

# Managing Knowledge in Business Networks

**Marianne Kukko<sup>1</sup>; Nina Helander<sup>2</sup>; Pasi Virtanen<sup>3</sup>; Terhi Yliniemi<sup>4</sup>;**

<sup>1</sup>*M.Sc. (bus.adm. and econ.), Researcher, Tampere University of Technology,  
marianne.kukko@tut.fi*

<sup>2</sup>*Ph.D (econ.), Senior Researcher, Tampere University of Technology, nina.helander@tut.fi*

<sup>3</sup>*M.Sc. (eng.), Researcher, Tampere University of Technology, pasi.virtanen@tut.fi*

<sup>4</sup>*M.Sc. (eng.), Researcher, Tampere University of Technology, terhi.yliniemi@tut.fi*

## Abstract

In today's knowledge-intensive and networked society the ability to manage knowledge flows is crucial for companies to gain competitive advantage. Knowledge management (KM) is a philosophy for effective utilisation of knowledge resources, offering tools for companies to better acquire, create, share, store, process and use knowledge flows when trying to reach a better market position.

There is a substantial number of studies about KM, but most of these studies have focused on large companies while the small and medium sized enterprises (SMEs) have not reached so much attention. We argue, however, that also the viewpoint of SMEs is essential to take into account in KM studies. This is the case especially in Finland, where the national business life and economy is strongly based on SMEs. Moreover, as the capability to operate in business networks is in many cases a certain kind of lifeline for the SMEs, a KM study focusing on the SMEs viewpoint offers an interesting setting for a network research.

This paper presents a part of the preliminary results of a recent survey conducted among SMEs in a specific geographic area in Finland. The aim of the survey was to examine the state and future needs of knowledge management practices among SMEs and their strategic business networks. The survey is a first phase of a three-year research project that aims to clarify how SMEs' knowledge management could be developed in strategic business networks.

## Keywords

knowledge management, small and medium sized enterprises, strategic business networks

## Acknowledgements

We would like to express our warm thanks to Tampere Chamber of Commerce & Industry of their invaluable help in contacting the SME informants for the survey. We would also like to thank M.Sc. Jaani Väisänen for his indispensable help in analysing the survey data.

## Introduction

In today's knowledge intensive and networked society it is a great challenge for companies to manage knowledge flows, not only within the company, but moreover, in business done in cooperation with other companies. Thus, the ability to manage knowledge in the context of

strategic business networks has become crucial for companies to gain competitive advantage. Knowledge management (KM) is a set of tools aiming to better acquire, create, share, store, process and use knowledge flows. As knowledge management is a modern practise and in a way a necessity for a contemporary organisation to keep track of the developments in both their internal and external business environments, it offers means for companies to identify the key strategic changes that are needed in order to success in the competitive business environment. If the company understands to use these tools both in internal functions and as well in a network context, it has a solid ground for processing innovations and ideas into products and services in cooperation with other companies. Thus it can be argued that KM is a vital proficiency in helping the companies to grow as it carries much of the weight in creating new business possibilities and/or developing the existing ones.

The present study bases theoretically on two contemporary streams of research: knowledge management and business networks. There are already a substantial number of studies both about knowledge management (e.g. Kukko et al. 2004, Stähle & Grönroos 1999, von Krogh & Roos 1996, Leonard-Barton 1995, Nonaka & Takeuchi 1995) and business networks (e.g. Helander 2004, Möller et al. 2002, Håkansson & Snehota 1995, Easton 1992, Håkansson & Johanson 1992). However, the number of studies that specifically address knowledge management in the context of strategic business networks and thus bridge these two research streams is still rather limited. Moreover, most of the previous studies on KM have focused on large companies while the small and medium sized companies (SMEs) have not reached so much attention. We argue, however, that also the viewpoint of SMEs is essential to take into account in KM studies. This is the case especially in Finland, where the national business life and economy is strongly based on SMEs (approximately 98 % of Finnish companies are small or medium in size). Moreover, as the capability to operate in business networks is in many cases a certain kind of lifeline for the SMEs, a KM study focusing on the SMEs viewpoint offers an interesting setting for a network research.

This paper presents the first phase of a wider research project, in which the aim is to increase understanding on the role of knowledge management within SMEs and their strategic business networks by answering to the following research questions:

- how is KM utilized in decision-making on top-management level?
- how does the top-management influence on KM activities?
- what are the effects of KM on work performance?
- how does KM influence on the functionality of strategic business networks?

These four research questions relate to two different analysis levels, the one of a single company (research questions 1-3), i.e. its internal KM practices, and the other of strategic business networks (research question 4), i.e. the KM practices shared and used between several cooperating companies. These two analysis levels are closely interrelated to each other and both of them are needed in order to create better understanding of KM in a strategic business network context and furthermore, to clarify how SMEs knowledge management could be developed in strategic business networks. In Figure 1 these research themes and their interrelationships are illustrated.

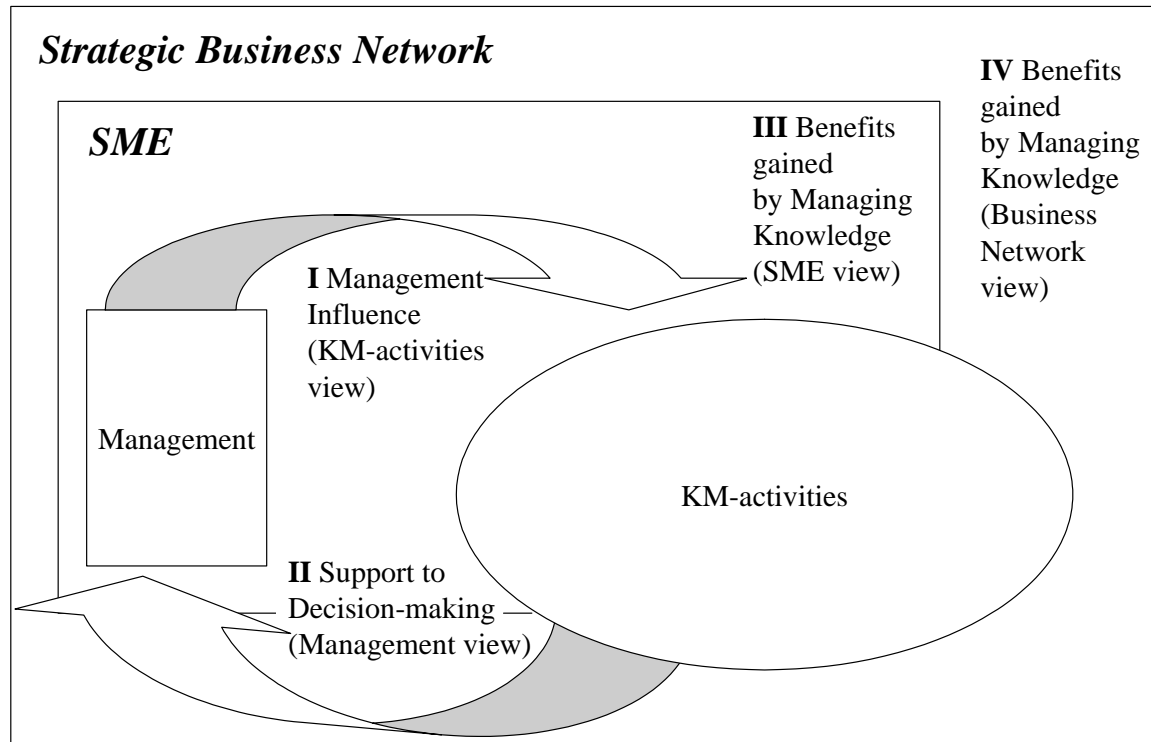


Figure 1. The research themes of the project.

As earlier stated, the project is consisted of two interrelated phases, of which the first phase is presented in this paper. In this first phase of the research the data is gathered by using quantitative methods, by carrying out a survey to examine the state and future needs of knowledge management practices among small and medium sized enterprises and their strategic business networks. The first phase started in autumn 2005 by collecting data with a web-based questionnaire. In the second phase of the project, qualitative research methods are going to be applied as the data will be collected by a series of semi-structured interviews of 4 to 8 SMEs that are chosen for more detailed case analysis after reviewing the outcome of the first phase. The aim of the second phase is to deepen the understanding of the research phenomena and to find answers to the research questions discussed above by carrying out a more thorough qualitative case study.

In the following, the theoretical background of the study is firstly discussed. After the theoretical discussion, the research methodology and a part of the preliminary results of the survey are presented. The paper is ended by concluding remarks.

## Theoretical insights

Small and medium sized enterprises typically operate in strategic business networks<sup>1</sup>, because of their need for cooperation due to limited recourses. Strategic business network consists of three or more companies working in target-oriented collaboration and of the relationships between them. In this sense, the strategic business network is conceptually parallel to strategic alliances, as alliances are usually understood as individual agreements and collaborations between a smaller number of partners (Webster 1992) with an emphasis on long-term perspective (e.g., Doz & Hamel 1998). In all, the idea of strategic alliances and strategic business networks is to gain benefits that are not accessible by working alone. For example, it has been stated in earlier studies that a strategic business network can act as a source of early-stage capital for small start-up firms (Carayannis et al. 2000). Furthermore, in several studies (e.g., Fedor et al. 1995, Lorange & Roos 1992, Harrigan 1988), it has been argued that technological complementarity, decreased time to market, and market access are the strongest benefits that are sought from alliances and strategic business networks. Nevertheless, as Fedor et al. (1995) point out, usually the single most important driver is the desire to leverage one's own core competencies through partners who possess unique skills, resources, or market positions.

However, it is not an easy task to build and maintain a successful strategic business network. First of all, they require a lot of time, commitment, and energy in order to succeed. Furthermore, they are often very complex and thus hard to structure: it is not easy to handle a bunch of relationships in such a way that everyone benefits from the collaboration. Reasons behind failures of the collaboration have been studied (see e.g. Ho Park & Ungson 2001, Fedor et al. 1995), and one of the main obstacles in the collaboration is usually the management of knowledge flows between the collaboration parties.

Most of the problems companies face are not due to lack of suitable knowledge but that it is not recognised which knowledge is suitable to which situation (Lave 1988, Reeves & Weiseberg 1994; Thompson, Gentner & Loevenstein 1998 according to Hargadon 1999,4). Often the emergence of new knowledge happens so that existing knowledge is brought and attached to new context and cultivated (Hargadon 1998; Hargadon 1999; Hargadon & Sutton 1997). Knowledge management is needed to use existing knowledge in a systematic and the best possible way to create new knowledge to support work and to combine knowledge in a new way. This systematic way to use knowledge can be seen as a dynamic process, in which knowledge is transformed and improved (see e.g. Nonaka & Takeuchi 1995; Hargadon 1999). Through systematic knowledge management processes companies create and use institutional and collective knowledge. To function effectively knowledge management process needs both good information technology infrastructure and organisational infrastructure. (Sarvary 1999, 95) In this process external circumstances and internal operations make it happen that in organisation new innovative combinations can be created from old, existing knowledge.

In this research knowledge management is viewed as a tool for better usage of knowledge especially in SMEs. There are several different definitions for knowledge management.

---

<sup>1</sup> Strategic business networks (see e.g. Möller et al. 2002, Helander 2004) are consisted of companies working in target-oriented collaboration and of the relationships between them. In the present study, strategic business networks are studied from a focal company point of view, including the key collaboration partners of the focal company. These partners include, but are not limited to, the focal company's suppliers and customers.

Suurla (2001) has stated that fundamental in knowledge management are the intelligent and proficient care, administration and target-oriented management of knowledge, skills, competence and communications. An integral part of knowledge management is sharing of knowledge throughout the organisation and the main goal can be said to be creation of new knowledge from the basis of existing knowledge (Nonaka, Konno & Toyama 2001, 13). The purpose of knowledge management is to maximally utilise both explicit and tacit knowledge to create and to fortify competitive core-competencies (Strömmer 1999, 178). One objective of knowledge management is also to move knowledge and experience about routines, habits and traditions to places where those have novelty value (Ainamo 2001, 348). To obtain effective operations and to create new ideas it is essential that existing knowledge resources are diffused and re-used. Basically it can be said that the key in knowledge management is to efficiently leverage and improve the re-usage of existing resources (Wah 2000, 308).

Knowledge management consists of deliberate activities aiming to maximise the organisation's performance and to find new possibilities. These activities are the creation, sharing and increasing of internal and external knowledge and experience. (Marchand & Davenport 2000, 1995) Although information management can be seen as a part of knowledge management, knowledge management is more about management of people than administration of information and communication technologies. The objective of knowledge management is the management of knowledge sharing and adapting and promoting knowledge creation. (Marchand & Davenport 2000, 165) So it can be said that knowledge management is a set of methods aiming to control and manage human capital and intangible assets (Stähle & Grönroos 1999, 209). The objective of all this can be said to be the efficiency and productivity of a company. Hence the development of knowledge management practices is in a central point to raise the competitiveness of SMEs. This argument is supported by the empirical findings of the recent research of Salojärvi, Furu and Sveiby (2005) as their research suggests that knowledge management has positive effect on the growth of SMEs. However, the research of Salojärvi et al. (2005) is focused on the internal knowledge management practices only, leaving out of scope the network perspective. In our study, we aim to fulfil this research gap for our own part.

## **Research methods**

The empirical data of the first phase of our research has been collected through a questionnaire. The questionnaire included multiple choices, likert scale and few open questions. The research themes of the questionnaire were formulated by the research group based on theoretical review of KM and business network literatures. Under the wider themes the research group formulated research questions through brainstorming, firstly in teams of two and then by the whole research group. The proposed questions were reviewed, refined and specified into a form of a test questionnaire. The test questionnaire was sent as a try-out to ten selected persons representing different kinds of organizations. Based on the comments of these test persons, the questionnaire was refined and finalized before the actual data gathering began.

The questions of the survey were divided into three main categories: background, relationships and business networks and knowledge management. These three main categories were further divided in subcategories that are presented in Figure 2.

BACKGROUND INFORMATION	RELATIONSHIPS AND BUSINESS NETWORKS	KNOWLEDGE MANAGEMENT
Industry & geographic area	Market type	Work community
Size in personnel and in turnover	Customer relationships	Knowledge exploitation
Service/product business orientation	Supplier relationships	Measurement & productivity
Respondent's status	Open questions	

Figure 2. The subcategories of the questionnaire.

As a background question the status of the respondent was asked, i.e. his/her position in the organisation. In this background information part also the line of business or the branch in which the represented company was active was mapped. Also the size of the business both in personnel and in turn-over, and the location of the operation were asked. As a starting point for the relationships and business network questions, it was asked whether the respondent worked in the business-to-business or business-to-consumer markets. Then the questions of customer relationships and supplier relationships were asked in the questionnaire, with a logic that separated key customers and key suppliers from other kinds of customers and suppliers. Thus, the idea of this logic was to examine how homogenous or heterogeneous the customer and supplier portfolios of the respondents' companies were and in further analysis evaluate their effect on the knowledge management practices and needs. The actual knowledge management questions handled work community, knowledge exploitation and measurement and productivity issues related to knowledge management. In the end of the questionnaire were few open questions. These questions were about the challenges faced in knowledge management and development needs relating knowledge management or operating in networks. At the very end of the questionnaire the respondents' interests towards the research's second phase was asked and also their opinion about the questionnaire.

The questionnaire was web-based and implemented by using a survey tool named *Survey Monkey*. The questionnaire was sent to 372 SMEs in Pirkanmaa region, the second largest economic area in Finland. The hit rate of the questionnaire was 33,6 per cent (125 responses from different organisations), which can be regarded as rather good for a web-survey.

The data is analyzed with SPSS program that enables e.g. cross tabulation and cluster analysis. Cross tabulation, cluster analysis and more detailed analysis of the data will be, however, published later in the form of a research report. In this paper we will focus on presenting the preliminary results of our analysis, especially emphasizing the knowledge management category questions.

The open questions included in the questionnaire are also going to be analysed later by thematization and word grouping, as typical for qualitative data analysis. The results of this kind of qualitative analysis are going to be published in the above mentioned research report.

## Results

In next, a part of the preliminary results of the survey are presented. The discussion of the results is structured under the subtopics of background information, relationships and business networks and knowledge management. Due to the limits of space and status of the analysis process of the survey data, we will focus on discussing the knowledge management category.

### Background information

Most of the respondents were CEOs (79,2%). Other occupational titles that were represented among respondents were among others marketing manager, financial manager, human resource manager and development manager. Most of the respondents represented industry sector (31,2%). Twenty per cent of the respondents came from lines of business that were not listed in the questionnaire. So they were marked as representatives of sector “other”. The second popular sectors were “education, research and business services” (16,0%) and “wholesale and retail” (8,8%). The companies polarised almost in half as representatives of service sector and manufacturing sector (55 per cent service sector and 45 per cent manufacturing sector).

Most of the companies’, whose representative answered to the questionnaire, represented companies that had 10-25 employees (38%). Mainly the companies were companies with employees under 100 (80,2%) employees. The most common turnover “class” of the respondent companies was 1-5 M€(41,9%).

### Relationships and business networks

Strategic business networks can be seen as consisted mainly from the focal company’s customers and suppliers. These actors were covered in the survey through a number of multiple choice and likert scale questions.

The starting point for the relationships and business networks questions was to examine the heterogeneity vs. homogeneity of the SMEs’ customer and supplier portfolios. In regard to the customer portfolio, the majority (79,2%) of the respondents represents a company that operates in business-to-business markets, where the division between key customers and other customers seems to be the dominant way to do business (48,8%). However, based on the data, also among the consumer market companies the key customer concept is rather widely used - 14,4% companies of the total 20,8% of companies utilize key customer division in their business. See Figure 3.

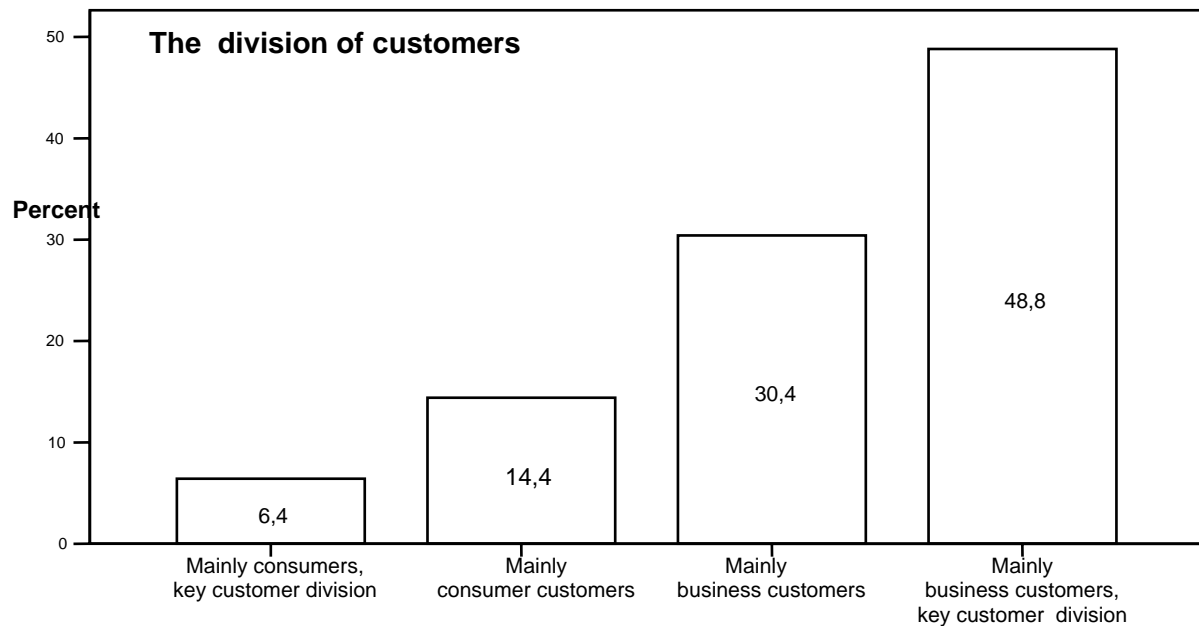


Figure 3. The distribution of customer types of the surveyed companies.

The division among the surveyed companies suppliers was, however, clearer. Based on the data, it seems that it is more usual for SMEs to have few main/key suppliers (71,1%) than to have a group of equally important suppliers (28,9%). See Figure 4.

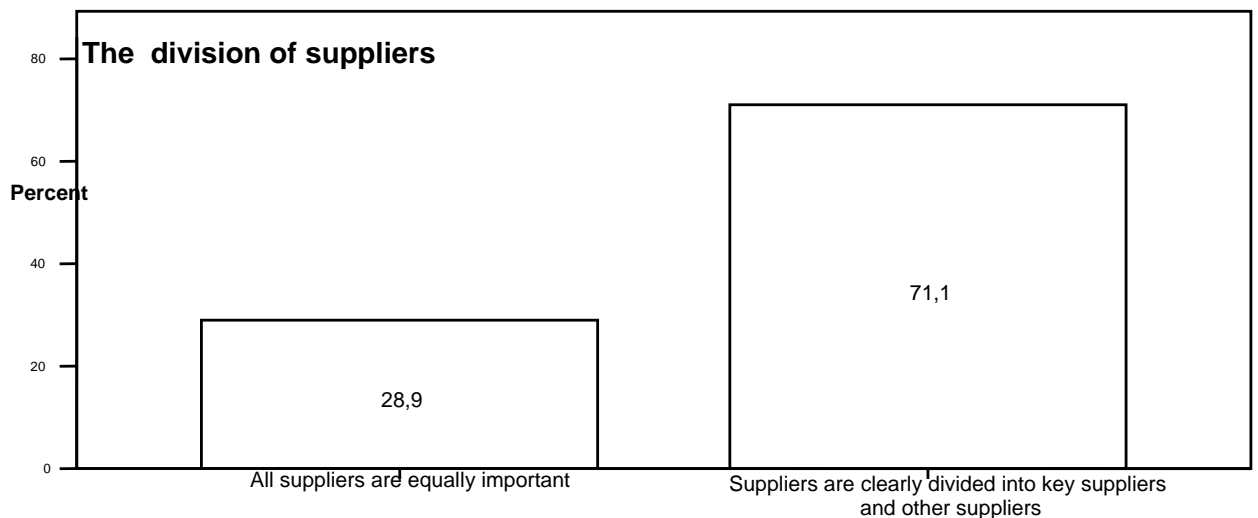


Figure 4. The distribution of supplier types of the surveyed companies.

These questions related to the heterogeneity and homogeneity of the customer and supplier relationships are going to be utilized as background data in analyzing the other questions under the category relationships and business networks.

The respondents were also asked to express the average length of the customer relationships and to evaluate them in likert scale by ten claims that dealt with the issues of relationship adaptations, shared objectives and procedures, commitment and interaction regularity. Related to supplier relationships, the respondents were asked to evaluate the most important criteria for selecting specific supplier, the length of the average supplier relationships and evaluation of the relationships in likert scale by claims that dealt with the same issues as the customer evaluations; adaptations, interaction, shared procedures etc. Results of these questions and their answers are not provided in this paper, as the limited space presents its restrictions, and as we want to emphasize the knowledge management category in this paper.

### **Knowledge management**

Almost every examined SME had informal ways to be together. Only 1,8 per cent of the respondents disagreed with the claim *There is informal ways to be together in the company (e.g. coffee breaks, sauna evenings)*. It has been widely recognised that informal ways to meet and discuss are very crucial for new knowledge creation. So it can be said that the studied SMEs are in a proper road from this point of view. It seems that within SMEs it is also typical that employees get together also out of hours. 64,9 per cent of the respondents agreed at some level with the claim *Employees are dealing with each other at their leisure time*. This is also very important issue from knowledge management's point of view. This enhances the employees' communal feeling and this for one's part facilitates mutual understanding and knowledge sharing between employees.

A substantial number of all of the respondents did not feel that there are good training possibilities in their company as 24,7 per cent disagreed with the claim *Work community offers good training possibilities*. Employees' continual development possibilities are crucial for the whole company's development. On the other hand the respondents said that management mainly supports employees to develop themselves by other means. 85,7 per cent of the respondents said that at some level they support employees to develop themselves. This may very well be due to the limited resources of the SMEs. Different kinds of training possibilities are important both for employees' personal competence development point of view and from company's continual development point of view. Most of the companies also had an systematic introduction training for their new employees (86,5%).

Only 9,9 per cent of the respondents agreed totally with the claim *Personnel has enough time to develop their own job*. 58,6 per cent of the respondents agreed with this claim at some level. 28,8 per cent disagreed with this claim at some level. Only 0,9 per cent disagreed this claim totally and 1,8 per cent answered to this claim they can not say. From knowledge sharing point of view it would be useful if employees had possibilities to develop their own job. It would commit employees to their job and could also create new ideas. Usually it can be said that people need many different kind of ways to develop themselves well.

It seems that in most of the SMEs management tries to encourage employees to share knowledge. 42,9 per cent of the respondents said that they agree totally with the claim *Management encourage employees to share knowledge*. Also 53,2 per cent of the respondents said that they somewhat agree with that claim. So according to this it can be said that the managers of SMEs feel that they are supportive towards knowledge sharing. The results as well imply that managers feel they are also well disposed towards encouraging employees to

make initiatives. 88,3 per cent of the respondents said that management supports at some level employees to make initiatives.

Respondents see that management mainly gives employees feedback at regular basis. Only 13 per cent of the respondents said that they do not see that management gives feedback to employees on regular basis. The respondents feel that the situation is almost the same when speaking about the issue other way round. Only 24,7 of the respondents said that they disagree at some level with the claim *Employees give feedback to management on a regular basis*. So according to this it can be said that in SMEs feedback is given quite regular basis to both ways of horizontal axis. The art of giving and receiving feedback is crucial for knowledge sharing atmosphere. It is also highly recommendable that the overall atmosphere within the work community is regularly checked and based on the check, possible disadvantages revealed in it are taken under inspection and to improvement process. 65,8 per cent of the respondents agreed at least to some level that regular work satisfaction measurements are made, see Figure 5.

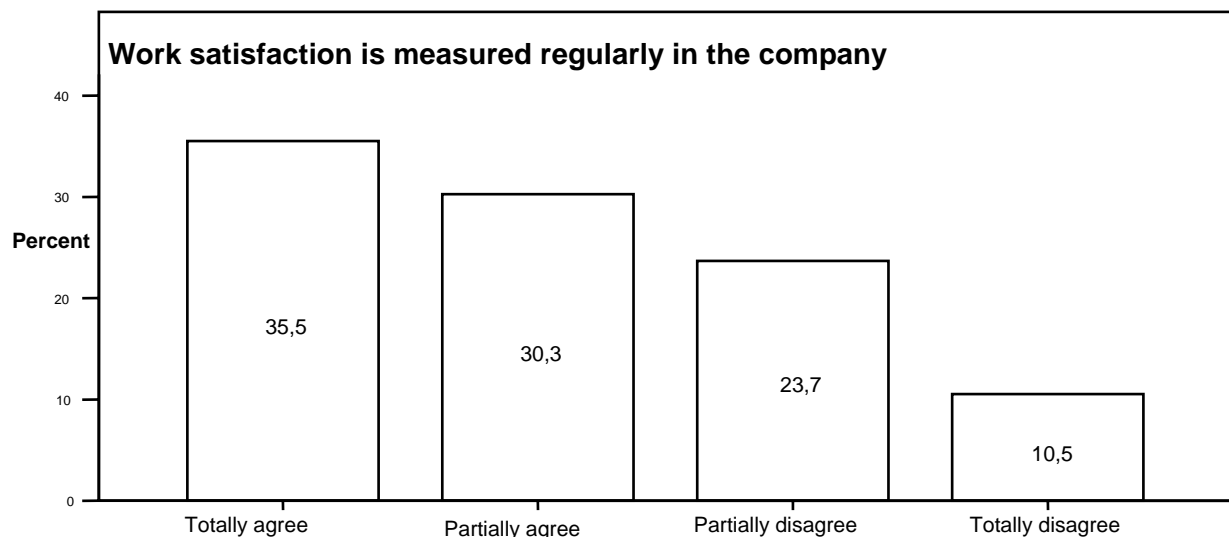


Figure 5. The regularity of measuring work satisfaction among the surveyed companies.

According to the respondents little over 70 per cent of the companies are making sure at some level that the knowledge of people leaving the company remains in the company. Different kinds of means for this purpose would be important to assure that both explicit and tacit knowledge remains the company. Obviously job rotation is not the most common way to share knowledge in SMEs. 66,6 per cent of the companies do not use job rotation. Contrary to job rotation learning by working is utilised quite much. 74,7 per cent of the respondents said that in their company learning by working is utilised at some level. Job rotation and learning by working could be tools for assuring that the knowledge of employees gets shared widely throughout the company and will that way remain the company despite that one person leaves the company.

It is not common in all of the SMEs that management encourages employees to network with people outside the company. 49,3 per cent of the respondents agreed at some level and 44,0

per cent of the respondents disagreed at some level with the claim *Management encourages employees to network with people outside the company*. See Figure 6. Networking also outside the own company is important for new knowledge creation and bringing new knowledge into the organisation. Through networking both new knowledge and new ideas can be found. Positively, big share of SMEs seems to follow their own areas' research. Even 94,4 per cent of the respondents agreed with the claim *The Company follows research relating their business*. This can be very useful way for SME to get new up to date knowledge.

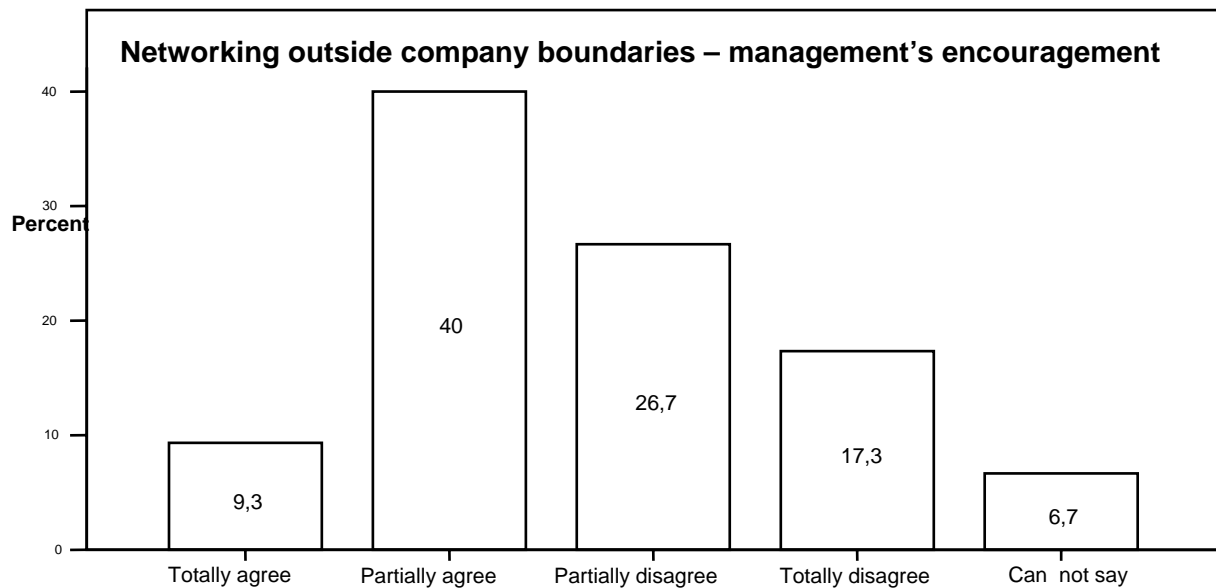


Figure 6. Management is encouraging to network with people outside the company.

Every respondent agreed at some level the claim *Respondent gets enough knowledge to do his/her job*. They also mainly felt that they have enough knowledge to make decisions. Only 3,6 per cent of the respondents said that they do not get quite enough knowledge to make decisions. Almost all of the respondents (91,8%) also felt that the knowledge is refined for decision making. It is also very delightful, that based on the data, it seems that in most of the companies knowledge flows between projects are acknowledged and supported at least at some level (71,8%). It was also widely thought that there are enough development projects (85,5%) in the companies.

63,9 per cent of the respondents said that in their company intranet is utilised efficiently at some level and that in a relative big share of the companies business processes were documented at least at some level (71,1%). However, not even 50 per cent of the companies have outside expert in their board of directors (43,2%). And even 42,3 per cent of the respondents totally disagreed with the claim *There are outside experts in the company's board of directors*. Thus it seems that the valuable knowledge input of outsiders is not fully taken in use among the SMEs. On the other hand, SMEs are already familiar with market analysis and customer care as most of the companies measure customer satisfaction at some level (80,2%). This is a delightful thing to realise, as sometimes at least in the public discussion the Finnish companies are blamed of not being so customer and marketing oriented.

## Conclusions

As a conclusion it can be argued that the Finnish SMEs may still have a way to go the mastering of the knowledge management as seen in the literature. They certainly are on this way. Based on the preliminary analysis of our survey data, there are some rather positive notions and implications that things are being done in the right direction. It is still to be remembered that these matters that are in our focus, knowledge management practices and business networking, have always been there in the companies. What we now seek to find is whether they have become a bit more systematic and preplanned practices. There still is quite a lot to do, but the future looks that also the SME management is realising and acknowledging the worth and importance of managing their knowledge.

We hope to achieve a more thorough picture of the current state of the knowledge management in the Finnish SMEs during the next few months as the analysis of the survey data is concluded and the latter part of the study, the qualitative case study, begins. Based on the responses of the surveyed SMEs, they are interested in the theme of knowledge management in business networks as 52 per cent of the respondents were interested in the next phases of our research project.

## References

- Ainamo, A., 2001. Tietämyksen välitystoiminta: Näkökulma uusien tuotteiden ja kulutusmallien syntymiseen, kehittymiseen ja vakiintumiseen. *Hallinnon tutkimus* Vol. 20, No 4, s. 347 – 357.
- Carayannis, E. G., Kassicieh, S. K., Radosevich, R., 2000. Strategic Alliances as a Source of Early-Stage Seed Capital in New Technology-Based Firms. *Technovation* 20 (11), pp. 603-615.
- Doz, Y. L. & Hamel, G., 1998. *Alliance Advantage. The Art of Creating Value through Partnering.* Harvard Business School Press, Boston.
- Easton, G., 1992. Industrial Networks: A Reviw. In: Axelsson, B. & Easton, G. (eds.) 1992. *Industrial Networks. A New View of Reality.* Routledge, London, pp. 3-34.
- Fedor, K. J., Werther, J. R. & William, B., 1995. Making Sense of Cultural Factors in International Alliances. *Organizational Dynamics* 23 (4), pp. 33-49.
- Hargadon, A. & Sutton, R. I., 1997. Technology Brokering and Innovation in a Product Development Firm. *Administrative Science Quarterly* Vol. 42, pp. 716 – 749.
- Hargadon, A., 1998. Group Creativity: Interpersonal Cognition in New Product Development Projects. (Working paper), Gainesville, University of Florida. 40 p.
- Hargadon, A., 1999. Brokering Knowledge: a Field Study of Organizational learning and Innovation. (Working paper), Gainesville, University of Florida. 58 p.
- Harrigan, K. R., 1988. Joint Ventures and Competitive Strategy. *Strategic Management Journal* 9, pp. 141-158.
- Helander N., 2004. Value-Creating Networks: An Analysis of the Software Component Business, *Acta Universitatis Ouluensis*, G16.
- Ho Park, S. & Ungson, G. R., 2001. Interfirm Rivalry and Managerial Complexity: A Conceptual Framework of Alliance Failure. *Organization Science* 12 (1), pp.37-53.
- Håkansson, H. & Snehota, I., 1995. *Developing relationships in business networks.* Routledge, London.
- Håkansson, H. & Johanson, J., 1992. A Model of Industrial Networks. In: Axelsson, B. & Easton, G. (eds.) (1992) *Industrial Networks. A New View of Reality.* Routledge, London, pp. 28-34.
- von Krogh, G. & Roos J., (ed.) 1996. *Managing Knowledge. Perspectives on Co-operation and*

## Competition

- Kukko, M., Yliniemi, T., Okkonen, J., Hannula, M., 2004. Osaamisen ja tietämyksen hallinnalla kilpailukykyä – käytännön toteutus suomalaisissa suuryrityksissä. Research reports 10. Tampere, Tampere University of Technology & University of Tampere. 43 p.
- Leonard-Barton, D., 1995. *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*. Harvard Business School Press. Boston.
- Liebowitz, J. & Beckman, T., 1998. *Knowledge Organizations. What Every Manager Should Know*. Boca Raton, St. Lucie Press.
- Lorange, P. & Roos, J., 1992. *Strategic Alliances. Formation, Implementation and Evolution*. Blackwell Publishers, Cambridge, MA.
- Marchand, D. A. & Davenport, T. H., (ed.). 2000. *Mastering Information Management*. London, Prentice Hall.
- Möller, K., Rajala, A., Svahn, S., 2002. Strategic Business Nets – Their Types and Management. *Journal of Business Research*.
- Nonaka, I. & Konno, N., 1998. The Concept of "Ba": Building a Foundation For Knowledge Creation. *California Management Review* Vol. 40, No. 3, pp. 40 - 54.
- Nonaka, I., Konno, N., Toyama, R., 2001. Emergence of "Ba". Teoksessa Nonaka, I. & Nishiguchi, T. (toim.) *Knowledge Emergence: Social, Technical, and Evolutionary Dimensions of Knowledge Creation*. New York, NY, Oxford University Press, pp. 13-29.
- Nonaka, I. & Takeuchi, H., 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*.
- Salojärvi, S., Furu, P., Sveiby, K-E., 2005. "Knowledge Management and Growth in Finnish SMEs", *Journal of Knowledge Management*, Vol 9, No 2, pp. 103-122.
- Sarvary, M., 1999. Knowledge Management and Competition in the Consulting Industry. *California Management Review*, Vol. 41, No. 2, winter, pp. 95-107.
- Strömmer, R., 1999. *Henkilöstöjohtaminen*. Helsinki, Oy Edita Ab.
- Stähle, P. & Grönroos, M., 1999. Knowledge Management – tietopääoma yrityksen kilpailutekijänä; in Tuomi I., 1999. *Corporate Knowledge. Theory and Practice of Intelligent Organizations*.
- Suurla, R., 2001. *Teknologian arviointeja. 6: Avauksia tietämyksen hallintaan: helmiä kalastamassa: loppuraportti*. Helsinki, Tulevaisuusvaliokunta, Oy Edita Ab.
- Valkokari, K., Lehto, T., Anttila, J-P., 2004. Strategy Execution in Network Enterprises - a New Network Development Model - Two Case Studies in Finnish Production Networks. ICE2004 Sevilla, 14-16 June 2004. Nottingham, Centre for Concurrent Enterprising, pp. 365 - 372
- Wah, L., 2000. Behind the Buzz: The Substance of Knowledge Management. In Cortada, J. W. & Woods, J. A. (ed.). *The Knowledge Management Year Book 2000-2001*. Boston, Butterworth-Heineman, pp. 307 – 317.
- Webster, F.E. 1992. The Changing Role of Marketing in the Corporation. *Journal of Marketing* 56 (4).