took this into account by including the number of years that had passed after the acquisition as a control variable. The time that had passed after the acquisitions ranged from 1-4 years.

Industry

It can be argued that individual knowledge possessed by professionals in service firms is of higher personal value to these professionals – because it is associated with their image – than for employees in other industries (Empson, 2001). This may reduce service firm employees’ willingness to engage in knowledge transfer, compared to other industries. We controlled for this effect by creating a binary variable that distinguishes between service firms and others, where 1 represents a service firm and 0 any other type of firm.

National cultural differences

Cross-border acquisitions have been found to be more challenging than domestic ones in terms of post-acquisition integration (Schweiger and Goulet, 2005). Knowledge transfer is also likely to be more difficult in international acquisitions, due to increased difficulties and costs of transferring knowledge across different national cultures. To control for this effect we measured national cultural differences based on the GLOBE scores, which consist of nine dimensions: assertiveness, institutional collectivism, in-group collectivism, future orientation, gender egalitarianism, humane orientation, performance orientation, power distance, and uncertainty avoidance (House, Hanges, Javidan, Dorfman, and Gupta, 2004). We built a construct of the variance adjusted sum of national cultural differences between the two acquisition parties based on the nine dimensions of the GLOBE practices scores (Kogut and Singh, 1988):

$$CD_j = \frac{\sum_{i=1}^9 [(I_{ij} - I_{if})^2 / V_i]}{9}$$

where CD_j represents the cultural difference for the j th country; I_{ij} is the GLOBE score for the i th cultural dimension and j th country; F signifies Finland; and V_i is the variance in the Globe score index of the i th dimension.

RESULTS

Convergent and discriminant validity

We assessed convergent and discriminant validity by conducting a partial least square analysis. Convergent validity was established by calculating average variance and standardized factor loadings for all of the constructs. The average variance values of all of the constructs were above the critical threshold value of 0.5 (Shook, Ketchen, Hult, and Kacmar, 2004) with standardized factor loadings of the items in each construct with the acceptable range between 0.69 and 0.98 (Shook et al., 2004). Taken together, these tests indicated satisfactory convergent validity (Shook et al., 2004). Discriminant validity was examined by establishing that the square root of average variance was greater than all corresponding correlations (Fornell and Larcker, 1981). Also, an examination of cross loadings between all items and the constructs showed that all items loaded highest on their respective constructs (White, Varadarajan and Dacin, 2003). Thus, we concluded that the discriminant validity of all constructs was acceptable.

To assess the extent of common method variance (CMV), we conducted Harman's single factor test where all items were entered into an exploratory, unrotated principal component analysis. The low level of variance explained by the first and second factors (28% and 17% respectively) indicated that the sample data does not suffer from CMV (Podsakoff and Organ, 1986). However, because this test has been criticized of being insensitive, we proceeded to conduct further statistical tests. Following the recommendations of Podsakoff, MacKenzie, Jeong-Yeon, and Podsakoff (2003) and Chang, van Witteloostuijn, and Eden (2010), we tested for the effects of a single

unmeasured latent factor. We first conducted a confirmatory factor analysis. All items correlated significantly ($p < 0.001$) with their respective constructs. After finding support for the constructs used in this study, we added an unmeasured latent method factor ('CMV factor') to the model and allowed all items also load on this factor (Podsakoff et al., 2003). No path coefficient between any of the items and the new 'CMV factor' was significant. In addition, the relationships in the model were not influenced by adding the 'CMV factor': the paths that were significant in the basic model also remained significant when common method variance was controlled for. Although these statistical ex post tests do not completely remove the chance of CMV influencing the inter-item correlations, the insignificant result of adding the 'CMV factor' provides stronger evidence that the relationships in our model were not influenced by CMV to a significant extent.

The descriptive statistics and correlations are presented in table 2.

Variable	N	Min	Max	Mean	S. D.	1	2	3	4	5	6
1. National cultural differences	166	-0.395	2.775	-0.007	0.693	1					
2. Industry	168	0.000	1.000	0.482	0.501	-0.171*	1				
3. Elapsed time	168	-2.324	1.351	0.000	1.000	0.081	0.011	1			
4. Size of the acquisition	166	-0.445	7.753	0.000	1.000	0.203**	0.168*	0.015	1		
5. Ambiguity of acquirer's knowledge	157	-1.941	2.639	0.007	0.899	0.037	0.025	0.219**	-0.075	1	
6. Ambiguity of target's knowledge	156	-2.061	2.326	-0.014	0.871	0.037	-0.065	0.086	0.014	0.434***	1
7. Acquirer attractiveness	161	-2.842	1.988	0.011	0.893	-0.010	-0.112	-0.056	-0.180*	-0.259**	-0.145†
8. Target attractiveness	156	-2.577	2.174	-0.015	0.921	-0.056	0.009	-0.016	-0.036	-0.218**	-0.362***
9. Convergence	149	-2.014	1.927	0.008	0.741	-0.130	-0.054	0.023	-0.074	0.002	0.050
10. Crossvergence	159	-2.352	2.033	0.012	0.923	-0.076	0.016	0.038	0.091	-0.106	-0.142†
11. Use of acquirer's knowledge	153	-2.194	1.435	0.011	0.753	-0.072	-0.126	-0.082	-0.108	0.318***	-0.052
12. Use of target's knowledge	155	-1.511	1.929	0.024	0.755	-0.151†	0.005	0.010	0.054	-0.116	-0.295***
13. Acquirer attractiveness x ambiguity of acquirer's knowledge	155	-7.500	2.673	-0.209	1.064	0.190*	-0.010	0.084	0.210**	-0.063	-0.112
14. Target attractiveness x ambiguity of target's knowledge	151	-5.992	1.649	-0.286	0.961	0.085	0.073	0.075	0.052	-0.198*	-0.166*
15. Convergence x ambiguity of acquirer's knowledge	146	-3.525	5.086	0.001	0.773	0.051	-0.097	0.040	-0.002	0.207*	0.146†
16. Crossvergence x ambiguity of acquirer's knowledge	155	-2.684	2.156	-0.112	0.735	0.034	0.019	0.064	-0.148†	0.171*	-0.009
17. Crossvergence x ambiguity of target's knowledge	154	-3.947	2.129	-0.088	0.822	0.010	-0.087	-0.012	-0.012	-0.008	0.002

Variable	7	8	9	10	11	12	13	14	15	16
1. National cultural differences										
2. Industry										
3. Elapsed time										
4. Size of the acquisition										
5. Ambiguity of acquirer's knowledge										
6. Ambiguity of target's knowledge										
7. Acquirer attractiveness	1									
8. Target attractiveness	0.309***	1								
9. Convergence	-0.025	-0.230**	1							
10. Crossvergence	0.198*	0.126	0.206*	1						
11. Use of acquirer's knowledge	0.217**	-0.107	0.360***	0.264**	1					
12. Use of target's knowledge	0.015	0.234**	0.073	0.297***	0.182*	1				
13. Acquirer attractiveness x ambiguity of acquirer's knowledge	0.071	0.193*	-0.073	0.086	-0.158†	-0.049	1			
14. Target attractiveness x ambiguity of target's knowledge	0.019	0.159†	-0.052	-0.026	-0.112	-0.089	0.544***	1		
15. Convergence x ambiguity of acquirer's knowledge	-0.081	-0.137	-0.068	-0.063	0.090	0.024	-0.309***	-0.485***	1	
16. Crossvergence x ambiguity of acquirer's knowledge	0.109	0.134	-0.075	-0.014	-0.144†	-0.008	0.368***	0.219***	0.288***	1
17. Crossvergence x ambiguity of target's knowledge	0.132	-0.055	-0.087	-0.102	-0.181*	-0.187*	0.316***	0.294***	0.051	0.342***

Pearson's bivariate correlations with standardized variables, Spearman's rho for the Industry variable. † p < .1, * p < .05, ** p < .01, *** p < .001

Table 2 Descriptive statistics and correlations

Knowledge transfer from the acquirer to the target

We tested hypotheses relating to knowledge transfer from the acquirer to the target by conducting hierarchical linear regression analyses (see Table 3). In the first model we added only control variables. In the second model, we added the independent variables ‘ambiguity of acquirer’s knowledge’, ‘acquirer attractiveness’, ‘convergence’ and ‘crossvergence’. The second model was significant ($F = 7.381, p < 0.001$) and improved the first model significantly ($\Delta R^2 = 0.237, p < 0.001$). The second model supported Hypothesis 1a that the causal ambiguity of the acquirer’s knowledge would be negatively related with knowledge transfer from the acquirer to the target ($\beta = -0.221, p < 0.001$). Hypothesis 2a – suggesting that the acquirer’s attractiveness would be positively related to knowledge transfer – was rejected ($\beta = 0.068, n.s.$). Hypotheses 3a and 3b received support; higher levels of convergence and crossvergence were both positively associated with knowledge transfer from the acquirer ($\beta = 0.298, p < 0.001$, and $\beta = 0.126, p < 0.05$ respectively). Concerning the control variables, only the size of the target was marginally significant ($\beta = -0.086, p < 0.1$).

The interaction hypotheses 4a, 5a and 5b were tested in models 3 – 5 (see Table 4). We found support for an interaction between ‘acquirer attractiveness’ and ‘ambiguity of the acquirer’s knowledge’ (Model 3 in Table 4, $\beta = -0.109, p < 0.05$). As illustrated in Figure 2a, we interpreted the interaction term by first plotting the effects on the ‘use of acquirer’s knowledge’ for two levels of ‘acquirer attractiveness’ (“low” and “high”) and two levels of ‘ambiguity’ (“low” and “high”). “Low” corresponded to one standard deviation below the mean and “high” to one standard deviation above the mean. A visual examination of the curves in Figure 2a shows that the positive relationship between ‘acquirer attractiveness’ and knowledge transfer from the acquirer to the target is lower when the acquirer’s knowledge is highly ambiguous. Second, we used the simple slope coefficient test (Aiken and West, 1991) to examine the effect of ‘acquirer attractiveness’ at low and high levels of ambiguity. The results of this test show that acquirer attractiveness is significantly and positively related to knowledge transfer from the acquirer to the target at low levels of ambiguity (simple slope $\beta = 0.177, p < 0.05$), whereas it is insignificant at high levels of ambiguity (simple slope $\beta = -0.017, n.s.$). Taken together these results indicate that ambiguity significantly weakens the positive effect of the sender’s attractiveness in knowledge transfer from the acquirer to the target. However, because attractiveness did not have a significant direct effect on knowledge transfer from the acquirer to the target, hypothesis 4a is only weakly supported.

Variables	Model 1: Control Variables				Model 2: Control and Independent Variables			
	Beta	t	Sig.	VIF	Beta	t	Sig.	VIF
National cultural differences	-0.071	-0.843	0.400	1.075	-0.020	-0.271	0.787	1.095
Industry	-0.181	-1.650	0.101	1.041	-0.126	-1.289	0.199	1.070
Elapsed time	-0.034	-0.625	0.533	1.008	-0.001	-0.021	0.983	1.060
Size of the acquisition	-0.084	-1.494	0.137	1.077	-0.086†	-1.667	0.097	1.186
Ambiguity of acquirer's knowledge					-0.221***	-3.792	0.000	1.143
Acquirer attractiveness					0.068	1.147	0.253	1.205
Convergence					0.298***	4.239	0.000	1.073
Crossvergence					0.126*	2.251	0.026	1.133
R ²	0.035				0.272			
Adjusted R ²	0.011				0.235			
R ² change	0.035				0.237			
F	1.457				7.381***			

All two-tailed tests. N = 167, missing values replaced with mean
Data in the table represent standardized beta coefficients.
Dependent variable: Use of acquirer's knowledge.
† p < .1
* p < .05
** p < .01
*** p < .001

Table 3 Regression analysis of 'use of acquirer's knowledge' with models 1 and 2

Variables	Model 3: Control, Independent and Moderating Variable 1				Model 4: Control, Independent and Moderating Variable 2				Model 5: Control, Independent and Moderating Variable 3			
	Beta	t	Sig.	VIF	Beta	t	Sig.	VIF	Beta	t	Sig.	VIF
National cultural differences	0.002	0.023	0.982	1.114	-0.020	-0.276	0.783	1.095	-0.009	-0.115	0.908	1.109
Industry	-0.121	-1.249	0.213	1.070	-0.102	-1.056	0.293	1.079	-0.117	-1.199	0.232	1.074
Elapsed time	0.008	0.160	0.873	1.067	0.000	-0.010	0.992	1.060	0.001	0.014	0.989	1.061
Size of the acquisition	-0.066	-1.271	0.206	1.222	-0.084 [†]	-1.663	0.098	1.186	-0.095 [†]	-1.831	0.069	1.205
Ambiguity of acquirer's knowledge	-0.226 ^{***}	-3.932	0.000	1.145	-0.249 ^{***}	-4.288	0.000	1.183	-0.206	-3.498	0.001	1.180
Acquirer attractiveness	0.079	1.339	0.182	1.212	0.074	1.270	0.206	1.206	0.079	1.319	0.189	1.225
Convergence	0.289 ^{***}	4.153	0.000	1.076	0.311 ^{***}	4.497	0.000	1.078	0.291 ^{***}	4.144	0.000	1.078
Crossvergence	0.134 [*]	2.420	0.017	1.138	0.129 [*]	2.338	0.021	1.134	0.127 [*]	2.271	0.025	1.134
Acquirer attractiveness x ambiguity of acquirer's knowledge	-0.109 [*]	-2.271	0.024	1.093								
Convergence x ambiguity of acquirer's knowledge					0.177 ^{**}	2.666	0.008	1.059				
Crossvergence x ambiguity of acquirer's knowledge									-0.087	-1.388	0.167	1.094
R ²	0.295				0.304				0.281			
Adjusted R ²	0.255				0.264				0.240			
R ² change	0.023				0.032				0.009			
F	7.306 ^{***}				7.604 ^{***}				6.813 ^{***}			

All two-tailed tests. N = 167, missing values replaced with mean

Data in the table represent standardized beta coefficients.

Dependent variable: Use of acquirer's knowledge.

[†] p < .1, * p < .05, ** p < .01, *** p < .001

Table 4 Regression analysis of 'use of acquirer's knowledge' with models 3 – 5

There was also a significant interaction effect between ‘convergence’ and ‘ambiguity of the acquirer’s knowledge’ (Model 4 in Table 4, $\beta = 0.177$, $p < 0.01$). However, the effect was not negative as hypothesized. To illustrate the results, we plotted low and high levels of ‘convergence’ and ‘ambiguity’ on the ‘use of acquirer’s knowledge’ (Figure 2b). This figure shows that that at any values of convergence knowledge transfer from the acquirer to the target is highest when the acquirer’s knowledge is not ambiguous. However, the picture of the slopes also indicates that the effectiveness of convergence is greater in the presence of higher ambiguity. We used the simple slope test (Aiken and West, 1991) to further examine the relationships. The test results show that convergence has a significantly stronger positive effect on knowledge transfer from the acquirer, when the acquirer’s knowledge is highly ambiguous (simple slope $\beta = 0.462$, $p < 0.001$). The effect of convergence on knowledge transfer from the acquirer is only marginally significant at low levels of ambiguity (simple slope $\beta = 0.159$, $p < 0.1$). Taken together these results show that ambiguity enhances – rather than weakens – the effect of convergence on knowledge transfer from the acquirer to the target. Hypothesis 5a was thus rejected.

Hypothesis 5b – proposing that the positive association between crossvergence and knowledge transfer from the acquirer to the target would be lower in acquisitions where the causal ambiguity of the acquirer’s knowledge is greater – was not supported (Model 5 in Table 4, $\beta = -0.087$, *n.s.*).

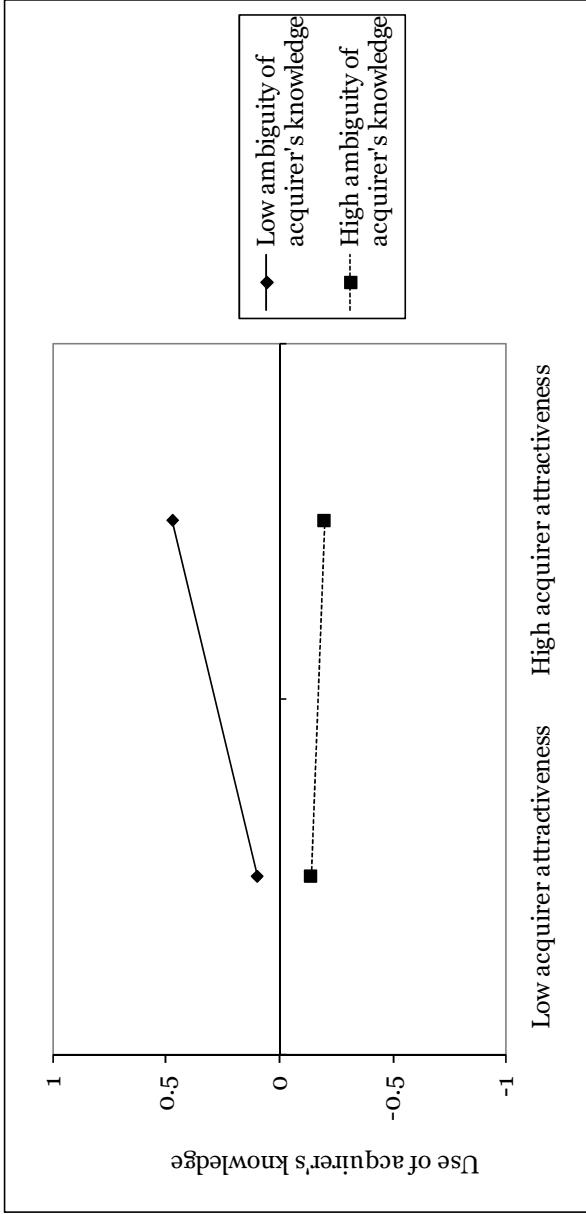


Figure 2a Interaction effect on 'use of acquirer's knowledge' for 'acquirer attractiveness' and 'ambiguity of acquirer's knowledge'

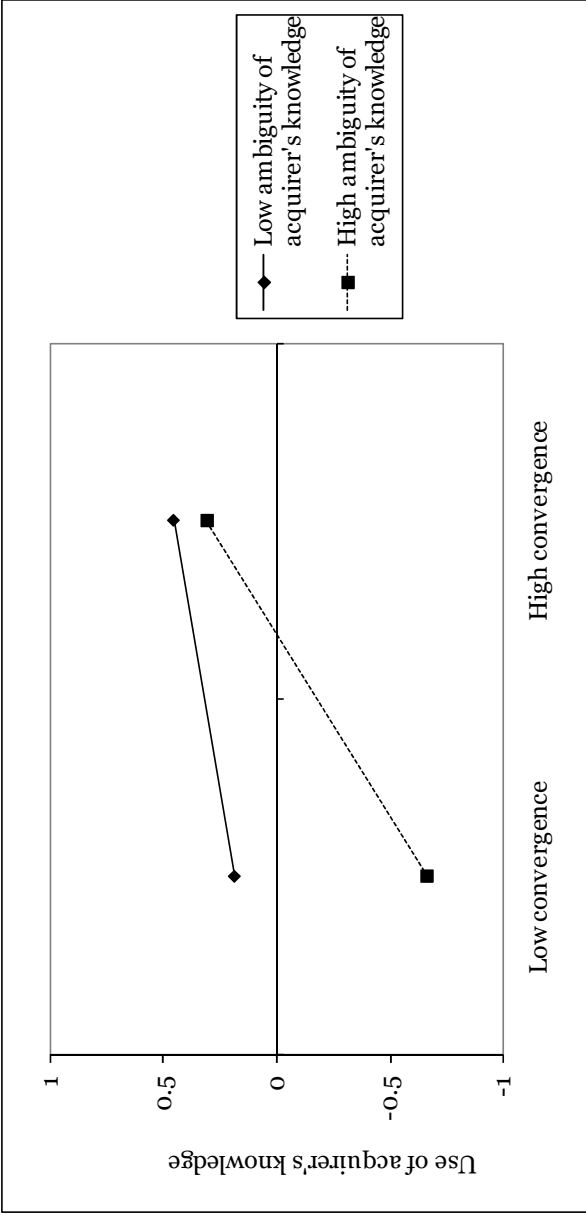


Figure 2b Interaction effect on 'use of acquirer's knowledge' for 'convergence' and 'ambiguity of acquirer's knowledge'

Knowledge transfer from the target to the acquirer

We tested the hypotheses relating to knowledge transfer from the target to the acquirer in a similar way as above. The results for the direct effects are presented in Table 5. The baseline model contained control variables (model 1 in Table 5), out of which only the 'national cultural differences' variable was significant ($\beta = -0.179, p < 0.05$). The baseline model ($F = 1.189, n.s$) improved significantly after adding the independent variables 'ambiguity of target's knowledge', 'target attractiveness', 'convergence' and 'crossvergence' ($\Delta R^2 = 0.154, p < 0.001$) resulting in a highly significant model ($F = 4.437, p < 0.001$) as illustrated in model 2 in Table 5. Hypothesis 1b – suggesting that the causal ambiguity of the target's knowledge would be negatively related with knowledge transfer from the target to the acquirer – was supported ($\beta = -0.188, p < 0.01$). The relationship between the target's attractiveness and knowledge transfer from the target was only marginally significant ($\beta = 0.109, p < 0.1$), thus hypothesis 2b received only weak support. Hypothesis 3c – associating higher levels of crossvergence with higher levels of knowledge transfer from the target – was also supported ($\beta = 0.175, p < 0.01$). Concerning control variables, the 'national cultural differences' variable remained slightly significant ($\beta = -0.141, p < 0.1$) indicating that knowledge transfer from the target was slightly lower in cases with larger national cultural differences.

In Table 6, we tested the interaction hypotheses 4b and 5b. We found a slightly significant negative interaction effect between 'target attractiveness' and 'ambiguity of the target's knowledge' (Model 3 in Table 6, $\beta = -0.110, p < 0.1$). The graphical interaction plot (see Figure 3a) lends some support for hypothesis 4b: the positive relationship between the target's attractiveness and knowledge transfer from the target is lower when the target's knowledge is highly ambiguous. The simple slope test (Aiken and West, 1991) also provided support for hypothesis 4b: the effect of 'target attractiveness' was significantly and positively related to the 'use of target's knowledge' at low levels of ambiguity (simple slope $\beta = 0.215, p < 0.05$), and it was insignificant at high levels of ambiguity (simple slope $\beta = 0.031, n.s.$).

Concerning hypothesis 5b, we found support for a negative interaction between 'crossvergence' and 'ambiguity of the target's knowledge' (Model 4 in Table 6, $\beta = 0.159, p < 0.05$). We plotted the effects of two levels of 'crossvergence' and 'ambiguity of target's knowledge' – low and high – on the 'use of target's knowledge'. A visual interpretation of figure 3b shows that the positive relationship between crossvergence and knowledge transfer from the target is lower when the target's knowledge is highly ambiguous, and that it is highest when there are high levels of crossvergence combined with low levels of causal ambiguity. We also examined the relationships using simple slope tests (Aiken and West, 1991), which also showed that crossvergence has a more positive effect of knowledge transfer from the target in the presence of low ambiguity (simple slope $\beta = 0.290, p < 0.01$), rather than high ambiguity (simple slope $\beta = 0.046, n.s.$). Taken together these results support hypothesis 5b.

A summary of the findings is presented in Table 7.

Variables	Model 1: Control Variables				Model 2: Control and Independent Variables			
	Beta	t	Sig.	VIF	Beta	t	Sig.	VIF
National cultural differences	-0.179*	-2.057	0.041	1.075	-0.141†	-1.725	0.086	1.094
Industry	-0.002	-0.018	0.986	1.040	-0.029	-0.276	0.783	1.054
Elapsed time	0.017	0.295	0.769	1.009	0.022	0.423	0.673	1.019
Size of the acquisition	0.065	1.123	0.263	1.077	0.052	0.943	0.347	1.102
Ambiguity of target's knowledge					-0.188**	-2.811	0.006	1.166
Target attractiveness					0.109†	1.689	0.093	1.220
Convergence					0.059	0.747	0.456	1.135
Crossvergence					0.175**	2.867	0.005	1.107
R ²	0.028				0.182			
Adjusted R ²	0.005				0.141			
R ² change	0.028				0.154			
F	1.189				4.437***			

All two-tailed tests. N = 168, missing values replaced with mean

Data in the table represent standardized beta coefficients.

Dependent variable: Use of target's knowledge.

† p < .1

* p < .05

** p < .01

*** p < .001

Table 5 Regression analysis of 'use of target's knowledge' with models 1 and 2

Variables	Model 3: Control, Independent and Moderating Variable 1				Model 4: Control, Independent and Moderating Variable 2			
	Beta	t	Sig.	VIF	Beta	t	Sig.	VIF
National cultural differences	-0.129	-1.588	0.114	1.100	-0.140 [†]	-1.729	0.086	1.094
Industry	-0.017	-0.157	0.876	1.058	-0.061	-0.573	0.567	1.075
Elapsed time	0.030	0.575	0.566	1.026	0.036	0.690	0.491	1.035
Size of the acquisition	0.057	1.052	0.294	1.105	0.047	0.865	0.388	1.104
Ambiguity of target's knowledge	-0.204**	-3.045	0.003	1.184	-0.195**	-2.946	0.004	1.169
Target attractiveness	0.124 [†]	1.915	0.057	1.237	0.099	1.548	0.124	1.226
Convergence	0.061	0.772	0.441	1.135	0.044	0.556	0.579	1.145
Crossvergence	0.168**	2.768	0.006	1.112	0.165**	2.729	0.007	1.114
Target attractiveness x ambiguity of target's knowledge	-0.110 [†]	-1.889	0.061	1.064				
Crossvergence x ambiguity of target's knowledge					-0.159*	-2.130	0.035	1.056
R ²	0.210				0.205			
Adjusted R ²	0.155				0.160			
R ² change	0.018				0.023			
F	4.404***				4.536***			

All two-tailed tests. N = 168, missing values replaced with mean

Data in the table represent standardized beta coefficients.

Dependent variable: Use of target's knowledge.

† p < .1

* p < .05

** p < .01

*** p < .001

Table 6 Regression analysis of 'use of target's knowledge' with models 3 – 5

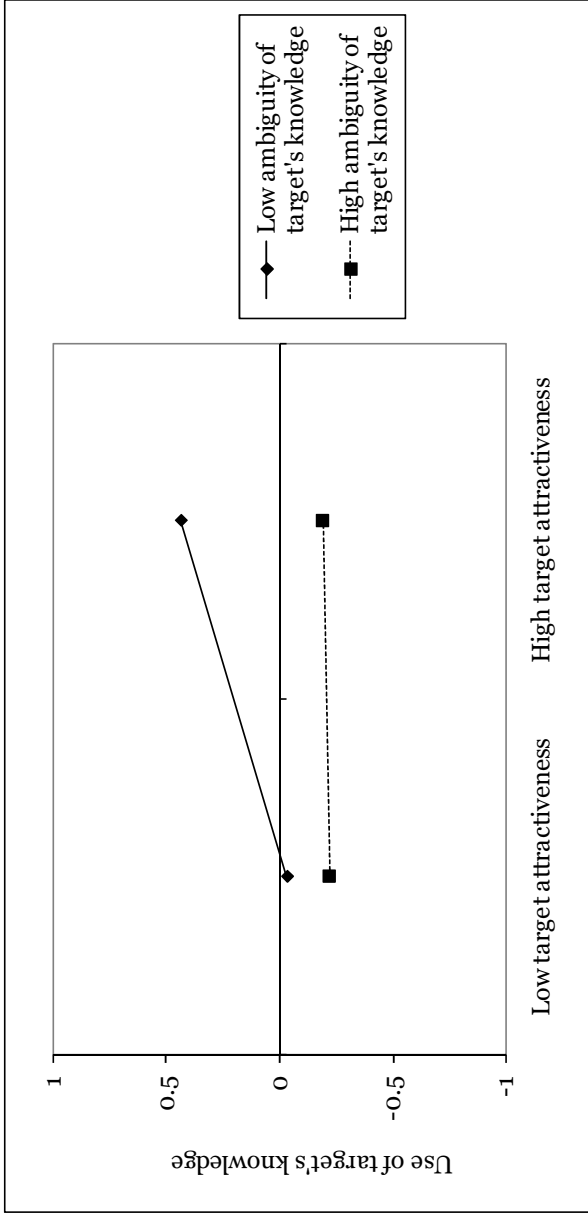


Figure 3a Interaction effect on 'use of target's knowledge' for 'target attractiveness' and 'ambiguity of target's knowledge'

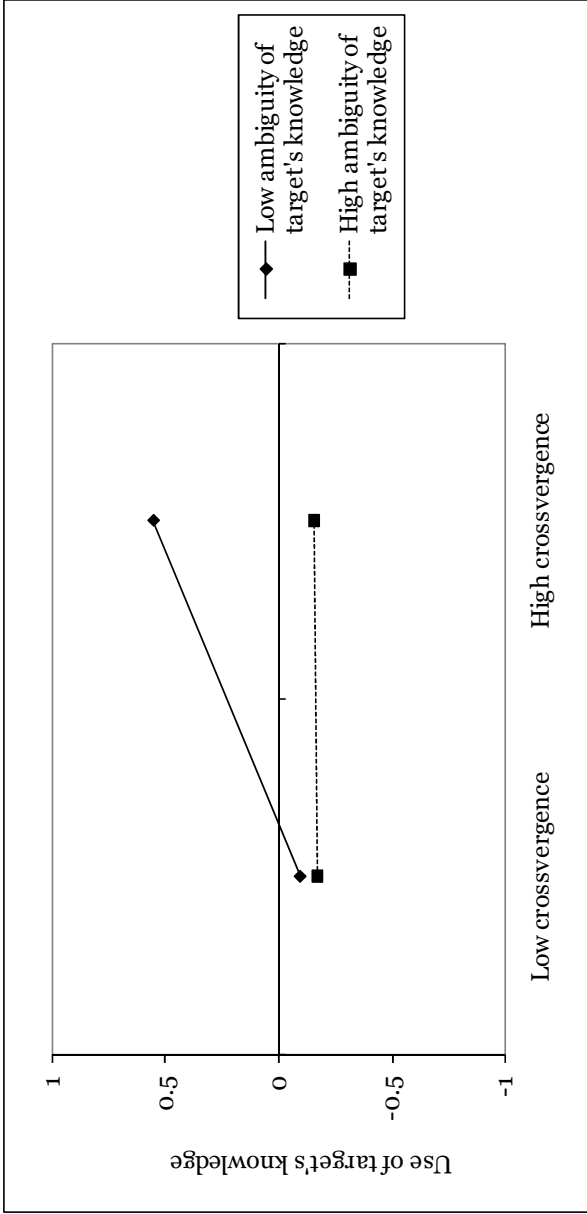


Figure 3b Interaction effect on 'use of target's knowledge' for 'crossvergence' and 'ambiguity of target's knowledge'

Hypothesis	Result
H1a: Causal ambiguity of the acquirer's knowledge is negatively associated with knowledge transfer from the acquirer to the target.	Supported
H1b: Causal ambiguity of the target's knowledge is negatively associated with knowledge transfer from the target to the acquirer.	Supported
H2a: The attractiveness of the acquirer is positively associated with knowledge transfer from the acquirer to the target.	Rejected
H2b: The attractiveness of the target is positively associated with knowledge transfer from the target to the acquirer.	Weakly supported
H3a: Organizational cultural convergence is positively associated with knowledge transfer from the acquiring firm to the target.	Supported
H3b: Organizational cultural crossvergence is positively associated with knowledge transfer from the acquiring firm to the target.	Supported
H3c: Organizational cultural crossvergence is positively associated with knowledge transfer from the target firm to the acquirer.	Supported
H4a: The positive association between the acquirer's attractiveness and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.	Weakly supported
H4b: The positive association between the target's attractiveness and knowledge transfer from the target to the acquirer will be lower in acquisitions where the causal ambiguity of the target's knowledge is greater.	Weakly supported
H5a: The positive association between convergence and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.	Rejected
H5b: The positive association between crossvergence and knowledge transfer from the acquirer to the target will be lower in acquisitions where the causal ambiguity of the acquirer's knowledge is greater.	Rejected
H5c: The positive association between crossvergence and knowledge transfer from the target to the acquirer will be lower in acquisitions where the causal ambiguity of the target's knowledge is greater.	Supported

Table 7 Summary of the results

DISCUSSION

This study aimed to explain knowledge transfer in acquisitions from the resource-based view and the dynamic capabilities perspective. More specifically, we investigated the relationships between the firm's resource characteristics (causal ambiguity as a knowledge characteristic and partner attractiveness as an organizational resource that characterizes the relationship between the firms), managerial processes (organizational cultural integration through convergence or crossvergence), and knowledge transfer.

We will first discuss our results concerning the firms' resource characteristics as direct determinants of knowledge transfer. Regarding causal ambiguity as a knowledge characteristic, we established that causal ambiguity of the sender's knowledge is a significant barrier to knowledge transfer. In other words, ambiguity of acquirer's knowledge reduced knowledge transfer from the acquirer to the target. Similarly, ambiguity of target's knowledge inhibited knowledge transfer from the target to the acquirer. Our results are in line with previous research on the negative effects of causal ambiguity on knowledge transfer in the contexts of alliances and MNCs (Simonin, 1999a, 1999b; Szulanski, 1996; Szulanski, Cappetta, and Jensen, 2004). The findings imply that, regardless of the potential of causal ambiguity for creating sustainable competitive advantage by protecting valuable knowledge from being imitated by competitors (Barney 1991), this potential cannot be easily leveraged across organizational boundaries in acquisitions.

Concerning partner attractiveness as a characteristic of the relationship between the acquirer and the target, we found that the attractiveness of the target increased knowledge transfer from the target to the acquirer, but only slightly. This could be related to reduced "fear of contamination" and "not-invented-here syndrome" (Empson, 2001; Szulanski, 1996) in the acquirer, due to a better image and attractiveness of the target. However, we did not find a relationship between the attractiveness of the acquirer and knowledge transfer from the acquirer to the target. This suggests that the acquirer's perceptions of the target are more important for knowledge transfer than those of the target. This finding could also be related to the acquisition motive: If the target was initially perceived as "attractive" particularly because of its proprietary knowledge, the access to which was amongst the main acquisition motives, it would not be surprising to see more knowledge transfer from this attractive target (Empson, 2001; Eschen and Bresser, 2005).

Second, related to the dynamic capabilities perspective, we concentrated on examining organizational cultural integration as an important managerial process which potentially facilitates knowledge transfer in acquisitions. We distinguished between two types of organizational cultural integration – convergence and crossvergence – and argued that they differ in terms of the kinds of knowledge flows that they generate. We suggested and found evidence that convergence is particularly useful for knowledge transfer from the acquirer to the target. In contrast, we expected crossvergence to be a more mutual process involving two-directional knowledge flows. Accordingly, we found crossvergence to be effective in increasing knowledge transfer both from the acquirer to the target and vice versa. Taken together, the findings related to organizational cultural integration suggest that convergence is more suitable for leveraging the acquirer's knowledge, and is indeed more effective for this purpose than crossvergence. However, crossvergence offers benefits in terms of functioning as a mechanism for transferring the knowledge of both firms. Linking our results to previous research, we associate convergence with the "absorption" integration mode in which the goal is to absorb the

target firm into the acquiring firm. We connect crossvergence to the “symbiosis” integration mode which represents an amalgamation of the acquiring and target firms (Haspeslagh and Jemison, 1991). Consequently, we argue that both cultural integration modes serve important, but different purposes, in terms of knowledge transfer in particular and post-acquisition integration in general.

Finally, our results suggest novel links between resource characteristics and managerial processes. More specifically, we found that causal ambiguity of knowledge not only has a direct effect on knowledge transfer, but it is also an important moderating variable for partner attractiveness and organizational cultural integration. Our results show that causal ambiguity weakened the positive effect of partner attractiveness on knowledge transfer from the target to the acquirer, thus moderating this effect. Although the acquirer’s attractiveness did not have a significant direct effect on knowledge transfer from the acquirer to the target, this effect was significant when the moderating effect of ambiguity was included in the model; attractiveness increased knowledge transfer at low levels of ambiguity. Taken together these findings suggests that, even if the sender is viewed as attractive, the recipient’s attitude towards absorbing knowledge from the sender is still likely to be more negative in the presence of ambiguous knowledge, because of difficulties associated with an incomplete understanding of the partner’s knowledge base and its value (Empson, 2001; Lam, 1997). This in turn can intensify socio-cultural problems and the “not invented” here syndrome even in friendly acquisitions, and thereby reduce the potentially positive influence of partner attractiveness.

We also found that causal ambiguity of knowledge significantly weakened the positive effect of crossvergence on knowledge transfer from the target to the acquirer. This provides evidence for causal ambiguity as a resource characteristic that can reduce the effectiveness of this specific type of cultural integration. A possible explanation is that causal ambiguity of knowledge is related to difficulties with understanding the partner’s knowledge (Szulanski, Cappetta, and Jensen, 2004) and culture in general (Schweiger and Goulet, 2005). As mentioned earlier, ambiguity is often a reflection on a dissonance between organizational norms and rules and actual practices (Nelson and Winter, 1982; Szulanski, Cappetta, and Jensen, 2004). It is thus likely to be difficult to create a new culture that supports knowledge transfer, without being able to identify important cultural elements by directly “seeing” or experiencing the partners’ culture and practices. Because cultural crossvergence is likely to be related to “symbiosis” acquisitions (Haspeslagh and Jemison, 1991), where integration is done at a slower speed and more cautiously, acquisition partners may have fewer opportunities to directly perceive or experience each other’s’ cultures and practices. Thus when the partners’ have causally ambiguous knowledge, it will be more difficult to build a new culture that has elements (values and norms) that support behavior that is related to more efficient knowledge transfer.

Causal ambiguity of knowledge only weakened the effectiveness of crossvergence on knowledge transfer from the target to the acquirer, but not vice versa. One explanation could be that post-acquisition integration is ultimately a process lead by the acquirer, so that even in crossvergence the final decisions concerning which elements constitute the new, shared culture are mostly determined by the acquirer. The acquirer is less familiar with the target’s knowledge base than with its own and causal ambiguity makes it even more difficult to understand the target’s knowledge. Thus, as a part of creating a new, shared culture through crossvergence, the acquirer may fear dismantling cultural elements that support the target’s knowledge base, or even worse, introducing new cultural elements that potentially destroy the target’s valuable knowledge base. This is

less likely to happen on the acquiring firm's side because, even in the presence of causal ambiguity, the acquirer is more familiar with its own knowledge base.

Interestingly, and contrary to what we hypothesized, we found that convergence had a stronger positive effect on knowledge transfer from the acquirer to the target when the acquirer's knowledge was causally ambiguous. In other words convergence – as a managerial process to support knowledge transfer – was more effective when the knowledge to be transferred was more ambiguous. One explanation for this finding is that convergence – which is likely to be related to the “absorption” acquisition mode (Haspeslagh and Jemison, 1991) – involves more direct contact between the acquirer and the target, and a faster integration pace. This “hands on” integration style implies that, as the target adapts to the acquirer, its organizational members perceive and experience the acquirer's culture and practices more directly. The members of the target company are thus more able to make sense of the acquirer's knowledge, even if it is not clearly articulated in organizational norms and rules. In fact, convergence may be a prerequisite for transferring ambiguous knowledge to the target: The acquirer's causally ambiguous knowledge is usually embedded in its organizational culture and processes (Simonin, 1999a; 1999b), which makes it very difficult to “extract” from its context in order to transfer it to the target. Thus when the acquirer's knowledge is highly ambiguous convergence may be the only way to efficiently transfer the acquirer's knowledge to the target, without having to “extract” or detach the acquirer's culturally embedded knowledge from its original context. In contrast, when the acquirer's knowledge is unambiguous – and it is easy to understand and explain the causal links related to the knowledge – convergence is not likely to be a prerequisite, or as effective, for transferring knowledge from the acquirer to the target.

To conclude, our paper contributes to the literature on knowledge transfer in acquisitions by illustrating the complex mechanisms through which causal ambiguity of knowledge influences knowledge transfer. In addition to directly reducing knowledge transfer both from the acquirer to the target and vice versa, causal ambiguity of knowledge can decrease the positive effects of partner attractiveness and crossvergence. However, some managerial processes, such as convergence, may be particularly effective in the context of causal ambiguity. Furthermore, a novelty of the paper is the conceptualization of knowledge transfer from the target to the acquirer and vice versa as two distinct processes that are influenced by different cultural integration mechanisms: Convergence facilitates the transfer of acquirer's knowledge, while crossvergence can support knowledge transfer of both the acquirer's and target's knowledge. This expands our previous understanding of how convergence and crossvergence contribute to knowledge transfer in acquisitions (Sarala and Vaara, 2010). Finally, our study provides valuable information about the value creation processes in acquisitions in the less explored European context.

Regarding the limitations of the study, we relied on subjective evaluations of managers mostly from the acquiring firms. Although we took several *ex ante* and *ex post* measures to reduce the likelihood of common method variance (Chang, van Witteloostuijn, and Eden, 2010; Podsakoff et al., 2003), we cannot entirely rule it out. In addition, the empirical measures of cultural convergence and crossvergence may require further development to access the full complexity of these multifaceted concepts. In specific, the convergence measure relied on the respondents' evaluations of organizational cultural differences before and after the acquisition. From the social identity perspective (Hogg and Abrams, 1988), there might be a tendency for the non-dominant target firm to “underestimate” convergence because members of the acquired firm would still identify with the pre-acquisition organization and therefore perceive

the remaining cultural differences as more significant. On the other hand, drawing on the attribution theory (Weiner, 1986), the actor's organizational role can affect credit attributions implying that the acquiring firm managers might "overestimate" convergence due to the managerial tendency of overestimating the effectiveness of managerial actions (when convergence is understood as a process primarily dominated by the acquiring firm). Although our t-tests comparing the responses of the acquiring and target firm respondents did not indicate any such tendencies, we cannot completely exclude the possibility of these effects. Also, ideally, we would have collected evaluations of cultural differences separately before and after the acquisition to avoid any possible retrospective bias in the pre-acquisition evaluations. However, this would have been impractical, if not impossible, considering the number of acquisitions in our sample, and the reluctance of managers to respond to questions about the acquisition when the deal is still being negotiated.

In terms of future research, it would be interesting to further investigate the different mechanisms of cultural integration. It is possible that convergence and crossvergence are not the only cultural integration mechanisms that influence knowledge transfer. Also, we do not yet fully understand the managerial actions required for convergence and crossvergence. Previous research suggests that building a common identity (Vaara, Tienari and Irrman, 2007) and cultural seminars (Schweiger and Goulet, 2005) could be useful, but more research is needed to establish how cultural interventions should differ depending on the cultural integration mode. It would also be interesting to explore whether our results concerning the direct and indirect effects of causal ambiguity could be expanded to apply to other types of knowledge characteristics. In addition, the mixed results concerning the effect of the managerial processes (cultural convergence and crossvergence) on knowledge transfer may be due to the nationality of the acquirers (Weber, Tarba and Reichel, 2011), which in this case was Finnish. This study could be replicated in other contexts to find out whether the acquirer's nationality influences the type and extent of cultural integration and whether it moderates (Weber, Rachman-Moore and Tarba, 2011) the impact of cultural integration on post-acquisition knowledge transfer.

Our study has clear managerial implications. First, it is important to understand the complex effects of causal ambiguity of knowledge on implementing knowledge transfer in acquisitions. The key is to focus on how to make causally ambiguous knowledge more explicit without losing the value embedded in this type of ambiguous knowledge. One way of achieving this may be to encourage collaborative deep-level learning through cultural mentoring and teaching (Schweiger and Goulet, 2005) that will facilitate the understanding of causally ambiguous knowledge in both firms. Second, our study sends a strong message regarding the importance of the management of the post-acquisition integration process by showing how managerial processes, such as cultural integration, can clearly benefit knowledge transfer in acquisitions. Depending on the desired level and direction of post-acquisition knowledge transfer, managers should carefully consider which cultural integration mechanism to aspire to, as it ultimately influences the success of knowledge transfer. Organizational cultural convergence, as a part of broader absorption integration strategy, can be successful in transferring the acquirer's knowledge to the target, and it is especially beneficial when this knowledge is ambiguous. This may be a viable option when the efficiency of the target firm can be clearly improved by introducing the acquirer's practices (Eccles, Lanes and Wilson, 1999). Organizational cultural crossvergence, in turn, can be a better alternative when the goal is to transfer knowledge from the acquired unit or to encourage two-directional knowledge flows. If this is desired, however, managers need to pay special attention to reducing the ambiguity of the target's knowledge, as

ambiguity weakens the otherwise positive effect of crossvergence. Finally, while we did find some evidence for the positive effect of partner attractiveness, the effect was relatively minor. This is encouraging for the managers because it suggests that acquisitions in which initial partner attractiveness is lacking are not doomed to fail. In fact, carefully administered managerial processes, such as organizational cultural integration, can be more influential in determining knowledge transfer outcomes.

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THE ROLE OF CULTURAL LEARNING AND COLLECTIVE TEACHING INITIATIVES IN M&A KNOWLEDGE TRANSFER

ABSTRACT

This paper focuses on the roles of collective learning and teaching initiatives in mergers and acquisitions. We examine how these managerial processes influence different types of knowledge flows. We also explore the antecedents of these managerial processes, including knowledge complementarity, knowledge complexity, cultural acceptance and cultural preservation. We test our hypotheses on a sample of domestic and cross-cultural acquisitions conducted by Finnish companies.

INTRODUCTION

According to the knowledge-based view (KBV), knowledge is a key resource for creating competitive advantage (Spender and Grant, 1996). Acquisitions contribute to the firm's value creation in several ways (Gomes et al., 2001), particularly through knowledge transfer that provides access to new knowledge and enables unique combinations of the knowledge bases of the acquiring and target firms (Ahammad and Glaister, 2011; Almor, Tarba and Benjamini, 2009; Björkman, Stahl and Vaara, 2007; Weber, Rachman-Moore and Tarba, 2011). Because of the importance of knowledge transfer in M&As, researchers have focused on identifying influencing factors, ranging from knowledge and relationship characteristics to managerial processes. While certain factors, such as knowledge tacitness and post-acquisition communication, have received much attention in empirical research on M&A knowledge transfer (e.g. Bresman, Birkinshaw, and Nobel 1999; Ranft and Lord, 2002), other factors have been explored less. In particular, previous M&A research calls for studies to further elaborate on the roles of specific managerial processes in M&A value creation (Haleblian et al., 2009; Lakshman, 2011; Weber and Tarba, 2011; Weber, Tarba and Bachar, 2011). More specifically, the effects of teaching (Zhao and Anand, 2009) and learning processes (Zou and Ghauri, 2008) require further specification. Therefore, based on the dynamic capabilities perspective (Teece, Pisano, and Shuen, 1997), we focus on examining the influence of managerial processes that involve *cultural learning* (Schweiger and Goulet, 2005) and *collective teaching* (Zhao and Anand, 2009) on M&A knowledge transfer. In cultural learning, employees of *both* companies participate collectively in managerial initiatives aimed at facilitating mutual learning about each other's cultures. In collective teaching, either the acquirer or the target can be the knowledge sender, depending on the goals of the acquisition.

Also, scholars recommend future studies to consider not only the influence of managerial processes, but also their antecedents in order to understand the factors that influence the implementation of managerial processes in M&As (Zollo and Singh, 2004). Based on the knowledge-based view and social identity theory, we identify the knowledge and relationship characteristics that influence the extent to which cultural learning and collective teaching initiatives are used. More specifically, we focus on *knowledge complementarity* and *knowledge complexity* as knowledge characteristics (Haspeslagh and Jemison, 1991; Lam, 1997) and *cultural acceptance* and *cultural preservation* as characteristics of the relationship between the firms (Nahavandi and Malekzadeh, 1988). While previous research has linked many knowledge characteristics directly to knowledge transfer, their indirect influence through specific managerial processes remains less explored (for a notable theoretical exception see

Björkman et al., 2007). Concerning relationship characteristics, further work on elaborating the role of culture in M&A integration has been called for in previous studies (Teerikangas and Very, 2006), particularly concerning M&A knowledge transfer (Björkman et al., 2007).

Furthermore, most M&A studies on knowledge transfer do not examine multidirectional knowledge flows - those from the acquirer to the target and vice versa (for a notable exception see Bresman et al., 1999). However, these flows may differ because they are often associated with different acquisition strategies and managerial processes (Haspeslagh and Jemison, 1991). Therefore, we distinguish between the directions of knowledge transfer in our model and include both knowledge transfer from the acquirer to the target and knowledge transfer from the target to the acquirer. Finally, previous empirical studies on knowledge transfer in M&As have largely relied on a small number of case studies (Empson, 2001, Westphal and Shaw, 2005, Zou and Ghauri, 2008) and many of the findings from these studies have not been validated on larger scale quantitative data. We address this by using quantitative survey data on domestic and foreign acquisitions conducted by Finnish companies.

In conclusion, our aim is to contribute to the literature on knowledge transfer in M&As by modelling knowledge transfer as consisting of two-directional knowledge flows (knowledge transfer from the acquirer to the target and vice versa) that are indirectly influenced by knowledge characteristics (complementarity and complexity) and relationship characteristics (cultural acceptance and preservations) through managerial processes (cultural learning and collective teaching initiatives).

We will first discuss knowledge transfer in acquisitions in general. Then, we elaborate on the positive role of cultural learning and collective teaching initiatives in knowledge transfer, followed by a discussion on knowledge characteristics (knowledge complementarity and knowledge complexity) and relationship characteristics (cultural acceptance and cultural preservation) as antecedents of cultural learning and collective teaching initiatives. After describing the data collection process and the empirical measures used in the study, we reflect on our findings and offer suggestions for future research and managerial practice.

THEORETICAL BACKGROUND

We understand *knowledge transfer* as the extent to which the sender's knowledge is used by the receiving firm (Minbaeva, 2007). Knowledge transfer in M&As consists of two kinds of knowledge flows: those from the target to the acquirer and vice versa (Bresman et al., 1999). In the former, the acquirer's goal is usually to access the target's knowledge ranging from knowledge about the target's business network or local practices (Schoenberg, 2001) to technical R&D knowledge (Bresman et al., 1999; Ranft and Lord, 2002), to marketing or manufacturing know-how (Capron, 1999). In the latter, the acquirer often chooses to transfer its knowledge to the target, often in the form of best practices, in order to improve the target's performance (Haspeslagh and Jemison, 1991). Because these knowledge flows may differ markedly from each other, their influencing factors may also be different. However, with the notable exception of Bresman et al. (1999), most previous studies have not distinguished between knowledge flows from the acquirer to the target and vice versa (e.g. Lam, 1997; Sarala and Vaara, 2010) or have examined only one side of the knowledge transfer process (Ranft and Lord, 2002; Zou and Ghauri, 2008). This may have concealed important differences between the directions of knowledge flows and their influencing factors. We

thus aim to contribute to the literature on knowledge transfer in M&As by including knowledge flows in both directions.

We focus on examining knowledge transfer because it is an essential component of M&A value creation (Capron, 1999; Haspeslagh and Jemison, 1991). However, it is not without its difficulties. Acquisitions can create organizational conflict, often as a result of change resistance on the part of the target (Buono and Bowditch, 1989; Sarala, 2010; Weber et al., 2011), which can reduce the motivation of organizational members to engage in knowledge transfer (Vaara et al., 2010). Therefore, a growing body of M&A literature has tried to identify factors that influence knowledge transfer outcomes. In line with the dynamic capabilities perspective (Teece et al., 1997), the roles of select managerial processes have been examined. In general, these studies suggest that communication (Bresman et al., 1999; Castro and Neira, 2005; Zou and Ghauri 2008), cultural integration (Junni & Sarala, 2011; Sarala and Vaara, 2010), incentives (Westphal and Shaw, 2005), and the retention of key personnel (Ranft and Lord, 2002) can facilitate knowledge transfer. In addition, it has been suggested that the degree of target autonomy influences knowledge transfer (Haspeslagh and Jemison, 1991; Ranft and Lord, 2002). However, managerial processes related to cultural learning and collective teaching initiatives have not been examined regarding knowledge transfer in M&As. Thus, we explore how knowledge transfer is influenced by the managerial processes of *cultural learning initiatives* – mechanisms for bridging cultural differences and creating shared understandings and constructive employee attitudes (Schweiger and Goulet, 2005), and *collective teaching initiatives* – mechanisms for collectively imparting the knowledge, routines, and mindset of the sender organization (Zhao and Anand, 2009).

Drawing on the KBV, researchers have also linked knowledge characteristics to knowledge transfer in M&As. For instance, they have suggested that knowledge tacitness (Bresman et al., 1999; Castro and Neira, 2005; Junni, 2011) and context specificity (Westphal and Shaw, 2005) impede knowledge transfer by making knowledge more difficult for the sender to articulate and for the receiver to understand. In contrast, it has been suggested that knowledge complementarity facilitates knowledge transfer (Westphal and Shaw, 2005; Zou and Ghauri, 2008), partly because the receiver feels less “threatened” that its knowledge will be replaced. Nevertheless, our understanding of the processes through which knowledge characteristics influence knowledge transfer has been largely unexamined in the general knowledge transfer literature (Foss, Husted, and Michailova, 2010) and even less in the context of M&As. We concentrate on examining the effects of two types of knowledge characteristics: *knowledge complementarity* – the distinct and non-redundant knowledge of the acquisition partners, which they can use to “fill out, or complete, each other’s performance” (Jap, 1999, p. 465), and *knowledge complexity* – the extent to which knowledge is linked to various interdependent technologies, routines, individuals, and resources (Simonin, 1999) and is embedded in organizational culture (Haspeslagh and Jemison, 1991). We suggest that these knowledge characteristics influence knowledge transfer through the increased use of managerial processes (cultural learning and collective teaching initiatives) that support knowledge transfer.

Finally, according to social identity theory, M&A studies have examined how the quality of the relationship between the knowledge sender and receiver influences post-acquisition knowledge transfer. These studies suggest that a positive view of the partner can enhance knowledge transfer (Empson, 2001; Westphal and Shaw, 2005). While it has been argued that differences between the acquisition partners in terms of cultures and knowledge bases impede knowledge transfer (Castro and Neira, 2005; Lam, 1997),

it has also been suggested that they facilitate it (Sarala and Vaara, 2010) or even have a curvilinear relation to it (Ahuja and Katila, 2001; Björkman et al., 2007). In this study we examine the cultural characteristics of the relationship between the acquisition partners: the *target's cultural acceptance* – i.e. the extent to which the target values the acquirer's culture (Schweiger and Goulet, 2005), and the *target's cultural preservation* tendency – the target's desire to protect its own culture after the acquisition (Nahavandi and Malekzadeh, 1988). We focus on the target firm based on the social identity theory, according to which target firm members are particularly likely to perceive the acquisition as a threat to their social identity and to construct notions of “us” versus “them” in order to protect their pre-acquisition identity (Terry and Callan, 1998; Van Knippenberg et al., 2002). Thus, acceptance of the partner's culture and cultural preservation are likely to be particularly important on the target's side because they influence the extent to which the acquirer is viewed as a threat vs. legitimate and acceptable (Nahavandi and Malekzadeh, 1988). We propose that these relationship characteristics influence knowledge transfer through the use of managerial processes of cultural learning and collective teaching initiatives. This addresses a call for research on the more complex and indirect determinants of knowledge transfer (Foss et al., 2010).

We will now discuss in greater detail how cultural learning and collective teaching initiatives influence knowledge transfer in M&As. Then, we will suggest how knowledge characteristics (complementarity and complexity) and relationship characteristics (cultural acceptance and cultural preservation) influence cultural learning and collective teaching initiatives.

HYPOTHESES

Cultural learning initiatives and knowledge transfer

We conceptualize *cultural learning* as a specific form of organizational learning that results from members of both merging firms collectively exploring “the root values and assumptions of both organizations in order to understand why each, as a collective, functions the way it does” (Schweiger and Goulet, 2005: 1480). Thus, cultural learning is explorative learning about the cognitive, emotional, and political aspects of the acquisition partners' organizational cultural identities, which often remain hidden (Schweiger and Goulet, 2005). Cultural learning has both a “collective” aspect because it requires organizational members of both merging firms to come together in order to learn through collective exploration and a “cultural” aspect because it focuses on learning about culture as reflected in organizational values and assumptions. In line with this, *cultural learning initiatives* can be defined as managerially initiated collective activities aimed at simultaneously generating cultural learning on the part of employees in both the acquiring and target firms. These initiatives include both formal and informal activities such as formal cultural seminars where cultural differences are explored and informal gatherings where employees socialize with each other across functional and organizational boundaries (Schweiger and Goulet, 2005). The acting entities in cultural learning are employees of *both* the acquiring and the target firms, who learn together about each other's ways and cultures.

We suggest that cultural learning facilitates knowledge transfer by increasing motivation on the part of the recipient to absorb knowledge from the sender. Kostova and Roth (2002) suggest that the recipient's motivation to take up and make use of the sender's knowledge increases when the sender is viewed as legitimate. Because the “cultural” aspect of cultural learning contributes to a better understanding of *why* the

source organization operates the way it does, the sender and its knowledge is perceived as more legitimate. In turn, the “collective” aspect of bringing individuals together informally from the merging firms in cultural learning generates positive interactions between the members of both organizations. This is essential for bridging organizational cultural differences, building trust and reducing ingroup-outgroup categorizations (Schweiger and Goulet, 2005). We thus suggest that the collective aspect reduces organizational conflict (Lakshman, 2011; Louw and Mayer, 2011; Weber et al., 2011; Weber and Tarba, 2010), which further increases the motivation of the sender and the recipient to participate in knowledge transfer.

Furthermore, cultural learning can increase the ability of the recipient to take up and make use of the sender’s knowledge. For example, Weber and Tarba (2010) argue that successful post-acquisition integration requires the acquisition partners to be aware of the structure, culture and roles of both firms. As mentioned above, cultural learning initiatives help participants understand each other’s assumptions and values (Schweiger and Goulet, 2005). Previous research suggests that valuable knowledge is often complex and culturally embedded (Haspeslagh and Jemison, 1991; Simonin, 1999). By assisting the recipient in understanding the cultural context of the sender’s knowledge, the recipient is better able to take up and make use of this type of knowledge.

Hypothesis 1a: Cultural learning initiatives are positively associated with knowledge transfer from the acquirer to the target.

Hypothesis 1b: Cultural learning initiatives are positively associated with knowledge transfer from the target to the acquirer.

Collective teaching initiatives and knowledge transfer

Collective teaching can be conceptualized as “a process in which members of the source organization collectively impart the knowledge, routines, and mindset of their organization to the individuals of the receiving organization” (Zhao and Anand, 2009: 962). *Collective teaching initiatives* are managerially initiated collective activities that are aimed at improving the dissemination of knowledge. They involve collective participation (e.g. joint meetings and projects) and demonstration (e.g. showing how employees carry out projects as teams) (Zhao and Anand, 2009). Collective teaching initiatives can be carried out by the knowledge sender inviting and hosting organizational members from the receiving firm in specific job-related activities such as on-the-job training or joint projects (Inkpen and Dinur, 1998; Zhao and Anand, 2009). Alternatively, the sender can dispatch a team to the receiving organization to work on-site or to occupy key operational positions (Galbraith, 1990; Zhao and Anand, 2009). In collective teaching, either the acquirer or the target can be the knowledge sender, depending on the goals of the acquisition and whether the focus is on transferring the knowledge of the acquirer or that of the target.

We suggest that collective teaching facilitates knowledge transfer by increasing the recipient’s ability to absorb knowledge from the sender. Collective teaching initiatives allow individuals in the receiving organization to directly observe how the source unit works as a collective to solve complex problems (Zhao and Anand, 2009). On-the-job training has been linked to better skills particularly in cross-cultural situations (Pagon, Banutai, and Bizjak, 2011). By observing and participating in the sender’s daily organizational routines, the receiver gains a more practical understanding of how the sender’s organization works and how to best implement the sender’s knowledge.

Furthermore, Simonin (1999) found that cultural and institutional differences reduced the ability of the receiver to understand the sender's knowledge in organizational alliances. By allowing the receiver "direct access" to the sender's knowledge, collective teaching initiatives provide the receiver with a more practical understanding of the sender's context specific knowledge (Zhao and Anand, 2009), which is likely to increase the receiver's ability to make use of the sender's knowledge (Almor et al., 2009; Weber and Tarba, 2010). With an enhanced understanding of the sender's context specific and organizationally embedded knowledge (Simonin, 1999), the receiver is likely to be better able to adapt the sender's knowledge in its own context. Collective teaching initiatives are thus essential for improving the receiver's understanding of how the sender organization works, which increases the recipient's ability to implement the sender's knowledge.

Hypothesis 2a: The acquirer's collective teaching initiatives are positively associated with knowledge transfer from the acquirer to the target.

Hypothesis 2b: The target's collective teaching initiatives are positively associated with knowledge transfer from the target to the acquirer.

Knowledge complementarity and complexity, cultural learning and collective teaching initiatives

Drawing on the KBV, knowledge is viewed as one of the most central resources for value creation (Spender and Grant, 1996). Value is created when the knowledge bases of the acquirer and the target are combined in ways that result in more valuable combinations than if the firms operated separately (Haspeslagh and Jemison, 1991). More specifically, previous research suggests that *knowledge complementarity* between the merging firms – i.e. when both firms bring unique knowledge that "fills" the other's knowledge gaps (Jap, 1999) – offers the greatest potential for post-acquisition value creation (Eschen and Bresser, 2005; Haspeslagh and Jemison, 1991).

We suggest that specific managerial processes are needed to realize the potential value of complementary knowledge. First, the acquisition partners need to understand the benefits of the partner's knowledge in order to be motivated to transfer it. Second, they need to understand how the partner's knowledge works in order to be able to make use of the knowledge (Weber et al., 2011; Westphal and Shaw, 2005). As suggested in the previous hypotheses, the acquisition partners can use cultural learning and collective teaching initiatives to increase motivation and ability. Thus, we propose that a strategy that focuses on cultural learning and collective teaching initiatives will be used more in acquisitions characterized by a high level of complementary knowledge.

Hypothesis 3a: Knowledge complementarity is positively associated with cultural learning initiatives.

Hypothesis 3b: Knowledge complementarity is positively associated with the acquirer's collective teaching initiatives.

Hypothesis 3c: Knowledge complementarity is positively associated with the target's collective teaching initiatives.

Another important knowledge characteristic is knowledge complexity. It makes knowledge more difficult to imitate and, therefore, more likely to contribute to a sustainable competitive advantage (Barney, 1991). However, complex knowledge is

deeply embedded in an organization's culture (Lam, 1997) and linked to various interdependent structures, individuals and processes (Simonin, 1999) and therefore transferring it requires more articulation and explanation (Minbaeva, 2007). We propose that a high level of knowledge complexity increases the need for the managerial processes of cultural learning and collective teaching in order to enhance organizational members' understanding of each others' underlying organizational cultures and of interpersonal routines in which the knowledge is embedded. More specifically, because cultural learning initiatives provide the receiving firm with a better understanding of the sender's culture (Schweiger and Goulet, 2005), they are likely to support the transfer of the source's complex culturally embedded knowledge. By allowing members of the receiving firm to observe how the sending firm members' work together as a collective (Zhao and Anand, 2009), collective teaching initiatives are also likely to support the transfer of complex knowledge that is part of interpersonal routines. Hence, we suggest that the acquisition partners are likely to initiate cultural learning and collective teaching when they perceive their knowledge to be complex, in order to facilitate the transfer of this knowledge.

Hypothesis 4a: The complexity of the acquirer's knowledge is positively associated with cultural learning initiatives.

Hypothesis 4b: The complexity of the acquirer's knowledge is positively associated with the acquirer's collective teaching initiatives.

Hypothesis 4c: The complexity of the target's knowledge is positively associated with cultural learning initiatives.

Hypothesis 4d: The complexity of the target's knowledge is positively associated with the target's collective teaching initiatives.

Cultural acceptance, cultural preservation, cultural learning and collective teaching initiatives

While most research on culture in M&As has focused on exploring cultural differences as triggers of organizational conflict (Buono and Bowditch, 1989; Weber, Shenkar, and Raveh, 1996; Weber and Tarba, 2011), a shift to cultural factors that determine the conflict potential of these differences is increasingly called for (Teerikangas and Very, 2006; Weber et al., 2011). Accordingly, we identify the *target's cultural acceptance* and the *target's cultural preservation* as important characteristics that influence the relationship that develops between the acquirer and the target (Nahavandi and Malekzadeh, 1988; Schweiger and Goulet, 2005). Because previous research suggests that these factors are particularly important on the target's side (Nahavandi and Malekzadeh, 1988), we will focus on examining the *target's* acceptance of the acquirer's culture and the *target's* cultural preservation.

Building on Schweiger and Goulet (2005), we define the *target's cultural acceptance* as the extent to which individuals in the target firm value and respect the acquirer's culture. While the target's positive perceptions of the acquirer's culture can create an atmosphere that encourages collaboration (Birkinshaw et al., 2000), the absence of cultural acceptance can lead to organizational conflict (Nahavandi and Malekzadeh, 1988). We suggest that the target's cultural acceptance will influence the extent to which the target is motivated to initiate and participate in managerial processes that involve the acquiring firm. More specifically, when the target perceives the acquirer's culture as valuable, it is more likely to consider the acquirer's culture worth learning

about and therefore more willingly contribute to initiating and participating in cultural learning initiatives. Similarly, a high opinion of the acquirer's culture is likely to reduce the two "fears" identified by Empson (2001): the fear of being "exploited" as a result of departing from knowledge and the fear of being "contaminated" by the acquirer's inferior knowledge. We propose that this will encourage the target to both initiate collective teaching and to participate in the acquirer's collective teaching initiatives.

Hypothesis 5a: The target's acceptance of the acquirer's culture is positively associated with cultural learning initiatives.

Hypothesis 5b: The target's acceptance of the acquirer's culture is positively associated with the acquirer's collective teaching initiatives.

Hypothesis 5c: The target's acceptance of the acquirer's culture is positively associated with the target's collective teaching initiatives.

In addition, we suggest that the target's cultural preservation after the acquisition will reduce its willingness to initiate and participate in cultural learning and collective teaching. We define *cultural preservation* as the desire to protect the pre-acquisition culture from the cultural influences of the acquiring firm (Nahavandi and Malekzadeh, 1988). Cultural preservation arises from viewing the acquirer as a threat to the target's pre-acquisition identity (Terry and Callan, 1998). The negative consequences of cultural preservation include ingroup-outgroup categorizations and increased organizational conflict (Nahavandi and Malekzadeh, 1988; Sarala, 2010). A resulting hostile atmosphere between the firms reduces the target's willingness to initiate and participate in cultural learning and collective teaching. Over time, this may also decrease the acquirer's motivation to initiate these types of collective managerial processes.

Hypothesis 6a: The target's cultural preservation is negatively associated with cultural learning initiatives.

Hypothesis 6b: The target's cultural preservation is negatively associated with the acquirer's collective teaching initiatives.

Hypothesis 6c: The target's cultural preservation is negatively associated with the target's collective teaching initiatives.

The theoretical propositions are presented in Figure 1.

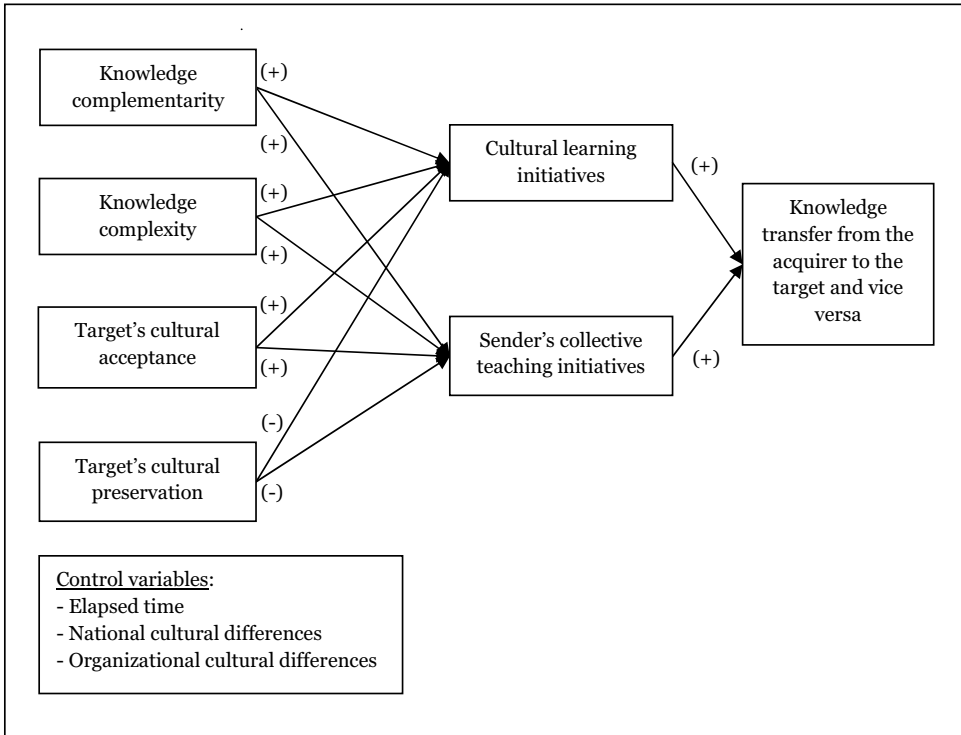


Figure 1 Theoretical model of knowledge transfer in M&As

METHOD

Data collection

We conducted two surveys – one in 2010 and another in 2011 – of acquisitions by Finnish companies in Finland and abroad during the period from January 2006 to September 2009 and October 2009 to September 2010. The acquisitions were identified from a list maintained by the Finnish business magazine *Talouselämä* of all acquisitions conducted by Finnish companies. We contacted the CEOs of the acquiring firms by e-mail and asked them to identify respondents who had played a key role in the acquisition, including themselves, other high level managers and/or board members. This ensured that the respondents had enough knowledge about the acquisitions to complete the questionnaire. Then, we e-mailed the survey to these respondents. To decrease the likelihood of common method variance (CMV), we emphasized confidentiality, used pre-validated measures, scattered the questions in the questionnaire, conducted complex analysis methods and tested for CMV effects (Chang, van Witteloostuijn, and Eden, 2010).

The final data set included 123 responses from 106 acquisitions and the response rate was 17% for the first survey round and 18% for the second round: 87 were from the acquirer and 36 from the target. We received 93 single responses and 19 multiple responses. We conducted inter-rater reliability tests for multiple responses by calculating intraclass correlation coefficients. The results showed a high level of inter-

rater reliability between multiple answers in most of the cases⁵⁴. We thus used the average scores of the multiple responses in the data analyses. The responses were from domestic acquisitions (69 cases) and cross-cultural acquisitions (37 cases). A Finnish company was the acquirer in all cases, and 81% of the responses from cross-cultural acquisitions involved a European target. The distribution of the responses from the cross-cultural acquisitions was: Australia (1 acquisition), Belarus (1), Canada (2), the Czech Republic (1), Denmark (2), Estonia (1), France (2), Germany (2), the UK (1), Italy (2), Latvia (2), Lithuania (3), the Netherlands (1), Norway (2), Poland (4), Russia (1), Spain (1), Sweden (5), and the USA (3).

Dependent variables

Knowledge transfer from the acquirer to the target

We asked respondents to what extent the acquirer's knowledge had been used in the target in the following areas: i) general management expertise, ii) product innovation capabilities, iii) know-how in manufacturing processes, iv) sales and marketing expertise, v) supplier relations, and vi) distribution and logistics expertise (Capron, 1999) (1="not at all" to 7="very much").

Knowledge transfer from the target to the acquirer

Similar to the construct above, we asked respondents to estimate to what extent the target's knowledge had been used by the acquirer. We used the above 7-point scale.

Independent variables

Knowledge complementarity

Based on Jap (1999), the respondents assessed the complementarities between the acquirer's and target's knowledge by responding to the following statements: The acquirer and target i) contribute different capabilities to the relationship, ii) have complementary strengths that are useful to the relationship, iii) have separate abilities that, when combined together, enable them to achieve goals beyond their individual reach (1="strongly disagree" to 7="strongly agree").

Complexity of the acquirer's knowledge

The respondents were asked to describe the knowledge residing in the acquiring company that could be used in the target company (Haspeslagh and Jemison, 1991; Lam, 1997; Minbaeva, 2007; Simonin 1999): The knowledge is i) a part of various structures and processes, ii) deeply embedded in the acquirer's culture, iii) consists of highly interdependent routines, individuals and technologies (1="do not agree" to 7="completely agree").

Complexity of the target's knowledge

Similar to the previous construct, we asked respondents to describe the complexity of the target's knowledge using the above 7-point scale.

⁵⁴ However, in order to improve the reliability of the data, we removed two cases from the analysis for which the coefficients were not significant (e.g. Lubatkin et al., 1998).

Target's acceptance of the acquirer's culture

Based on Schweiger and Goulet (2005), the respondents evaluated: To what extent did the personnel of the target company i) think that the acquirer's culture has valuable aspects, ii) see why their colleagues at the acquiring company are proud of their organizational culture and iii) think that there are parts of the acquiring company's culture that they like and would enjoy working within (1="not at all" to 7="very much").

Target's cultural preservation

To measure the target's cultural preservation, we considered the extent to which the target wanted to protect i) its own culture and ii) organizational practices (Nahavandi and Malekzadeh, 1988; Sarala, 2010) (1="not at all" to 7="very much").

Mediating variables

Cultural learning initiatives

Based on Schweiger and Goulet (2005), we included four questions: To what extent have the acquirer and target arranged i) for supervisors from the acquiring and target companies to introduce members of each company to each other, ii) informal gatherings (such as picnics, excursions or parties) for all employees from the acquiring and target companies, iii) cultural awareness seminars to explore cultural differences between the acquirer and target, and how they can be managed, iv) activities to decide which cultural attributes should be retained, eliminated or adopted, and how to integrate the acquirer's and target's cultures (1="not at all" to 7="very much").

Acquirer's collective teaching initiatives

Adapting the construct of Zhao and Anand (2009), the respondents were asked the following: To what extent did the acquiring company i) involve the target in their cross-functional meetings, ii) involve the target to carry out joint projects with its employees, iii) demonstrate to the target how its employees resolve cross-functional issues as a team, and iv) demonstrate to the target how its employees jointly plan and carry out projects (1="not at all" to 7="very much").

Target's collective teaching initiatives

Similar to the construct above, we measured the extent to which target involved the acquirer in the types of activities listed above (1="not at all" to 7="very much").

Control variables

Elapsed time

A stronger social community is likely to develop in later stages of integration, which can influence knowledge transfer (Bresman et al., 1999). Thus, we controlled for the number of years that had passed after the acquisition (1-4 years).

Organizational cultural differences

Organizational cultural differences have been linked to knowledge transfer in acquisitions (Ahuja and Katila, 2001; Lam, 1997). We measured perceived organizational cultural differences in i) management and control, ii) sales and marketing, iii) production, iv) research and development, v) company values in general, and vi) values of the decision makers (“no differences” and 7=“significant differences”).

National cultural differences

Knowledge transfer may be influenced by national cultural differences (Junni, 2001). We used an average of the GLOBE practices scores between Finland and the target country (House et al., 2004).

RESULTS

We used partial least squares (PLS) analysis with the SmartPLS program (Ringle, Wende, and Will, 2005). PLS is an established method in management research (Birkinshaw, Morrison, and Hulland, 1995; Meznar and Nigh, 1995) and better suited for estimating complex models (Henseler, Ringle, and Sinkovics, 2009) than regression analysis. Also, PLS is accurate for smaller sample sizes (Gefen, Straub, and Boudreau, 2000) and takes all path coefficients and item loadings into account simultaneously which minimizes parameter estimates biases (White, Varadarajan, and Dacin, 2003).

Model fit

Unlike other structural equation models, PLS does not use fit indices such as CFI, TLI and RMSEA (Braunscheidel, Suresch, and Boinsier, 2010; Gefen et al., 2000). In PLS, the measurement model is evaluated by calculating reliability and validity statistics such as composite reliability, standardized factor loadings, average variance, and cross-loadings (Braunscheidel et al., 2010; Gefen et al., 2000; Ko, Kirsch, and King, 2005; Lee and Tsang, 2001). The overall fit of the structural model (Figure 2) is assessed by the level of variance explained (R^2) by each construct (Braunscheidel et al., 2010; Gefen et al., 2010). Furthermore, the significance of each structural path is established by a path beta coefficient and its corresponding t -statistic (p -value), and effect size (f^2) (Braunscheidel et al., 2010; Gefen et al., 2000). In the following, these fit statistics are reported for our measurement and structural models.

Reliability and validity

Concerning reliability, the Cronbach's alphas exceeded 0.60 (Nunnally, 1967)⁵⁵, the composite reliability for each construct was over 0.60 and the standardized factor loadings of most items were above 0.7 (Henseler et al., 2009)⁵⁶ (see Table 1).

⁵⁵ Nunnally (1967) has recommended that Cronbach alpha be equal to or greater than 0.6 for research purposes (Minbaeva, 2007).

⁵⁶ While standardized factor loadings of individual items that are equal to or greater than 0.7 indicate high item reliability, items below this threshold should not be removed from the analysis unless their standardized factor loadings are below 0.4, and removing the item greatly increases composite reliability

Constructs	Cronbach's alpha	Composite reliability	Average variance extracted	Range of factor loadings
Elapsed time	1.00	1.00	1.00	1.00
Organizational cultural differences	0.80	0.86	0.51	0.60-0.86
National cultural differences	1.00	1.00	1.00	1.00
Cultural learning initiatives	0.79	0.86	0.61	0.71-0.85
Acquirer's collective teaching initiatives	0.90	0.93	0.77	0.86-0.93
Target's collective teaching initiatives	0.93	0.95	0.82	0.91-0.95
Knowledge complementarity	0.72	0.84	0.64	0.70-0.88
Complexity of acquirer's knowledge	0.66	0.81	0.58	0.74-0.86
Complexity of target's knowledge	0.66	0.79	0.56	0.55-0.88
Target's cultural acceptance	0.86	0.91	0.78	0.85-0.95
Target's cultural preservation	0.86	0.93	0.87	0.92-0.99
Knowledge transfer from acquirer to target	0.85	0.89	0.57	0.71-0.85
Knowledge transfer from target to acquirer	0.83	0.87	0.54	0.69-0.84

Table 1 Assessment of constructs

Convergent validity was supported by average variance greater than 0.50 for all constructs (Fornell and Larcker, 1981). Discriminant validity was established by the square root of average variance exceeding all corresponding correlations (Fornell and Larcker, 1981) and cross loadings showing that all items loaded highest on their respective constructs (White et al., 2003). The descriptive statistics and correlations are presented in Table 2.

We tested for possible CMV by conducting Harman's single factor test. Items were entered into an exploratory, unrotated principal component analysis. The resulting first and second factors explained low levels of variance (19% and 12%), which suggests that CMV is not a significant problem (Podsakoff and Organ, 1986).

(Henseler et al., 2009). While 2 items were below 0.7, none of them were below 0.4. Also, removing these items did not substantially increase composite reliability.

Constructs	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Elapsed time	0.000	1.000	(1.000)												
2. Organizational cultural differences	0.002	0.714	0.120	(0.713)											
3. National cultural differences	0.000	0.709	0.073	0.097	(1.000)										
4. Cultural learning initiatives	0.000	0.783	-0.097	0.151	0.033	(0.779)									
5. Acquirer's collective teaching initiatives	-0.003	0.878	-0.063	0.040	0.121	0.568	(0.876)								
6. Target's collective teaching initiatives	-0.003	0.910	0.031	-0.140	0.086	0.263	0.418	(0.908)							
7. Knowledge complementarity	0.000	0.802	-0.329	0.045	0.025	0.345	0.343	0.326	(0.803)						
8. Complexity of acquirer's knowledge	0.007	0.771	-0.104	-0.041	0.215	0.238	0.297	0.079	0.194	(0.763)					
9. Complexity of target's knowledge	0.000	0.773	0.004	0.029	0.117	0.183	0.152	0.008	0.187	0.376	(0.749)				
10. Target's cultural acceptance	0.000	0.883	-0.034	-0.234	0.040	0.035	0.156	-0.119	-0.006	0.012	-0.062	(0.882)			
11. Target's cultural preservation	0.000	0.937	0.137	-0.204	-0.074	-0.250	-0.189	-0.058	0.144	-0.094	0.242	0.033	(0.933)		
12. Knowledge transfer from acquirer to target	0.007	0.755	-0.070	0.166	-0.067	0.352	0.506	0.069	-0.065	0.206	0.054	0.252	-0.271	(0.752)	
13. Knowledge transfer from target to acquirer	0.003	0.738	-0.137	-0.138	-0.073	0.316	0.392	0.400	0.418	0.104	0.264	0.080	0.192	0.186	(0.733)

Numbers in brackets denote the square root of the average variance extracted (all constructs are reflective). Values are based on standardized variables. N = 104

Table 2 Descriptive statistics and correlations

Structural model

The R^2 scores of knowledge transfer from the acquirer and from the target were acceptable: 0.30 and 0.24 (Henseler et al., 2009). R^2 scores for cultural learning initiatives (0.27), and the collective teaching initiatives of the acquirer and target (0.26 and 0.23) were also acceptable. Taken together, these values suggested a good overall fit of the structural model. Concerning the significance of the model paths, cultural learning initiatives were positively related with knowledge transfer from the target to the acquirer ($\beta=0.237$, $p<0.01$, $f^2=0.07$), but not with knowledge transfer from the acquirer to the target. Thus H1b was supported but H1a was not. The acquirer's collective teaching initiatives were positively associated with knowledge transfer from the acquirer ($\beta=0.483$, $p<0.001$, $f^2=0.21$) and target's collective teaching initiatives positively related with knowledge transfer from the target ($\beta=0.334$, $p<0.001$, $f^2=0.13$), thereby supporting H2a and H2b.

Knowledge complementarity was positively related to cultural learning initiatives ($\beta=0.366$, $p<0.001$, $f^2=0.15$) and to the acquirer's and the target's collective teaching initiatives ($\beta=0.377$, $p<0.01$, $f^2=0.21$ and $\beta=0.444$, $p<0.001$, $f^2=0.15$), thereby supporting H3a, H3b and H3c. The complexity of the acquirer's knowledge was positively related to the acquirer's collective teaching initiatives ($\beta=0.204$, $p<0.05$, $f^2=0.05$), but not to cultural learning initiatives, thereby supporting H4a but not 4b. The complexity of the target's knowledge was not related to the target's collective teaching initiatives or to cultural learning initiatives (H4c-d). The target's acceptance of the acquirer's culture was related to the acquirer's collective teaching initiatives ($\beta=0.167$, $p<0.05$, $f^2=0.03$), thereby supporting H5b. Conflicting H5c, the target's acceptance of the acquirer's culture was weakly negatively related to the target's collective teaching initiatives ($\beta=-0.172$, $p<0.1$, $f^2=0.04$), and not related to cultural learning initiatives (H5a). Finally, the target's cultural preservation was negatively associated with cultural learning initiatives ($\beta=-0.336$, $p<0.001$, $f^2=0.11$), with the acquirer's collective teaching initiatives ($\beta=-0.243$, $p<0.05$, $f^2=0.04$), and weakly negatively associated with the target's collective teaching initiatives ($\beta=-0.185$, $p<0.1$, $f^2=0.04$). Thus, H6a and H6b were supported and H6c was weakly supported.

Out of the control variables, elapsed time was positively related to the target's collective teaching initiatives ($\beta=0.223$, $p<0.05$, $f^2=0.05$), organizational cultural differences were negatively related to the target's collective teaching initiatives ($\beta=-0.271$, $p<0.05$, $f^2=0.08$) and weakly positively to knowledge transfer from the acquirer ($\beta=0.158$, $p<0.1$, $f^2=0.03$), whereas national cultural difference were negatively related to knowledge transfer from the acquirer ($\beta=-0.140$, $p<0.05$, $f^2=0.02$).

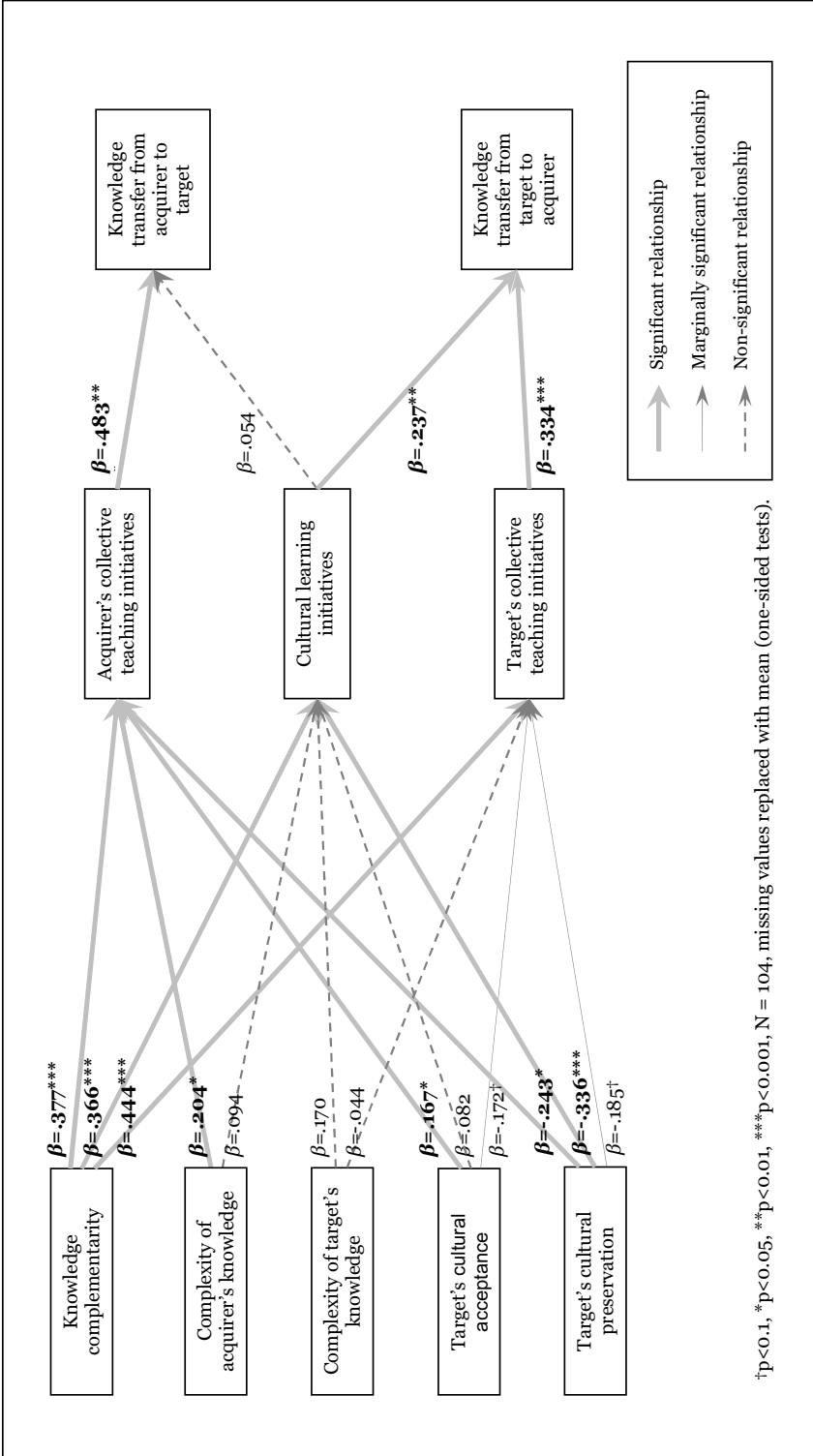


Figure 2 The result of the PLS analysis

DISCUSSION

Our aim in this paper was to contribute to the literature on knowledge transfer in M&As by modelling it as consisting of two-directional knowledge flows (knowledge transfer from the acquirer to the target and vice versa) that are influenced by knowledge characteristics (complementarity and complexity) and relationship characteristics (cultural acceptance and preservations) through their impact on managerial processes (cultural learning and collective teaching initiatives). This answers the call of previous M&A research to focus on the influence of specific managerial processes on M&A value creation and to examine the factors that determine the use of these managerial processes (Haleblian et al., 2009; Zollo and Singh, 2004).

By examining knowledge flows from the target to the acquirer and vice versa, we were able to establish that *collective teaching* benefits knowledge transfer in both directions. This suggests that collective teaching through observing how the source unit collectively solves complex problems improved the recipient's understanding of the sender's knowledge and facilitated its implementation in the recipient organization. We attribute this to the general effect of collective teaching in allowing the recipient to gain a more "practical" understanding of the sender's knowledge which facilitates knowledge transfer. Concerning *cultural learning*, we found that this managerial process was particularly well suited for increasing knowledge transfer from the *target to the acquirer*. We think that the primary effect was through increased motivation: engaging in "non-threatening" collective activities and cultural explorations motivated the target to depart from its knowledge. At the same time, the acquirer was able to learn more about target's culture in order to better identify and implement the target's culturally embedded knowledge. However, contrary to our expectations, cultural learning did not increase knowledge transfer from the *acquirer to the target*. This type of knowledge transfer may have been unaffected mainly because motivational problems were less prevalent in the acquirer to begin with. In fact, previous research indicates that negative employee reactions to the M&A are most often experienced in the target firm (Terry and Callan, 1998; Van Knippenberg et al., 2002), which makes the creation of a "social community" especially relevant in the target (Bresman et al., 1999). These differing effects of cultural learning point to the importance of including both directions of M&A knowledge transfer in models instead of lumping them together or only focusing on one-directional knowledge flows, as has often been done in the previous literature.

Regarding the antecedent of the managerial processes of cultural learning and collective teaching, *knowledge complementarity* emerged as the strongest factor. This implies that, in the presence of complementary knowledge, managers focus on supporting knowledge transfer by both learning and teaching initiatives. Whereas previous research has proposed that knowledge complementarity facilitates knowledge transfer in acquisitions by increasing knowledge transfer potential (Björkman, Stahl, and Vaara, 2007; Westphal and Shaw, 2005), our study expands these previous findings by suggesting that complementarities also influence knowledge transfer through increased managerial agency: resource interdependencies such as complementary knowledge influence the post-acquisition implementation strategy by prompting managers to focus on post-acquisition initiatives related to cultural learning and collective teaching. These managerial actions are, in turn, essential for value creation in terms of knowledge transfer as discussed in the previous paragraph.

While we examined *knowledge complexity* separately in both the acquirer and the target, we only found a significant positive link between the complexity of the *acquirer's* knowledge and the use of acquirer's collective teaching. This suggests that the acquirer realized that, in order to break down its complex knowledge, "hands-on" collective teaching initiatives were essential. We find it interesting that we did not find a similar link between the *target's* complex knowledge and target's collective teaching. One explanation could be that the acquirer did not initially realize the full complexity of the target's knowledge and was less supportive of these initiatives on the target's side. Alternatively, the target may have resisted collective teaching to protect its complex, valuable knowledge, which may have been viewed as an important part of the target's knowledge-based power (Empson, 2001; Junni, 2011). It is also interesting to note that neither the complexity of the acquirer's nor the target's knowledge resulted in increased use of cultural learning. This suggests that focusing on cultural aspects was not considered important in transferring complex knowledge. However, considering our earlier findings of cultural learning as a key mechanism in transferring the *target's* knowledge to the acquirer, cultural learning may be an under-utilized managerial process to transfer the target's complex knowledge.

Concerning relationship characteristics, in line with our hypothesis, the *target's acceptance of the acquirer's culture* increased the acquirer's collective teaching initiatives. In other words, when the target viewed the acquirer's culture as valuable, it was likely to be more willing to participate in the acquirer's collective teaching initiatives, encouraging the acquirer to arrange more of these kinds of activities. This may have been due to the target's reduced fear of being "contaminated" by the acquirer (Empson, 2001). However, contrary to what we expected, the *target's acceptance of the acquirer's culture* did not increase, but slightly decreased the target's collective teaching initiatives. This finding may be explained by the target's "admiration" of the acquirer (Hogg and Terry, 2000), which encouraged it to learn the acquirer's practices through acquirer's collective teaching, rather than to disseminate its own practices. However, the target's acceptance of the acquirer's culture did not result in increased cultural learning initiatives. Perhaps it was perceived that these kinds of initiatives were less needed because the target was already favourable towards the acquirer's culture. Alternatively, the target's acceptance of the acquirer's culture may have allowed dismantling of the target's culture entirely (Nahavandi and Malekzadeh, 1988), making reciprocal cultural explorations unnecessary.

As to the *target's cultural preservation*, we established that it decreased cultural learning and collective teaching initiatives, although the relationship was only weakly significant for the target's teaching initiatives. This was likely to result from the target's general resistance to participate in teaching initiated by the acquirer that could have potentially "contaminated" the target's knowledge base (Empson, 2001; Junni, 2011). The target may also have resisted initiating and participating in cultural learning because of the desire to protect its culture from an "invasion" of the acquirer and to protect its culturally embedded knowledge.

In conclusion, our study illustrates some of the complex influence mechanisms of knowledge transfer in M&As. First, the managerial processes of cultural learning and collective teaching are both beneficial. This emphasized the general importance of taking into account how the management of the integration process influences post-acquisition outcomes (Haleblian et al., 2009; Zollo and Singh, 2004). Second, these managerial processes are influence both by knowledge and relationship characteristics. The positive relationships between knowledge characteristics (complementarity and complexity) and the managerial processes of cultural learning and collective teaching

highlights the importance of considering the impact of initial knowledge transfer potential of the post-acquisition integration strategy (Haspeslagh and Jemison, 1991).

Finally, as called for in previous studies (Teerikangas and Very, 2006; Björkman et al., 2007), this study elaborates on the important role of culture in M&As in general and in M&A knowledge transfer in particular, by illustrating the positive/negative effects of the target's cultural acceptance/preservation.

As to the limitations of our study, we relied mostly on subjective evaluations of high level managers, many of them from the acquiring firm. Although we believe that these managers were able to provide realistic evaluations because of their intimate knowledge of and participation in the integration process, we hope that our study inspires more research on these issues with more balanced samples of the acquiring and target firms as well as at the lower organizational levels. In addition, even though our sample provides enough statistical power and compares relatively well with samples used in similar studies (e.g. Ranft and Lord, 2000; Simonin, 1999), the findings are based on a relatively small number of respondents. Furthermore, the responses we obtained pertained to acquisitions conducted by Finnish firms. Previous studies suggest that the nationality of the acquirer can impact the extent to which managerial processes – such as cultural learning and collective teaching initiatives – are used (Child, Faulkner and Pitkethly, 2000; Weber, Tarba and Reichel, 2011), as well as the impact that such processes have on acquisition performance (Weber, Rachman-Moore and Tarba, 2011). Future studies could extend this research by examining which types of managerial processes are used by acquirers of other nationalities to facilitate knowledge transfer, as well as whether the impact of these processes varies depending on the nationality of the acquirer. Furthermore, previous research indicates that the effects of different factors – such as cultural differences and integration – differ between international and domestic acquisitions (Weber, Shenkar and Raveh, 1996). Future research could therefore also examine whether the impact of managerial processes such as cultural learning and collective teaching initiatives on M&A knowledge transfer differs depending on the geographic scope of the acquisition. Finally, we relied on quantitative data. Further qualitative studies are needed to complement our study in order to provide more in-depth and longitudinal analysis of dynamic learning and teaching processes.

Our study also has managerial implications. Most importantly, knowledge transfer can be effectively facilitated by appropriate managerial processes. Collective teaching is important when transferring knowledge in both directions and cultural learning is particularly beneficial for knowledge transfer from the target to the acquirer. Thus, it is important to support the integration process with these types of collective efforts and adjust them depending on the desired direction of knowledge transfer. Second, complementary knowledge is related to the increased use of both cultural learning and collective teaching initiatives, which suggests that managers are aware of the importance of collective processes in turning the value potential of complementary knowledge into actual knowledge transfer. However, our study shows that cultural learning initiatives were not increasingly used when the knowledge base was complex and collective teaching was only increased when the acquirer's knowledge was complex. This suggests that the types of collective initiatives discussed in our study may be underutilized mechanisms in transferring valuable, but complex knowledge. Finally, while cultural acceptance can increase the acquirer's collective teaching initiatives, cultural preservation tendencies can have a profound negative effect on post-acquisition integration by limiting the extent to which the collaborative processes of cultural learning and acquirer's collective teaching initiatives can be used.

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