

Working Paper No. 27/09

**Developing social capital through the SLU
leadership development program**

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SNF Project No. 6307

Tools and Techniques for Global Leadership Development in Norwegian MNEs

The project is financed by The Research Council of Norway

AFF Konsult AS

Rieber & Søn ASA

Veidekke ASA

Yara AS

INSTITUTE FOR RESEARCH IN ECONOMICS AND BUSINESS ADMINISTRATION

BERGEN, July 2009

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This report is one of several reports within the GOLD research project at SNF. The research project aims to identify tools and techniques applied by Norwegian-based multinational companies that seek to develop a competitive advantage based on extensive knowledge sharing across multinational divisions in the company. The project explicitly focuses on how development of social capital enhances knowledge sharing. Four organizations participate in the project: Veidekke, Rieber and Søn, Yara and AFF. This report assesses the effects of Veidekke's leadership program (SLU) with a particular focus on whether the program has generated social capital and enhanced knowledge sharing in the corporation.

Several sources of information have been used including documentation of the SLU program, interviews with the CEO and corporate managers, progress reports and interviews with SLU participants, as well as responses to a survey that was administered to all previous SLU participants. We would like to thank our informants in Veidekke for their time, effort and willingness in providing valuable information.

INTRODUCTION

Veidekke ASA is a leading Scandinavian building contractor and property developer operating within construction, property development and industrial operations. While the construction industry is a highly cyclical industry significantly affected by the recent and previous economic recessions, Veidekke has since its foundation some seventy years ago continuously shown high performance. Their strategic basis consists of a strong value-based company culture with an emphasis on high levels of involvement and cooperation. Cooperation requires both a willingness and ability to share resources and competencies, both of which have proven quite challenging for most organizations, and the challenges intensify for those operating in a multinational setting.

Veidekke's leadership program SLU is a key corporate effort aiming to secure knowledge sharing and cooperation. In this report we examine the extent to which the leadership development program SLU contributes in collaboration and knowledge sharing in Veidekke. We are particularly interested in if and how SLU contributes to developing the company's social capital.

In addition to developing personal leadership skills, central goals of the SLU leadership program consist of developing networks and a shared corporate culture that can supersede divisional and national cultures and facilitate cross-border collaboration and knowledge sharing. The program was designed with a specific purpose of developing relations, trust, and a shared mindset across corporate divisions and these elements have received increasing attention over time in the program. While the management in Veidekke refers to these goals as cultural, they coincide closely with the term *social capital*, which within research increasingly appears as a potential key to knowledge sharing. Social capital refers to "the assets that reside in networks of relationships and affect the conditions necessary for knowledge transfer to occur" (Nahapiet and Ghoshal, 1998 pg. 243). While the bulk of research on knowledge sharing focuses on putting in place appropriate governance mechanisms for knowledge sharing, such as incentive systems, the social capital perspective presents an alternative approach based on developing strong relations and shared mindsets among managers and employees. Gooderham (2006) suggests that management development programs can be a means to develop the corporate glue or bonding and create the structures that contribute in developing valuable relations and shared mindsets among managers. Although researchers are increasingly pointing to the important role of social capital, particularly for knowledge sharing in organizations, we currently have limited knowledge on how social capital can be developed through leadership programs.

This report aims to (1) provide feedback to the Veidekke management on the extent to which corporate goals with the SLU program have been fulfilled and (2) contribute to more general knowledge on if and how social capital can be developed through leadership programs.

Our study consists of interviews with top managers, real-time progress reports from 6 SLU participants, and survey data from 103 participants in the program from seven different SLU classes. In our analysis, we focus on what the participants see as the main benefits and outcomes of the program and compare this with corporate goals. We specifically examine whether the program has contributed in developing social capital in Veidekke and probe the underlying mechanisms that facilitate development of social capital through leadership development programs as well as potential linkages to knowledge sharing.

Our findings suggest that the SLU program, in line with corporate intentions, contribute in developing social capital in terms of a strong corporate culture, a shared mindset, and new relationships across corporate divisions and national borders. These findings cut across national borders and corporate divisions. Our survey data show a strong linkage between social capital and knowledge sharing indicating that leadership programs can indeed enhance knowledge sharing by focusing on developing the social capital. Two factors influence the effects of the program: previous program experience and their participants' assessment of the group work.

Theory on knowledge sharing and social capital

Knowledge is increasingly being viewed as a key strategic resource which enables firms to develop a competitive advantage (Easterby-Smith, Crossan and Nicoloni, 2000). Knowledge, particularly tacit knowledge, is difficult to imitate and unlike many other resources, it does not diminish through use, but rather increases. In the case of multinational enterprises (MNEs) it has been argued by Dunning (1997) that increasingly firms are investing abroad not only to exploit their knowledge advantages but also to augment their knowledge bases by "buying into" foreign created knowledge assets. However, possessing knowledge across different locations within the MNE does not guarantee competitive success. MNEs must make use of and develop their knowledge base through sharing, which encompasses not only transfer but possibly also reciprocal development through exchange and combination (Nahapiet and Ghoshal, 1998). Knowledge sharing (Tsai, 2002) refers to the process by which knowledge is identified, transferred, and put to use by the receiving end (Mahnke and

Pedersen, 2004; Szulanski, 1996). This is also often referred to as knowledge transfer or knowledge flows (Schulz, 2001; Mom et al., 2007).

According to Gooderham (2007) the possession of knowledge sharing capabilities among MNEs varies. Mastering knowledge sharing can thereby constitute a dynamic capability and a source of competitive advantage in the organization (Inkpen and Tsang, 2005). Adler and Kwon (2002) argue that although instrumental motivators, such as incentives for sharing knowledge, dominate the literature, consummator motivators, which are based on the idea that “I’ll do this for you now, knowing that somewhere down the road you’ll do something for me” (Putnam 1993:182-183), are equally important. Nahapiet and Ghoshal (1998) suggest that one way to secure knowledge sharing among diverse and geographically dispersed organizations is by developing the firm’s *social capital*.

The firm’s social capital consists of three dimensions: the relational, the cognitive, and the structural, (Nahapiet and Ghoshal, 1998). The relational dimension encompasses such facets of personal relationships as trust, obligations, respect and even friendship which together increase the motivation to engage in knowledge exchange and teamwork. The relational dimension is “supported” by two other dimensions of social capital. The first is the cognitive dimension, i.e. shared interpretations and systems of meaning, and shared language and codes that provide the foundation for communication. The second is the structural dimension which refers to the presence or absence of specific network or social interaction ties between units of the MNE and the overall configuration of these ties. Network ties facilitate social interaction which in turn stimulates the development of the cognitive and relational dimensions of social capital. Thus a precondition for the development and maintenance of the relational and cognitive dimensions of social capital is that of sustained social interaction. Some researchers, particularly within network theory, distinguish between strong and weak ties; work relationships and social relationships (Krackhardt, 1992). Others distinguish between bonding and bridging (Putnam, 2002) where bonding refers to strong, cohesive ties within or between homogeneous groups, while bridging refers to ties within or between heterogeneous groups and is more often associated with weak ties. These distinctions in ties between individuals in organizations are often referred to as structural ties between individuals and hence naturally fall within the structural dimension of social capital. However, in essence they describe the strength and nature of relationships, hence they obviously also incorporate the relational dimension of social capital.

While there is increasing interest in social capital as a means for securing knowledge sharing, we currently have limited knowledge on how firms can successfully develop social capital. Gooderham (2007) has argued that social capital across MNEs is enhanced by socialization and motivation

mechanisms. Whereas the first refers to mechanisms such as transnational project teams and global leadership programs that promote the internalization of MNC-wide shared goals, the second refers to a mix of rewards and sanctions that both establish and maintain particular norms or “rule systems” for knowledge development and combination (Kostova et al., 2008). By corollary when both or either of these mechanisms is absent, cognitive and thereby relational social capital is underdeveloped and there is little or no combination and exchange of knowledge. In this report we draw on the insights by Gooderham (2007) and particularly examine the role of *leadership programs* in developing a firm’s social capital.

Leadership programs can be perceived as a meeting place (a structure) within which the three dimensions of social capital potentially can be developed. Leaders regularly come together, which creates a basis for potentially developing trusting relationships, a shared mindset, and new meeting places.

VEIDEKKE AND THE SLU PROGRAM

The Scandinavian Leadership Program (SLU) was initiated in 2004, some four years after Veidekke had expanded into Sweden and Denmark. According to CEO, Terje Venold, the program was started to develop internal leadership competences and to integrate the newly acquired foreign divisions:

The reasons we have SLU are: I saw that our offerings of leadership programs were limited. We had excellent programs for skilled workers, we also had programs for top managers such as through AFF and IFL for other managers, but we did not have sufficient training of internal competencies for our top managers. Another reason we started SLU was that this could be used to communicate our culture and the Veidekke model. Therefore we wanted 1/3 of the participants to be from the Swedish and Danish organizations, although they do not represent 1/3 of Veidekke. (CEO)

The mandate and goals of the program are presented in the figure below. As can be seen, the overall goal that was presented within the organization was “to provide each leader with an opportunity for personal development and leadership development”. Development of the corporate culture is in this presentation one of three goals that are listed below the overall goal. However, we will show that the cultural goal became increasingly important as SLU progressed.

SLU goals, mandate

Problem owner: Corporate management in Veidekke, HR - forum

Overall goal: Provide each leader with an opportunity for personal development and leadership development

- Equip the most central leaders to meet leadership challenges ahead, in existing and new roles within the corporation
- Establish internal networks between disciplinary area and geography, increased corporate collaboration
- Corporate culture development

Priority themes

- Introduction and discussion on corporate strategy, human resource and organization development strategy, communication strategy and IoU-strategy, goals, industry conditions, values etc.
 - Gain commitment and understanding, input from participants
- Develop the leadership role/organization development
 - Increase knowledge level within each disciplinary area and contribute to develop each individual as a leader and equip our leaders with necessary skills to develop the organization.
- Communication/presentation
 - Communication / presentation og networking will be critical to succeed as a leader

SKANDINAVISK
LEDERUTVIKLING

Figure 1: SLU goals

The presentation above shows the goals of SLU and as can be seen corporate culture development is one of three points underneath the overall goal which is personal development and leadership development. However, shared values and a strong corporate culture has long been a clear goal in the company, and the CEO argued that the many acquired companies would be integrated into corporate Veidekke through a common corporate culture.

The need for values became apparent when we were doing acquisitions as we suddenly had so many different cultures in Veidekke. Similar systems did not make us similar. We needed a shared history... We have since developed a series of tools aimed at developing our culture. (Corporate Top Manager)

Then we have two additional effects through SLU: (1) agreement on values, goals and culture (2) the network. (CEO)

Veidekke has developed from a top-steered company to a more value-based company. It's much easier to work with values now. It's also more important as we are multi-cultural. (Corporate Top Manager)

Hence, corporate top management views a strong culture and close networks across divisions and borders as essential for knowledge sharing. The CEO explains that this is especially important in a decentralized organization such as Veidekke because it is difficult to combine a decentralized structure with top-down and centralized knowledge-sharing systems.

We can never have optimal knowledge sharing in our decentralized organization because we cannot centrally govern knowledge sharing. But what we lose in terms of competence sharing we gain through continuity and strong culture and consistent high performance. (CEO)

You cannot govern a company with rules and procedures if you don't have the values in place. The value wheel and the value game are both used extensively at the construction sites and people like these exercised. This is actually among those things that work best in terms of knowledge sharing. (Corporate Top Manager)

Developing shared values and norms are clearly seen as a key instrument for sharing knowledge, but it is also described as more directly affecting performance:

We run huge projects and must secure consistency between systems, routines and values. Those projects where we have lost money have been analyzed and the reasons are never lacking machines, competencies or routines. We have lost money on those projects where our norms have not been followed. (Corporate Top Manager)

Although shared values and a strong corporate culture have been a central part of the SLU program since its inception, these elements have become increasingly emphasized over time.

SLU was 30% about shared mindset, but became 60% shared mindset. It began with 40-50% leadership skills and became maximum 20% leadership skills. We also have a focus on working on projects together and this became a larger part of the program than we had planned. (Corporate Top Manager)

The program has improved the last years. It has become more goal-oriented. MIL has helped us with this. It's more well-structured and integrated. (Corporate Top Manager)

By the end of 2008, seven "classes" of SLU participants had completed the program. Table 1 illustrates the seven classes and provides an overview of participants in the program. AFF Management Consulting designed the program together with Veidekke and contributed in running the meetings up until 2007. AFF also introduced a collaborative partner, the Swedish Management Consulting company MIL. Based on evaluations of the program a restructuring of the program was performed in 2006 and the last two classes have thereby participated in an adjusted program version that was run by MIL in collaboration with Veidekke, but without AFF. It is important to point out the central role corporate management in Veidekke has played in terms of input in designing the program and their commitment and efforts in actually carrying through the leadership program. Hence this is not a program that is primarily run by consultants.

The program targets leaders from the corporate level to district leaders, in addition to particularly talented managers regardless of level. When the program was initiated corporate management expected approximately 130 leaders to go through the program and they started at the top of the organization, with corporate level managers as the first targets. Participants were nominated from the line management. Corporate HR typically sends a message with information about the program, deadlines and so on, and based on this information, line managers nominate managers from their

division/department. Corporate HR also follows up to ensure participation from the different divisions and countries.

		Norwegian managers	Swedish managers	Danish managers	TOTAL
SLU program ver. 1	Class 1: 2004				24
	Class 2: 2005 spring	18	3	3	24
	Class 3: 2005 fall	17	5	3	25
	Class 4: 2006 spring	17	3	3	23
	Class 5: 2006 fall	16	4	3	23
SLU program ver. 2	Class 6: 2007	13	3	3	19
	Class 7: 2008	13	4	4	21
TOTAL					159

Table 1: Overview of SLU classes and participants

Program contents in the first version of SLU (2004 – 2007)

The program is designed in a format of 3 meetings each lasting 3 days across 3 quarters (or 3 meetings within a 6-month period). The focus of the first meeting is typically on Veidekke values and strategy, the second meeting emphasizes leadership role and organization development, while the third meeting is mainly on communication and presentation. Leadership development lectures and reflections are typically conducted by externals, such as AFF and/or MIL. In addition, the CEO makes a point of attending each SLU meeting where he presents top management views on strategy, values, as well as his own experiences on current topics such as change management.

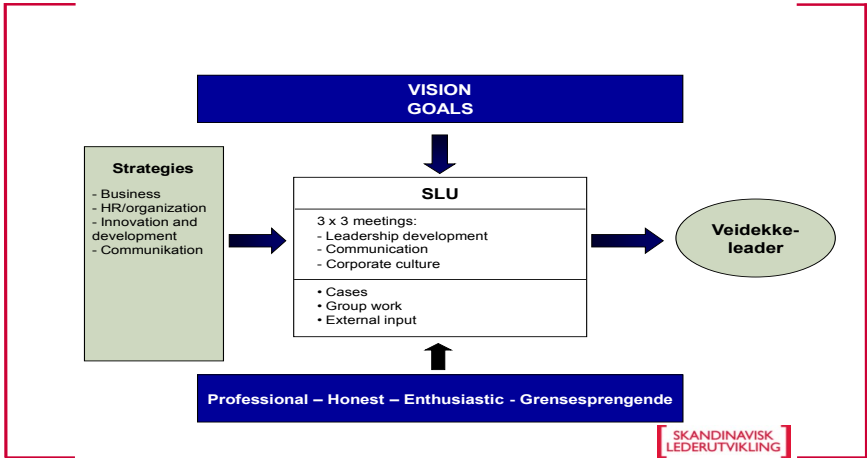


Figure 2: Program design

Group work runs parallel with the lectures and discussions. Corporate management nominates a current and authentic challenge in the company and the groups are charged with working on solutions to this challenge, and thereby ensuring “Earning while Learning”. In the first version of the program each participant belonged to two groups. One group for the project work and a separate group was formed to confer in group discussions and reflections at the meetings. In the second version of the program the same group was used for both project work and discussions. For all classes and irrespective of the program version, the groups are put together across nations, divisions, gender and great care is taken to avoid putting people with subordinate or supervisor relations in same group.

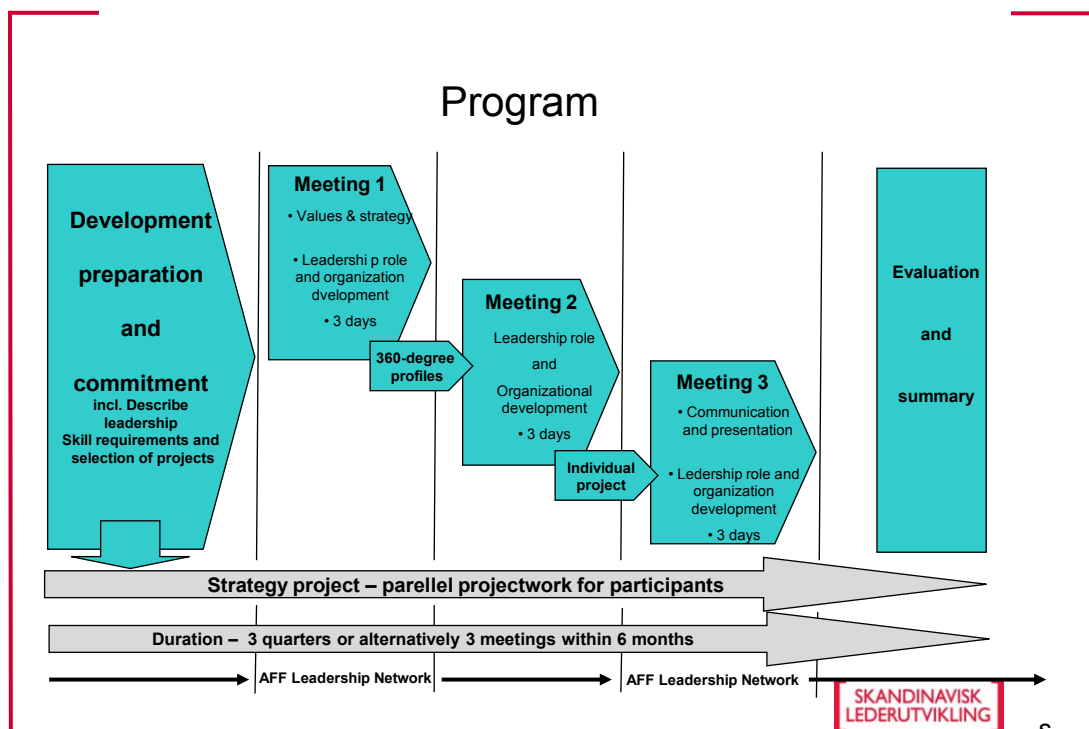


Figure 3: Program overview

Prior to program start the participants are in dialogue with their leader and the HR leader about their needs and expectations, and the requirements they meet as a leader. The preparatory work is done to prepare leaders for the program and to a certain extent also adjust their expectations; to make minor adjustments in the program contents; as well as to secure top management’s commitment. The underlying idea is that participants who have prepared for the program, and who are committed to continuing working with new insights after the program is completed will have superior effects, but this also requires commitment from their leaders. For each class, an evaluation is performed upon completion of the program.

Program contents in the revised second version of SLU (2007-2009)

During the course of the program, different external consultants held responsibility. The program form was somewhat adjusted over time to incorporate more lecturing and less discussion. As mentioned, in 2007 the program was revised and it was decided that the program should consist of less lecturing and more group work, and in a sense the revised format became more similar to the original format. Another change that was made was to introduce more group meetings in between the 3 leadership seminars. The focus of these additional group meetings was project work.

The program has been further adjusted and developed for the current class (nr.8 during 2009). Adjustments include targeting leaders with strategically important roles in the organization and the program goals are even more explicitly geared towards making Veidekke leaders equipped with the necessary skills for ensuring strategic goal attainment and a corporate and value-based culture. The three meetings are based on Action Reflection Learning (ARL) and focus on (1) Me and my leadership, (2) My leadership in the team, and (3) My leadership in Veidekke. The division of responsibilities between Veidekke and the external consultants has also been clarified.

Broader contextual information

The figure below illustrates SLU as one part of a broader plan for leadership development and SLU appears to be a key component in the strategic plan for human resource development in Veidekke.

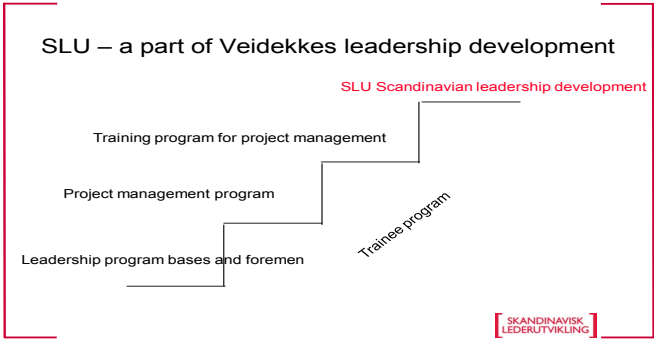


Figure 4: Leadership development programs in Veidekke

In addition to leadership development however, a number of other mechanisms are put in place to ensure profitability and knowledge sharing, such as ownership programs and bonuses. In a previous report describing the Veidekke strategy, we found that the explicit focus on corporate culture and values is tightly coupled with a strong emphasis on performance and control. Hence although the

company appears to be a value-based company, this should not be mistaken as less of a focus on hard-core results.

Managers have bonuses tied to corporate performance, the regional performance, own division performance and personal results. Employees also get bonuses based on their own district and contribution to the division above their own district. (Corporate manager)

The different divisions in Veidekke are continuously compared and ranked based on performance and HSE, and perhaps that isn't expected to lead to collaboration..., but we have a lot of collaborative projects...(Corporate manager)

Hence in addition to the leadership development program, which can be viewed as a socialization mechanism (Gooderham, 2007), Veidekke also endorses motivation mechanisms, i.e. mix of rewards and sanctions that establish and maintain particular norms or rule systems for knowledge development and combination). Recall that according to (Gooderham, 2007) socialization mechanisms must be combined with motivation mechanisms in order to enhance social capital.

Turning to the Veidekke perspectives on leadership and what is valued in the organization, Veidekke is a decentralized organization where managers enjoy a large degree of autonomy. As mentioned, this autonomy is combined with unified management and governance model through values and goal steering and standardized systems for risk, performance and financial control have been implemented. Managers describe this as freedom coupled with responsibility. The company has a history of stability at top management level and corporate management is known for its supportive but demanding and tough style. Through his paternal leadership style, the CEO provides the glue and the "security" in an unstable and highly cyclical industry (Stensaker & Kjøde, 2008).

In a previous report we pointed out that one challenge that risks inhibiting cooperation and knowledge sharing has to do with cultural and contextual differences (Stensaker & Kjøde, 2008). Veidekke is a Scandinavian company with good relations between the subsidiaries and the Norwegian headquarters, however the relationship between the subsidiaries (in Sweden and Denmark) has been virtually non-existent. SLU is an attempt to overcome national differences and create strong corporate culture that supersedes national differences.

As can be seen in the organizational chart presented in the figure below, Veidekke is organized into five business areas, which we refer to as the different divisions: Veidekke Construction Norway, the Danish unit Hoffmann (both construction and property development), Veidekke Sweden (both construction and property development), Veidekke Property Development, and Veidekke Industrial Operations. The head office is situated in Oslo. Approximately 35% of the annual turnover comes from Construction, 25% from Property Development, and 25% from Industrial Operations (with an

additional 15% from Asphalt and road maintenance). The Corporate Management Team consists of the leaders of Veidekke’s three business segments (Construction, Property Development and Industrial Operations) and the executive directors of Finance, Human Resources/HSE and Communication. In each business area there are regional, district and department offices and a number of subsidiaries.

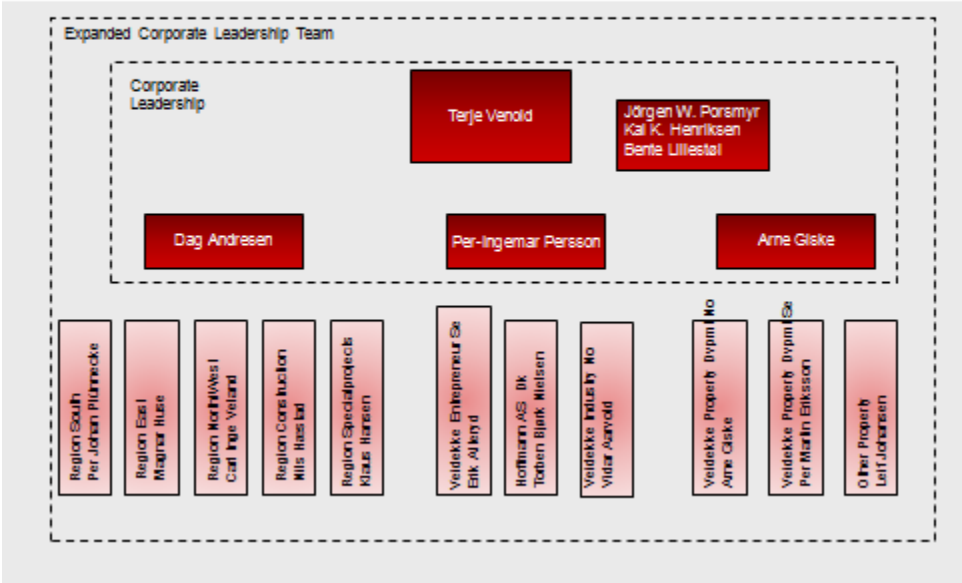


Figure 5: Organizational chart

METHODS

In order to assess if and how leadership development programs can contribute in developing social capital and hence facilitate knowledge sharing, we draw on three data sets. First, we draw on interviews with corporate managers and top managers from the 3 countries in which Veidekke operates. Secondly, we collected real-time feedback reports from SLU participants as they went through the leadership development program in the fall of 2008. Thirdly, we conducted a survey targeting all participants in the program since its inception 2004.

Data

	Fall 2007	Fall 2008	Winter 2008
Interviews	10 (3 SE, 2 DK, 5 NO)	10 (3 corp mgmt + 7 SLU participants)	
Real-time reports		6 SLU participants report at 3 points in time during SLU	
Survey			103 Respondents from 7 SLU classes

Table 2: Sources of data

The first set of interview data consist of 10 in-depths interviews with managers from Norwegian headquarters as well as national and international subsidiaries. Each interview lasted for 1 to 1,5 hours. The questions focused on tracing the background and history of the company, understanding the internationalization process and strategy, capturing the main business challenges in order to understand what types of knowledge managers view as critical, the tools, techniques and processes applied to foster knowledge sharing, and finally what they view as the main barriers to developing dynamic capabilities based on such knowledge sharing. The interviews were transcribed and analyzed and first written up as a case story describing Veidekke's strategy and internationalization process in-depth. Based on the case story, a within-case analysis was performed probing specifically what seems to be top management's perspective on knowledge sharing.

Secondly, reports and insights from program participants were collected as they went through the program. We targeted 6 program participants in class 7 and asked them to report back to us after each of the three program meetings. We first met with the participants and informed them about the project as well as instructed them on how to report to us by e-mail within one week after each meeting. Since the participants reported in a written format, our data were already written up and required no further handling other than setting up in comparative tables. However, the reports we received were rather brief which lead us to adjust our questioning in an attempt to obtain richer data material in the third report from participants (questions are included in appendix A). The third and

final report was still brief and we therefore supplemented these data with telephone interviews upon completion of the full 2007 program. The telephone interviews were tape recorded and notes were transcribed shortly after the conversations. These data were richer and allowed us to develop a tentative model illustrating the factors that appeared to influence what each participant obtained from the program.

Thirdly, based on initial analyses of findings from the SLU participants, we developed a questionnaire which was distributed among all SLU participants throughout the history of the program in January 2009. A total of 159 Veidekke managers had completed the program by the end of 2008 and the survey data consisted of 103 respondents. While class 5 shows a response rate below 50%, the overall response rate is 65 % with an impressive 96% response rate in class 2. The descriptive statistics below show the nationality of the respondents (Danish, Norwegian or Swedish in table 3); number of respondents per SLU class (in table 4); as well as the organizational divisions they work within (Property development, Construction, Industry, Divisional staff, or Corporate Staff in table 5).

	1 st version SLU	2 nd version SLU	Total
Denmark	4	5	9
Norway	63	29	82
Sweden	9	27	12
Total	76	27	103

Table 3: Participants per nation

As the table above shows, the intention of including 1/3 Swedes and Danes in the program was not fulfilled in practice. One reason for this is that there are not that many managers from the foreign subsidiaries.

Class	1	2	3	4	5	6	7
Respondents	12	23	15	16	10	13	14
(total)	(24)	(24)	(25)	(23)	(23)	(19)	(21)

Table 4: Respondents per SLU class

	Denmark	Norway	Sweden	Total
Property dvmt	0	8	1	9
Construction	5	45	9	59
Industry	0	18	0	18
Staff divisions	2	2	2	6
Corporate staff	2	9	0	11
Total	9	82	12	103

Table 5: Participants per division and nation

Our survey consisted of a series of questions which we have attached in appendix B. Most constructs are measured as summates over predefined groups of items or identified using factor analyses (please refer to table 6 for an overview). The degree of unidimensionality in the constructs is reported by means of Cronbach's Alpha. Since there is no random data-generating process at work that justifies generalizations to a well-defined populations, inference statistics is superfluous. Because nearly the entire target group is included, we assume that the population of interest is covered or close to covered. Thus, where *t*-statistics or other inference qualifying quantities are reported, the main purpose is to point to parameters that are noticeable i.e. provided that we had a random sample, the parameter would be significant. Noteworthy, it is an advantage to have such a large proportion of the target population included in the survey in the sense that conclusions do not have to be justified as valid for a number of potential respondents that did not participate in the survey. Measurement errors due to misinterpretations, misunderstandings and individual particularities, such as excessive yes-saying, exorbitant precautionary with respect to scales (always answering in the middle) are, however, present in most survey data and cannot be ruled out. On the other hand, when people are highly motivated to answer, as is the case here, measurement errors may be acceptable and most likely random. Moreover, interpretations and conclusions drawn from the survey are triangulated with personal interviews and conversations with key informants. Most results from the survey are presented in the form of simple graphs and figures which are clearly more informative when a major part of the target population is included.

FINDINGS

In this section we report on what SLU participants view as the main effects and benefits of the program. We also discuss if and how Veidekke have succeeded in developing social

capital through the SLU program. We first draw on our interview data and real-time feedback to develop a tentative research model and then, in the second part of the findings, we test our hypotheses based on our survey data. The real-time reports from SLU participants during 2008 lead us believe that SLU *can* lead to social capital and personal leadership skills, but the extent to which this is successful appeared to depend on at least two factors: previous program experience and gains from groups.

Corporate intentions with SLU

Our interview data show that corporate top management clearly aims to build the corporate culture and a shared value system across all corporate divisions. SLU is one of the central tools in developing a shared culture at the *management* level. Although corporate management use different words and language, their focus on a strong corporate culture coincides closely with what we have labeled social capital. In fact, the three dimensions of social capital are described by corporate top management when they present the SLU program as an arena (structural dimension) for getting to know people from other divisions, networking (relational dimension) and developing a shared mindset and a shared set of values and norms (cognitive dimension). Although there is a very explicit focus on a corporate culture and strong values, at the same time divisions are continuously compared in terms of their results. In addition, incentive systems, such as bonuses, are tied to performance. Knowledge sharing, on the other hand, is viewed as directly linked to a distinct set of values. Hence corporate management describes a strong belief in internal motivation to share knowledge, based on a desire to share one's own knowledge base and seek other people's expertise.

All people are interested in sharing their knowledge...You have pride in telling others about something you are good at. I cannot stand attitudes like "what's in it for me?" They make me frown. It's all about having an open attitude and being generous...Then other people will want to work with you...Contributing even if you don't get anything in exchange right then and there...(CEO)

*I tell the SLU participants that perhaps some networks will not be as relevant, but this is long-term. The networks have to be maintained and taken care of and if they are misused they will be destroyed.
(CEO)*

Part I: Participants' assessments of the program based on interviews and real-time reports

We have assessed the SLU program against the main goals of the program: developing personal leadership skills, social capital benefits (incorporating the goals of developing a corporate culture and networking); as well as the degree to which the program generates increased knowledge sharing. In the interviews, we have specifically attempted to probe participants' expectations and their perceived benefits.

The SLU outcomes: personal leadership skills and social capital benefits

The overall views on the program from those participants who reported during the program were positive. All six participants that were followed through the 2008 program emphasized the focus on a shared corporate culture and the opportunity to develop a corporate network.

The SLU program is positive and it's important to continue offering this...Top management works to bridge different divisions... (SLU participant 6)

I had no particular expectations of learning new things. I looked upon this as an opportunity to get to know other people and to establish a network. I have learned lots – from the others. The program was much better than I had thought. I have learned lots. We have time to exchange problems – you never have time for that otherwise. (SLU participant 4)

My expectations to SLU were tied to values and culture, not so much my own personal leadership development. But that came once I looked at the program. I have gotten both: tools and feedback. (SLU participant 5)

Despite the last quote above indicating balanced outcomes, in general, the SLU participants reported lower benefits in terms of personal leadership and organization development skills as compared with substantial benefits in terms of all three dimensions of social capital. The quotes below provide evidence of social capital and some indications of how the three dimensions are developed as well as potential challenges in creating lasting structures and relations.

Without SLU, we would not meet. (SLU participant 1)

SLU functions as a meeting place (SLU participant 2)

SLU is excellent as a meeting place. We get a shared understanding, particularly from Terje's presentations. (SLU participant 3)

SLU creates a structured meeting place for managers who would not otherwise meet. Several participants point out the importance of this initial meeting place. For some of the participants, additional meeting places have been established based on this initial meeting within SLU. One

corporate manager has the opposite experience however, and argues that while the program functions as a meeting place where knowledge can be shared, this does not necessarily result in additional meeting places. Although we have limited data exploring the conditions under which additional meeting places are likely, the quotes below (quote 2 and 3) indicate that if participants have a shared challenge (such as concrete molding), share the same group affiliation, or share the same nationality, then additional structures for meeting *might* evolve.

SLU is really essential for knowledge sharing. You have to meet and this does not happen by coincidence. The first point of meeting must be created. (SLU participant 5)

Some of my [countrymen] spent a whole evening talking about concrete molding. Contact was established and this experience transfer would not have happened without SLU. (SLU participant 5)

My group has planned to continue meeting. It's easier to contact people who have been in the program with me. (SLU participant 2)

My group has booked another meeting [after SLU was completed], but I don't know if I will be contacting anyone after that... (SLU participant 4)

The structural part is not developed through SLU. There are some meetings between the main meetings, but in general this is a one-year happening. The cognitive part is developed and the person-to-person relations are developed, but this depends on whether or not the participants see this as an opportunity (Previous SLU participant).

The quotes above also provide evidence of new personal relationships, respect and friendship, suggesting that the relational dimension of social capital is also developed through the SLU program. Two of the SLU participants quoted below particularly emphasize the strong relations that are developed. However, based on our data it is difficult to say how lasting the relationships created through SLU will be, the level of trust that is developed and how it plays out over time and influences knowledge sharing.

SLU has been very valuable. I have met many fine people who have shared their experiences and knowledge...It has made me more aware of attitudes and values. (SLU participant 2)

I have gotten to know other managers in a different way than I would had I not participated in SLU. I have established good relations and some really strong relations. If I need to I can contact the other participants and these are absolutely long-term relations (SLU participant 3)

There is bonding, not just across borders, but also within each nation...We are like old soldiers who have experienced something together (SLU participant 5)

I did not learn anything new, but I got an extremely good network and I learned the Veidekke values (Previous SLU participant)

In the least, the leadership program appears to contribute in developing relationships that bridge different divisions also across nations. Bridging relationships can be a source of new and alternative information and it can be a first step towards developing stronger ties (Putnam, 2002). Bonding on the other hand facilitates interaction and sharing of knowledge, but tends to become less of a source

for new and alternative information. Some SLU participants describe bonding between participants, but as mentioned, we cannot conclude based on our data that this is a typical outcome. However, while it is useful to distinguish between bridging and bonding in terms of knowledge sharing consequences, in practice it can be difficult to distinguish between these, especially as relationships develop from weak to strong ties. Our data provide rather limited indications on this. Regardless of whether the ties are weak or strong, SLU certainly appears to provide a first point of contact which is essential for any type of relationship to develop.

The cognitive dimension of social capital has to do with shared interpretations, systems of meaning and shared language and codes. As mentioned, top management puts much emphasis on communicating shared values and the Veidekke strategy. Feedback from participants in the 2008 program suggests that a shared understanding of the Veidekke values and strategy has indeed evolved throughout the program. The last quote points to the challenge of knowing how deeply shared values are in practice.

The Veidekke values are lived out through SLU. We send people here and get ambassadors among the managers. We should do the same for project managers. (SLU participant 1)

The value of SLU has emerged over time. Some people were skeptical after the first meeting. But participation triggers some attitudes and thoughts that sink in (SLU participant 2)

SLU is important for shared understanding, but it's difficult to assess how deep this [the shared understanding] goes. (SLU participant 4)

The most and least valuable components of SLU

When asked to specify what was most valuable in the program and what worked best, the 2008 participants emphasized the networking, getting to know managers from other divisions and countries and the CEO presentations.

I have always found Terje's presentations interesting, but there is a big gap between Terje and MIL. (SLU participant 1)

The best part is listening to Terje. He is so incredibly inspiring and it's useful to listen to his experiences. (SLU participant 4)

My group worked really well. I have gotten closer to my fellow countrymen and it has made it easier to contact them. It has also worked well across borders... (SLU participant 4)

When asked about what did not work as well in the program, two participants point out the lack of useful tools and personal development. However, at the same time they ascribe this to their previous

experience, indicating that they are learning nothing *new* in this respect. One participant was unsatisfied with the group work.

I have several management programs from before and I did not get any useful tools here. They could have increased the tempo in the program. (SLU participant 4)

I had extensive leadership development experiences and had high expectations. The content of the program is a catastrophe. I tried to provide feedback on this, but was not successful...I think people without previous leadership development programs find SLU valuable. (SLU participant 3)

Probing our qualitative data further, we find that some of the participants suggest that their personal leadership skills and organization development tools could have been more clearly communicated and more quickly communicated. This appears to be tied to the lecture format and some participants are critical to the loosely structured format based on extensive self-monitored dialogue and discussion.

I did not get much out of SLU. It had something to do with my expectations. For instance, in terms of change management, the tools were not clearly communicated. It was too general and not enough in-depth. (SLU participant 1)

Since I have been to SLU I know that there is a good bridge-builder in Oslo and I will use this network. But I can't help wishing that I had also gotten some personal development out of the program. (SLU participant 3)

We could have done more – gotten the tempo up a bit. Especially the lectures/presentations...the group goes outside and talks and you do that in half of the time and the rest you are on the phone. (SLU participant 4)

The quotes above also indicate that previous experience with leadership development programs influence expectations to SLU and the assessments of the program. Another key issue which was not mentioned often, but which appeared linked to negative assessments of the program was how the group functioned. This of course, is a subjective assessment, and other members in the same group reported positive assessments of the group work and positive assessments of the SLU program.

The group work did not work well. We had two top managers who dominated and they kind of set the scene for others. They did this [the group work] without putting any effort into it. (SLU participant 1)

In the next section of our findings we will look further into the importance of these two factors: (1) previous leadership program experience and (2) assessment of group work. We draw more extensively on our survey data to examine how these two factors influence assessments of the SLU program.

Effects on knowledge sharing

The CEO, Terje Venold, described that his perspective on knowledge sharing was not tied to immediate payback, but rather an idea that if I do this for you now, someone will do something for me down the road.

I don't like attitudes like "what's in it for me?" I find that appalling. It's all about being open-minded and generous. If you signal generosity to others then you will become someone others want to work with. (CEO)

The SLU participants in the class of 2008 were explicitly asked what was needed for knowledge sharing and why they would want to share knowledge. Their replies indicate a close alignment with corporate management and the CEO:

I don't believe in bonuses. It is important with similar values, that we are a family, and that we have a network. (SLU participant 1)

It's not at all important with incentives or bonuses. You gain by making better profits in your division. It would feel awkward if some people were to get other types of advantages from sharing knowledge. (SLU participant ?)

Getting the opportunity to come together across divisions...there are no expectations about rewards, but a pat on the back is always appreciated...if I wasn't backed up it would be difficult to spend time on [knowledge/experience sharing]. (SLU participant 5)

When asked about why people share knowledge, SLU participants emphasize the desire to show others what they know and the ability to contribute to others as well as gain from others.

Most of us are proud of our competencies and want to share our knowledge. (SLU participant 3)

The motivation for sharing knowledge is mutual exchange. You get a lot back. You also listen to what they [other SLU participants] don't say. They tend to avoid those things they don't do well... (SLU participant ?)

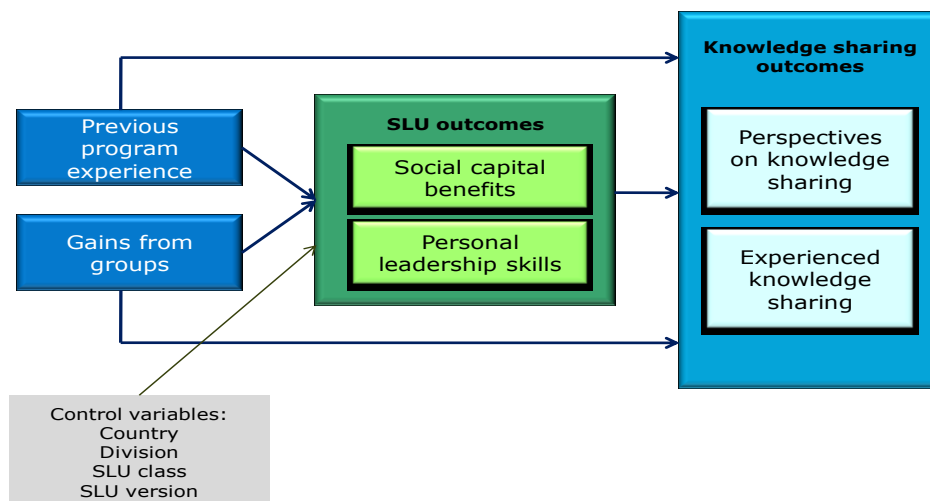
We want to share knowledge because we are vain. It's good if other people are good, but we want to be the best. Other people being good is not a threat or a barrier, it simply motivates us to do better. We also have bonuses at a group level...Incentives is part of the answer, but it all depends on leaders that want to share. Then we want to share as well. (previous SLU participant)

There is a lot of internal motivation in the construction industry. We can't measure how many cans we have made per day. But it's important that we get results immediately. People work short-term. We work on projects. People do not look for long-term employment. We are short-term [oriented]. The pay-back has to come quickly. (SLU participant 3)

Whereas the quotes above illustrate the CEO and management's perspectives on knowledge sharing, which has to do with what managers think about knowledge sharing, experienced knowledge sharing covers their actual experience with sharing knowledge. The quote below indicates that SLU has not only resulted in conform perspectives on knowledge sharing, but also actual knowledge sharing and collaboration.

We see results. Previously the Swedes and Danes never collaborated, but now we had a collaboration project between Skåne and Denmark (Corporate manager).

Summing up our findings from the interviews and in-process reports, assessments of the SLU program appears to be predominantly positive. Participants report substantial benefits in terms of social capital, i.e. the creation of meeting place(s), possibilities for networking and relationship development, and a shared sense of corporate strategy, values and culture. Although several participants express a wish for more personal leadership skills, the main benefits of the program are consistent with corporate goals, and the way these have developed over time towards more emphasis on corporate values and cultural developments. Through our qualitative analyses we uncovered two factors that warrant closer attention, as these appear to influence the effects of SLU. These were (1) previous program experience, which refers to the experience participants have with leadership programs and (2) group gains, which refers to participants' assessment of the group work. Below we have summarized our key findings from the interviews and qualitative data in a tentative research model which will guide and structure the next section of our findings, where we present survey results.



3

Figure 6: Tentative research model

Tentative research model and hypotheses

The center of the model includes the two outcomes of SLU: social capital benefits and personal leadership skills. Our first hypotheses predict that participation in SLU leads to these two outcomes.

H1a: The SLU leadership program leads to social capital benefits.

H1b: The SLU leadership program leads to development of personal leadership skills.

Our qualitative data lead us to expect that the effects of the SLU program depend on the participants' previous experience with leadership programs, and their assessments of the group work. Hence our second set of hypotheses describes these relationships. Participants with previous experience are expected to report less benefits from the SLU program, whereas participants that assess their group work positively are expected to report higher benefits from the program.

H2a: Participants previous experience with leadership programs will negatively affect social capital benefits.

H2b: Participants' previous experience with leadership programs will negatively affect personal leadership skills.

H3a: Positive assessments of group work will positively affect social capital benefits.

H3b: Positive assessments of group work will positively affect personal leadership development benefits.

If social capital is developed, then the program is expected to enhance knowledge sharing. We distinguish between participant's perspectives on knowledge sharing (what they view as important for knowledge sharing) and participant's actual experience with knowledge sharing (the extent to which they in practice share knowledge).

H4a: Social capital is positively related to perspectives on knowledge sharing.

H4b: Social capital is positively related to experienced knowledge sharing.

The table below shows the details on how each of the variables in the model was measured in the survey.

Construct	Measurement
Social capital benefits Cronbach's Alpha: .761	#11q1: The main outcome of SLU is creating a shared understanding of Veidekke's strategy and goals #11q2: The main outcome of SLU is to establish and develop relations #11q3: The main outcome of SLU is to create a meeting place across divisions and nations #41: Conversations and being together with other participants has been very valuable to me
Personal leadership skills Cronbach's Alpha: .711	#11q1: The main outcome of SLU is that I have developed my personal leadership skills #11q2: The main outcome of SLU is that I have developed a set of practical tools
Perspectives on knowledge sharing Cronbach's Alpha: .797	#27: Sharing new ideas and thoughts with other divisions is positively acknowledged in Veidekke #31: Collaboration with other divisions is viewed as very valuable in Veidekke #36: Knowledge sharing among divisions is viewed as very valuable in Veidekke
Experienced knowledge sharing Cronbach's Alpha: .885	#22: I have received important knowledge from other divisions in Veidekke #23: I have made use of important knowledge from other divisions in Veidekke #24: I have contributed with important knowledge to other divisions in Veidekke
Gains from groups Cronbach's Alpha: .693	#39: I have had great value from the collaboration in group work #40: I have had great value from the group-based project work
Experience with leadership programs	F1: Internal program in Veidekke F2: Internal program in other company/connection F3: Open program F4: No, I have not participated in any leadership programs previously
Relationship building Cronbach's Alpha is .75	#1q4: <i>Before the program</i> started I believed the program's intentions was; to develop and build relationships #2q4: <i>After finishing the program</i> I think the program's intentions was; to develop and build relationships #6: I have a better/ wider cooperation with other parts of the organization after having participated in the SLU #11q4: For me, participating in the SLU has contributed to; Develop and build relationships.

Table 4: Operationalization of key constructs

Part II: General findings on SLU outcomes based on survey results

When asked “What did you take away from the program?” respondents replied the following:

Alternative SLU outcomes in the survey	Percentage of respondents	2 main outcomes
Understanding of corporate strategy and goals	91%	Social capital benefits
Developed relationships	65%	
Meeting place across divisions and nations	58%	
Developed my personal leadership skills	52%	Personal leadership skills
Practical tools	19%	

Table 7: Two SLU outcomes

This shows that the majority of participants clearly views development of social capital as the main effects of the program. When grouping the first three outcomes as social capital (together with question #41) and the last two as personal leadership skills (as previously illustrated in table 6), our survey results show that participants report considerable social capital benefits regardless of nationality, divisional belonging and SLU class. Personal leadership skill outcomes on the other hand, consistently score much lower.

In addition to the structural dimension of social capital which was emphasized in our interviews, the survey data supply some support for the other two dimensions of social capital. For instance in terms of the cognitive dimension, we have data showing that 80% of the survey respondents identify strongly with their own division. There is a high correlation between corporate values and personal values among SLU participants, indicating strong identification with the MNE at a corporate level, and 77% respond that their identification with the corporation, Veidekke, has increased after participating in SLU. While respondents do not report increased *trust* in the corporation after completion of SLU, 70% of respondents report that their trust in colleagues increased. Although our data indicate that the cognitive dimension of social capital is very much in focus in the SLU program, stronger evidence would require actual data of behavior and how shared values and systems of meaning play out in practice and influence decision making and action.

The SLU program appears to have established itself as an arena for relationship development. When asked to specify what was most valuable in the program and what worked best, our survey data

indicate that 88% of the respondents state that the most valuable part of SLU is conversations and spending time together with other participants.

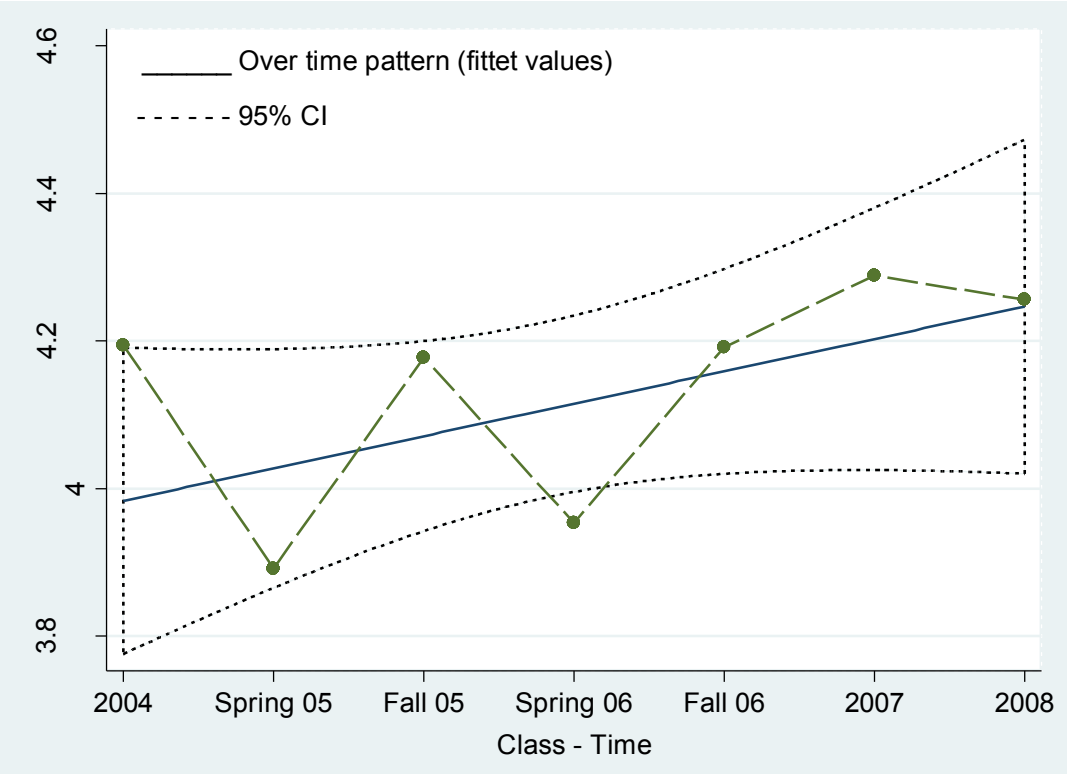


Figure 7: Development of relationships over time

The figure above shows the mean values (the seven dots) of Relationship Building with respect to the program class. Although it appears to be some variation between programs the straight line (the fitted values) indicates an overall growth in the programs perceived influence upon relationship building. The internal variation and high scores on 2004 classes and fall 2005 classes, suggest that this is not merely a “memory-bias” where the most recent classes report higher scores. Hence one might interpret this as at least some proof of lasting relationships.

Effects of country

The table below shows that social capital benefits are highest among the foreign divisions in Sweden and Denmark with scores of 4,25 in both countries as opposed to Norway which scores 3,89. The gap between social capital benefits and personal leadership benefits is also larger in the foreign divisions, indicating that the Swedish and Danish participants, while getting more in terms of social capital benefits, are obtaining even less personal leadership benefits as compared with Norwegian

participants.

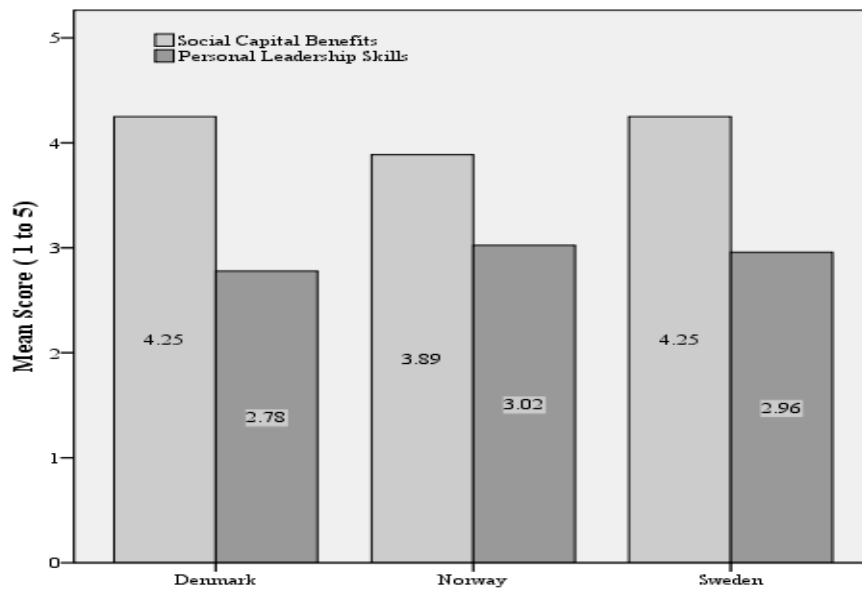


Figure 8: SLU outcomes across national borders

A possible explanation for the higher scores on social capital in foreign subsidiaries can be found in our qualitative data. Some of our interviewees point out that foreign divisions gain more in terms of a feeling of “belonging” and coming closer to the corporate headquarters through this type of program. A Danish participant describes how the SLU program and meeting corporate management provided motivation and hope because the Danish market experienced the recession earlier and perhaps more strongly than the Norwegian market (in the fall of 2008).

Particularly participants from Sweden and Denmark get a sense of being a part of something larger. A part of Veidekke. We also got a shared mindset from SLU, the culture, values, our history, who we are and who we should be. Personally we also got leadership development. (Previous SLU participant)

The contact with others (particularly the Norwegians) is giving us hope during these difficult times (because of the economic recession). But it would have created even more lasting relations if the work contacts were directly relevant for my work. (SLU participant 1)

Effects of division

Looking at the different divisions, we find the same pattern of responses in terms of considerably higher social capital benefits as compared with personal leadership skills reported for all divisions, with the highest scores at 4,3 among corporate staff. Again, those who report the highest social capital benefits (corporate staff) are reporting the lowest personal leadership benefits at 2.91,

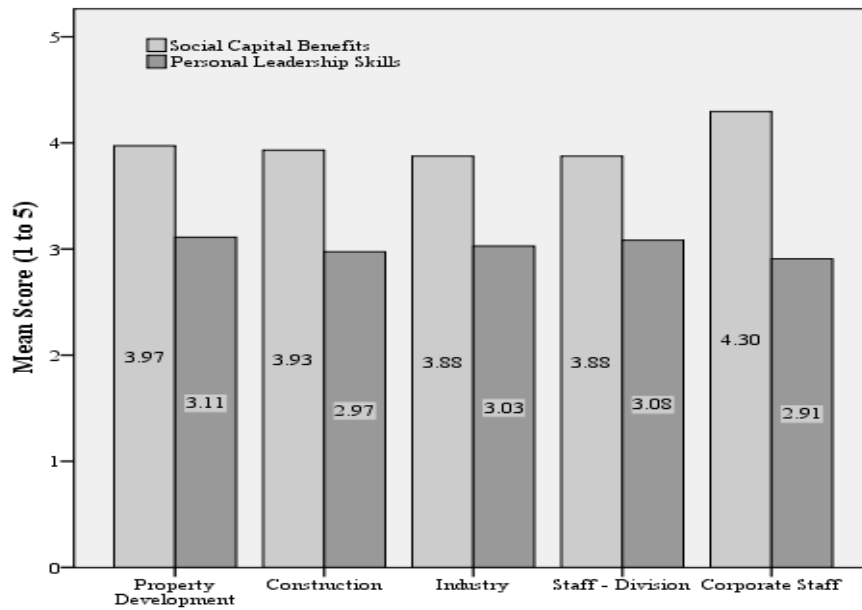


Figure 9: SLU outcomes across divisions

Our data do not supply us with any explanations why corporate staff experience higher social capital benefits. However, considering their organizational position, at corporate headquarters, one might speculate in whether the contact with more operational managers is perceived as particularly valuable for them. This is because their daily activities often take place at some distance from operations.

Effects of SLU class and program version

Turning to the different SLU classes, we find the same pattern with social capital benefits considerably higher than personal leadership skills. In figure 6 we show the differences between the first and second version of SLU. As can be seen, the last two classes (2007 and 2008) report the highest social capital benefits, while also reporting higher scores on personal leadership skills. Hence, both types of effects are reported higher in the last two classes where participants followed a revised version of the program. Other findings worth mentioning are that the SLU class of 2007 reports the greatest personal leadership benefits whereas the 2006 class reports the lowest scores on personal leadership benefits. This coincides with the timing of the program revision, and can perhaps be a result of the changes that were made in the SLU program and the expectations of the participants.

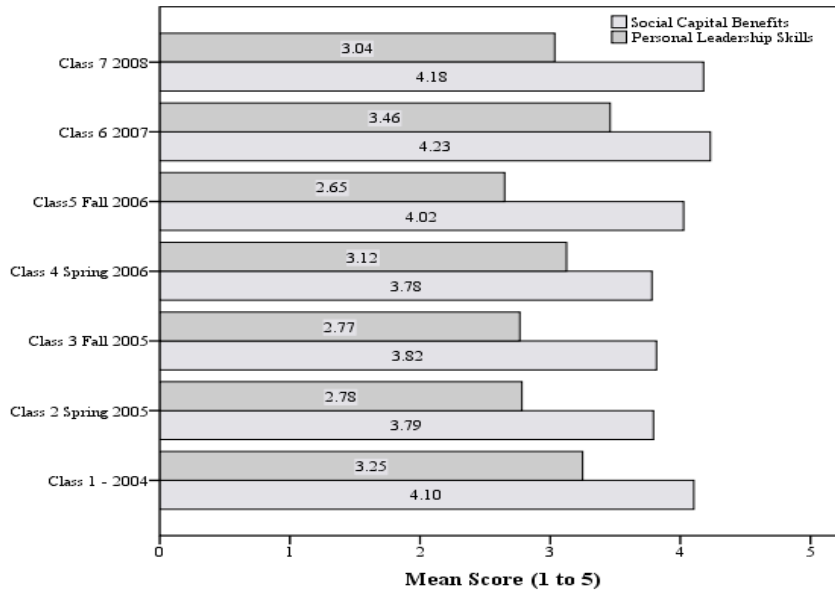


Figure 10: SLU outcomes across classes

These findings (particularly figure 7) suggest that the revised program has led to increased effects of the program. However, we must caution against the possibility that the most recent classes report higher benefits because the program is fresh in mind. The results must therefore be balanced against validity threats based on memory. Counteracting this argument is the results of the first SLU class (2004), which also reports high scores on both types of outcomes.

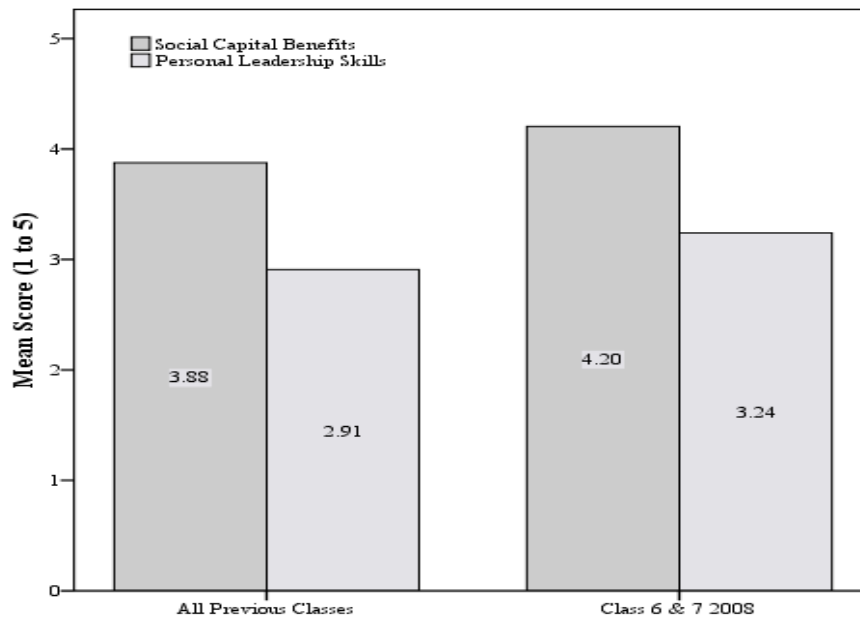


Figure 11: SLU outcomes across program versions

Previous program experience and effects of SLU

Looking at how previous program experience influences SLU outcomes shows that participants with previous program experience report social capital benefits between 3.95 and 4.67, whereas those without such experience report lower social capital benefits at 3.37. In terms of personal leadership skills, we find the opposite pattern. Participants with program experience report scores of 2.59 – 3.41, while those without previous experience in general report higher scores with a mean of 3.37. This is consistent with our qualitative findings where program experience appeared to lower perceived benefits particularly when it came to personal leadership skills.

Gains from groups and effects of SLU

76% of the survey respondents view group work as important and 57% state that project work is important. Group work is equally important across national borders with scores ranging between 3.95 and 4.00. Looking at different divisional belonging we find that corporate staff report highest score (4,24) on the benefits of collaborative work in SLU (group work, project work etc) whereas divisional staff report the lowest (3.72).

One might speculate on why corporate staff gets the most benefits out of group work. One reason could be that corporate staff are the furthest from operations and therefore are more dependent upon contact with operational staff.

Perspectives on knowledge sharing

Our qualitative data showed that SLU participants had similar perspectives on knowledge sharing as corporate level management. Examining our survey data, we find some slight differences across nations and even greater differences across divisions.

The survey data show that Swedes report more positive replies in terms of perspectives on knowledge sharing, as do managers within property development. As illustrated in the figure below, managers within industry appear to hold a completely different and much more negative perspective on knowledge sharing compared to the rest of the organization.

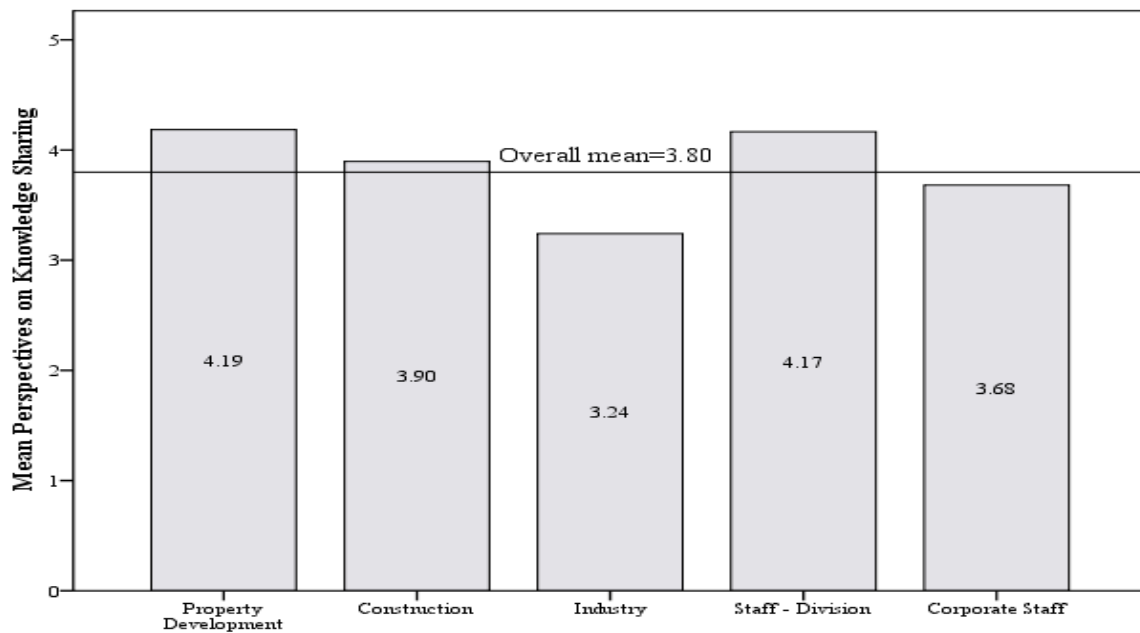


Figure 12: Perspectives on knowledge sharing across divisions

Industry is a division that is highly exposed to competition. We therefore suspected that the negative results on knowledge sharing perspectives for the industry division might be tied to a question we had included on sharing knowledge *outside* of Veidekke. However, when we eliminated questions related to sharing knowledge outside of the corporation, the results remained significantly more negative as compared with other divisions.

One possible explanation to this rather surprising finding might be that this division is less integrated in the corporation while the Construction and Property Development divisions are traditionally more core activities within construction companies. The Industry Division is exposed to competition along different dimensions. There is fierce competition and small margins, meaning the profits are limited, but fairly predictable. Competitors have access to the same technology and this is a labor intensive type of work where a key to competitive advantage lies in having low-cost workforce and available machinery close to the worksites. Deliveries are based on contracts and the key is to be able to optimize resources within given contracts. Efficient routines, as well as lean and mean operations is the key to profits, as opposed to construction and property development where most of the work is project-based and a key is to chose the “right” projects with the “right” people (including collaboration partners). In essence we are arguing that there is something inherent in the business

logic of construction and property development with the project-bases work and high-risk projects, which makes collaboration and knowledge sharing a natural part of this type of work, whereas in industry, this is not so. If this is a plausible explanation, then the lower scores for industry are not problematic, but rather tied to the nature of the work that is performed. If this finding is confirmed in other, similar settings, then this can be an important insight in terms of delineating conditions for the tools organizations use to enhance knowledge sharing. We return to this point in our discussion.

Experienced knowledge sharing

Managers in Norway report slightly lower scores for experienced knowledge sharing (3.6) as compared with Danish (3.7) and Swedish managers (3.8). Swedish leaders are in general most positive in terms of knowledge sharing. In interpreting these results it is important to keep in mind that in the recent reorganization in Sweden, several new leaders were recruited who expressed an interest in Veidekke specifically because of the corporate values on involvement. There is therefore a risk that the recruited leaders abide by these ideals even before participating in SLU.

In the previous section we showed that managers within Industry had a different perspective on knowledge sharing, however, when it comes to experienced knowledge sharing they report similar scores as the other divisions.

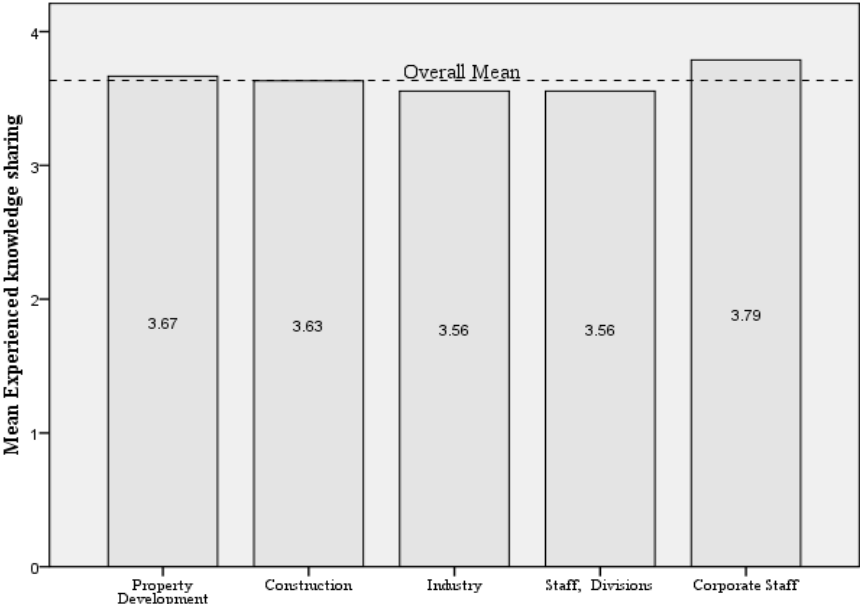


Figure 13: Experienced knowledge sharing across divisions

Knowledge sharing across program versions

The figure below shows that the last two classes report higher knowledge sharing experience (and higher scores on perspectives on knowledge sharing) than the classes prior to the program revision.

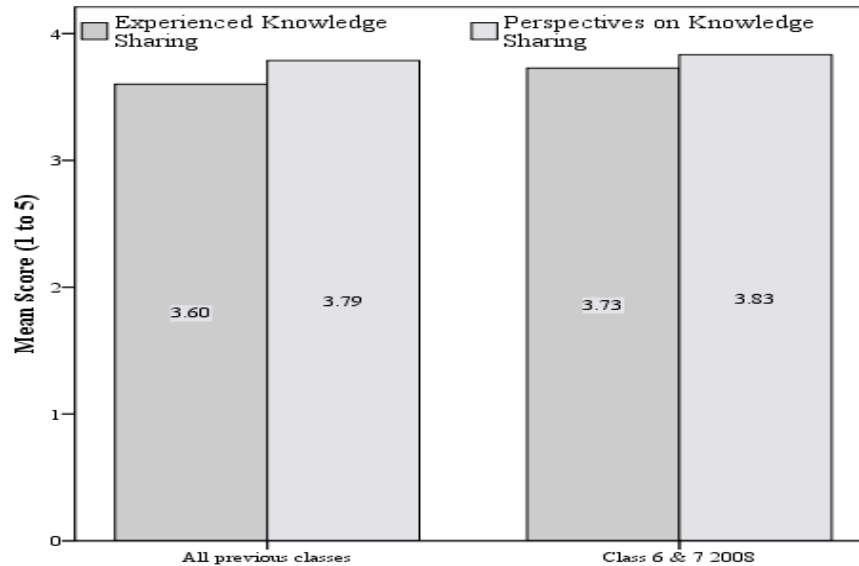


Figure 14: Knowledge sharing (perspectives and experienced) across program versions

As mentioned previously, the higher scores for later classes could be a result of a more focused program after the revision or “memory” biases where those who have most recently completed the program report higher scores because the benefits are fresh in mind.

Part III: Results from regression analyses

We turn now our final analyses where we perform regression analyses to examine: (1) the effects of previous program experience on the two SLU outcomes; (2) the effects of gains from groups on the two SLU outcomes; and (3) the relationship between social capital and the two types of knowledge sharing including potential direct effects on knowledge sharing from previous program experience and group gains.

Effects of previous program experience on SLU outcomes

Our in-depth data suggested that managers who had previous experience with leadership programs to a lesser extent reported positive benefits from SLU. This was especially the case for personal

leadership skills. We therefore set out to test how previous program experience influenced the two outcomes of SLU.

Regression analyses of our survey data indicate that previous program experience, in the form of internal Veidekke programs and open programs, has no significant effect on personal leadership benefits. Hence hypothesis H2b was rejected. However, previous leadership programs taken at other occasions affected personal leadership skills negatively. Previous leadership programs taken at other occasions positively affected social capital benefits. H2a thereby shows a positive rather than the expected negative relationship. Hence, previous program experience enhances social capital development, but we find no positive (or negative for that matter) effects on social capital when such experience has been generated within Veidekke.

Possible explanations for these findings could be that previous program experience facilitates absorption of new and Veidekke-specific ideas. Hence, participants who have been through other leadership development programs have already acquired more general leadership knowledge and skills which might make it easier to understand and put to use information on Veidekke. In addition, leaders that have experience from other programs already know the format and know how to work in groups and obtain even more payback when participating in SLU. Differential experience among SLU participants can also be a source of added value from the program and particularly group discussions as participants exchange previous experience and relate to current situation. The lack of effects from Veidekke programs is interesting, but perhaps not so surprising after all. It might be ascribed to having previous experience with Veidekke programs means that participants in SLU are learning nothing new in this respect. They have already learned about the Veidekke strategy, shared values and emphasis on collaboration, hence no additional positive effects are obtained by participating in SLU. The effects from previous experience have implications in terms of timing and sequencing of various leadership programs which we return to in our overall discussion.

Effects of group gains on SLU outcomes

Based on our qualitative in-depth data, we expected that how well the group work functioned might explain participant's overall assessment of the program. We therefore performed regression analyses linking assessment of group work to social capital benefits and personal leadership skills.

The results show that assessments of the group work *strongly affects* both social capital benefits and personal leadership benefits. Hypothesis 3a and 3b are thereby both supported. Assessments of how

the group functions (gains from group) are without doubt the most important factor in explaining the effects of SLU and as we will show below it also affects knowledge sharing.

It is through the group work that SLU participants have a chance to make use of their previous skills and experience and new knowledge acquired during the program. The group work centers on practical and operational (or strategic) issues which requires that participants share their knowledge and put experience and theoretical knowledge into practice. The groups generate solutions and both share and create knowledge. This is also a setting which facilitates the development of closer relationships and trust between participants.

Independent variables	Dependent variables			
	Social Capital Benefits	Personal Leadership Skills	Perspectives on Knowledge Sharing	Experienced Knowledge Sharing
COEFFICIENT				
Gains from Groups	0,35***	0,32**	0,18*	0,23**
<i>Previous program experience:</i>				
Internal Veidekke	-0,02	-0,19	0,19	0,13
Other occasions	0,39**	-0,38*	-0,41**	0,14
Open program/study	0,15	-0,22	-0,09	-0,01
<u>Control variables:</u>				
<i>Country</i>				
Denmark	0,17	-0,21	0,15	0,04
Sweden	0,31	-0,11	0,46*	0,16
<i>Division</i>				
Property Development	0,03	0,20	0,48*	0,05
Industry	0,00	-0,02	-0,55***	0,04
Staff-Division	-0,05	0,23	0,41	0,16
Corporate Staff	0,29	-0,38	-0,20	0,04
<i>SLU class</i>				
SLU 2004	0,07	0,32	-0,26	-0,06
SLU 2005 Fall	0,01	-0,01	-0,22	0,33
SLU 2006 Spring	-0,22	0,22	-0,36	-0,29
SLU 2006 Fall	0,03	-0,34	-0,17	-0,54**
SLU 2007	0,12	0,54*	-0,55**	-0,26
SLU 2008	0,03	0,18	0,02	-0,13
Social Capital Benefits	-	-	0,39***	0,45***
Personal Leadership Skills	-	-	0,17*	0,06
<i>Observations</i>	103	103	102	103
<i>R-squared</i>	0,34	0,22	0,46	0,36

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Regression analyses

The first (gains from groups) and the last two (social capital benefits and personal leadership skills) independent variables listed in table 6 above are continuous. The others are dummy-variables coded zero-one with one reference category left out. For *countries*, Norway is the reference category we compare against, for *division*, *Construction* is the reference category, for *experience*, *no experience* is the reference category and for *class*, the reference is the class of *spring 2005*. Note that *Social Capital Benefits* and *Personal Leadership Skills* appear as dependent variables in the first two models and as independent variables in the last two models.

Linking Social Capital to Knowledge Sharing Outcomes

The literature on social capital suggests that the key to knowledge sharing is development of social capital. We have shown that Veidekke has succeeded in developing social capital through the SLU program. Our final analyses focus on examining whether social capital can be linked to knowledge sharing. As previously, we distinguish between perspectives on knowledge sharing and having actually experienced knowledge sharing.

Perspectives on knowledge sharing

Our analyses confirm a linkage between social capital and perspectives on knowledge sharing, hence hypothesis 4a is supported. This linkage has been assumed in much of the literature on social capital, however we have lacked strong empirical evidence. Although this is an important and encouraging finding, we must keep in mind that our analysis do not establish the direction of causality and some might argue that positive perspectives on knowledge sharing will lead to social capital benefits rather than the other way around. For instance, Gratton (2008) refers to this as the self-fulfilling prophecy where “unconscious attitudes and assumptions of executives (that) drive behaviors in the corporate world they create...” (Gratton, 2008: 45). Although Gratton uses an example where managers and engineers attempt to maximize self-interest, her point is that the assumptions held by executives shape the practices and processes that are put in place. In Veidekke, executives in general report a perspective on knowledge sharing based on corporate values and an inherent willingness and desire to share knowledge rather than self-interest. The practices and processes in the company are most likely shaped by this perspective. Hence although we find a clear relationship between social capital and perspective on knowledge sharing, we would need additional data to establish beyond doubt that it is the SLU program that has developed the social capital which in turn leads to positive perspectives on knowledge sharing. Measures of social capital and/or perspectives on knowledge sharing among leaders/managers who have not participated in SLU would strengthen these findings.

Since the survey results suggested that the industry division reported a different perspective on knowledge sharing we performed a regression analysis to test this further. The results show that the industry division indeed is negatively related to perspectives on knowledge sharing. As in our previous analyses however, we find that industry has no effect on *experienced* knowledge sharing. Hence there are no indications that there is less knowledge sharing taking place within industry, simply a perception that differs from the other divisions.

Among the control variables we find that the Swedish managers and the Property Development Division positively influence knowledge sharing perspectives, while the class of 2007, similar to the Industry Division, shows a negative effect on knowledge sharing perspectives.

Experienced knowledge sharing

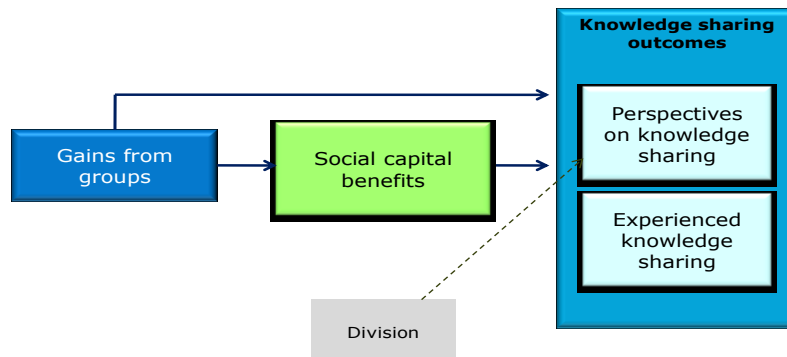
We have so far compared the degree of reported knowledge sharing across SLU classes, corporate divisions and national borders and found that managers belonging to all five divisions across nations have *all* experienced knowledge sharing. As with perspectives on knowledge sharing, we find from our regression analyses that social capital positively affects experienced knowledge sharing. Hence hypothesis 4b is supported as well.

Direct effects from previous program experience and group gains

Examining potential direct effects from our two independent variables shows that the variable “gains from groups” is positively correlated with both perspectives on and experienced knowledge sharing, while previous program experience influences perspectives on knowledge sharing negatively and has no effect on knowledge sharing outcomes. Note also that the SLU class of 2007 shows a negative relationship with perspectives on knowledge sharing, and that the SLU class of 2006 shows a negative relationship with experienced knowledge sharing.

Summary of findings from quantitative analyses of survey data

Our quantitative analyses support our predictions that the SLU program generates social capital, which in turn facilitates knowledge sharing. While both previous program experience and gains from groups influence SLU outcomes, group gains also directly affects knowledge sharing. We summarize these key findings in an adjusted model below.



4

Figure 15: Revised model

DISCUSSION AND CONCLUSION

In a previous report mapping Veidekkes international strategy and perspectives on knowledge sharing, we argued that Veidekke needs to maintain and further develop its social capital across national borders and that systematic efforts such as SLU must document value above and beyond the personal development for individual managers. This report documents the effects of the SLU program and shows that it has indeed been successful in terms of developing the social capital in Veidekke and enhancing knowledge sharing. Below we first summarize our main findings and then discuss the mechanisms through which SLU has generated social capital in Veidekke. Finally we speculate on conditions for developing social capital through leadership development programs.

Outcomes of the SLU program

The SLU program was initiated to develop the leadership skills in Veidekke, but over time an increasingly emphasized goal was to develop a shared corporate culture across various business areas (division) and nations. We have examined the degree to which SLU lead to two outcomes: social capital and personal leadership skills. Our analyses show that managers report significantly higher outcomes on social capital benefits as opposed to personal leadership skills. We interpret this

as evidence that leadership programs such as SLU can contribute in developing social capital. Furthermore, taking into account how the goals with the program evolved over time, we interpret these results as in line with corporate intentions.

Whereas our previous report on Veidekke illustrated some differences in terms of the relationships across the Scandinavian countries (Stensaker & Kjøde, 2008), we found no differences in terms of SLU outcomes across countries. Likewise, we found no substantial differences across divisions. The three dimensions of social capital: structural, cognitive and relational dimensions appear to have been developed across divisional and national borders. The same results, with no particular differences across countries or divisions, can be found on personal leadership skills albeit with considerably lower scores. Hence SLU participants agree that they are gaining network benefits, a greater understanding of the Veidekke values and a shared mindset in terms of Veidekke strategy, whereas they are gaining more limited benefits in terms of personal development as a leader and practical tools for developing their division.

Our findings indicate that the program clearly functions as a first meeting place where networks can be established and perhaps later also strengthened. In some cases we also find evidence that SLU has generated new meeting places, but we have limited information on the effects of emerging networks and also their duration. The cognitive dimension of social capital is developed both through the conversations and discussions that take place during the program but also in the presentations by the CEO where he combines corporate information with personal experiences. On the relational dimension of social capital, we conclude that SLU appears to be a successful arena for bridging leaders from different divisions and nations, while there is weaker evidence of bonding. Hence the strength and level of trust within new relations are uncertain. Future studies should examine more closely how lasting new relationships are, their strength, and the extent to which they generate collaboration also further down in the organization.

Our interest in social capital is inherently tied to knowledge sharing, which is an explicitly stated value in Veidekke. The study reported here confirms the linkage between social capital and knowledge sharing, both when it comes to the perspectives held on knowledge sharing and actual experience with knowledge sharing. We were surprised to find that leaders within the Industry Division exhibit quite different attitudes towards knowledge sharing (what we have referred to as perspectives on knowledge sharing) as compared with all other leaders. We have suggested that this could be related to the nature of the activity and the competition within this sector. Interestingly, when we ask about their actual behavior of knowledge sharing, the Industry Division reports almost

the same scores as the other divisions. The differential results for attitudes towards knowledge sharing should therefore not be interpreted entirely as negative, but rather as characteristics of the context that influence the results.

Although our findings are encouraging, they must be interpreted with some caution. While a large proportion of the target population (SLU participants) is covered in our data, we have not compared these findings with other organizational members who have not participated in SLU. This means that we cannot be one hundred percent certain that it is the SLU program as such that is generating higher social capital and increased knowledge sharing. These effects could be ascribed to other activities and processes within Veidekke. Furthermore, the network ties and relationships that are established could be a result of “the bar effect” rather than the program as such. This implies that managers might have just as easily established new networks and relations through purely social gatherings and without the academic content of the leadership program. Additional data, from non-SLU participants, is one way of strengthening the causality between the program and the effects we are reporting.

The findings we report point to some areas in need of further examination. We have already mentioned the importance of increasing our knowledge about how lasting new relationships are and whether or not networking at management level also generates knowledge sharing at lower organizational levels. Furthermore, knowledge sharing and collaboration practices in the Industry Division should be studied more closely and systematically compared with knowledge sharing practices in other divisions (such as construction or property) to understand potential consequences of the differences we have uncovered in perspectives on knowledge sharing.

Key mechanisms for developing social capital

Our study indicates that two factors are important for understanding and explaining what the participants get out of program: their previous program experience and their assessments of the gains from group work.

As predicted, previous experience matters for social capital, but we were surprised to find that it had a positive rather than negative effect and that it had only limited influence on personal development benefits. Those who have previous program experience reported higher social capital benefits. However, internal Veidekke programs did not generate social capital. We argue that this is most

likely due to previous knowledge of the Veidekke strategy and values, and since previous Veidekke experience has no negative effects, it should not be interpreted as problematic.

The positive effects of previous experience raises some interesting questions in terms of how Veidekke should sequence programs for their leaders. One of our interviewees argued that the output would be optimal if leaders participated in regional programs first, then SLU, then more general and open programs such as the Solstrand program by AFF. He argued that this would make for a natural progression in terms of the leadership skills one acquires through these programs. However, since previous experience enhances the development of social capital our findings suggest the opposite. According to Gratton (2008: pg.119) developing social capital (and productive practices) requires appreciating talents and knowing what others know. Leaders with some experience from other leadership programs might more easily appreciate each others' talents as they already have some common leadership skills on which to base their collaboration and conversation.

The most important factor for all outcomes (social capital, personal leadership skills, knowledge sharing) were participants' assessment of the gains from group work. It seems then, that if those responsible for the leadership program get the groups to work well, the program will be a success. In SLU, the groups were carefully put together with a specific aim of differentiating between divisional and national belonging. In addition, superiors were never placed in groups where subordinates or anyone reporting to them were a member. Hence there were no competitive dimensions introduced within the groups. Each group was also given a task or challenge which was deemed as strategically or operationally important for the corporation and our qualitative data give some indications that when the task was perceived as relevant and interesting, the group members shared knowledge and developed new knowledge.

According to theory, knowledge can be shared through pipes or practices. Nahapiet (2008) argues that the dominant tradition in the knowledge sharing/transfer literature is to view knowledge as packets of information passing through the "pipes" of such structural linkages. Hence a pipes perspective on knowledge focuses on the structures through which this can be done. Leadership programs can be viewed as a structure for sharing knowledge between corporate members. The components of SLU that are tied to lecturing (even the popular sessions by the CEO) resemble knowledge sharing through pipes where a sender transmits his/her knowledge to a/several receivers.

A second perspective on knowledge sharing is the "the practices metaphor", where knowledge is perceived as shared through interaction where relationships co-evolve in situated and embedded communities of practice (Nahapiet, 2008). This perspective specifically captures the relational and

cognitive dimensions in addition to the structural dimension. The practices perspective on knowledge sharing is much less developed than the pipes perspective. In this perspective, knowledge is both created and shared, sometimes simultaneously. Hence the source of the knowledge can be challenging to identify, the knowledge entity might not be clearly defined, and the potential value of the new or shared knowledge is not necessarily readily assessable. A practice perspective on knowledge sharing involves more uncertainty and ambiguity, both in terms of what knowledge is created or shared, and in terms of its value, but also for those people who are involved. Hence it requires a high level of trust, a shared mindset in order to understand each other and build on each other's insights and a high tolerance of ambiguity. One might argue that the group work is an example of knowledge sharing through practices. Here groups of leaders worked together to solve an operational or strategic challenge, and they together developed an understanding of the problems and potential solutions.

Well-functioning groups thus evolve as a key mechanism for developing social capital through leadership programs. This points to the importance of establishing "good" groups that can quickly begin to work together as well as facilitating the group process. Well-functioning groups require that the groups have sufficient time together and that they perceive that there is relevant knowledge for solving the tasks at hand within the group. Our qualitative data indicate that not all groups worked equally well. We lack information on potential free-rider problems, issues concerning lack of relevant knowledge or time. However, we do know that the groups were somewhat altered through the course of the program, and that they were provided with more time between the SLU meetings. However, the added time spent in groups was also a point of criticism. Developing a deeper understanding of what makes groups work well as knowledge sharing practices is central for organizations that aim to develop social capital through their leadership programs.

The conditions for successfully developing social capital through leadership development programs

We have argued based on our study of SLU in Veidekke that it indeed appears possible to develop corporate social capital through leadership programs. Below we elaborate on five conditions that we believe are important for being successfully in such an endeavor: (1) consistency with corporate strategy and values; (2) lack of competitive mindset among participants; (3) focus on leadership development rather than individual leader development; (4) consistency with the nature of the business; (5) cultural fit. We discuss each of these conditions below.

Veidekkes strategy remains very much focused on values and involvement and collaboration. Focusing on developing a corporate culture in Veidekke is thereby perfectly consistent with the corporate strategy and the espoused values within the company. Developing social capital through leadership programs in organizations with strategies and values that are not aligned with social capital “thinking” might prove much more challenging. Consistency is a key criterion for successful strategy implementation and thus in line with strategic theory. In strategy implementation the focus is on consistency between strategy on the one hand and organizational elements (structure, incentive systems, control systems, culture etc) on the other hand. If social capital “thinking” is consistent with the strategy and values and organizational processes in an organization, then leadership programs can be designed to contribute to the development of social capital.

Secondly, our findings indicate that the leaders who participated in SLU came in with a specific aim of networking and getting to know the other participants. This lack of competitive mindset internally among the participants in the program was also manifested through statements of friendly competition on performance, but no personal competition. In addition, the group work, which was found as the most critical activity in the program for social capital as well as knowledge sharing, was characterized by a complete lack of competitive mindset among group members, and the groups were put together in a manner which ensured this. This resonates with Gratton’s (2007) focus on the need for a collaborative mindset for hot spots and innovation to evolve in organizations.

Thirdly, related to the lack of competitive mindset, the SLU program focused on developing organizational leadership rather than developing individual leaders. By this we refer to the focus on group work, collaborative work and drawing on each other’s experiences. Social capital will most likely not be developed to the same degree when leadership programs focus on developing the individual leader as opposed to focusing on collaboration and team work.

Fourthly, taking the notion of consistency one step further, one might also argue that successful development of social capital not only depends on a certain internal coherence in the organization, but also a logical connection to the nature of the business. We would argue that social capital will have to be developed differently for different types of businesses as it needs be consistent with the nature of the business in order to generate results. In the Industry Division, we found that leaders reported quite different perspectives on knowledge sharing. This lead us to believe that generation of social capital and the linkage to knowledge sharing has more to do with the nature of the business than the corporation and the tools and techniques put in place to facilitate knowledge sharing.

Finally, our study was conducted in Norway and consisted of Scandinavian managers. The Scandinavian countries are generally characterized as democratic, focused on equality and with a low power distance. Hence the collaborative ideas within social capital seem to fit the cultural characteristics of Scandinavia. However, one might question whether similar programs could be successfully employed in a similar manner in the US, Great Britain or countries in Eastern Europe, which tend to exhibit quite different cultural characteristics. Successfully developing organizational social capital in other cultural contexts might depend on other mechanisms than those reported here.

To be successful, any leadership program should be carefully adapted to the national and organizational context at hand and include an investigation of the nature of that same context, thereby supporting the participants' self-awareness of their own idiosyncrasies. Our findings provide evidence that leadership programs can be a tool for developing social capital and we have begun to flesh out the mechanisms and conditions under which we expect that this will be successful. However, we humbly recognize the short-comings of relying on a sole one organization and one leadership program. The results presented here should therefore be compared and contrasted with results from other attempts at developing social capital, such as the other organizations participating in the GOLD project.

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Appendix A: Questions for report from 2008 participants in SLU

Rapportering til GOLD forskningsprosjekt fra SLU deltakere

Samling 1

Vennligst skriv dine svar inn under hvert spørsmål og send dokumentet i retur til inger.stensaker@nhh.no og arne.kjoede@aff.no

senest 4. juli.

Målsetninger & forventninger til SLU og til første samlingen

1. Hvilke forventninger hadde du til SLU før du begynte på programmet?
2. Hvilke målsetninger oppfattet du at ledelsen har med SLU?
3. Hvilke målsetninger og ambisjoner hadde du selv til SLU?

Hva fikk du ut av den første samlingen?

4. Hva var etter din mening det nyttigste med den første samlingen?
5. Hvordan har du som leder utviklet og/eller endret deg etter første samlingen?
6. Hva har vært utslagsgivende for denne utviklingen? (forelesninger, stoffet som formidles, samtaler med andre, oppgaver og praktiske øvelser)

Veidekkes strategi og verdier

7. Har du gjennom denne SLU samlingen forandret din forståelse og/eller oppfattelse av Veidekkes strategi? Hvordan og på bakgrunn av hva?
8. Har du gjennom denne SLU samlingen forandret din forståelse og/eller oppfattelse av Veidekkes verdier? I hvilken grad vil du si at Veidekkes verdier samsvarer med dine egne verdier?
9. Har du utviklet andre nye perspektiver gjennom samlingen? I tilfelle knyttet til hva?

Kunnskapsdeling & samarbeide

10. Har SLU bidratt til at det etableres nye møteplasser på tvers av enheter i Veidekke? På tvers av landegrenser? Gi gjerne konkrete eksempler (gjærne basert på egne erfaringer).
11. Har SLU bidratt til at det etableres nye relasjoner på tvers av enheter i Veidekke? På tvers av landegrenser? Gi gjerne konkrete eksempler.
12. Hvilke relasjoner har du utviklet gjennom programmet? Vil du beskrive dette som faglige relasjoner, sosiale relasjoner eller begge deler?
13. Har SLU bidratt til å etablere et felles språk blant deltakerne? Gi gjerne konkrete eksempler.

Tankesett og holdninger

14. Oppfatter du kolleger i andre deler av organisasjonen som villige til å dele kunnskap? Er det lett å be om og få bistand fra folk i andre enheter?
15. Har du hatt utbytte av å drøfte spørsmål/prosjekter/saker/konkrete problemstillinger med kolleger fra andre deler av organisasjonen, gjerne med annen bakgrunn eller helt andre typer oppgaver?

16. Ser du noen direkte nytte for deg i ditt arbeid av å kunne samhandle med andre steder i organisasjonen?
17. Tenker du noen gang at du sitter med kunnskaper eller erfaringer som andre deler av organisasjonen burde benyttet mer? Hvordan/på hvilke måter kunne organisasjonen ha benyttet dine kunnskaper og erfaringer i større grad?
18. Er det enkelt for ansatte i Veidekke å se et fengende formål med det dere driver med?
19. Har dere praktiske muligheter i form av kanaler, arenaer og tid og rom til å dele kunnskap og søke bistand hos hverandre?
20. Er der andre ting du mener det er viktig at vi kjenner til som for eksempel gjelder kunnskapsdeling eller SLU?