LIMITATIONS OF THE NETWORK ORGANIZATION IN MNCs

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Abstract

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This paper discusses the limitations of the network organization in MNCs. Since many IB/IM publications have concentrated on the advantages of this organizational form, the focus of the paper is on limitations that might occur if MNCs use a network organization. Four types of problems are identified: (1) problems referring to knowledge transfers between MNCs' subunits, (2) problems referring to trust-building and corporate culture within MNCs, (3) problems referring to subsidiary development and subsidiary managers' stress, and (4) further problems of a more general nature. Due to the relevance of these problems, it is expected that, at least on the long run, the network organization will not be able to replace formal organizational structures for MNCs. Instead, the network organization will more likely serve as an additive organizational instrument supporting the information-processing capacity of MNCs' formal organizational structure. Further, because of the ongoing importance of the formal organizational structure for MNCs, the paper specifies in which ways it can help to reduce the limitations of the network organization. Finally, the paper argues that the formal matrix structure should be considered more intensively in the future.

LIMITATIONS OF THE NETWORK ORGANIZATION IN MNCs

Twenty-five years ago, international management scholars began to discuss the network organization as a promising alternative for organizing multinational corporations (MNCs) – especially for those MNCs that are highly internationalized and operate in diverse settings. This discussion was primarily influenced by publications of Hedlund (1986) and Bartlett and Ghoshal (1989). These and other prominent publications have led many scholars to believe that the network organization is more appropriate for MNCs than hierarchical organizational forms, previously dominating the literature.

Over the years, more and more scholars have begun to share this view. The number of publications on network organizations has increased dramatically over time, just like the exponential development of the number of publications refering to social networks (Borgatti/Foster 2003). This has led to a situation where the network organization dominates the discussion of organizing MNCs today. Many scholars, at least implicitly, assume the network organization to be a superior model to differentiate and coordinate MNCs. For instance, Bartlett and Ghoshal (1989) argue that the network organization is the organizational form which best fits a transnational strategy, which they claim will be the dominant strategy of the future. In numerous publications and conference presentations, scholars frequently use terms like “network”, “networking”, “crosslinking”, “network building”, “lateral organization”, or “horizontal organization”. Over time, such words became familiar quotations, and – as a consequence – are often used without carefully evaluating their content. This resulted in an unbalanced discussion of the subject, where many publications outline the merits of the network organization, while ignoring its disadvantages and problems.

Given the low level and the imbalance of the discussion on the network organization in the international management literature, the goal of the present paper is to specify the limitations of the network organization for MNCs. In this paper, we show that the use of the network organization in MNCs can lead to severe shortcomings. We argue that MNCs offer a "milieu" where the problems of the network organization become especially considerable. By elaborating these specific downsides of the network organization for MNCs, we want to develop the context for a more well-balanced discussion of the network organization within the context of international business.

The structure of this paper is as follows. First, we will define the term "network organization". After that, we will briefly summarize the main fields of application and the strengths of this organizational form as they are expected in the literature. In the subsequent section, we will outline and explain the limitations of the network organization for MNCs. This discussion will concentrate on the unique situation that exists in MNCs. It will be shown that the limitations of the network organization refer to different areas. In the paper's final section, we will explain why formal organizational structures remain important for MNCs, which of them deserve the highest interest, and how these structures can compensate the limitations typical of the network organization.

DEFINITION OF THE TERM "NETWORK ORGANIZATION"

Although there are many publications on the network organization as a means of defining the responsibilities and interactions of firms' managers (in the context of MNCs e.g., Bartlett/Ghoshal 1989; Ghoshal/Bartlett 1990; Jarvenpaa/Ives 1994; Malnight 1996; O'Donnell 2000) there are very few offering a formal definition of the term *"network organization"*. This is somewhat astonishing since the construct "network" itself is frequently defined (e.g., as "a set of nodes linked by a set of social relationships of a specific type" (Birkinshaw 2000, p. 7)). Baker's (1992) broad definition in his frequently cited article belongs to the exceptions; he describes the network organization as "a market mechanism that allocates people and resources to problems and projects in a decentralized manner" (p. 398). In publications on the organization of MNCs, formal definitions of the term "network organization" are also scarce: Ghoshal and Bartlett (1990) define it as „an organization which is internally differentiated in complex ways" and "… as a result of such dispersal and differentiation, possess internal linkages and coordination mechanisms that represent and respond to many different kinds and extents of dependency and interdependency interunit exchange relationships" (p. 604). Malnight (1996) adds to this that network organizations "are reflecting an integrated worldwide strategy through globally distributed but interdependent resources and activities" (p. 43). They are "expanding horizontal linkages between dispersed operating units through an expanding array of organizational mechanisms" (p. 46).

There are at least four reasons, why, in literature, no dominant definition of the term has emerged: *First*, in business, network organizations exist both within firms (internal networks) and between firms (external networks) (Miles/Snow 1992; Brass et al. 2004), so it cannot be assumed that this organizational form is coherent in itself (the present paper refers to the internal network organization). *Second*, both in the area of external and internal network organizations, there are many different types, which, in some publications, are clustered as archetypes. For instance, Ronald Burt (1980), in an early publication, identified six different types of network organizations. Other scholars came up with other types. *Third*, since the network organization is more informal than hierarchical organizational structures, it is very difficult to analyze it empirically. And *fourth*, as mentioned above, there are numerous publications about this organizational form in the literature, and this abundance has led to very different opinions. As a consequence of these varieties, it is difficult to specify the phenomenon "network organization" sufficiently within a format of one or two sentences. Instead, it is more fruitful to characterize the network organization on the basis of a list of attributes typically associated with it.

- First, in network organizations, there is *no dominance of vertical relationships*. Whilst such relationships prevail in traditional hierarchical organizational structures, in network organizations, there are numerous direct (horizontal) links between organizational subunits which are neither hierarchically sub- nor superordinated. This direct links might refer to the cooperation of managers at peer hierarchical levels as well as to an independent flow of resources between subunits of the same hierarchical level. Thus, in principle, the network organization is less-hierarchical. In the case of MNCs, this means that managers from different (foreign) subsidiaries cooperate intensively without using the hierarchical channel provided by the headquarters of the MNC. Moreover, it is assumed that the subsidiaries exchange material and immaterial resources frequently (Bartlett/Ghoshal 1989).
- Second, the structure of the organization and the whole firm is heavily influenced by *social relationships* existing between human beings. Whilst hierarchical structures

mainly rest on regulatory control measures, in network organizations, these measures are largely complemented by factors like "shared values" and "trust". These factors serve as important coordination instruments, since, within the firm, performance and reward are usually separated in time. The reciprocity of value performance is caused by fear for reputation (Powell 1990). In international business, numerous scholars, starting with Edström and Galbraith (1977), have portrayed the important role of social relationships, shared values, and trust as means of coordinating MNCs. Bartlett, Ghoshal, and Birkinshaw (2005) argue that network-organized MNCs have a psychology of a shared understanding of and respect for the company's mission and objectives combined with non-parochial, collaborative attitudes.

- Third, in *communication processes, informal elements* play an important role. The communication pathways and relationships between subunits do not necessarily conform to the formal chain of command and communication networks of an organization. Actors mainly send or receive information not within official meetings or decision arenas, but in ad-hoc meetings and unplanned personal dialogues. Discussions, verbal exchanges, notes, or memorandums adhere less strictly to rules and conventions. The role of informal communication processes in MNCs is discussed in several studies. For instance, Ghoshal, Korine, and Szulanski (1994) argued that lateral interpersonal networking is an important element in managing information flows within MNCs.
- Fourth, the *interconnectedness of the organizational subunits is looser* than in hierarchical structures. In network organized firms, the subunits share either few variables or the common variables are relatively weak compared to other variables

influencing the system (Beekun/Glick 2001). Hedlund (1986) describes this looseness of coupling between organizational subunits as a key element of the heterarchical MNC. He argues that such freedom is necessary to facilitate “profiting from the opportunities provided by global reach” (p. 23).

- Fifth, within the network organization, there is a tendency towards *spontaneous coordination*. There is no stable pattern within the coordination instruments used. Network organizations tend to re-configure the spectrum of coordination instruments as soon as the context changes. Consistent with this view, Hedlund (1986) interprets the heterarchical MNC as a meta-institution which continuously creates new institutional arrangements, in the light of expertise concerning what works best for each specific purpose.
- Sixth, within network organizations, there is often a relatively *high degree of heterogeneity*. Frequently, the network’s subunits differ significantly in terms of factors like size, age, or level of integration. With respect to MNCs, Nohria and Ghoshal (1997) describe this with their “differentiated network model”. They show that MNCs like Philips or Procter and Gamble consist of very different foreign subsidiaries. They vary not only with respect to formal factors like size and age, but also with respect to the degree of external control or the density of inter-subsidiary relationships.
- And seventh, network organizations *grow gradually*. They are not planned and “set” by an overarching planning and design unit. They emerge over time and they grow out of their own substance. They are dynamic, growing one link at a time (Jones/Hesterly/Borgatty 1997). For instance, Hite and Hesterly (2001) have shown

that networks, as they move into the early growth stage, evolve toward more ties based on a calculation of economic costs and benefits. In a similar vein, several empirical studies published in Birkinshaw and Hood (1998a) haven shown that the function and role of MNCs' foreign subsidiaries vary during their existence. Usually, they go through processes of accumulation and depletion of resources/capabilities at the subsidiary level (Birkinshaw/Hood 1998b). Such changes at the subsidiary level lead to a change in the whole MNC's network configuration.

Whilst the first three attributes are defining elements of the term network organization, the latter are more characteristics which are often found associated with network organizations.

EXPECTED ADVANTAGES OF THE NETWORK ORGANIZATION

The literature outlines several expectations with respect to the positive effects of the network organization. These expected advantages refer both to the firm per se and the individual (unit) within the firm.

For the *firm per se* it is often expected that the network organization will increase the firm's ability to learn (Bartlett/Ghoshal 1989). Following this view, the network organization is recognized as the predominant source of creativity and innovation (Allee 2002). It is seen as a sensible response to a firm's complex environments allowing a firm-wide synthesis of thinking. The mechanism for this improved learning potential is that, within the network organization, there are no significant departmental borders to hinder the transfer of knowledge among the subunits of a firm. This assumed advantage of the network organization is closely related to the expectation that it allows a fast and more flexible distribution of information throughout the whole firm (Granovetter 1992). Whilst in hierarchically structured firms information tends to flow along the vertical lines predefined by the organizational structure, in a firm with a network organization there is no such predefinition of communication lines. Instead, according to the network literature, the structure of the communication process tends to follow the requirements of the given problem or situation. Thus, according to numerous publications, the network organization supports a sharing of information, a development of dialogue, and a tendency to work in fields (Josserand 2004). Moreover, it is expected that the network organization helps to avoid a duplication of efforts. This arises from the assumption that a firm’s subunits concerned with the same issue are in a direct and close dialogue and therefore avoid duplication and find synergies in their work (Juga 1996). It is also expected that the network organization helps to avoid the emergence of “hierarchical incompetence” within the firm. This means that it protects against an over-simplification of issues and the loss of tacit knowledge about issues as they ascend a hierarchical organization (Andrews 1984). Some scholars also argue that the network organization is able to find a healthy balance between stability and flexibility (Piercy/Cravens 1995). In volatile environments this is seen as an advantage over the hierarchical solution, which is said to overemphasize the stability goal. Others discuss the motivational advantages of the network organization. According to this view, networks encourage both competition and collaboration among subunits, which increases productivity. Finally, other scholars (Williamson 1985; Thorelli 1986; Jarillo 1993) discuss the transaction cost advantages of the network organization. They argue that the social embeddedness of decision-makers leads to a reduction of transaction costs due to information, observation, and coordination. Since trust is used as an instrument of coordination, according to their view, costs for more explicit regulation can be saved.

A different stream of literature refers to the advantages of the network organization that might result for *the individual within the firm*. First, it is said that the network organization not only offers positive motivational and job satisfaction effects for the firm in total, but also for the individuals within it (Van Alstyne 1997). Such benefits occur due to the increased allocation of more holistic and self dependent tasks to the subunits. Second, based on research on small groups it is argued that disturbances of the channels of communication affect the subunits less in a network organization than in a hierarchical structure. Here feedback appears after the passing of information between subunits, and mistakes are less consequential. And third, Burt (1992), following Simmel’s (1908) idea of the tertius gaudens, has argued that an actor can capitalize on skilled positioning within a network. In a network organization, the individual subunit has more self-determination of its own position in the network.

It has been argued that the two sets of advantages mentioned above are especially relevant if a firm operates in highly complex and uncertain environments, if innovation is an important goal, and if it has worldwide operations (Cummings/Worley 2005). Given this specification, one might expect that MNCs are predestined to use the network organization design. In the following, we will challenge this view.

PROBLEMS OF THE NETWORK ORGANIZATION IN MNCs

In this section we will identify and discuss problems occurring if the network organization is prominent among the organizational mechanisms used by MNCs. Within this spectrum of problems, it is possible to distinguish between problems referring (1) to the knowledge transfer between MNCs subunits, (2) to MNCs' trust- and corporate-culture-building processes, (3) to subsidiary development and the stress perceived by subsidiary managers, and (4) to further problems being of a more general nature.

The knowledge-transfer related problems center on an issue which among IB/IM scholars is recognized as being central for MNCs' success (Kogut/Zander 1993). Trust- and corporate-culture-building processes are discussed, since these are interpreted as important coordination mechanisms within network-organized MNCs. Problems in this area refer to the maintenance of constructive social interactions between decision makers within an MNC; especially the degree to which they confide in MNC members working at other locations and to which they share values. The subsidiary-development- and stress-related problems are more micro-level effects occurring inside MNCs' subunits. The further problems discussed refer more to the system's overall architecture and functioning.

Knowledge Transfer within the Network Organization

Many scholars think that the network organization best supports MNCs' needs for intensive knowledge transfers between their subunits (e.g., Ghoshal/Bartlett 1990). The network organization approach generally assumes that if a network can connect all of the nodes that possess knowledge about an issue, the network is an appropriate mechanism for addressing the issue. This approach assumes that the network's components have *the ability* and *the willingness* to share information (Miles/Snow 1992). According to theory, if these assumptions are true, then a subunit within the network will be able to take the respective knowledge from the network. Yet, both assumptions need to be critically evaluated: *first*, one might argue that, for most of the network members it is unclear, which other network member possesses knowledge that is helpful for the problem which has to be solved, *second*, if network members know owners of knowledge, they frequently do not know how to get access to those network members possessing relevant knowledge; *third*, they do not know if other network members will be willing to help and *finally*, it is unclear if the relationships to these members are strong enough to enable learning and creativity (Cross et al. 2001).

There is research work on knowledge transfers in organizations in general and on knowledge transfers in MNCs in particular (citations see below) supporting our doubts about the superiority of the network organization as an efficient and effective mechanism for knowledge transfers within MNCs. These concerns relate both to cognitive and motivational assumptions underlying network-based knowledge transfers:

Cognitive assumptions: Since MNCs typically consist of numerous subsidiaries located both in the home country and in diverse host countries, it seems very questionable if managers being part of the network can be sufficiently aware of who in the firm can offer which elements of knowledge. Of course, MNC managers are usually well-informed about the competencies existing in some outstanding or strategically important subsidiaries of their own firm. Yet, MNCs have to combine many further often widely dispersed elements of knowledge which are also highly relevant for the manifold managerial and technical processes of the MNC. It is not likely that managers working out of their micro-perspective at MNCs' subunits will have a sufficient overview over all the knowledge components relevant for their own subsidiary, for other subsidiaries, and for the MNC in total. Especially, it has to be expected that they will have limited insights about knowledge elements existing outside their own subsidiary. This view seems realistic, since many MNCs employ hundreds or even thousands of potential knowledge spenders and since most MNC managers have a much smaller number of well-established relationships within the firm. Most of them will be inside the same location or country. All other members of the MNC will tend to be relative strangers to them. This circumstance will seriously hinder access and the reliable exchange of knowledge across most potential relationships.

A further cognition-oriented reason why the effectiveness of spontaneous knowledge transfers across borders and subsidiaries will be limited in MNCs, is that transfers of implicit knowledge will require learning of "local" coding schemes, of frameworks, and of specialized languages characterizing each subsidiary (Tushman/Scanlan 1981). Managers who want to transfer such knowledge effectively across borders and subsidiaries have to be minimally proficient in the respective countries and subsidiaries. Given the high psychic (cultural), organizational, and geographical distances found among subunits in MNCs the possibility to build up this precondition in a self-organizing manner abdicating totally on an a-priori structuring of information transfers is unlikely. Consequently, in MNCs – especially when the knowledge source and the potential recipient are located in environmental settings with very specific knowledge, language, and heuristics – unplanned knowledge transfers typical of network organizations find narrow borders.

Motivational assumptions: Publications on knowledge transfers within network-organized MNCs assume a more proactive role among their managers. Yet, the literature offers arguments challenging the assumption that managers are proactive in the sense of sharing information freely: For instance, Cyert (1995) argued that organizational subunits with uniquely valuable know-how enjoy an information monopoly within the firm which these subunits want to maintain. Tortoriello, Reagans, and McEvily (2009) pointed out that any successful knowledge transfers between firms' subunits increase their redundancy and therefore the potential for competition within the firm. Focusing on MNCs', Gupta and Govindarajan (2000) mentioned that it can happen that a diffusion of know-how will have negative consequences for the subsidiary being copied. Further on, the recipient subsidiary, due to the not-invented-here syndrome, might also hesitate to absorb the knowledge. Mudambi and Navarra (2005) argued that MNCs having transformed their traditional hierarchical structures of governance to network models tend to be political coalitions consisting of groups with heterogeneous interests. Thus, significant information asymmetries are likely to exist and subunits will frequently use these to further their own local interests (Forsgren/Holm/Johanson 2005). We think that these are important reasons why MNCs' managers might hesitate to share their knowledge with colleagues at different locations.

Because of these cognitive and motivational restrictions it is not very likely that the knowledge-processing capacities provided by spontaneous, unplanned knowledge transfers will be large enough to cover the knowledge-processing demands existing in MNCs. Even when a network-organized MNC possesses a well-established technology-based information infrastructure, there is no assurance that a manager in a subsidiary will be able to gain sufficient knowledge necessary for his/her work. Jarvenpaa and Ives' (1994), while focusing on learning processes, came to a similar conclusion: "One potential risk of the network organization is that decentralization can result in a loss of organizational learning and, with it, of the abilities to learn from the past, to generalize across problem environments, to recognize synergistic opportunities, and to transfer learning quickly and efficiently throughout the corporation. Sharing of knowledge is further jeopardized by the unstable structure of the network – knowledge nodes continuously joining and departing." (p. 43)

Opponents of our view might argue that there are many studies showing that a network-like coupling of individuals within MNCs has led to advantages in knowledge sharing between them. Although we accept that there is evidence for the existence of such a relationship (e.g., Noorderhaven/Harzing 2009), we think that, up to now, nobody has delivered proof that the *overall* knowledge-processing capacity offered by the sum of these network-type interactions is big enough to cover the *overall* knowledge-processing demand typical of an MNC which has to bridge big distances and different environmental settings.

Trust and Corporate Culture within the Network Organization

Since the degree of formal regulation of interpersonal interaction processes in a network organization is much lower than in hierarchical organizations, a coordination gap emerges, which has to be filled by the factors "trust" and "corporate culture". Although these two phenomena are interwoven with each other, we will discuss them in separate subsections, since trust focuses on the relationship among individuals working in MNCs, whilst corporate culture refers more to the overall level of intellectual coupling existing among the members of MNCs.

Trust

According to theory, in a network organization, the internal relationships and arrangements are dependent on high levels of trust (Powell 1990). Therefore, trust can be seen as the basic prerequisite for any type of network organization. Trust has been defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Kee/Knox 1970, p. 361; Mayer/Davis/Schoorman 1995, p. 712) or, shorter, as "the expectation that another's action will be beneficial rather than detrimental" (Gambetta 1988, p. 217).

Scholars specified mechanisms which lead to the development of trust. In the following, we will mention these mechanisms briefly since they allow us to analyze if the development of trust in a network-organized MNC is likely or not. Zucker (1986) identified three mechanisms of trust-building in economic structures: process-based, characteristic-based, and institutional-based trust. In this section on trust-building *within MNCs*, the first two are relevant for the discussion. In the case of process-based trust, trust arises either through the personal experience of recurring exchanges. If over time a balance of exchanges emerges, trust will grow. Characteristic-based trust is rooted in norms of obligation and cooperation in social similarity. This mechanism of trust-building is widely consistent with the insights of social identity theory (Tajfel/Turner 1986) (the third mode is institutional-based trust, where trust is tied to formal societal structures) (Creed/Miles 1996). Shapiro, Sheppard, and Cheraskin (1992) further complemented this trilogy of trust-building mechanisms: deterrence-based trust, knowing-based trust, and identification-based trust. Deterrence-based trust rests on the consistency of behavior. Individuals will do what they say (and therefore can be trusted) because they fear the consequences of not doing what they say. Knowing-based trust roots in the other's predictability. The trustor knows the other sufficiently well so that the latter's behavior is anticipatable. Identification-based trust is based on identification with the other's desires and intentions. Trust exists because the parties effectively understand and appreciate the other's wants.

If we apply these five trust-building mechanisms to the situation given in MNCs, we have to conclude that in MNCs trust-building will be much more difficult than in domestic firms: (1) The development of firm-wide *process-based trust* will be difficult, because, in MNCs, most interactions between individuals will occur within the national subunits (headquarters, subsidiaries in the home country, or foreign subsidiaries). Of course, in many MNCs there is a group of heavily travelling international managers. Yet, most MNC managers do not have direct contacts to subsidiaries of other locations. Since existing research results showed that face-to-face interaction is an important antecedent of trust-building (Cascio 2000), process-based trust will not easily grow in MNCs, due to a relatively high percentage of personal interactions being of a non-face-to-face nature. *Characteristic-based trust* is relative unlikely to develop in MNCs since the cultural heterogeineity among the individuals working for the firm is higher than in a domestic firm. On average, in MNCs the level of social similarity will be lower than in domestic firms. Since MNCs' managers and employees working at different locations are bound to different legal and social norms, the consequences of a behavior being inconsistent with previous promises to be less clear. Thus, in MNCs, *deterrence-based trust* will be less likely than in domestic firms. Since most MNC managers and employees do not have contacts with the firm' managers and employees working in foreign subsidiaries, they do not know each other well and therefore it will be difficult to build *knowledge-based trust* across borders. And the low intensity of cross-border social interactions will also hamper the development of *identification-based trust*.

Thus, and considering the fact that network organizations are hybrid forms between hierarchies and markets which always contain some elements of competitive action, it has to be concluded that it is very difficult to build up high levels of cross-border trust in an MNC. Instead, in this setting, trust-building will be a difficult process characterized by high levels of insecurities. Powell, an important network researcher, points to the significance of a common background with respect to the development of trust. In his seminal article, “Neither Market nor Hierarchy”, he wrote: “Networks should be most common in work settings in which participants have some kind of common background – be it ethnic, geographic, ideological, or professional. The more homogeneous the group, the greater the trust, hence the easier it is to sustain network-like arrangements. When the diversity of participants increases, trust recedes, and so does the willingness to enter into long term collaborations.” (Powell 1990, p. 326).

In MNCs, the development of a high level of cross-border trust might also be unlikely since people from different countries vary with respect to the *modus operandi* they prefer in order to build trust. Doney, Cannon, and Mullen (1998) have fixed the relationships between country culture and trust-building processes in the form of 15 propositions. For instance, they hypothesized that trustors in collectivist cultures tend to form trust via a prediction process while trustors in individualist cultures are more likely to form trust via a calculative process. Thus, if individuals from culturally different countries interact with each other, the trust-building processes between them will be complex and asymmetric. This asymmetry will be an obstacle for the development of a high level of trust among individuals working at different MNC subsidiaries. Zaheer and Zaheer (2006), focusing on international business, have conceptualized the implications which are likely to occur if people from different trust contexts interact.

There is at least indirect empirical support for our view that trust-building across borders is difficult. Two groups of studies can be distinguished: On the one hand studies looking at the *“general trust level”* existing in different countries. On the other hand studies exploring the *trust level* occurring when people from *different cultures* interact.

Studies of the first group found that countries vary significantly with respect to the "general level of trust" their inhabitants have. For instance, Fukuyama (1995) found that France is a low-trust society while the U.S. is a high-trust society. In a similar vein, Huff and Kelley (2003) showed that a higher level of propensity to trust exists in business relations in the U.S. compared to Asia. Studies of the second group found that trust levels depend very much on the colliding cultures. For instance, a Eurobarometer survey (1996) – an official inquiry of the European Commission – showed that the level of trust which the citizens of European countries have with respect to citizens of other European countries varies considerably. For instance, 92% of the Swedes trust the Finns, but only 32% of the Dutch trust the Russians. Moreover, these data show that people usually trust their fellow countrymen more than citizens of other European countries. Consistent with this, Luo (2001) found a negative relationship between *cultural distance* and the development of personal relationships between individuals, and Alesina and La Ferrara (2002), conducting a more general study, found a negative relationship between *diversity* and trust. Gulati (1995), studying trust in alliances, came to the conclusion that *familiarity* through prior interaction "does indeed breed trust" (p. 105). And finally, with respect to *geographic distance* research on virtual teams showed that in virtual environments a specific type of trust – so-called "swift trust" – emerges which appears to be very fragile and temporal (Jarvenpaa/Leidner 1999).

Given these arguments and empirical evidence, it has to be concluded that trust-building within MNCs is much more difficult and unpredictable than trust-building within domestic firms. This is a further reason why the preconditions for the use of the network organization in MNCs are much less advantageous than in domestic firms.

Corporate Culture

Publications on the network organization argue that the corporate culture – understood as a system of shared values and norms that define appropriate attitudes and behaviors for the firm's members (O'Reilly/Chatman 1996) – is an important means of coordinating the network's subunits (Josserand 2004). Yet, the question is if in MNCs there are good chances that a corporate culture (Bartlett and Ghoshal (1989) prefer term "normative integration") can develop which is strong enough to serve as the backbone of the MNC's coordination processes. In answering this question, we have to consider that MNCs differ from domestic firms in three dimensions. They have to bridge relative high levels (1) of country-cultural distance, (2) of geographical distance, and (3) of fragmentation of the firm into legally autonomous subunits.

Relatively high cultural distance between home and host countries: MNCs act in countries with differing cultures. It has been argued that country-cultural diversity leads to differences in what employees expect from their work and their firm (Kabanoff 1997) and that it can hinder the development of social cohesion among employees (Buckley/Casson 1998). This is one reason, why in MNCs with employees of different cultural backgrounds, the corporate culture will be less strong than in firms with employees socialized in the same country culture (Welch/Welch 2006). A second reason why it has to be expected that MNCs' corporate cultures are weaker than those of domestic firms is that countries differ with respect to the degree to which employees are committed to their firm (Fischer/Mansell 2009). Since MNCs employ people from different countries, different levels of commitment co-exist within their work forces reducing chances for a strong normative integration within the firm.

Relatively high geographic distance between home and host countries: The relationship between the geographic distance among a firm's subunits and the strength of its corporate culture was already foreshadowed by Bartlett und Ghoshal (1989): They argued that a strong corporate culture necessitates extensive travel and transfer of managers between an MNC's subunits. Since MNCs' subunits are on average geographically more dispersed than those of domestic firms, in MNCs such corporate-culture-building activities tend to be more difficult. Geographic dispersion makes the task of communicating a unifying vision and a set of values more difficult and this lowers employees' identification within the firm. Since many MNC subsidiaries are quite distant from the headquarters, the interaction between these units occurs via a relatively limited and definable set of channels (Baliga/Jaeger 1984). Moreover, a high geographic distance from the main power centers of the firm can cause a sense of low involvement and attendant disaffection among employees (Taylor et al. 2008).

Institutional fragmentation of the firm into legally autonomous subunits: Not only large MNCs consist of many foreign subsidiaries. Usually, these subsidiaries face dual pressures: They do not only face an imperative for consistency within the firm, but are also pulled to achieve isomorphism with the host-country environment (Rosenzweig/Singh 1991; Kostova/Roth 2002). Research by European sociologists (e.g., Morgan/Kristensen/Whitley 2001; Geppert/Matten/Walgenbach 2006) studying the decisions and actions of MNCs showed that subsidiary managers tend to adapt their business decisions and actions to the dominant social expectations of the business system in which the subsidiary is embedded. This tended to be true even when the MNC pursued a more standardized, global strategy. Because of the strength of the local pressures surrounding an MNC’s foreign subsidiaries, the managers of different subsidiaries will not widely agree with respect to their values, norms, and rationalities.

Given the simultaneous existence of these three kinds of heterogeneity (cultural, geographic, and institutional) within MNCs, it has to be expected that they face greater difficulty than pure domestic firms in creating and maintaining a strong firm-wide corporate culture. Thus, it is doubtful whether most MNCs will possess a corporate culture which is sufficiently strong to support the effective functioning of a network organization.

Over the last years, empirical studies were published showing that MNCs indeed have difficulties in establishing a strong firm-wide corporate culture. Most of this support stems from in-depth case studies conducted in ABB after it had reorganized from a network-type organization to an M-Form organization. ABB was studied, since earlier proponents of the network organization (e.g., Bartlett/Ghoshal 1989) saw in this firm an MNC where the network organization is nearly perfectly implemented. Yet, Birkinshaw, Hood, and Jonsson (1998) indicated that Bartlett and Ghoshal failed to substantially document the presence of normative social control at ABB during the time when its network organization existed. Ruigrok et al. (2000) came to complementary findings; they report that various ABB managers they interviewed “in fact criticized the lack of a corporate culture functioning as a “glue” in the overall company, and indicated that it would be difficult to create a strong unifying culture for the whole ABB Group” (p. 138). This indicates that, during the existence of ABB’s network organization, the firm’s corporate culture was not strong enough to integrate the plans and actions of the hundreds of profit center managers. Indeed, at the time, when ABB had a network-type organization, there was a vast duplication of efforts (e.g., 576 enterprise resource planning offices, 60 different payroll systems, or 600 incompatible spreadsheet software programs) which finally led to chaos and conflict (Bilevsky/Raghavan 2003).

It has to be expected that within MNCs, the foreign subsidiary managers (especially if they are host or third country nationals) are predestined to be less integrated in the MNC's corporate culture. Many of these managers have cultural backgrounds, values, and management styles which differ considerably from those of the headquarters' managers. The literature offers empirical hints for our view of a potential exclusion of foreign subsidiary managers from MNCs' decision processes. First, it has been shown that MNCs continue to prefer to appoint home country executives to head foreign subsidiaries (Peterson/Napier/Shul-Shim 1996; Harzing 2001). Second, there is fresh evidence that the control motive still plays a crucial role when MNCs assign managers from the home country to foreign subsidiaries (Brock et al. 2008). Third, recent surveys have shown that home-country nationals still dominate the boards of large MNCs (Schmid/Daniel 2007), and that even in countries like Sweden and the Netherlands the national diversity of top management teams has not progressed between 1990 and 1999 (Heijltjesa/Olieb/Glunka 2003). Fourth, studies on multicultural teams show that ethnocentrism still plays a crucial role in MNC's group decision processes (Köppel 2007). And fifth, general business administration research which found that similar people tend to interact with each other (e.g. Ibarra 1992; Mehra/Kilduff/Brass 2001). Thus, in network-organized MNCs, since they lack a high level of a-priori structuring of patterns of cross-national cooperation, it is likely that a cultural separation of specific subunits, especially of foreign subsidiaries will occur. Especially the independence of the units, the openness of the network organization, and the unclear boundaries within the network will increase this danger. Since network-organized MNC lack of an overall architecture guiding the information exchange between subunits, it is further likely that only some of them have strong information exchanges. Thus, it has to be expected that the MNC's corporate culture is limited to only a part of the subunits. Accordingly, the use of a network organization increases the danger that class societies will occur within the MNC. Such class societies in MNCs are problematic, since they hinder an effective firm-wide development and implementation of strategies and measures.

Subsidiary Development and Subsidiary Managers' Stress within the Network Organization

Many publications on the use of the network organization in firms leave the reader with the impression that this organizational form will cause positive net effects not only for the firm in general, but also for their subunits and especially the managers working in them (Bennis 1993; Ghoshal/Bartlett 1997). In the following, we want to challenge this conventional wisdom. We think that, at least in MNCs, it is not sure that the use of the network organization will have positive effects for the subsidiaries and their managers.

As shown above, in comparison to hierarchical organizational models, the "architecture" of the network organization is less clear, less explicit, and less stable over time. In the network organization, there is only little a-priori definition of the interaction patterns existing between the firm's subunits. The interaction patterns change frequently. We think that these characteristics will aggravate a reliable development of MNCs' subsidiaries and that they can also lead to stress among subsidiary managers.

Subsidiary Development

Since in network-organized firms the interaction patterns among the subunits tend to be relatively undefined and instable over time, for the individual subunit (e.g. an employee or a department) it is difficult to reliably predict its future steps of development within the firm. For subunits, firms with a network organization tend to be "risk societies" (Beck 1992). This risky environment is not only challenging for the subunits at the micro level of the firm (such as individual employees and teams), but also for larger subunits such as subsidiaries of MNCs.

In accordance with this general assumption, several leading IB/IM publications argued that a formal guidance is beneficial to foreign subsidiaries' developments within the MNC. Among others, Rugman and Verbeke (2001) expounded that in many cases headquarters need to involve themselves and support promising subsidiary developments by intervention. By doing so, headquarters support the competence-building processes within the respective subsidiary. If headquarters pay attention to specific innovation development projects a corollary is that subsidiaries related to these projects gain visibility and are perceived as important players within the MNC. This view is supported by research studies identifying factors influencing the success of foreign subsidiary initiatives within MNCs (Science Council of Canada 1980; Ghoshal 1986; Birkinshaw 1997). These studies show that the success of subsidiary initiatives in MNCs depends not only on a high level of normative integration and good horizontal relationships among foreign subsidiaries, but also on the existence of well-developed headquarters-subsidiary-communications and good relations between the respective subsidiary and the headquarters. The importance of such stable vertical relationships on the process of initiative-taking seems logical in MNCs, since even in a highly decentralized MNC the headquarters serves as an important resource provider for foreign subsidiaries. Furthermore, scholars studying innovation processes agree that the development of innovative ideas in specific firms' subunits call critics from other subunits to the scene, and thus a unit is needed which is able to balance the conflicting interests and views. This means that strong horizontal, network-type relationships within MNCs are not a sufficient condition for successful subsidiary initiatives; the latter also require a stable backbone of vertical relationships typical of hierarchical organizations.

Subsidiary Managers' Stress

The bulk of the literature on network organizations assumes that this organizational form offers good working conditions for managers within the firm, since decision making tends to be democratic in a sense that all managers have good chances to contribute with their ideas to the firms' decision processes. In the following, we will show that this view is too enthusiastic for MNCs. We expect that a use of the network organization in MNCs will increase the stress which subsidiaries and their managers face.

We come to this conclusion since we have compared the situation existing in the network organization with the results of empirical studies exploring the causes of stress in organizations. These studies (e.g., McGrath 1976; Cox et al. 2000; Leka et al. 2003) have shown that “badly defined objectives”, “competing or conflicting demands of others”, “conflicting responsibilities”, “role ambiguity”, “uncertainty about the outcomes of the own work”, “power struggles and conflicts”, “information overload”, and “low participation in decision making” are among the most important causes leading to stress in organizations.

If we confront this list of causes of stress with the situation given in a network-organized MNC, substantial similarities become apparent: First, in a network-organized MNC there is little tendency to assign responsibilities for decisions to individuals. Instead, the responsibilities are more evenly distributed across the firm; e.g. to a team or to a council whose members jointly handle a specific decision. We think that this tendency to allocate competencies to collectives and not to individual managers will increase the role ambiguity which the individual manager within the MNC has to cope with. Second, since in a network-organized MNC the subsidiaries interact with numerous other subunits within the firm, the consequences of their own activities are relatively uncertain for subsidiaries. More than in a hierarchically structured firm, the work processes and the results of the subsidiaries’ actions are highly dependent upon other subunits of the MNC and therefore the subsidiary managers will have to act in a situation where the locus of control is external. For the subsidiary managers, this leads to higher external coordination demands which have to be handled in addition to subunit-internal coordination demands. Because of these high overall coordination demands, a loss of motivation and increased frustration at the subunit level is likely to occur (Gresov 1989). A third reason, why in a network-organized MNC the level of stress might be higher than in hierarchically organized MNCs, is that in the former the membership and structure of the firm's network change frequently over time. In a network-organized MNC, it is a daily occurrence that managers with heterogeneous expectations enter or exit the decision arenas. Fourth, in such an MNC, the subsidiary managers might face above-average levels of stress since the firm's subunits receive less guidance from formal organizational rules and regulations. Fifth, since in a network-organized MNC the superordinate units possess relatively little formal authority, power conflicts among peer managers are likely. Because of the small number of superordinate instances there is little capacity of units which in conflict situations are able to arbitrate between the parties. And sixth, since in a network-organized MNC there is little channeling of information along a scalar chain, the average manager has to process a broad range of heterogeneous information which might lead to information overload.

We think that these are all important reasons to believe that a dominant use of the network organization within an MNC will lead to a high level of stress among subsidiary managers. Our view is supported by Brass' (1981) study which found that centrality of an employee within an entire organization's work flow had a negative relationship to employee satisfaction. Moreover, psychological research conducted in the MNC setting has shown that, for most individuals, both high ambiguity and an external locus of control lead to perceived pressure and stress (Black 1990). Our argumentation is also buttressed by empirical studies on virtual and multicultural teams, which both mirror the working conditions under which managers of network-organized MNCs usually have to act.

Research on virtual teams found that the members of such teams were less satisfied with their work experience than counterparts in traditional face-to-face teams (e.g., Warkentin et al. 1997). And some studies on multicultural teams (e.g., DiStefano/Maznevski 2000) support the assumption that especially in a multicultural setting less-formal team-oriented decision structures can result in higher levels of stress and tension. And finally, recently Oberg and Walgenbach (2008) found in an in-depth case study that even in a firm deeply committed to the principles of non-hierarchical communication structures, the employees persistently reproduced hierarchical structures in their daily communication on the firm's intranet. This finding might be taken as a hint that managers do not feel very comfortable with the network organization and that they thus have "a natural tendency" towards hierarchical organizational forms.

Further Problems within the Network Organization

In the previous sections of this paper we have discussed in detail knowledge transfer, trust- and corporate-culture-building, subsidiary development, and subsidiary managers' stress as main problem areas occurring when MNCs strongly tend towards the network organization. In this section, we will briefly outline further problems which are also likely if MNCs favor this organizational form.

Unintended loss of knowledge: Since in a network organization knowledge is typically exchanged on the basis of informal relationships, a network-organized MNC's knowledge web will be relatively diffuse and fuzzy. Given this and the fact that external units are typically strongly woven into MNCs' knowledge webs (Doz/Santos/Williamson 2001), in network-organized MNCs there is always a severe danger that knowledge is transferred in an unintended way. Because of the fluidity of the interaction patterns existing in a network organization, unintended intruders might gain access to MNCs' knowledge bases. Research has shown that, in the context of international business, this danger of unintended knowledge transfers is especially high (Baughn et al. 1997). Such problems of unintended knowledge transfers are intensively discussed in the literature on international strategic alliances, which, like the network organization, generally follow the less-hierarchical approach. It is interesting to see that this literature suggests instruments against unintended knowledge transfers which are hierarchical in nature. For instance, Das and Teng (2001) recommend a specification of the details of usage of properties in the alliance agreement, a tight monitoring of alliance operations, and a formation of alliances in which partners work separately.

O*ver-embeddedness*: This means, that MNCs' subsidiaries are heavily connected internally, but lacking meaningful connections to actors outside the network. Since the network organization of an MNC is less observable than that of a domestic firm, MNCs' subsidiaries have to invest a considerable amount of energy to build up and to maintain ties to other subsidiaries within the MNC network. As a consequence, because of resource and time restrictions, the subsidiaries' adaptation to the external environment becomes more difficult as network relationships are mainly tuned to internal partners. Furthermore, since the subsidiaries' exchanges are concentrated to internal network partners, isomorphism occurs, and this reduces non-redundant information and access to new opportunities (Burt 1992; Uzzi 1997).

Problems in evaluating subsidiaries' performance: In a network-organized MNC, this evaluation is impeded since the performance of each subsidiary is strongly related not only to the strategies and measures of the subsidiary itself, but also to those of other subsidiaries (Brass et al. 2004). In a network-organized MNC, the range of these interacting subsidiaries is defined less clearly than in a hierarchically organized MNC. Moreover, in such an MNC, the co-operations among subsidiaries are developed and implemented without headquarters' involvement. Thus, in a network-organized MNC, it will hardly be possible to isolate and determine the performance contribution of a specific subsidiary to a sufficient degree.

Negative slack effects: In a network-organized MNC, resources and capabilities are duplicated and evenly distributed over the whole firm. This duplication and distribution leads to negative effects in the form of increased competition, small unit-scale, and economically suboptimal resource exploitation. This will reduce the flexibility advantages intended with the network organization.

Increasing transaction costs: One of the main arguments of the network organization's proponents is that it reduces transaction costs, since less formal regulation and less monitoring are needed. But, considering the arguments presented above, the creation of an effective and fully functioning network organization in an MNC will undoubtedly result in new transaction costs, and these costs could exceed those that are saved. A considerable amount of transaction costs is likely, since the knowledge stocks controlled by MNC subsidiaries are heterogeneous causing substantial costs for intra-MNC knowledge transfers, both in the cognitive and in the motivational dimension. In the *cognitive dimension,* MNCs will have to establish means which *enable* the domestic and foreign subsidiaries and managers to identify, acquire, and process useful knowledge from the social network (e.g., development of a company-wide, cross-national information and communication infrastructure, equipment of managers with social competencies allowing them to acquire knowledge in the multicultural setting of the MNC network). In the *motivational dimension* programs have to be implemented which increase the trust between the domestic and foreign managers (Williams 2007).

In the preceding sections of this paper, we have identified problems resulting from a dominant use of the network organization as an instrument to organize MNCs. Theses problems can be summarized as follows:

- Used in MNCs, the network organization leads to little reliable and predictable relationships among MNCs' subunits. This causes negative effects both at the MNC and the subsidiary level.
- The knowledge-transfer capacity of the network organization is limited. It seems to be overestimated in the literature. Especially the cultural, geographical, and institutional heterogeneity existing in MNCs' reduces the knowledge-transfer capacity of the network organization.
- Scholars recommending the network organization as the main organizational device for MNCs tend to accentuate the innovation and flexibility goal too much and to neglect the efficiency goal.
- Whilst the network organization might have advantages with respect to the organizational differentiation within MNCs, its potential with respect to the

coordination of MNCs’ activities is relatively low. Network-organized MNCs tend to have low levels of consistency and integration.

- Even though the network organization might lead to a lowering of some types of transaction costs, in MNCs it generates considerable amounts of new transaction costs.

By saying this we do not want to argue against the network organization per se. *Yet, what we want to say is (1) that the typical MNC context does not naturally encourage cooperation and solidarity or a sense of generalized reciprocity and (2) that this limits the chances that the network organization in MNCs can fully develop its relative strengths.* We think that the network organization has considerable limitations in MNCs. These limitations are caused by two main reasons: First, in the network organization, the vertical information lines are relatively weak. Second, in the network organization, the horizontal information lines between the subunits are not as strong as often thought, since under this organizational device MNC subunits themselves decide with which other units they cooperate and with which do not. This means that subunit managers have to decide *out of their micro-perspective* on the intensity of horizontal cooperation within their MNC. We think that this delegation of the task of organizational coordination to MNCs’ subunits causes high levels of insecurity in information processing for the MNC. Given this insecurity in information processing combined with the high levels of heterogeneity and distance typical of MNCs, we think that the network organization is not a sufficient instrument to organize MNCs’ strategies and actions. Thus, we formulate

Proposition 1: Since the network organization has strong limitations in MNCs, IB/IM literature during the last decades went too far in replacing formal organizational structures by organizational models corresponding to the network organization.

HOW FORMAL ORGANIZATIONAL STRUCTURES IN MNCs CAN HELP TO REDUCE THE LIMITATIONS OF THE NETWORK ORGANIZATION

One main challenge of MNCs is to ensure efficiency within the heterogeneous and distant environments they are embedded. A high level of efficiency is among the main competitive advantages MNCs possess *vis-à-vis* firms stemming from the respective host country. For MNCs, consistency and integration among strategies and actions are important means to reach this high level of efficiency. Given this need to ensure sufficient levels of consistency and integration, and the limitations of the network organization with respect to these goals, *we think that in MNCs, the formal organizational structure will generally remain an important instrument to organize the firm's activities*. In the following, we will outline how the formal organizational structure can help to overcome the limitations of the network organization occurring in MNCs and which type of formal organizational structures seems to be most appropriate for MNCs.

One common characteristic of formal organizational structures is that they accentuate hierarchical relationships between the subunits of the firm. Currently, in the literature, formal organizational structures are rather outdated. Often, they elicit negative associations (e.g., long decision processes or asymmetry of managerial interaction patterns) and their relative strengths are often ignored. Yet, we think that especially in MNCs these strengths are still important and they are able to overcompensate the weaknesses of formal organizational structures: Within MNCs', hierarchical elements have to be building blocks of the organization, since they have merits in handling complexity, since they are able to increase the reliability of the firms' processes, since decision and coordination responsibilities are clearly allocated to specific units within the firm, and since patterns of information flows are more clearly specified. Furthermore, they support consistency within the firm's plans and actions, since the superordinate units, in making their decisions, have an overview over the subunits which belong to their area of authority. And finally, they help to limit conflict within the firm, because managers in their own decision area are endowed with assertiveness which can limit an ongoing struggle for power.

Yet, since MNCs do not only have to strive for efficiency, but also for local responsiveness (both in the market and product dimensions), not all formal organizational structures have the same potential to serve as MNCs' basic organizational skeleton. MNCs need such types of formal organizational structures which are able to balance the concurrent needs for integration and local responsiveness. In the following, we will concentrate our discussion on matrix structures, since they once have been presented as appropriate means when pressures for dual focus, high information-processing capacity, and a sharing of resources exist (Davis/Lawrence 1977). We will refer this discussion to the dimensions which we have identified as the main problem areas of the network organization.

Matrix structures and knowledge transfers: Because matrix structures are an overlaying of two (or three) elementary organizational structures, knowledge transfers occur along two (three) hierarchical lines. Thus, matrix structures offer higher knowledge-transfer capacity than elementary organizational structures. Furthermore, since (1) different dimensions (functions, products, and/or regions) can be anchored within a matrix structure it is possible to install specific kinds of knowledge-transfer capacities within the firm. Since business-related knowledge transfers are not randomly distributed across the MNC but tend to follow the MNC’s overall strategy, we think that it is possible to specify the respective MNC’s most crucial knowledge transfers in advance and to implement a specific type of a matrix structure which best fits the knowledge-processing demands of this MNC. If MNCs select the dimensions within their matrix structure according to their strategy, this helps to channel the knowledge transfers within the firm in a useful manner. For instance, little diversified MNCs applying a multidomestic strategy have to adapt their products to the respective host-country market. In such MNCs, intensive reciprocal knowledge transfers between the marketing units located in the host countries and the firm’s central R&D unit are needed. If such MNCs implement an FDxGR matrix, this assures that between the firm’s second and third hierarchical level there are intensive knowledge transfers between the central R&D unit and the managers of the regional headquarters. The latter are able to feed in country specific information in R&D decision processes. This example shows that an intelligent design of a matrix structure can help to increase the knowledge-transfer capacity of MNCs. Furthermore, we expect that formal matrixing is an appropriate instrument to facilitate knowledge transfers within MNCs, since one of the leading empirical studies on knowledge flows in MNCs (Gupta/Govindarajan 2000) has shown that „formal integrative mechanisms“ had the strongest influence on the vertical and horizontal knowledge flows from and to foreign subsidiaries and that the influence of this instrument was much stronger than the influence of the soft instrument "lateral socialization mechanisms“. This finding was apparent in all four regression models the authors have estimated (inflow vs. outflow; vertical vs. horizontal flows). Furthermore, a recent study has shown that knowledge flows from the headquarters to the foreign subsidiaries are still the strongest knowledge flows within MNCs and that subsidiaries' autonomy tended to decrease with increasing strength of such knowledge flows (Noorderhaven/Harzing 2009). We think that these studies support our view that in MNCs it is important to built strong formal vertical links as they are offered by formal organizational structures. Furthermore, we expect that strong vertical links also support lateral knowledge transfers in MNC, since leading network researchers (Tortoriello/Reagans/McEvily 2009) recently argued that "network research has shown that strong third-party ties that surround a knowledge source and recipient (i.e. strong ties to mutual third parties) can affect the willingness to transfer knowledge (p. 7).

Matrix structures and trust building and corporate-culture development: We think that matrix structures are able to develop more positive consequences than the network organization with respect to trust- and corporate-culture building in MNCs. Our view rests on three assumptions: First, trust- and corporate-culture building result from dialogical exchange processes between MNCs' members. Second, in many MNCs subcultures with incompatible values and norms emerge in the functional units and in the product or regional divisions. And third, higher managers of MNCs tend to have more influence on the trust- and corporate-culture building processes than the lower managers of MNCs. Based on these assumptions, we think that in MNCs the matrix structure has advantages with respect to trust- and corporate-culture building, since this organizational form envisions the installation of strong permanent informational bridges between the matrix managers directing the subunits within the two hierarchies existing in matrix MNCs. More than in a spontaneous network organization, the matrix managers exchange information and views deliberately on a regular basis and they also interact in the same way with the subsidiary managers subordinated to them. We think that these regular and deliberate information exchanges between the managers of MNCs' second and third hierarchical levels build a relatively strong basis for the development of mutual trust and a strong corporate culture. Finally, we are convinced that this basis is much stronger than that evoked by spontaneous information exchanges typical of the network organization.

Matrix structures and subsidiary development and managers' stress: In matrix structured MNCs the subsidiary managers report to two superordinate units (matrix managers). It can easily happen that the two superordinate units confront the subsidiary managers with different perspectives. In the older literature, this heterogeneity among matrix managers' perspectives was mentioned as a cause for conflicts within matrix-structured firms. Recently, Galbraith (2009) pointed out that it was the common belief of the 1980s that matrix structures do not work. Yet, this heterogeneity of perspectives can also be an advantage for the subsidiaries and their managers, since the subsidiary managers are provided with a richer spectrum of information (functional, product, and/or regional) referring to the decision topics they have to handle. This heterogeneity of perspectives can lead to positive effects like a more careful reflection on relevant contextual factors and finally to higher qualities of decisions. We think that these positive effects of matrixing should not be underestimated, especially since the research on creativity techniques has shown that a heterogeneity in perspectives often leads to better decisions. Consistent with this, Galbraith's (2009) case analyses have shown that matrix structures support the development of an effective dialogue between the matrix managers and that this helps to prevent conflicts within the organization, "and if conflicts arise, dialogue prevents them from growing and from being dropped on the two-boss manager" (p. 146). A further characteristics of matrix structures which is able to reduce subsidiary managers' stress is that they are not depending upon one, but on a limited number of superordinate unit(s). Therefore, in a matrix organization, the subsidiaries' managers are neither at the mercy of *one* superordinate unit nor of a *diffuse, undefined spectrum* of interaction partners. Whilst in a matrix structure the subsidiary managers clearly know with whom in the MNC they will cooperate, in the network organization they have a much less sharp picture of who are their main interaction partners within the firm. Thus, we think that in a matrix structure the expectations stemming from outside the subsidiaries are much better predictable by the subsidiary managers. This is an important cause why the matrix structure has more positive consequences than the network organization with respect to subsidiary development and managerial stress.

Proposition 2: Given the high levels of heterogeneity and distance of MNCs' environments and the fact that MNCs simultaneously have to strive for efficiency and local responsiveness, the matrix structure has a high potential to overcome the limitations of the network organization in MNCs.

SUMMARY AND CONCLUSION

The present paper argued that the use of the network organization in MNCs leads to several considerable limitations. Among others, these limitations refer to knowledge flows, to trust-building processes, to the development of a strong corporate culture, to subsidiary development, and to subsidiary managers' stress. Whilst the network organization certainly has a high coordination potential for firms where the subunits are geographically and culturally close to each other, in MNCs, the network organization is much less effective. Thus, for MNCs, the network organization cannot be the main important organizational instrument. This paper showed that in MNCs the formal organizational structure is and will be the fundamental organizational instrument to provide the high amount of information-processing capacity needed by MNCs. An analysis of the matrix structure along the dimensions where the network organization has limitations showed that the matrix structure in MNCs possesses a considerable potential to reduce the limitations of the network organization.

In the future, it will be important to develop some kind of a contingency theory, to specify when and to which degree network-building is required to augment or substitute for formal organizational structure. Up to now, network organizations and formal organizational structures have developed as two separate literatures, so no integrative models are currently available.

REFERENCES

Alesina, A., La Ferrara, E., Who Trusts Others?, *Journal of Public Economics*, 85(2), 2002, pp. 207-234.

Allee, V., *The Future of Knowledge: Increasing Prosperity through Value Networks*, Amsterdam et al. 2002.

Andrews, D., *The IRG Solution: Hierarchical Incompetence and How to Overcome it*, London 1984.

Baker, W.E., The Network Organization in Theory and Practice, in: Nohria, N., Eccles, R. G. (eds.), *Networks and Organizations: Structure, Form, and Action*, Boston 1992, pp. 397-406.

Baliga, B. R., Jaeger, A. M., Multinational Corporations: Control Systems and Delegation Issues, *Journal of International Business Studies*, 15(2), 1984, pp. 25-40.

Bartlett, C. A., Ghoshal, S., *Managing Across Borders: The Transnational Solution*, Boston 1989.

Bartlett, C. A., Ghoshal, S., Birkinshaw, J., *Transnational Management, 4th ed.*, Boston et al. 2005.

Baughn, C. et al., Protecting Intellectual Capital in International Alliances, *Journal of World Business*, 32(2), 1997, pp. 103-117.

Beck, U., *Risk Society: Towards a New Modernity*, London 1992.

Beekun, R. I., Glick, W. H., Organization Structure from a Loose Coupling Perspective: A Multidimensional Approach, *Decision Sciences*, 32(2), 2001, pp. 227-250.

Bennis, W., *Beyond Bureaucracy: Essays on the Development and Evolution of Human Organization*, San Francisco 1993.

Bilefsky, D., Raghavan, R., How ABB Tumbled back down to Earth, *The Wall Street Journal*, January 23, 2003.

Birkinshaw, J., Entrepreneurship in Multinational Corporations: The Characteristics of Subsidiary Initiatives, *Strategic Management Journal*, 18(3), 1997, pp. 207-229.

Birkinshaw, J., Network Relationships Inside and Outside the Firm, and the Development of Capabilities, in: Birkinshaw, J., Hagström, P. (eds.), *The Flexible Firm: Capability Management in Network Organizations*, Oxford 2000, pp. 4-17.

Birkinshaw, J., Hood, N. (eds.), *Multinational Corporate Evolution and Subsidiary Development*, London 1998a.

Birkinshaw, J., Hood, N., Multinational Subsidiary Evolution: Capability and Charter Change in Foreign-owned Subsidiary Companies, *Academy of Management Review*, 23(4), 1998b, pp. 773-795.

Birkinshaw, J., Hood, N., Jonsson, S., Subsidiary Initiative in Multinational Corporations, *Strategic Management Journal*, 19(3), 1998, pp. 221-241.

Black, J. S., Locus of Control, Social Support, Stress, and Adjustment in International Transfers, *Asia Pacific Journal of Management*, 7(1), 1990, pp. 1-29.

Borgatti, S. P., Foster, P. C., The Network Paradigm in Organizational Research, *Journal of Management*, 29(6), 2003, pp. 991-1013.

Brass, D. J., Structural Relationships, JobCharacteristics, and Worker Satisfaction and Performance, *Administrative Science Quarterly*, 26(3), 1981, pp. 331-348.

Brass, D. J. et al., Taking Stock of Networks and Organizations: A Multilevel Perspective, *Academy of Management Journal*, 47(6), 2004, pp. 795-817.

Brock, D. M. et al., National Culture and Expatriate Deployment, *Journal of International Business Studies*, 39(8), 2008, pp. 1293-1309.

Buckley, P. J., Casson, M. C., Models of the Multinational Enterprise, *Journal of International Business Studies*, 29(1), 1998, pp. 21-44.

Burt, R. S., Models of Network Structure, *Annual Review of Sociology*, 6, 1980, pp. 79-141.

Burt, R. S., *Structural Holes: The Social Structure of Competition*, Cambridge 1992.

Cascio, W. F., Managing a Virtual Workplace, *Academy of Management Executive*, 14(3), 2000, pp. 81-90.

Cox, T., Griffiths, A., Rial-Gonzales, E., *Work-related Stress*, Luxembourg 2000: Office for Official Publications of the European Communities.

Creed, W. E. D., Miles, R. E., Trust in Organizations: A Conceptual Framework Linking Organizational Forms, Managerial Philosophies, and the Opportunity Costs of Controls, in: Kramer, R. M., Tyler, T. R. (eds.), *Trust in Organizations: Frontiers of Theory and Research*, London – New Delhi 1996, pp. 36-38.

Cross, R. et al., Knowing What We Know: Supporting Knowledge Creation and Sharing in Social Networks, *Organizational Dynamics*, 30(2), 2001, pp. 100–120.

Cummings, T. G., Worley, C. G., *Organization Development and Change*, 8th ed., Mason 2005.

Cyert, R. M., *Management of Knowledge*, Keynote Address at the Carnegie Bosch Institute's 1995 International Conference on High Performance Global Corporations, Carnegie Mellon University, Pittsburgh 1995.

Das, T. K., Teng, B.-S., Managing Risks in Strategic Alliances, *Academy of Management Executive*, 13(4), 1999, pp. 50-62.

Davis, S. M., Lawrence, P. R., *Matrix*, Reading 1977.

DiMaggio, P. J., Powell, W., The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields, *American Sociological Review*, 48(2), 1983, pp.147-160.

DiStefano, J. J., Maznevski, M. L., Creating Value with Diverse Teams in Global Management, *Organizational Dynamics*, 29(1), 2000, pp. 45-63.

Doney, P. M., Cannon, J. P., Mullen, M. R., Understanding the Influence of National Culture on the Development of Trust, *Academy of Management Review*, 23(3), 1998, pp. 601-620.

Doz, Y. L., Santos, J., Williamson, P., *From Global to Metanational: How Companies Win in the Knowledge Economy*, Boston 2001.

Edström, A., Galbraith, J. R., Transfer of Managers as a Coordination and Control Strategy in Multinational Corporations, *Administrative Science Quarterly*, 22(2), 1977, pp. 248-263.

European Commission (ed.), *Eurobarometer 46.0*, Brussels 1996.

Fischer, R., Mansell, A., Commitment across Cultures: A Meta-analytical Approach, *Journal of International Business Studies*, 40, 2009 (forthcoming).

Forsgren, M., Holm, U., Johanson, J., *Managing the Embedded Multinational: A Business Network View*, Cheltenham 2005.

Fukuyama, F., *Trust: The Social Virtues and the Creation of Prosperity*, New York 1995.

Galbraith, J., *Designing the Global Corporation,* San Francisco 2000.

Galbraith, J., *Designing Matrix Organizations that Actually Work*, San Francisco 2009.

Gambetta, D., Can we Trust, in: Gambetta, D. (ed.), *Trust: Making and Breaking Cooperative Relations*, Oxford 1988, pp. 213-237.

Geppert, M., Matten, D., Walgenbach, P., Transnational Institution Building and the Multinational Corporation: An Emerging Field of Research, *Human Relations*, 59(11), 2006, pp.1451-1465.

Ghoshal, S., *The Innovative Multinational: A Differentiated Network of Organizational Roles and Management Processes*, Unpublished Doctoral Dissertation, Harvard Business School, Cambridge 1986.

Ghoshal, S., Bartlett, C.A., The Multinational Corporation as an Inter-organizational Network, *Academy of Management Review*, 15(4), 1990, pp. 603-625.

Ghoshal, S., Bartlett, C.A., *The Individualized Corporation: A Fundamentally New Approach to Management*, New York 1997.

Ghoshal, S., Korine, H., Szulanski, G., Interunit Communication in Multinational Corporations, *Management Science*, 40(1), 1994, pp. 96-110.

Granovetter, M., Problems of Explanation in Economic Sociology, in: Nohra, N., Eccles, R. G. (eds.), *Networks and Organizations: Structure, Form, and Action*, Boston 1992, pp. 25-56.

Gresov, C., Exploring Fit and Misfit with Multiple Contingencies, *Administrative Science Quarterly*, 34(3), 1989, pp. 431-453.

Gulati, R., Does Familiarity Breed Trust? The Implications of Repeated Ties for Contractual Choice in Alliances, *Academy of Management Journal*, 38(1), 1995, pp. 85-112.

Gupta, A. K., Govindarajan, V., Knowledge Flows within Multinational Corporations, *Strategic Management Journal*, 21(4), 2000, pp. 473-496.

Harzing, A. W., Who's in Charge? An Empirical Study of Executive Staffing Practices in Foreign Subsidiaries, *Human Resource Management*, 40(2), 2001, pp. 139-158.

Hedlund, G., The Hypermodern MNC: A Heterarchy?, *Human Resource Management*, 23(1), 1986, pp. 9-35.

Heijltjesa, M., Olieb, R., Glunka, U., Internationalization of Top Management Teams in Europe, *European Management Journal*, 21(1), 2003, pp. 89-97.

Hite, J. M., Hesterly, W. S., The Evolution of Firm Networks: From Emergence to Early Growth of the Firm, *Strategic Management Journal*, 22(3), 2001, pp. 275-286.

Huff, L., Kelley, L., Levels of Organizational Trust in Individualist versus Collectivist Societies: A Sevel-Nation Study, *Organization Science*, 14(1) 2003, pp. 81-90.

Ibarra, H., Homophily and Differential Returns: Sex Differences in Network Structure and Access in an Advertising Firm, *Administrative Science Quarterly*, 37(3), 1992, pp. 422-447.

Jarillo, J. C., *Strategic Networks: Creating the Borderless Organization*, Oxford 1993.

Jarvenpaa, S. L., Ives, B., The Global Network Organization of the Future: Information Management Opportunities and Challenges, *Journal of Management Information Systems*, 10(4), 1994, pp. 25-57.

Jarvenpaa, S. L., Leidner, D. E., Communication and Trust in Global Virtual Teams, *Organization Science*, 10(6), 1999, pp. 791-815.

Jones, C., Hesterly, W. S., Borgatti, S. P., A General Theory of Network Governance: Exchange Conditions and Social Mechanisms, *Academy of Management Review*, 22(4), 1997, pp. 911-945.

Josserand, E., *The Network Organization: The Experience of Leading French Multinationals*, Cheltenham – Northampton 2004.

Juga, J., Organizing for Network Synergy in Logistics: A Case Study, *International Journal of Physical Distribution & Logistics Management*, 26(2), 1996, pp. 51-67.

Kabanoff, B., Organizational Cultures across Cultures: Integrating Organizational-level and Culture-level Perspectives, in: Earley, P. C., Erez, M. (eds.), *New Perspectives on International Industrial/Organizational Psychology*, San Francisco 1997, pp. 676-71.

Kee, H. W., Knox, R. E., Conceptual and Methodological Considerations in the Study of Trust, *Journal of Conflict Resolution*, 14(3), 1970, pp. 357-366.

Köppel, P., *Konflikte und Synergien in multikulturellen Teams*, Wiesbaden 2007.

Kogut, B., Zander, U., Knowledge of the Firm and the Evolutionary Theory of the Multinational Corporation, *Journal of International Business Studies*, 34(4), 1993, pp. 625-645.

Kostova, T., Roth, K., Adoption of an Organizational Practice by Subsidiaries of Multinational Corporations, *Academy of Management Journal*, 45(1), 2002, 215-233.

Leka, S., Griffiths, A.. Cox, T., *Work Organisation and Stress*, Geneva 2003.

Luo, Y.,Antecedents and Consequences of Personal Attachment in Cross-cultural Cooperative Ventures, *Administrative Science Quarterly*, 46(2), 2001, pp. 177-201.

Malnight, T.W., The Transition from Decentralized to Network-based MNC Structures: An Evolutionary Perspective, *Journal of International Business Studies*, 27(1), 1996, pp. 43-65.

Mayer, R. C., Davis, J. H., Schoorman, F. D., An Integrative Model of Organizational Trust, *Academy of Management Review*, 20(3), 1995, pp. 709-734.

McGrath, J. E., Stress and Behavioral Organizations, in: Dunnette, M. (ed.), *Handbook in Industrial and Organizational Psychology*, Chicago 1976, pp. 1351-1395.

Mehra, A., Kilduff, M., Brass, D. J., The Social Networks of High and Low Self-monitors: Implications for Workplace Performance, *Administrative Science Quarterly*, 46(1), 2001, pp. 121-146.

Miles, R. E., Snow, C. C., Causes of Failure in Network Organizations, *California Management Review*, 34(4), 1992, pp.53-72.

Morgan, G., Kristensen, P. H., Whitley, R. (eds.), *The Multinational Firm*, Oxford 2001.

Mudambi, R., Navarra, P., Is Knowledge Power? Knowledge Flows, Subsidiary Power and Rent-seeking within MNCs, *Journal of International Business Studies*, 35(5), 2004, pp. 385-406.

Nohria, N., Ghoshal, S., *The Differentiated Network: Organizing Multinational Corporations for Value Creation*, San Francisco 1997.

Noorderhaven, N., Harzing, A.-W., Knowledge-sharing and Social Interaction within MNEs, *Journal of International Business Studies*, 40(issue not yet defined), 2009, pp. 719-741.

O'Donnell, S. W., Managing Foreign Subsidiaries: Agents of Headquarters, or an Interdependent Network? *Strategic Management Journal*, 21(5), 2000, pp. 525-548.

O'Reilly, C., Chatman, J. A., Culture as Social Control, Corporations, Cults, and Commitment, in: Staw, B. M., Cummings, L. L. (eds.), *Research in Organizational Behavior*, Vol. 14, North Holland, 1996, pp. 157-200.

Oberg, A., Walgenbach, P., Hierarchical Structures of Communication in a Network Organization, *Scandinavian Journal of Management*, 24(3), 2008, pp. 183-198.

Peterson, R. B., Napier, N. K., Shul-Shim, W., Expatriate Management: A Comparison of MNCs across Four Parent Countries, *Thunderbird International Business Review*, 42(2), 1996, pp. 145-166.

Piercy, N. F., Cravens, D. W., The Network Paradigm and the Marketing Organization: Developing a New Management Agenda, *European Journal of Marketing*, 29(3), 1995, pp. 7-34.

Powell, W. W., Neither Market nor Hierarchy: Network Forms of Organizations, *Research in Organizational Behavior*, Vol. 12, Greenwich 1990, pp. 295-336.

Rosenzweig, P. M., Singh, J. V., Organizational Environments and the Multinational Enterprise, *Academy of Management Review*, 16(2), 1991, pp. 340-361.

Rugman, A. M., Verbeke, A., Subsidiary-specific Advantages in Multinational Enterprises, *Strategic Management Journal*, 22(3), 2001, pp. 237-250.

Ruigrok, W. et al., ABB: Beyond the Global Matrix towards the Network Multidivisional Organization, in: Pettigrew, A. M., Fenton, E. M. (ed.), *The Innovating Organization*, London et al. 2000, pp. 117-143.

Schmid, S., Daniel, A., *Die Internationalität der Vorstände und Aufsichtsräte in Deutschland*, Working Paper, ESCP-EAP Berlin, Berlin 2007.

Science Council of Canada (ed.), *Multinationals and Industrial Strategy: The Role of World Product Mandates*, Ottawa 1980.

Shapiro, D., Sheppard, B. H., Cheraskin, L., Business on a Handshake, *Negotiation Journal*, 8(4), 1992, pp. 365-377.

Simmel, G., *Soziologie: Untersuchungen über die Formen der Vergesellschaftung*, Leipzig 1908.

Tajfel, H., Turner, J. C., The Social Identity Theory of Intergroup Behavior, in: Worchel, S., Austin, W. G. (eds.), *Psychology of Intergroup Relations*, Chicago 1986, pp. 7-24.

Taylor, S., Levy, O., Boyacigiller, N. A., Beechler, S., Employee Commitment in MNCs: Inpacts of Organizational Culture, HRM and Top Management Orientation, *International Journal of Human Resource Management*, 19(4), 2008, pp. 501-527.

Thorelli, H. B., Networks: Between Markets and Hierarchies, *Strategic Management Journal*, 7(1), 1986, pp. 37-51.

Tortoriello, M., Reagans, R., McEvily, B., *Bridging the Knowledge-Gap: The Role of Tie Strength, Cohesion, and Range*, Paper presented at the 2009 Academy of Management Conference, Chicago 2009.

Tushman, M. L., Scanlan, T. J., Characteristics and External Orientations of Boundary Spanning Individuals, *Academy of Management Journal*, 24(1), 1981, pp. 83-98.

Uzzi, B., Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness, *Administrative Science Quarterly*, 42(1), 1997, pp. 35-67.

Van Alstyne, M. v., The State of Network Organization: A Survey in Three Frameworks, *Journal of Organizational Computing and Electronic Commerce*, 7(2/3), 1997, pp. 83-151.

Warkentin, M. E., Sayeed, L., Hightower, R., Virtual Teams versus Face-to-face Teams: An Exploratory Study of a Web-based Conference System, *Decision Sciences*, 28(4), 1997, pp. 975-996.

Welch, D. E., Welch, L. S., Commitment for Hire? The Viability of Corporate Culture as a MNC Control Mechanism, *International Business Review*, 15(1), 2006, pp. 14-28.

Williams, M., Building Genuine Trust Through Interpersonal Emotion Management: A Threat Regulation Model of Trust and Collaboration Across Boundaries, *Academy of Management Review*, 32(2), 2007, pp. 595–621.

Williamson, O. E., *The Economic Institutions of Capitalism*, New York 1985.

Zaheer, S., Zaheer, A., Trust across Borders, *Journal of International Business Studies*, 37(1), 2006, pp. 21-29.

Zucker, L. G., Production of Trust: Institutional Sources and Economic Structure, 1840-1920, in: Staw, B. M., Cummings, L. L. (eds.), *Research in Organizational Behavior*, Vol. 8, Greenwich 1986, pp. 53-111.