

The role of global leadership programs in the development of social capital for knowledge sharing in MNEs

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Abstract

While emphasizing the role of bonding as a significant precursor of knowledge sharing in MNEs, the primary aim of this paper is to draw attention to the difficulties in purposively developing bonding across the MNE through global leadership programs. Our findings indicate that factors beyond the scope of such programs, such as the degree of external embeddedness of participants' business units and the deployment of extrinsic rewards for knowledge sharing are far more salient issues for bonding than participating in such programs. What does remain for global leadership programs to tackle is the issue of conflicting identities. Indeed our findings indicate that the greater the degree participants identify with their business unit the weaker their degree of bonding with the MNE.

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Introduction

It has been argued that the transfer of non-codified knowledge in firms is primarily about the development of the relationships among knowledge holders rather than the development of information and communication technologies (Haas and Hansen, 2007; Hansen et al. 1999; Nahapiet et al., 2005; Newell, Robertson et al., 2002). This would appear to be a particular challenge for multinational enterprises (MNEs) seeking inter-unit knowledge integration. Not only are they usually relatively large but their business units and key knowledge holders are separated by geographical and cultural distance (Ghemawat, 2001) and by varying degrees of local embeddedness (Forsgren et al., 2005; Newbury, 2001) so that MNEs are best conceived of as relatively loosely-coupled, federative organizations (Ghoshal and Bartlett, 1990). Consequently, it is argued, MNEs have to purposefully engage in fostering intra-firm networks of relationships if knowledge is to successfully flow internally (Hedlund and Rolander, 1990). The resources inherent in and derivable from these networks such as common obligations and norms have been referred to as relational social capital and constitute critical facilitators of knowledge sharing (Nahapiet and Ghoshal, 1998). This raises the issue of how social capital for knowledge sharing purposes may be developed in MNEs (Gooderham, 2007).

One approach to establishing the necessary inter-unit linkages has been to select high global leadership potentials across the MNE and then bring them together on internal global leadership development programs. The aim is that these key employees should through their interactions with one another develop a “common understanding” (Kogut and Zander, 1993, 531) which, not least, will enhance the efficiency of knowledge sharing. In other words

through their participation in leadership programs common values in regard to knowledge sharing will develop and thereby a common knowledge sharing praxis. We will refer to this development of shared values as “bonding”.

The overall aim of this paper is two-fold. First, it is to (re-) establish the role of bonding as a significant precursor of knowledge sharing. Second, through the case of global leadership programs, we draw attention to the difficulties in purposively developing bonding across the MNE. In regard to the first of these aims we scrutinize the competing proposition from the knowledge governance approach (KGA) (Foss, 2007) that the deployment of governance mechanisms, such as increments or bonuses for knowledge sharing, have a direct bearing on knowledge sharing. We argue that such governance mechanisms may have an alternative, indirect, role in regard to knowledge sharing by way of reinforcing bonding. We also examine a third potential source of variations in knowledge sharing behaviour by examining the role membership of corporate headquarters plays. We argue that individuals from corporate headquarters will engage in knowledge sharing irrespective of whether they have bonded with the MNE at large.

In regard to the second aim of the paper we not only examine the role of global leadership programs on bonding, but we also draw attention to three distinct potential constraints on bonding that will co-exist with global leadership programs: the objective degree of external embeddedness of participants’ business units, the culture of participants’ business units and the degree to which participants identify with their business units. The structure of the paper is summarized in Figure 1.

Figure 1 About Here

Of the factors that influence bonding this paper has a particular focus on the effect of the external embeddedness of the business units from which individual participants come on bonding. This is because this is a factor that, given its structural nature, is particularly problematic to address using “soft” management tools such as global leadership programs. By embeddedness we refer to the degree to which the business unit to which the individual belongs is entrenched in business relationships external to the MNE (Forsgren *et al.*, 2005). In MNEs this can vary considerably and impacts on the network centrality of the business unit in relation to the rest of the MNE which in turn, we contend, will effect bonding proclivity across the MNE.

To summarize: In this paper we will first argue that, even when individuals share common leadership potential characteristics, their tendency to engage in inter-unit knowledge sharing will vary according to their degree of bonding with the MNE with bonding being the belief or perception that knowledge sharing is a commonly shared value across the MNE. However, we also test alternative explanations of knowledge sharing derived from the KGA and the federative view of the MNE. Second, we will argue that the proclivity for bonding will be influenced by the degree to which business units are objectively embedded in their local environments while concurrently examining the effects on bonding of participation in a global leadership programme, the use of extrinsic rewards for knowledge sharing, business unit culture and business unit identification.

We address our two overall aims by drawing on a data set collected at the end of the initial stage of an internal global leadership development programme organized by a Norwegian MNE, Norfert (pseudonym), in collaboration with a leading international business school. In order to strengthen our test of the effect of participation in the programme we control for the effect of non-participation by including a sample of prospective participants.

The paper is structured as follows. First we define social capital and establish the argument for its significance for knowledge sharing in MNEs. Thereafter we present the competing KGA argument that micro-level governance mechanisms are necessary and efficient drivers of knowledge sharing. This is followed by a federative perspective on MNEs that emphasizes a headquarters-subsidary distinction. We then address the antecedents of variations in bonding including participation in global leadership programs and the external embeddedness of the individual. Hypotheses are introduced and tested.

The Determinants of Knowledge Sharing

The Social Capital Approach and Knowledge Sharing

During the latter part of the 1980s and early 1990s MNE scholars observed the pioneering attempts by MNEs to achieve the integration of their knowledge-intensive subsidiaries. It was not unusual that MNEs sought to develop formal structures as a means to minimise potential conflicts and enhance cooperation between global product managers and country heads. However, while formal structure matters it was concluded that it only constitutes at best a partial answer for MNEs seeking a closer integration (Hedlund, 1986; Bartlett and Ghoshal, 1995). For example at ABB in the late 1980s a matrix structure was introduced meaning that accountability was shared by country heads and product heads. However, the result was one of conflict and confusion, turf-wars and informational log-jams (Bartlett and Ghoshal, 1990). Thus while structure has a role to play it is argued that MNEs have the potential to go beyond structure and, using their “organizational advantage”, develop social communities based on shared identity for knowledge sharing purposes (Kogut and Zander, 1996). As Bartlett and Ghoshal (1995: 483) argue, “in an operating environment in

which managers are separated by distance and time barriers, *shared management understanding* is often a much more powerful tool than formal structure and systems in coordinating diverse activities.”

One compelling line of theorizing and research in regard to the role a “shared management understanding” can play in relation to knowledge sharing is represented by social capital theory. Although there is no unanimity as to how social capital should be precisely defined (Nahapiet, 2008), there is broad consensus in regard to its essential properties. Adler and Kwon (2002:17) define it as “the good-will that is engendered by the fabric of social relations that can be mobilised to facilitate (knowledge-sharing)”. Nahapiet and Ghoshal (1998:243) employ a somewhat broader definition defining social capital as “the sum of the actual and potential resources embedded within, available through and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network.” What these definitions share is the notion that networks of social relations can engender resources that enable social individuals and social groupings to achieve performance outcomes they could not otherwise accomplish.

Social capital theory can be usefully divided into two approaches (Inkpen and Tsang, 2005), the brokerage view (Burt, 1992; Lin, 2001) and the closure view (Coleman, 1988, 1990). While the former operates at the level of the individual actor who spans structural holes and who thereby benefits by controlling the flow of resources between the separate clusters of the social network, the latter operates at the level of the collectivity and argues that benefits from social capital such as commonly held values and mutual obligations derive from network ties. Our paper is located within the closure approach and focuses on the way in which competing external social networks can undermine the formation of the intra-MNE linkages necessary for social capital formation and knowledge sharing.

Like Tsai (2000:927) we regard social capital as primarily comprising a structural component “which manifests itself in attributes of an actor’s network position”, and a “relational component” which according to Nahapiet and Ghoshal (1998) will comprise common norms and obligations. The implication is that there is both a “linkage” and a “bonding” aspect to the social capital of a collectivity. The linkage aspect relates to the centrality of the location of an organizational unit in relation to the inter-unit network of the MNE, whereas the bonding aspect concerns the features of those linkages that give the collectivity cohesiveness.

Tsai and Ghoshal (1998) argue that it is this relational or cohesiveness dimension of social capital that is the immediate precursor or condition for knowledge sharing across multi-unit organizations such as MNEs. In terms of knowledge sharing relational social capital in the MNE would be manifested at the individual level by a pronounced belief or conviction that the sharing of knowledge with other business units is commonly valued across the MNE. We will refer to this belief or conviction as constituting “bonding” while noting that it is similar to the notion of “benevolence-based trust” (Levin and Cross, 2004) in that it involves an assumption of the benevolence of knowledge sources. Thus we will hypothesize that:

Hypothesis 1: The greater the bonding with the MNE, the greater the propensity of individuals to engage in knowledge sharing with other units.

KGA and Knowledge Sharing

According to Foss (2007) the KGA (Grandori, 2001) starts from the premise that knowledge processes - including the sharing of knowledge - can be influenced and directed through the deployment of formal governance mechanisms such as reward systems. Because

these formal mechanisms can be manipulated by management, the KGA asserts “that such governance mechanisms should be seen as critical antecedents of knowledge processes” (Foss, 2007:30).

Foss contends that the KGA represents a reaction to what it regards as the "methodological collectivism" of explanations of knowledge sharing that rely on explanations that take place solely on the collective level and which eschew high-powered performance incentives that operate at the micro-level. It is also a reaction to explanations that rely on "informal organization", such as networks, culture, communities of practice rather than formal governance mechanisms. As such it represents a reaction to the social capital approach to knowledge sharing we have outlined above. Foss argues that such explanations obscure the issue of how knowledge that ultimately resides on the level of the individuals is somehow integrated through organizational means into organization-level capability. Thus KGA asserts the need to build micro-foundations grounded in individual action and interaction for organizational knowledge-based phenomenon such as knowledge sharing (Felin & Foss, 2005). As such Foss (2007) argues that governance mechanisms influence the conditions of individual action that in turn will lead employees to take those decisions that, when aggregated lead to “favourable” organizational outcomes. Thus, “the attempt to better exploit certain knowledge assets through knowledge sharing (an organizational outcome) may be implemented by setting up reward systems for knowledge sharing....” (Foss, 2007:36)

As Bock et al. (2005) assert “every organization we interviewed had implemented monetary incentives, points towards promotion, or both as extrinsic motivators for knowledge sharing” (p.91). One of the well-known examples is Siemens ShareNet, which measured and rewarded employees for knowledge sharing. Especially at the beginning, when ShareNet was in its infancy, the reward system was designed to create a critical mass of content by making

users aware of the system and encouraging contributions. This was accomplished through a competitive reward structure based on the number of contributions made (Nielsen and Ciabuschi, 2003). Thus, despite criticism of this approach by social capital theorists such as Nahapiet et al. (2005) we hypothesize that:

Hypothesis 2: The use of financial rewards for sharing knowledge will result in a greater propensity to engage in knowledge sharing with other units of the MNE.

Membership of Corporate Headquarters and Knowledge Sharing

Hedlund (1980) documented considerable disparities in terms of the strategic point of view of MNE subsidiaries and their corporate headquarters. Ghoshal and Bartlett (1990) argued that MNEs are better considered federative rather than unitary, internally homogenous organizations. That is the linkage between ownership and hierarchical power is particularly weak in the case of MNEs not least because of large physical distances between the owned and owning units. In this regard the headquarters in terms of a federative view of the MNE is considered to be no more than one “player among others” (Andersson *et al.*, 2007) with MNEs more like political coalitions and less like military formations (Holm and Pedersen, 2000). Mudambi and Navarra, (2004) argue that in terms of this federative or political view of the MNE intra-MNC knowledge flows are a key determinant of subsidiary bargaining power which subsidiary managers seek to exploit for their own ends. In other words while headquarters may advocate knowledge sharing as a guiding principle for all parts of the MNE, rent-seeking business units may not subscribe to this.

As such we should expect that while members of corporate headquarters practice knowledge sharing we should not necessarily expect that members of the business units do so. Therefore we hypothesize that:

Hypothesis 3: Members of corporate headquarters will have a greater propensity to engage in knowledge sharing with other units than non-members.

The Determinants of Bonding

Although social capital is generally a by-product of activities engaged in for other purposes, it is also argued by social capital theorists that intentional, direct and purposeful investment in social capital is possible (Nahapiet and Ghoshal, 1998). Arguably, internal global leadership programs constitute an attempt to develop social capital in that they have as their aim to create interdependence through common objectives as a consequence of concentrated interaction with managers from other units.

While relational social capital or bonding is the major immediate antecedent of knowledge sharing within the MNE it does not arise of itself. It depends on existing structural network linkages that provide access to other parties - hence our concern with the issue of external embeddedness. It is also more likely to emerge when there exist cognitive commonalities in terms of codes and identities – hence our concern with business unit culture and identification with the business unit as distinct from that of the MNE. We will also argue that it may also be enhanced through the use of extrinsic incentives.

Global leadership Development Programs and Bonding

The globalization of business has challenged companies to identify leaders with potential global leadership competencies and to develop these. Although the concept of global leadership competencies is not well-understood (Suutari, 2002) and therefore the process of and the tools for developing global leader competencies is lacking in clarification (Morrison, 2000; Roberts et al., 1998) a number of development methods may nevertheless be observed (Suutari, 2002). One of the most traditional, but also one of the most costly methods, is some form of internal training and development programme that aims “to promote integration, cross-cultural interaction and networking” in accordance with the MNE’s “specific strategic imperatives” (Suutari, 2000). As Suutari (2002) observes, such tailored programs are “very expensive to arrange”. Their expense is of course even greater when they have been preceded by some form of assessment centre designed to identify participants with attributes that are deemed indicative of global leadership potential.

Our fourth hypothesis is therefore concerned with the impact of participation in global leadership programs on bonding conceived as the belief that reciprocal knowledge-sharing is a commonly held core value in the MNE. We hypothesize that

Hypothesis 4: Participation in global leadership programs will result in an increased degree of bonding with the MNE.

Although the intake to a global leadership programme may be designed to ensure that only individuals with similar leadership capacities or aptitudes participate, it is important to bear in mind the wider MNE context within which such programs are being conducted. Participants’ business unit membership may act as a substantial constraint on creating inter-unit linkages and therefore bonding with the MNE as a collectivity. In particular we will

argue that a particular constraint is the degree to which the business units to which they belong are embedded in external business networks.

External Embeddedness and Bonding

Andersson et al. (2007) point to a dilemma faced by the headquarters of MNEs. On the one hand business units that are embedded in external unique, local business contexts can provide access to competencies from which the whole of the MNE can benefit. On the other hand business units that are highly embedded in local business contexts may equally be less interested in the overall performance of the MNE than those which are more embedded within the MNE. That is when business units are largely involved in long-term business interactions in their local environment “the possible result (is) that issues external to the MNE are prioritized” (Andersson et al., 2007: 816). To the extent externally embedded business units are interested in the MNE the tendency is to try and influence the strategy of the MNE on the basis of its own local business agenda. The implication is that MNEs should be viewed as organizations whose degree of inter-unit bonding will vary according to the strength of the business unit’s linkages with its local environment. Rather than being interested in contributing to the MNE’s overall performance, the externally embedded business unit is characterized by a rent-seeking or self-interested attitude and a lack of commitment to the MNE as a whole that manifests itself in paying “lip-service” to the concerns of headquarters.

It is reasonable to suppose that individuals participating in global leadership programs will be imbued with the rationales pertaining to their respective business-units. In other words participants who are members of business units that have strongly externally embedded business relations will be less likely to be closely bonded with the MNE as a whole. This will be reflected in a significantly weaker degree of belief in reciprocity of knowledge sharing within the MNE. We therefore hypothesize that:

Hypothesis 5: The greater the degree of external embeddedness of business units, the weaker the degree of bonding with the MNE.

The KGA and Bonding

Osterloh and Frey (2000) examine how knowledge transfer is influenced by organizational design. As they make use of psychological theories of individual motivation they are regarded by Foss (2007) as representing a refinement of rather than a repudiation of KGA. Osterloh and Frey argue that the use of extrinsic motivational devices to manage the transfer or sharing of tacit knowledge can crowd out intrinsic motivation and thus have a detrimental effect on the transfer and sharing of knowledge. To the extent an MNE is concerned with the sharing of tacit, as opposed to explicit, knowledge there is an inherent difficulty in deploying financial incentives in order to increase knowledge sharing. This view represents a challenge to the thinking underlying hypothesis 2.

However, Osterloh and Frey distinguish on the one hand between the use of intrinsic and extrinsic motivational mechanisms that are pertinent to joining or bonding with a group, and on the other hand the mechanisms that are conducive to stimulating knowledge sharing once membership or bonding has taken place. Thus Osterloh and Frey (2000:547) emphasize that it is important to distinguish between the motivation underlying the decision by an individual to join and participate in a work group and the motivation to contribute or produce for that group. That is the acceptance of membership of a work group often depends on extrinsic factors such as expected monetary rewards. In contrast, the actual sharing of one's tacit knowledge hinges on intrinsic motivation. In other words in the case of knowledge sharing in MNEs one may conceive of extrinsic rewards for knowledge sharing that stimulate a sense of membership or bonding based around the notion that knowledge sharing is a

common goal or core value for the MNE, even though those same rewards may have no direct impact on actual knowledge sharing. Thus we hypothesize that:

Hypothesis 6: The use of financial rewards for sharing knowledge will result in a strengthening of the degree of bonding with the MNE.

Business Unit Culture and Bonding

To some extent organizational values reflect those of the national culture (Yeh, 1995), that is the values that characterize organizations will parallel those of the national culture in which the organization operates (Rhody and Tang 1995). However, within national cultures there will be varying organizational cultures so that organizational rather than national culture constitutes a more precise means of understanding the willingness or ability of business unit employees to bond across the MNE. Deshpandé and Webster (1989:4) defined organizational culture as a "pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with the norms for behavior in the organization". Schein (1989) emphasizes a distinction between espoused values and tacit assumptions with the latter driving and shaping the practices of organizational members.

The distinction between national and organizational culture informs the Globe research project (House et al., 2004) which measures culture both as practices and values at the national and organizational level. In terms of the various dimensions of culture the Globe project identifies two, power distance and assertiveness, have a particular bearing on knowledge sharing. Organizations characterized by low levels of power distance are associated with information sharing and the belief that knowledge is sharable, and organizations characterized by low levels of assertiveness are associated with cooperation, and by implication a positive attitude to sharing knowledge. Thus we hypothesize that

Hypothesis 7a: The lower the level of power distance in the business units, the greater the degree of bonding with the MNE.

Hypothesis 7b: The lower the level of assertiveness in the business units in which participants are employed, the greater their degree of bonding with the MNE.

Identification and Bonding

Because MNE employees are embedded in two distinct social networks, their business unit and the wider MNE, there is a possibility of distinct competing or contradictory social identities. Thus even when there is a sense of identification with the MNE, identification with the business unit may constitute a formidable barrier to bonding. Thus we hypothesize that:

Hypothesis 8a: The greater the degree participants identify with their business unit the weaker their degree of bonding with the MNE.

Whereas Nahapiet and Ghoshal (1998) regarded identification with the collective as key component of the relational dimension of social capital we propose that it is regarded as a condition for the establishment of relational social capital. Thus we hypothesize that:

Hypothesis 8b: The greater the degree participants identify with the MNE the greater their degree of bonding with the MNE.

Data and operationalizations

In order to test our hypotheses we draw on a data set collected at the end of the initial session of a global leadership development programme, the “LEAD” programme, inaugurated by a Norwegian MNE, Norfert, in November 2007. The programme, developed in collaboration with a leading international business school, comprises three five-day events evenly spread over a nine month period. Each five-day event involves a series of intensive sessions starting at 9.00 am and lasting until 9.00 pm at a dedicated site. The input comprises a mix of formal lectures, informal discussions and interactive exercises.

Norfert is a supplier of mineral fertilizer with 7,000 employees spread across operations in 40 countries. The concept of the global leader was defined by LEAD as comprising not only knowledge and skills but also “values”. By values is meant common values in that one of the main aims of the programme is to “create a group of change agents who can drive Norfert forward to being an industry shaper by ... acting as evangelists (on behalf of Norfert management)”. The 38 individuals selected for the inaugural programme had been selected on the basis of an assessment centre run by an international consultancy followed by supplementary interviews conducted by Norfert itself. The assessment centre narrowed down potential candidates from 650 to 100 individuals and the interviews resulted in a further narrowing of the candidates to the initial 38 participants.

The data were collected using a questionnaire which was distributed to all 38 participants at the start of the fifth and final day of the first session of LEAD. All 38 completed and returned the questionnaire.

In addition, in early 2008, we acquired responses from 15 Norfert employees who had passed through the assessment centre but who as a result of the interview phase were not, for career-stage reasons, selected for the initial LEAD programme. However, all 15 are regarded by Norfert as likely candidates for the second LEAD programme. Thus our total sample

comprises 53 Norfert employees of which 38 are current LEAD participants, while 15 are prospective LEAD participants who will enter the second LEAD programme to be held in November 2008. Of the 53 employees in our sample, 14 are Norwegians.

The variables are operationalized in the following way:

External embeddedness of the business unit is measured using two separate composite variables with values ranging from 2-10 .

The first of these is *Degree of interaction with external suppliers* which comprises two variables both measured on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The first component variable is “My unit has more interaction with external suppliers than with other units of Norfert” and the second “ I have more interaction with external suppliers than with other units of Norfert”. Cronbach alpha is .849.

The second composite variable also comprises two variables also both measured on scales from 1 (strongly disagree) to 5 (strongly agree). The first component variable is “My unit has more interaction with external customers than with other units of Norfert” and the second “I have more interaction with external customers than with other units of Norfert.” Cronbach alpha is .874.

Identification is measured using two separate variables both measured on scales ranging from 1 (strongly disagree) to 5 (strongly agree). The first variable is *Identification with business unit* and comprises responses to “I strongly identify with my current unit”. The second variable is *Identification with the MNE* and comprises responses to “I see myself as “a Norfert person”

Business unit culture is measured using two separate variables, *Power distance* and *Assertiveness* both of which have been derived from the Globe Study (House et al. 2004) and both which are measured on scales from 1-7. The *Power distance* scale is measured as “In my unit subordinates are expected to obey their boss without question” (1) to “In my unit subordinates are expected to question their boss when in disagreement” (7). The *Assertiveness* scale is measured as “In my unit people are generally assertive” (1) to “In my unit people are generally non-assertive (7)”.

Extrinsic rewards is a single item measured on a scale from 1 (little or no extent) to 5 (very large extent) with respondents responding to, “To what extent are you currently rewarded for sharing knowledge in your company by increments/bonuses?”

Participation in the current LEAD programme is a single dichotomous item (yes=1; no= 0),

Membership of corporate headquarters is a dichotomous variable (Norwegian =1; Other = 0). With few exceptions most members of corporate headquarters are Norwegian meaning that in the context of Norfert if one is Norwegian, regardless of current business unit location, one’s base is corporate headquarters.

Bonding is a single item measured on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Respondents respond to the statement “Knowledge sharing with other units in the MNE is greatly valued in Norfert”.

Knowledge sharing is a composite variable comprising three items each of which is measured on scales ranging from 1 (strongly disagree) to 5 (strongly agree). The items are “I have acquired important knowledge from other units in Norfert”, “I have used important knowledge from other units in Norfert” and “I have contributed important knowledge to other units in Norfert”. The range of values of the composite variable is 3 to 15. Cronbach alpha for the scale is .891. In terms of KGA it is important to note that knowledge sharing is measured at the individual level rather the business unit or MNE level.

Control variables. Our analysis comprises two models. In model 1 *Bonding* is the dependent variable and in model 2 *Knowledge Sharing* is the dependent. We have controlled for *Gender* and *Length of employment* (number of years as a Norfert employee) in both of the models we test. In model 2 we enter all variables from model 1 with variables not included in model 2 hypotheses functioning as control variables.

Results

In addition to a correlation analysis (Table 1) we conducted a regression analysis (Table 2). Looking at this latter analysis it is apparent from model 1 that only three factors have any significant impact on the degree of bonding with the MNE by participants, with bonding conceived as the belief that reciprocal knowledge sharing with other units in the MNE is a commonly held core value. Of these three two have a negative impact, *Interaction with external suppliers*, and *Identification with the business unit*. Only *Extrinsic rewards* derived from the KGA has a positive impact. Thus while hypothesis 5 receives partial support (interaction with external suppliers but not interaction with external customers), and hypotheses 5 and 6 are supported, hypotheses 4, 7a, 7b and 8b are rejected. None of the control variables has any impact.

In terms of model 2 we hypothesized (hypothesis 1) that the greater the degree of bonding the greater is the propensity of participants to engage in knowledge sharing with other units. This is supported. We may note that the model also indicates that members of corporate headquarters, i.e. Norwegians, are more likely to engage in knowledge sharing than non-members (hypothesis 3). No support is found for hypothesis 2. The only other significant effect in model 2 indicates that the longer one has been a Norfert employee the more likely it is that one engages in knowledge sharing. We may note that as the control variable *Length of employment* has an impact on knowledge sharing there is a suggestion that as time passes quasi-membership of corporate headquarters is achieved.

Discussion

The relationship between bonding and knowledge sharing is of course complex and it is a complexity that we recognize static (i.e. single time period) data is not ideally suited for mapping (Amdur, 1989). For example we may note that the correlation matrix in Table 1 indicates a fairly substantial, but not overly great, correlation between bonding and knowledge sharing. The implication is that had we in model 2 in Table 2 used bonding as the dependent variable and employed knowledge sharing as an independent variable we could show a significant effect of knowledge sharing on bonding. Indeed this is the case. However, our preference for model 2 as it is is not only justified on theoretical grounds – that is we argue that bonding initially precedes knowledge sharing – but also on empirical grounds. Thus when we replace knowledge sharing with bonding in model 1 we observe no significant effects, meaning that while we can model the precursors of bonding, we are unable to do so for knowledge sharing beyond our findings in our current model 2.

A further limitation to our study is that we have collected our data at a relatively early stage of the LEAD programme. It may be argued that it is only towards the end of the

programme that one should expect a participation-effect. However, it is noteworthy, that there is no discernible difference whatsoever between current and prospective participants after the end of an intensive five-day session.

Conclusions

Our analysis indicates that differences in bonding or relational social capital do indeed have substantial consequences for knowledge sharing. In other words any strategy that has as its aim that of Norfert to create a group of “evangelists”, characterized by knowledge sharing across business units, must take into consideration the determinants of bonding.

We note that business unit culture, in the sense of power distance and assertiveness, invariably a focus of global leadership development programs, have no impact on bonding. This was also the case for another stock theme in such programs, that of the need to enhance identification with the MNE. Table 1 indicates that this is generally strong anyway which is hardly surprising given the assessment centre that preceded selection either for current or future participation.

Instead our findings indicate that of the three factors that impact on bonding two are factors that cannot be obviously dealt with by global leadership development programs. The one concerns the degree of external embeddedness of participants’ business units in terms of relations with external suppliers. Our findings indicate that the greater the business unit is involved with external suppliers the weaker the bonding of the individual participant. This factor can only be addressed through purposively constructing business linkages between externally embedded business units and other business units. The other factor that lies beyond the scope of global leadership programs is the issue of the deployment of extrinsic rewards for knowledge sharing. Our findings suggest that such rewards increase the belief that reciprocal knowledge sharing with other units in the MNE is a commonly held core value. This is an

issue that global MNE management should address independently of global leadership development programs. It is also an issue that theoreticians of social capital such as Nahapiet et al. (2005) who are at odds with those, like Foss, who argue that largely economic micro-foundations will deliver outcomes such as cooperation and knowledge sharing will have to address.

Thus variations in the degree of network centrality between the participant's business unit with the rest of the MNE have profound implications for participants' bonding with the MNE not least in terms of knowledge sharing proclivities and practices (Adler and Kwon, 2002; Tsai 2000). Moreover, we argue that the effect of variations in inter- business unit bonding, given their being rooted in objective business relations, is beyond the scope of global leadership programs.

What does remain for global leadership programs to tackle is the issue of conflicting identities. Our findings indicate that the greater the degree participants identify with their business unit the weaker their degree of bonding with the MNE. Table 1 indicates that this is not rooted in the objective interaction of the business unit with external suppliers so it would appear to be amenable for change through global leadership development. Data collected at a later point in the LEAD programme will enable us to test whether this is the case.

Finally, we have observed that membership of corporate headquarters is significantly related to knowledge sharing indicating that knowledge-sharing may take place despite no conviction that knowledge sharing with other units is actually valued across the MNE. In other words loyalty to the practice of knowledge sharing does not necessitate bonding for members of corporate headquarters.

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Table 1. Means, Standard Deviations and Correlations

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
External embeddedness:												
1. Interaction external suppliers	5,33	2,51										
2. Interaction external customers	5,86	2,73	.505**									
Social identity:												
3. Identification with business unit	3,79	0,92	.142	.269								
4. Identification with MNE	4,29	0,75	-.114	.218	.205							
Business unit culture:												
5. Power distance	5,60	1,07	-.161	-.257	.131	.319*						
6. Assertiveness	3,55	1,42	.006	-.102	.033	.016	-.166					
7. Extrinsic rewards	2,18	1,16	-.022	.050	.167	-.080	.059	-.005				
8. HQ membership	0,26	0,45	.025	-.237	-.098	-.236	-.178	.061	-.056			
9. LEAD participation	0,72	0,45	.237	.213	.098	.177	.178	.247	.129	-.289*		
10. Bonding	3,54	0,87	-.449**	-.071	-.168	.253	.102	.059	.230	-.053	-.072	
11. Knowledge sharing	10,51	3,18	-.095	-.081	-.182	.047	.118	-.011	.360**	.146	.009	.393**

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

Table 2. Regression analysis of impact of factors on bonding (model 1) and knowledge sharing (model 2)

	Model 1			Model 2		
	B	S.E.	Sig.	B	S.E.	Sig
External embeddedness:						
Interaction external suppliers	-,206	,064	,003*	,154	,240	,526
Interaction external customers	,113	,067	,103	-,073	,231	,755
Social identity:						
Identification with business unit	-,426	,158	,010*	-,115	,560	,839
Identification with MNE	,162	,250	,520	-,508	,793	,527
Business unit culture:						
Power distance	,132	,151	,386	,397	,472	,406
Assertiveness	,126	,104	,233	-,130	,348	,710
Increments/ Bonuses						
	,250	,115	,036*	,204	,390	,605
HQ membership						
	,050	,357	,890	2,737	1,114	,019*
LEAD participation						
	-,255	,376	,502	,787	1,186	,511
Bonding						
				1,442	,525	,011*
Controls:						
Gender	-,454	,341	,192	-,269	1,105	,809
Length of employment	-,217	,137	,121	1,219	,477	,015*
Adjusted R2	,284			,265		

* significant at 0.05 level

↑

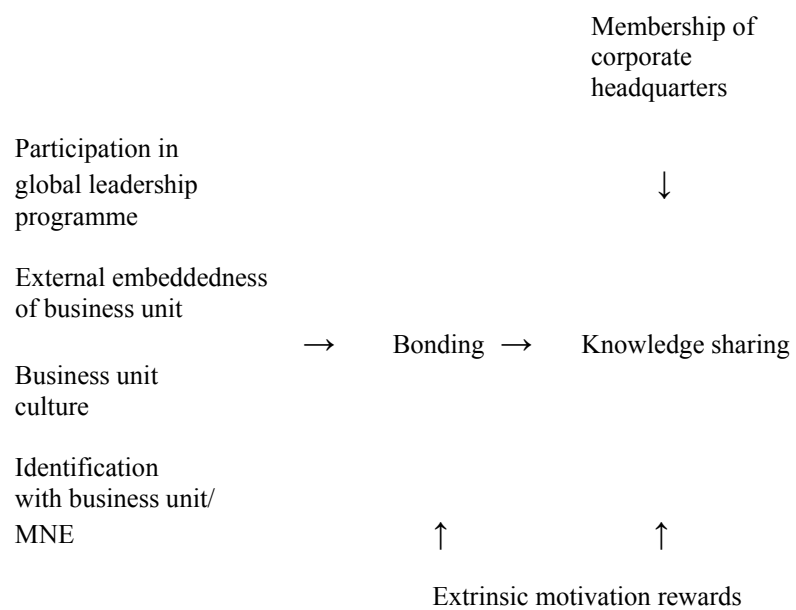


Figure 1 Determinants of knowledge sharing in MNEs