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INCREASING KNOWLEDGE FOCUS -
A MEANS FOR ENTREPRENEURS TO REMAIN
ON A GROWTH PATH

ESSAYS ON THE ROLE AND NATURE OF
KNOWLEDGE MANAGEMENT IN FINNISH SMEs

Helsingfors 2005

Increasing Knowledge Focus - a Means for Entrepreneurs to Remain on a Growth Path: Essays on the Role and Nature of Knowledge Management in Finnish SMEs

Key words: Intangible assets, Intellectual capital management, Knowledge, Knowledge management, Entrepreneurship, SMEs, Strategy, Growth, Product development, Innovation, Competitive edge, Change, Renewal, Entrepreneurial life cycle, Sustainable development

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Helsinki, April 12th, 2005, on a warm and sunny day of early spring,

Sari Salojärvi

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1. INTRODUCTION

1.1 Problem Statement

The objective of this thesis is to explore the frequency, role and nature of knowledge management activity in a Finnish small and medium-sized enterprise (SME) context. Contemporary society is increasingly developing towards a knowledge society, thus making knowledge and intangible assets the main sources of competitive edge for most Western companies. Many SMEs in Finland base their entire business on intangible resources. Furthermore, many recent phenomena in our society, like the so-called “China phenomenon”, force companies to change and learn continually. One way of survival in the increasing competition, particularly for many small and medium-sized subcontractors and traditional manufacturing industries, is to increase the knowledge focus of the business (i.e. the value gained from intangible resources). Therefore, the management and development of knowledge and intangible resources or assets are increasingly important.

The main concepts used in this study are knowledge management (KM) and intangible assets (IA). There is some confusion in the use of terms in the existing literature of the field. In addition to intangible resources or intangible assets, also intellectual capital (IC), invisible wealth, and immaterial resources and knowledge stock are used as comparable terms. Essentially, they all refer to resources of a company that don't have any direct material appearance, but are highly important for business. Likewise, the activity related to these resources can be called in addition to knowledge management also intellectual capital management or management of intangibles. In this paper, however, knowledge management and intangible assets are chosen because of their relatively neutral connotations. Knowledge management is in this study defined as *the art of creating value by leveraging intangible assets* (Sveiby, 1997: 12-13). This refers to the managing, balancing and developing of all valuable intangible resources, like human, organizational and network capital, and overall knowledge exploitation in the company. Innovation is considered a central part of this activity. In other words, knowledge management is the development activity that relates to the intangible assets of the company.

The concepts of knowledge management (KM), intangible assets (IA), intellectual capital (IC) and intellectual capital management (ICM) are all relatively young, and have their origin more

in practice than in academics. Consequently, the attitude towards these concepts among academics has been sometimes doubtful. As concepts, none of them bring anything “new” to the field of strategic management. The single aspects of intangible assets or intellectual capital, like social capital and networks, human competence, routines and processes have been under discussion in the field of business administration and management for decades. The novelty lies in the idea of making intangible assets more visible, in order to be able to measure, manage and develop these assets in a more coordinated and holistic way than before. In other words, it is more a question of interaction and integration of the separate elements of intangible assets (see e.g. Hussi and Ahonen, 2002) than about these elements as such. In a way, this approach combines the idea of the learning organization, continuous learning and development, and knowledge creation into the every day operational management and strategic management. Instead of speaking of a “new” management fashion or fad, it could be a question of a different approach or perspective to strategic management: a management approach paying more attention than before to knowledge and intangible assets as the main source of competitive edge of the company.

The reported academic efforts in the field of KM or ICM to date have typically focused on consciousness raising activities that aim to communicate the importance of recognizing and understanding the potential for intellectual capital (or intangible assets) in creating and managing a sustainable competitive advantage. Establishing relevant empirical research is thus a key goal for the field (Petty & Guthrie, 2000). The objective of the current study is to promote this target by exploring the frequency, role and nature of knowledge management activity in a small business context.

This research focused on small and medium-sized enterprises (SMEs) because of their commonly recognized importance to economic activity, employment, innovation and wealth creation in many countries. There has been relatively little attention paid to SMEs and knowledge management in the literature, especially in Finland, regardless of the fact that the SME sector is often seen as the most prominent creator for the future growth and wealth in Finland. Particularly, the role of SMEs as employers in Finland is crucial. The emphasis in the public policy in Europe has in general been in supporting start-ups and new business. However, there is evidence that the failure rate of new businesses is relatively high: in Sweden, for instance, a population of new firms is halved in about five years (Johannisson, 1996). In Finland, the situation is very similar. Therefore, it can be expected that supporting

the sustainability of the existing SMEs might provide a better return on investment than putting money into start-ups (Storey, 1993; Smallborne, 1995). A significant part of the sustainable growth and development in SMEs in the long run, according to Storey (1994), can be explained with the management actions in relation to products and markets, production processes, effective use of human capital, changes in ownership and changes in organization. Knowledge management as it is defined in this study encompasses nearly all these activities. Therefore, it is suggested in this study that knowledge management might support the sustainability of small businesses in the long run.

This research is explorative by its nature. While writing this thesis it was found that there were no previous studies that survey knowledge management activity in the SME sector in Finland. Some case studies in the field exist, but they focus either more on measuring intangibles than on managing them, or on making tacit knowledge more explicit. In the international context, there are some studies of knowledge management and SMEs, but they are also either case studies, or concentrate on the measuring and reporting of intangibles. The main purpose of this study is to explore the role and nature of knowledge management in Finnish SMEs, and thus, also provide a starting point for further studies in the field. Because there is two research subjects in the study, knowledge management and SMEs, this study aims at contributing to two different academic fields of study: study of knowledge and study of small business management and entrepreneurship. However, the former provides the primary conceptual framework for the study, and the latter provides an empirical field to apply the knowledge approach.

1.2 Purpose of the Study and Research Questions

The main purpose of this research is to explore the role and nature of knowledge management activity in Finnish SMEs. More specifically, the thesis aims to:

- (1) explore the role of intangible assets and the frequency and practices of knowledge management activity in a sample of Finnish SMEs;
- (2) explore the relation of knowledge management activity and sustainable growth of SMEs;
- (3) explore the motives, situational context and means of knowledge management in SMEs;
- (4) explore the potential of systematic knowledge management in creating sustainability for small businesses.

The research was implemented as a portfolio project consisting of three different sub-studies. The first part of the study was a questionnaire survey. The second part was an interview study of ten selected KM-active SMEs. The third part consisted of case studies of three SMEs, which were conducted as action research projects, including an 18-month follow-up. Hence, the research proceeds from cross-company level to micro level, and from cross-sectional studies to a longitudinal study. The research unit of analysis is a firm throughout the research project. The phenomenological unit of analysis in this study is the intangible assets and knowledge management in a firm. The results were reported in four different papers, and the respective research questions were as follows:

Essay 1: Knowledge Management – an Issue Not Only for the Giants (questionnaire survey, N = 108)

- Q1. What is the role of intangible assets in Finnish SMEs?*
- Q2. How frequent is conscious knowledge management in Finnish SMEs? What are the typical KM practices and processes? What are the difficulties and benefits of KM?*
- Q3. What is the level of different intangible assets and KM activities based on the self-assessment?*
- Q4. What other factors are related to the knowledge management activity and value of intangible assets?*
- Q5. Do the KM active SMEs differ from other enterprises in the sample?*

Essay 2: Knowledge Management and Growth in Finnish SMEs (questionnaire survey, N = 108 and 10 interviews)

- Q1. Does the employment of knowledge management practices and policies in SMEs have a positive relationship with sustainable growth?*
- Q2. Does the group of companies exhibiting both high growth and high awareness of KM demonstrate higher command of managing their knowledge assets than do other groups?*

Essay 3: The Role and Nature of Knowledge Management in Finnish SMEs (10 interviews)

- Q1. Why are these SMEs interested in knowledge management? What is the situational context for knowledge management? Do these differ from those in large companies?*
- Q2. What kind of knowledge management activities and processes take place in the SMEs? Do they differ from those reported in large companies?*
- Q3. What obstacles and benefits are perceived to be related to knowledge management in the SMES?*

Essay 4: A Knowledge Oriented Change Strategy – a Means for SMEs to Remain on an Entrepreneurial Path? (3 case studies)

- Q1. What are the backgrounds, targets and motives for change of the participating SMEs?*
- Q2. What are the critical intangible assets to be involved in the development?*
- Q3. What kinds of actions does a knowledge focusing strategy involve?*
- Q4. What issues/obstacles appear in the active assessment process?*
- Q5. What were the learning effects and experiences gained throughout the process of assessing intangibles and making knowledge development plans for future?*
- Q6. What consequences does the process have on the organization and its subsequent performance?*

1.3 Limitations

The scope of this thesis is limited to small and medium-sized enterprises (SMEs). According to the recommendation by the European Commission (Official Journal of the EU, 20.5.2003: 41), SMEs are “enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million”. In this study, this definition has been the main guideline in selecting the sample. The number of employees was taken as an absolute criterion. As the information of the turnover and balance sheet total were from the previous year, there may have been some enterprises that had exceeded these during the year of the survey. There are, at any rate, few if any exceptions. Some respondents affirmed that they possibly don’t fulfill the SME criterion anymore, and these cases were excluded from the final sample.

This study is also limited to Finnish SMEs, which means that the conclusions don’t apply to any other country as such. Nevertheless, Finland can be taken as an example of a small and developed country in Northern Europe.

There are also limitations in the sample size, and partly in the sample technique as well, which means that the results cannot be generalized. These limitations will be more thoroughly discussed under the chapter Methodology.

There are certain limitations in the use of concepts in this study as well. Knowledge management, for instance, can be understood in many different ways. During the 1990’s the concept has often been used to describe computer applications for information storage and retrieval (Wilson, 2002). The information-perspective on KM has been heavily criticized by

authors who claim that KM must be seen as a perspective on strategy, management and innovation (Sveiby, 1990; 1997; Nonaka & Takeuchi, 1995; von Krogh et al., 2001). The same concerns the concept intangible assets. Defining the concepts as precisely as possible solves the problem at least partly in this study. Therefore, the information approach to KM is excluded in this study and the strategic management perspective is applied. Likewise, intangible assets are defined according to the European Union guidelines (Meritum, 2001). Because there are different concepts used of the same issues in the literature, the synonyms are pointed out in the literature review.

One more limitation concerns the partly non-objective nature of the study. First, answering the questionnaire is a subjective matter. Second, in the interviews, people always can choose what they tell. Particularly the parts referring to estimated level of intangible assets and knowledge management activity are based on self-assessment. The problem with self-assessment is obviously its reliability and validity. People tend to overestimate their own competence and achievements (Harris and Schauboreck, 1988, Conway and Huffcut, 1997). Self-assessment is more reliable for gauging processes; behaviors and attitudes, than for assessing ones own results and achievements (Biazzo and Bernardi, 2003; Moore et al., 2002). In this study, the self-assessment is mainly about behaviors and attitudes, and therefore, it is not question of any absolute values. The absolute values, like the financial, could be checked from databases, and they were also partly confirmed. Third, in this study, it is more important to identify the differences between the respondents than the scale levels as such. Therefore, the results are not in jeopardy even if all respondents slightly overestimate the success of their own company. Consequently, it is assumed that the self-assessment is an acceptable method to be used in this study.

1.4 Structure of the Thesis

This thesis is structured as follows. Chapter 2 provides an overview of the conceptual and theoretical framework of the study and previous research in the field. Both the knowledge management framework and small business management framework are considered, but there is more emphasis on the former. Chapter 3 reflects methodological issues: the design of the portfolio study, variables, data and data collection, and methods of analysis and interpretation. Chapter 4 summarizes the four empirical papers and reports the main results of the study.

Chapter 5 is devoted to discussion of the findings and their implications. The last sub-chapter is a postscript reflecting the whole research process from the researchers own point of view.

2. CONCEPTUAL FRAMEWORKS AND PREVIOUS RESEARCH

2.1 Main Concepts

The concepts intellectual capital, intangible assets, and knowledge cannot be precisely defined even with the accumulated tools of the philosophy of language and the philosophy of consciousness. This, however, shouldn't prevent us from trying to catch the essential in the issue at a time when the intangible is rapidly gaining economic and social supremacy over the tangible (Van Buren, 1999; O'Regan and O'Donnel, 2000).

Intellectual or intangible assets have been characterized as hidden assets because they are difficult to identify and to assign any economic value to (Lynn, 1998). It depends on the company, its nature and business, as well as what the valuable "hidden" assets are. For instance, they might be management processes that provide competitive advantage, the special team spirit of the innovation team, databases or software systems, brands, ways of distribution, customer loyalty etc. Intangible assets (or IC) represent knowledge that has been acted upon and transformed into something of value to the organization. In a way, intangible assets are a refined stage and form of knowledge.

According to Nonaka and Takeuchi (1995: 58), knowledge is "a dynamic human process of justifying personal belief toward the "truth"". Knowledge is not a synonym of information. Information precedes knowledge, but knowledge is constructed in interaction of information, meanings, context and their interpretation. Sveiby (1997) therefore suggests that IC (or IA) is "knowledge made valuable". Furthermore, Sveiby (1997) defines knowledge management as the art of creating value by leveraging intangible assets. In other words, intangible assets represent the various immaterial resources contributing to knowledge creation, and knowledge management in turn is the activity addressed at leading and developing these resources and the whole knowledge creation process. These concepts and definitions provided by Sveiby are considered the main concepts in this study.

There are also other important concepts in this study. First, the concept of entrepreneurship appears at several points. This is due to the SME context of this study. The Oxford American Dictionary of Current English (2002) defines an entrepreneur as a person who undertakes an enterprise or business, with the chance of profit or loss. The concept of entrepreneurship, essentially, has several meanings. The economic theories by Knight (1921), Schumpeter (1934), Leibenstein (1966), and Kirzner (1973) make a distinction between the risk-taking and strategic decision-making entrepreneur and the routine managing owner-manager of a business. According to this view, not all small business owners are entrepreneurs. In that interpretation entrepreneurship refers to new business creation, identification of new opportunities and ability to create new combinations of the factors of production (Schumpeter, 1934; Veciana, 2000). In this study this definition of entrepreneurship is adopted.

Second, close concepts to entrepreneurship in this study are life cycles and sustainability. From the single enterprise's perspective life cycle means different growth and decline stages (Ahrens and Björkman, 2000; Grove, 1996). It is a common view that enterprises within a certain industry and society only grow and survive a limited time without renewal and change. Thus, in order to achieve long-term sustainability, i.e. the ability to survive and grow over the decades, even radical changes are needed. The ability to implement these changes represents the type of entrepreneurship that was defined in the above paragraph.

Also, the concepts of social capital and value creation appear both in the theoretical background and in the empirical data of the study. Social capital is defined here as interactive resources embedded in the networks of social relations (Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002). Value creation, in turn, is understood here as the processes and exchanges in the relations between people and organizations, and within different organizational systems without necessary immediate material or monetary involvement (Allee, 2002). At the end, as a result of these exchanges also the material and monetary value is created.

2.2 Alternative Theoretical Frameworks

It is often the case in business studies that same issues can be studied and explained from completely different theoretical frameworks. The units of analysis of this study, small business management on one hand, and intangible assets and knowledge management on the other hand, can also be examined from various perspectives.

First, knowledge or management of intangible assets could be studied from the perspective of the transaction-cost theory. This has been the case at least in many ICM studies with accounting and reporting emphasis. The main idea in these is to reduce uncertainty by better control of intangible assets and employees' competencies. Transaction cost theory (Coase, 1937; Williamson, 1975; 1981) in its basic form overlooks the sociological aspects within and between organizations and emphasizes the rationality and economic self-interest. In the theory employers are considered to be aiming at rationality and maximizing the economic interest, while the employees are considered opportunists seeking their own interest. The theory is concerned with how to economize on the costs of managing opportunistic workers, particularly when conditions are uncertain and complex. The transaction cost is seen as the "the price of contract negotiation and renegotiations of contract" (Williamson, 1975: 60). The same basic principle also concerns inter-organizational networks. It depends on the cost of contracting, collecting information, and auditing and enforcing the contract, if the hierarchy (i.e. company itself) or market is the superior source of products or services. The central organizational problem in the theory is how to get employees to think like owners. The answer based on this theoretical approach is to create contracts and to carefully control them, but to do this only as far as it is economically more profitable than purchasing from the market.

This theory can partly explain the existence and importance of some of the intangible assets of the organization. These are, for instance, routines, processes and management practices that make the control function less demanding and less costly. On the other hand it can also explain the existence of the external network capital; when purchasing from the market is more economical than producing within the organization, it is easier to control long-time contracts than to continuously seek for new ones. Nonetheless, this theory can explain the existence and importance of the intangible assets only partly, because a company's intangible assets are more than often very social, and thus not equivalent to rational. The transaction-cost approach is to a certain amount related to the accounting approach of ICM; Intellectual capital can be seen as the explaining factor for the high market value of several firms whose bookkeeping value is almost non-existing. Especially accountants and business analysts have been interested in measuring and reporting this value with the same kind of tools and methods that are used for financial auditing and accounting. In this approach the perspective is also more rational than social. The challenge is to establish new measures and ways of reporting

IC in order to limit the uncertainty of decision-making that is one of the central concepts in the transaction-cost theory too. It has been noticed, however, that reports of intangible assets in several European countries place heavy emphasis on non-financial metrics (OECD, 1999; Meritum, 2001). Hence, this accounting related approach doesn't appear to provide a suitable theoretical option for this study.

Second, knowledge, knowledge transfer, and knowledge sharing are also discussed in the study of international business, particularly in the context of multinational corporations (MNC). MNCs can be considered as inter-organizational networks of geographically dispersed units (Ghoshal and Bartlett, 1990) whose competitive advantage lies in their ability to exploit resources, especially knowledge, more efficiently internally than would be possible through external networks (Kogut and Zander, 1996). Thus, understanding how to optimize this process is an essential question in this approach (Barner-Rasmussen, 2003: 7). Even though the phenomenological unit of analysis is knowledge as well, the basic idea of how knowledge is constructed (as combinations of different intangible assets) is not considered. Consequently, this approach does not provide a sufficient framework for this study.

Third, an additional interesting approach to knowledge creation is the network theory of entrepreneurship in the small business context (Johannisson, 1996). In the mid 1980's, research on networks emerged as an important new area of inquiry within the field of entrepreneurship. Networks are viewed as the media through which actors gain access to a variety of resources held by other actors. A key benefit of networks for the entrepreneurial process is the access they provide to knowledge and advice. Relationships can also have a reputation related or signaling meaning. Networks can either be seen as means to reduce the uncertainty in the environment, or in the positive perception, firm's network linkages may lead to subsequent beneficial resource exchange, or even new knowledge creation. (Hoang and Antonic, 2003.) This approach, especially the positive interpretation of the meaning of the networks, supports the basic ideology of this research quite well, but it alone still provides only a limited perspective to knowledge and intangible assets. Nevertheless, network theory provides one important additional aspect to this research.

2.3 Approaches to Intangible Assets and Knowledge Management

2.3.1 Theoretical Developments

The strategic management approach with its later applications is more sociological to its nature, and therefore, knowledge management is also more naturally rooted in this main approach. It has proficient explanatory power of issues related to intangible assets and their management as a whole. As already stated, the literature in the field of knowledge management is quite recent. The earliest articles are from the early 90's when the "knowledge economy" started to arise as a paradigm both on macro and micro level (Sweet, 2001). However, there is some earlier literature and research very closely related to KM. Sometimes, it is difficult to make distinction between organizational learning (OL), knowledge management (KM), and intellectual capital management (ICM) based on the existing literature. The purpose of this chapter is to summarize the wider theoretical background for this study by presenting the frameworks of the strategic management, particularly the resource-based view, the learning organization and knowledge management combined with the approaches of social capital and entrepreneurship. However, due to the explorative nature of this study, no precise theoretical model or construct is presented. The intent of the theoretical background is thus essentially to clarify how the researcher understood the field of study prior to the empirical research.

Strategic management, particularly the resource-based view, provides a wider theoretical framework for the study. The theories of the learning organization, knowledge management, knowledge economy and intellectual capital are all closely related, and can be considered to belong under the same umbrella of strategic management theories. The following figure (modified from Roos et al., 1997 and Petty and Guthrie, 2000) illustrates the theoretical positioning of this study:

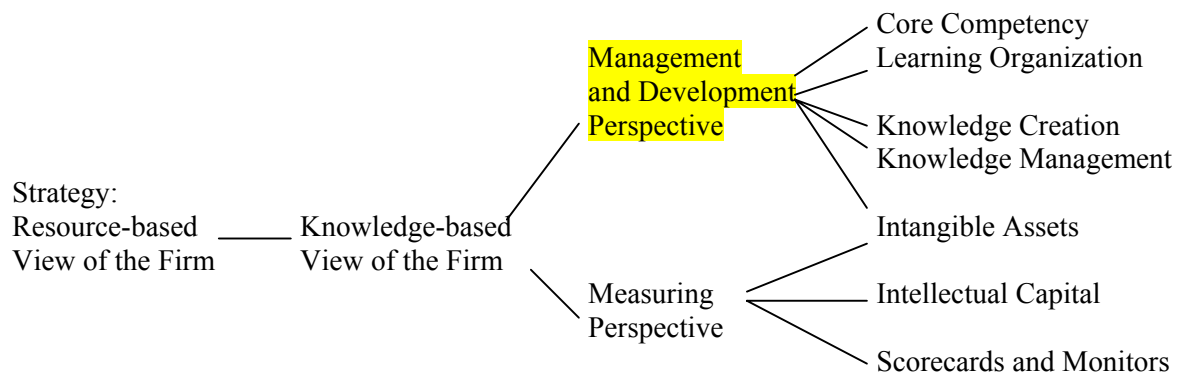


Figure 1. *Theoretical Position of the Research*

The notion of knowledge as core element in the organization is not contemporary at all: the first references were by Drucker (1964) as early as the 1960's. With the rise of the strategic management approach in management literature, knowledge resources received more attention. The basic idea of the strategic management approach is that business is based on company specific vision, mission and strategy combined with the available resources, competencies and strengths of the organization (Porter, 1980). A related approach is the so-called resource-based view of the firm (see, Wernefelt, 1984; 1995). Basically, there are two main resources in an organization: tangible and intangible. These basic resources are, according to Amit and Schoemaker (1993), transferable, mobile and owned and managed by the organization. The tangible resources are the so-called factors of production: financial capital, land, buildings, equipment, and workers from the "labor" point of view. The intangible resources are mainly competencies that are information- and knowledge-based skills and processes, which relationships and networks may strengthen. Chandler and Hanks (1994) define the core competency as a capacity of an organization to co-ordinate these resources in a creative way to achieve the target or to fulfill the task given. Core competency can also be defined as know-how that enables the competitive edge to create and provide value to customers (Hamel and Prahalad, 1994).

The basic idea of the knowledge-based approach is similar to the above-described resource-based view. Even though the so-called management fads or fashions come and go, the different stages of knowledge management can be also seen as a continuum, not excluding each other.

As a concept, the learning organization can be seen as the first stage of KM theories, having its origin in the 80's. It highlights the role of the organization as a context enabling information exchange and learning at work. Leading authors of the learning organization are Argyris and Schön (1978), Argyris (1992), Pedler et al. (1991) and Senge (1990). The theories of learning organization often are strongly prescriptive; they consider organizations as systems, which have to fulfill certain criteria in their structures, processes and values in order to become learning organizations. Ruohotie (1996: 43) has defined the concept of learning organization as follows:

“A learning organization is a community that continuously changes itself and enables the learning of all its members. A learning organization can be established only as a result of learning throughout the whole organization. Learning organization as a term describes a working approach that encourages individuals and teams to continuous learning and improvement of their performance. In the background there is all the time a strong influence of values and vision. A learning organization works near its customer, reacts quickly to changes, learns from others, questions its own actions, allows mistakes and learns from mistakes.”

The common phenomenon to all the definitions of learning organization is that they emphasize the connection of learning to change, development, innovation, participation, changes in the work approaches and processes, delegation and a management style that promotes all these aspects (Sarala and Sarala, 1996: 54).

The “second generation” of organizational learning theories or knowledge management theories is pioneered by Nonaka's (1994) and Nonaka's and Takeuchi's (1995) theory of organizational knowledge creation. In this theory, knowledge creation is seen as a social and, to a certain amount, subconscious process. According to this view, knowledge creation is interaction; interaction in the human minds and between humans. Much of the knowledge in an organization is silent, or in other words tacit knowledge that is difficult to express verbally (see also Polanyi, 1966). The learning in this theory is seen as a continuous circle of externalization and internalization (i.e. error and trial, interaction and conceptualization). Organizational knowledge is created as knowledge is transferred from tacit to explicit and back.

After the discussions of the learning organization and knowledge creation through the exchange of tacit and explicit knowledge, the concepts of knowledge management (KM) and intellectual capital management (ICM) started to arise: in order to achieve a learning

organization a strategic understanding of knowledge creation processes and intangible assets, or the nature of intellectual capital, are needed. Both concepts, IC and KM are strongly rooted in practice. When companies started to realize that the traditional industrial logic fails to explain relevant parts of the value creation process and of achieving competitive edge, they progressively became interested in knowledge as a source of competitive edge. Knowledge as defined here is more than just information; it is made valuable through use, in human interpretation, interaction and reflection. Therefore, knowledge management doesn't refer here to information systems or databases, even if they may be tools of knowledge management, and even if KM quite often can be understood as narrowly (Wilson, 2002).

According to Senge (1990) knowledge and its exploitation for creating value are the conjoint outcomes of individual and collective learning in an organization. A learning organization, however, directs this learning toward the capacity to create its own future (Senge, 1990). This activity and goal orientation is what we could call knowledge management. All the aspects of strategy, learning organization, knowledge creation, ICM and KM can be considered related to each other. However, *KM can properly be viewed as the holistic or meta-level capability of an enterprise to co-ordinate and deploy its intangible resources toward creating value in pursuit of the company's future vision* (Rastogi, 2003). In this study, *the knowledge resources of the company are called intangible assets, and knowledge management is understood as the activity to develop and leverage these resources.*

Even if KM and ICM can also be considered as synonyms, they basically provide different perspectives to study intangible assets. ICM literature is keener on categorizing and measuring intangible assets, while KM focuses more on the organizational development activity by leveraging intangible assets. Both approaches are useful for this study: the ICM-approach in defining the nature and categories of intangible assets, and the KM-approach in reflecting the activity to manage and develop intangibles. Moreover, practical approaches often treat ICM and KM as directly related to each other. For instance, a study of 19 Danish firms proved that IC statements essentially made knowledge management and change activities visible in respect to employees, customers, processes, and technology, and didn't concentrate on estimating the financial value of the IC. Thus, IC statements did not provide any "bottom-line" indicator of the value of IC but described the KM activity (Bukh et al., 2001). The study suggested that IC might be understood as "cohesion" between an array of heterogeneous KM practices and activities (Bukh et al., 2001).

Quite much of the existing IC literature concentrates on the measuring and reporting perspective. The main IC framework models are summarized in the following table presented by Petty and Guthrie (2000):

Table 1. *Frameworks for Classifying Intellectual Capital Reporting Models*

<i>Developed by</i>	<i>Framework</i>	<i>Classification of IC</i>
Sveiby (1997)	Intangible Asset Monitor, IAM	Internal structure External structure Competence of personnel
Edvinsson & Malone (1997)	Skandia Value Scheme	Human capital Structural capital
Kaplan & Norton (1992)	The Balanced Scorecard	Internal processes Customer perspective Learning & growth Financial perspective Relational competence

(Petty and Guthrie, 2000: 159)

All these frameworks represent non-linear models of interpreting the creation and management of value in an organization (Ramirez, 1999; Ahonen, 2000; Roberts, 2000), challenging the traditional industrial logic and accounting perspectives. These frameworks acknowledge different actors (stakeholders) as co-producers of organizational value, and they tend to emphasize the importance of co-invention, combinations and constant connectivity among the various actors in question. In addition, they also show that a significant part of organizational value creation cannot be expressed in monetary terms alone (Skoog, 2003). The balanced scorecard (BSC) model (Kaplan and Norton, 1992) represents a leading management control system in communicating an interacted notion of value creation. Numerous firms still work intensively to develop their BSC, IAM or comparable systems. Many firms also have created a mix of different indicators and processes significant for their own value creation (Rucci et al., 1998; Johanson et al., 2001a; 2001b). These models have proven to be significant within many studied organizations (Skoog, 2003). The common denominator of these models is that they formally acknowledge non-financial organizational aspects to be at least as important as financial aspects are in the value creation process (Skoog, 2003).

After the emergence of these basic IC measuring models, there have been several applications of them. A relevant IC measuring model for the European companies is the Meritum (2001)

model produced with initiative taken by the European Union. The Meritum model divides intangible assets into three main categories (the division is used quite frequently today); human capital, structural capital and relational capital. Hudson (1993) suggests that human capital is the combination of the individual talents of people, education, experience and attitudes. Further training and experience in business can benefit the human capital. Structural capital includes a firm's processes, operations and internal corporate expertise. According to Bontis (1998) structural capital is the support mechanism for employees to achieve optimum job performance and overall organizational performance. Relational capital, in turn, refers to external relationships of an organization, customer relations as the most important. The main idea of the Meritum model is to recognize the resources in respective categories and their interrelations and to create value adding links and combinations and functions between them. Meritum (2001) also gives companies guidelines how to proceed in the knowledge management process and how and what to report concerning intangible assets. The idea is that the intangible assets are different in every company, and therefore, all the knowledge processes have to be started from the definition of the companies' strategic targets.

All these concepts considered above are more or less related to the concept of Social Capital (SC). It is a frequently used term in the literature of entrepreneurship. While human capital can be simplistically characterized as "what you know", social capital refers to "who you know" (Yli-Renko et al., 1999: 3). Social capital is defined here as interactive resources embedded in the networks of social relations (Nahapiet and Ghoshal, 1998). Nahapiet and Ghoshal (1998) also state that intellectual capital is indeed social capital, consisting of personal and team relationships, trust, norm-based control values and network ties. This means that knowledge always is created in the social context; whom you know directly affects what you know. Thus, intellectual capital is the ability of an organization to use its social capital and networks, and the density, connectivity (strength of ties) and hierarchy of the network links define the nature of the intellectual capital. This aspect is closely related to the network theory of entrepreneurship that was commented above in chapter 2.2.

In summary, there are several alternative approaches to research into knowledge management. None of the presented approaches exclude each other.

2.3.2 Previous Research

As already stated in the introduction, although both KM and ICM approaches originate mostly from practice, the literature in these fields provides a lot of theoretical perspectives, but far less practical research or experiences. However, the situation seems to be changing. In this chapter, some of the relevant previous studies are presented, in order to give an overview of the KM field in practice. There are at least three different KM approaches answering the respective questions: 1) how common is KM; 2) what KM means in practice in terms of processes and techniques; and 3) what the impacts of KM are on the performance of the company. Each of these approaches is now dealt with.

How Common is KM?

Several practice reviews show that KM is not just a fad; today, companies and governments take it seriously, even in concrete actions (Ruggles, 1998; KPMG, 2000). Stovel and Bontis (2002) refer to a report of Gartner Group, which shows that 25 percent of *Fortune 500* companies have chief knowledge officers, 52 percent have knowledge management staff, and 80 percent have begun some level of knowledge management activity. In other words, KM seems to be everyday activity in many large organizations. However, based on their own study (Stovel and Bontis, 2002) the situation under the surface seems quite different: 47 percent of HR managers did not know what KM meant. Some recognized the term, but only 35 percent were knowledgeable in the area. Often the recognized KM initiatives were software-based. Unfortunately, corresponding studies of SMEs were not identified.

Practices of KM

There appears to be more studies of measuring intangible assets than of managing them. Nevertheless, KM practices are sometimes reflected upon in measurement studies as well. For instance, in the recent Finnish study by Lönnqvist (2004) customer satisfaction and stakeholder satisfaction surveys, and personal development of employees were considered as performance measures, even though they often are considered as knowledge development tools too. However, also in this study the companies' intention with the measurement was to develop the intangible capacity of the organization and strategy. Therefore, it is often difficult

to make a distinction between measuring or managing intangible assets and knowledge, and perhaps unnecessary as well.

Brennan and Connell (2000) undertook a comprehensive review of a number of recent empirical research studies on different aspects of intellectual capital that were presented at the OECD Symposium. The authors of these studies were among others Andriessen, Bachuijs, Brennan, Bukh, Ganibano, Guthrie, Hoogendoorn, Johansson and Miller. These empirical researches of internal and external IC management and reporting practices were conducted in Netherlands, Denmark, Sweden, Canada, Spain, Australia and Ireland. The various research objectives focused on intellectual capital statements, intellectual capital frameworks and managing, measuring and reporting on intellectual capital or knowledge. A variety of research methods were used, for instance case studies, interviews, questionnaires, survey of annual reports and focus groups. Roughly 1700 organizations were represented in these studies. One important conclusion based on these studies was that ICM/KM was found to be important for a company's long-term success. Companies intentionally measuring and managing their own IC performed better than other companies. Numerous intellectual capital indicators were identified (altogether 90 different indicators). Examples of the most common indicators include: 1) intellectual property, including index of patents, copyrights and trademarks, 2) infrastructure assets, including indexes of corporate culture and management (as opinion measures), information systems, networking systems etc., 3) external structures, including indexes of number of brands, customer loyalty, company image, number of favorable contracts, quality of partner relations etc.), and 4) human capital, including measures of education level, vocational qualifications and competencies of employees and index of entrepreneurial spirit (based on opinion measures). A vast amount of different theories and models were also utilized in these studies.

It is often argued that knowledge management is just a "new label" for information management activity. Wilson (2002:1), e.g. argues in his KM critical paper that "Knowledge management is an umbrella term for variety of organizational activities, none of which are concerned with the management of knowledge. Those activities that are not concerned with the management of information are concerned with management of work practices, in the expectation that changes in such areas as communication practice will enable information sharing".

His arguments are supported with empirical and statistical evidence. Most literature and company references of KM in 1990s describe computer applications or information storage and retrieval.

A pan-European study by Marr et al. (2003) showed that especially in large organizations the KM systems were dominated by a document management or information retrieval system. This was in opposition to the personal views of the employees; they considered knowledge as something socially constructed. Smaller companies and knowledge-based companies managed to align the company knowledge system and individual perceptions of knowledge better. In these companies, the KM practices were perceived to be more effective and efficient. Corso et al. (2003) report similar experiences. SMEs tend to place more emphasis on the management of knowledge in tacit forms. Furthermore, the communication channels of knowledge in the SMEs are inter-firm rather than internal to the organization. This refers to the importance of the external networks as a source of competitive edge in the SME context.

A study by Mouritsen et al. (2002) is one of the rare longitudinal studies in the KM field. They explored how intellectual capital was formed and made organizationally relevant through a longitudinal study of 17 Danish firms. The study was concerned with how intellectual capital was stabilized, made productive and potent, and became a key to the firm's construction of its strategy for managing "intellectual resources" or intangible assets. The study was carried out by conducting interviews and participative observation. One of the most important realizations of the study was that it is useful to present and interpret knowledge in the form of a narrative. The basic idea was that the key persons of the firms described their success factors and core businesses so that a narrative connected an idea of value-to-a-user, and the products and services and knowledge resources needed to create this value. The strategy for managing knowledge was organized around a knowledge narrative that explained the relevance of the firm's knowledge resources to a community of users. In this way, the knowledge narratives and monitoring systems constructed out of the narratives formed an index of the progress of knowledge management activities. When translated to indicators, the complexity of knowledge is reduced and made more manageable and communicable. As an example of this kind of process the case of Carl Bro's IC statement creation can be illustrated as follows (Mouritsen et al., 2002: 23-24):

Table 2. *Carl Bro's Intellectual Capital Statement Process*

<i>Core of the knowledge narrative (value-proposition)</i>	<i>Management challenges</i>	<i>Efforts</i>	<i>IC-Indicators</i>
"Intelligent solutions"	Inter-departmental co-operation	Build knowledge databases Standardize work flow	Interdepartmental projects (quality & quantity) Virtual Center of expertise (use and assessment)
	Employee development	Employ "creative" engineers Develop training	Employee satisfaction Training expenses Development discussions Employees' evaluation of personal growth
	Procedures of work	Develop tools for quality and resources management	Customer satisfaction Customer loyalty Help-desk problem solving incidents

Table 2. shows that the basic value creation narrative in its core is "intelligent solutions". That may be translated into three different management challenges in order to make sure that the various kinds of deep expertise of the firm are organized towards a customer's particular problems and projects. This, again, requires interdepartmental co-operation, employee development and development of work procedures enabling everyone to use the same systems and draw on the same principles of conducting projects. Certain indicators are attached to all these themes. The indicators measure how the systems work and whether they provide relevant results. The target of the intellectual capital statement in here is to make the competency and development objects visible by attaching indicators and numbers to it via efforts, the implementation of which is monitored through the statement. Thus, this study reports on exceptional versatile and extensive KM practices in Danish companies.

What are the Impacts of KM on Performance of the Company?

There are different results concerning the impacts of KM. The studies reflected by Brennan and Connell (2000) showed that KM active companies were in general performing better than others. Bontis and Fitz-enz (2002) identified a causal connection between effective management of human capital and knowledge resources, and business performance. On the other hand, according to the report by CTP (1999) up to one third of the companies felt that their investment in KM was a failure. Other studies have found that KM practices often increase the knowing-doing gap (Pfeffer and Sutton, 1999). In all probability, the nature and type of KM activity greatly influence the experiences; the study by Marr et al. (2003) showed that if the KM practices matched the individual perceptions of knowledge (for instance

knowledge being socially constructed) the KM system was also considered successful. This, however, turned out to be the case only in smaller knowledge-based organizations. Therefore, their conclusion was that both knowledge focusing in the business and small company size support successful implementation of KM.

There are also other potential impacts of KM than just the overall performance of the firm. For instance, Darroch and McNoughton (2002) found in their study that knowledge management correlated positively with the appearance of incremental innovation. Herremans and Isaac (2004), in turn, realized that the strategic development of IC enhanced leadership, capabilities, processes and relationships in their case organization. Some studies also suggest that there is a relationship between KM and survival and sustainable growth in the small business sector (Rastogi, 2003; Matlay, 2000; Penn et al., 1998).

2.4 Small Business Management, Entrepreneurship and Sustainability

The theoretical approaches of entrepreneurship have been formed over the last fifty years, but the consolidation of entrepreneurship as a scientific program has occurred only during the last two decades. No general theory of entrepreneurship is yet available. Instead, there are several perspectives to research into entrepreneurship and small businesses. Some study entrepreneurship as a societal or macro economical phenomenon, others concentrate on a micro level, studying either firms or entrepreneurs as persons. It is customary to divide the research in the field into three different sub-programs: 1) study of new venture creation and individual entrepreneurs; 2) study of management, growth, development and problems of SMEs; and 3) study of characteristics of family business. Strictly taken, only the first one is considered as study of entrepreneurship, or at least, it is suggested to form the core of the theory of entrepreneurship (Veciana, 2000).

In the literature of entrepreneurship there is an on-going debate over the distinction between an entrepreneur and small business owner-manager. Economic theories by Knight (1921), Schumpeter (1934), Leibenstein (1966), and Kirzner (1973) make a distinction between the strategic decision making of an entrepreneur compared with the routine managing of an owner-manager. It is argued that entrepreneurs have superior skills in decision-making and risk-taking which generate high levels of profit and growth, and that owner-managers don't have the same potential or abilities. For Schumpeter (1934) an "entrepreneur" is any person

that carries out new combinations of the factors of production. Thus, entrepreneurs are the creators of new business, and as soon as the new business has been established, they become routine managers. Sometimes entrepreneurs have been characterized as opportunists (i.e. able to create and exploit market opportunities). In contrast, there are “craft” entrepreneurs who are characterized by the lack of managerial experience, reluctance towards external help, and as being reactive to changes rather than proactive in generating new business (Glancey, 1998).

This strict distinction between (opportunistic) entrepreneurs creating new start-ups and small business owner-managers running the business in the long run could be questioned. Naffziger et al. (1994) and Kuratko et al. (1997) argue that it is the entrepreneur’s motivation to continue business activity when faced with a dynamic business environment that will ultimately determine a firm’s success. Thus, entrepreneurial owner-managers can create sustainable and growing businesses also in the long run, in the framework of the one and the same firm. Woods and Joyce (2003) make distinction between operational management oriented and strategic management oriented small business owner-managers. The former group is concerned with on-going activities in relation to the existing products and markets. The latter group is mainly concerned with the future success of the business and may entail major changes in the benefits offered to customers, in organizational capacity, and in competitive posture.

Several studies have shown that innovation, creativity and development actions support business sustainability and growth (Mambula and Sawyer, 2004), which in turn often have been considered the main measures of the success of small business. Likewise, networking, sub-contracting, and also strategic decision-making and planning are associated with higher growth firms and successful small business activity in general (Bryson, 1996; Schwenk and Shrader, 1993; Storey, 1994). Woods and Joyce (2003) also found out that the use of strategic tools in small businesses was significantly correlated with the business performance and growth. Therefore, remaining on the entrepreneurial path seems to be a prerequisite for small business survival and growth in the long run.

It is the small business survival and growth in the long term that is defined as sustainability in this study. Sustainability means controlled and planned organic growth of the business. Sveiby (1997: 100) defines organic growth as the natural kind of growth that occurs when the business concept is so strong and the level of knowledge so high that more and more

customers seek the company's knowledge. A company growing organically thus demonstrates that the market appreciates its business concept. In such a case growth can well be equated with success, and growth over the years with sustainability. This kind of sustainability provides an alternative to a life cycle of an enterprise with a start, growth, and death. The same idea is also presented in the theory of evolutionary organization (EVO) by Smith and Saint-Onge (1996): dealing with change is a prerequisite for business survival and higher competitiveness in the long run. To summarize, entrepreneurship represents the ability of evolutionary renewal, which in turn is the prerequisite for the long-term growth and sustainability of a small business. The idea of life cycles and sustainability is dealt with in more detail in essay 4.

Growth, however, is by no means an uncontested success or sustainability variable. The business goals of many small business owner-managers are determined by personal lifestyle or family factors, not by growth. (Curran, 1986; Stanworth and Curran, 1986). There are also many other measures of performance; profit, ROA, ROI, increase of customers or increase of employees, etc. Essentially, in this study, there are at least three reasons for focusing on growth as a performance variable in SMEs. First, According to the small business study by Smallborne et al. (1995), one important characteristic, which distinguished the best performing firms from other firms, was their commitment to growth. Second, growth of SMEs has been identified in most western societies as one of the most significant components of economic strategies for new job and wealth creation (Carson et al., 1995; Hodgetts and Kuratko, 1995; Holmlund and Kock, 1998). Finally, growth is probably one of the most reliable indicators in owner-led SMEs, as profit-related indicators are notoriously unreliable because of the Finnish owner-managers common tendency to avoid showing profit in their financial statements for various reasons, including tax-related motivation.

In this study, the recognition of the intangible knowledge resources and organic growth through knowledge creation might represent both strategic orientation towards future business and entrepreneurial activity in the sense of new combinations of the resources and creation of new market opportunities. Essentially, it is assumed that *focusing on intangibles and knowledge management represents one form of strategically oriented entrepreneurship, which in turn may enhance long-term business sustainability.*

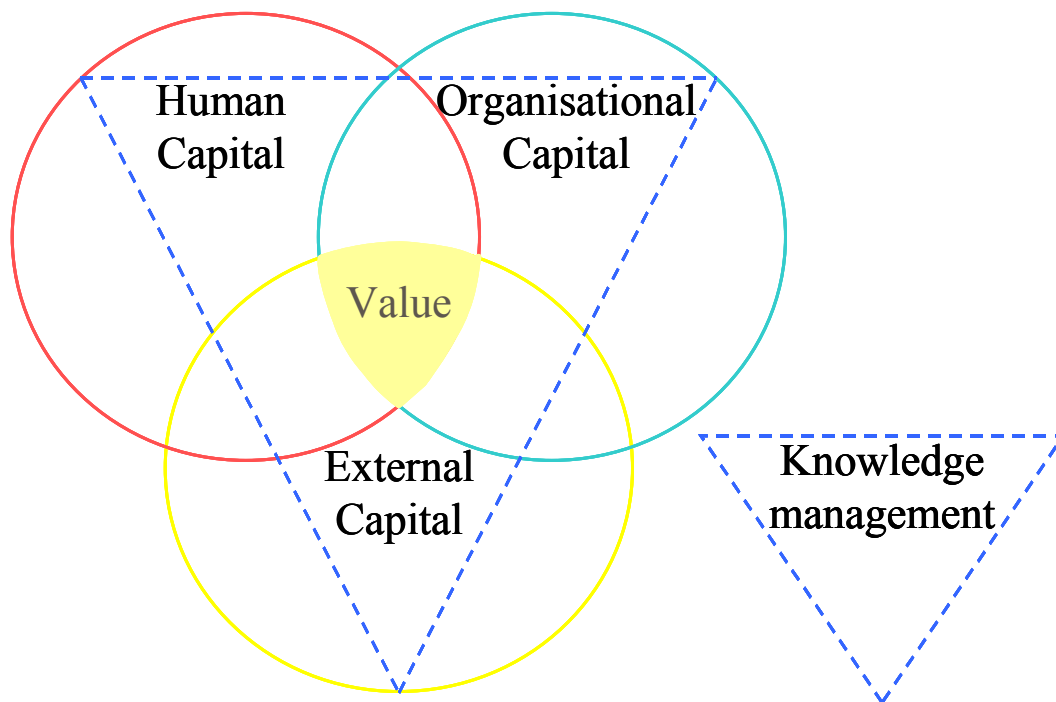
2.5 The Selected Approach

In summary, there are three theoretical foundations to this study. They are related to the concepts of intangible assets, characteristics of knowledge management, and development of small business as an entrepreneurial act. The first is a model for dividing intangible assets, and answers the question WHAT. The second is a process to approach company specific knowledge and development needs, answering the question HOW. The third is the contextual framework of the study: small business development, and answers the question WHY.

In more detail, the first theoretical foundation concerns WHAT the study is about. Intangible assets are defined in this study according to the Meritum (2001) guidelines. The Meritum model divides intangible assets into three main categories; human capital, structural capital and relational capital. The main idea is to recognize the resources in respective categories and to see their interrelations and to recognize the value-adding links and combinations and functions between them. The Meritum model also provides companies guidelines on how to proceed in the knowledge management process and how and what to report concerning intangible assets. The leading idea in the report is that the intangible assets are different in every company, and therefore, all the knowledge processes have to be started from the definition of the companies' strategic targets. The critical capital items stem from these targets. When these are defined it is possible to start planning the items that need to be developed, and further, the actions that are needed for the development work. Both Roos et al. (1997) and Sveiby (1997) also highlight the importance of the strategy in defining the relevant intangibles.

Figure 2. illustrates the idea of the main resource categories of intangibles. The overlaps between the categories refer to the interaction between these categories, while the triangle refers to the role of knowledge management as the combining and facilitating activity enabling and supporting the value creating knowledge flows. Conceivable aspects of human capital are all the competencies and capabilities of the personnel and their motivation, commitment and interrelations. Structural (organizational) capital consists mainly of structures, processes, management, culture, values and knowledge tools (like IPRs or databases) and other items related to these. Relational (external) capital includes all the potential network aspects, like customers, partners and stakeholders as the most important of these. Thus, the social capital (see the definition under the chapter 2.3.1) approach can easily

be embedded into this model: all these main categories of intangibles also include aspects of the social capital (i.e. co-operation, trust, values, networks etc.). In this study, this model is applied as the starting point to catch the essentials of the intangible assets in the studied organizations. However, the labels of two categories are changed: organizational capital is used instead of structural capital, and external capital instead of relational capital. The reason for doing this is to avoid confusion: First, relations also exist inside the organizations, as parts of human and structural/organizational capital, and the term external capital highlights the outside networks. Second, structural capital often leads people to think of organizational structures, although it deals with management, values, culture and processes as well. Thus, the term organizational capital better covers all these aspects. The basic idea of the model is illustrated in the following figure:



(originally presented by Saint-Onge et al. in Edvinsson and Malone, 1997)

Figure 2. *Intangible Assets and Knowledge Management*

The second theoretical foundation answers the question HOW to identify the relevant intangibles and the knowledge that has to be managed and developed. In this, an approach similar to Mouritsen's et al. (2002) is used. The used method attempts to identify the relevant intangible elements and areas through narratives told by the managing directors and other key staff members. The method will be described in detail in the following chapter.

The third theoretical foundation gives guidelines for the context of the study, in other words, the meaning of the whole process, and thus answers the question WHY. Innovation, new combinations of resources, creation and exploitation of new opportunities, and creation of knowledge are all considered as forms of entrepreneurship in this study, as defined in the previous chapter. This type of entrepreneurship is considered a prerequisite for successful and sustainable small business management (see, Bryson, 1996; Storey, 1994; Naffziger et al., 1994; and Kuratko et al., 1997). Thus, knowledge management might be a strategic “act of entrepreneurship” in the small business long-term career path representing an alternative to a life cycle with a start, growth and death.

Because this study is explorative, no definitive prior model for the study is presented. But to sum the selected approaches, the following framework can be presented:

Table 3. *An Approach to Explore the Role and Nature of Knowledge Management in SMEs*

	WHAT	HOW	WHY
The object of study	Intangible assets	Identification of relevant intangible assets and their inter-relations	Exploring sustainability in small business management
Model	Meritum model	Use of narratives	Knowledge management as the strategic act of entrepreneurship
Theory	Intellectual Capital	Knowledge Management, Knowledge Creation	Entrepreneurship, Life cycles and Sustainability

3. RESEARCH METHODS AND PROCEDURE

3.1 Research Design

3.1.1. Positioning the Research

This research is explorative. It aims at providing knowledge in a new field, i.e. capturing and discovering the meaning of knowledge management in the context of SMEs. This is a new field of study, and no similar previous studies exist. Silverman (1993:20) recommends qualitative field research “when one knows relatively little about the subject under investigation”. Qualitative field research is often combined with exploration. Still, it may be a difficult task to define what qualitative research indeed is. There are various definitions of qualitative research in social science. To summarize some of the characteristics mentioned by Hammersley and Atkinson (1989), the following can be mentioned: qualitative research prefers natural settings as the primary source of data, avoids premature testing of hypothesis and thus prefers inductivist methods, and looks for meanings rather than facts. These principles are valid in this study too.

This research is more qualitative than quantitative, but both methods were used. The quantitative part was carried out to get a wider background data of the field, which had not been researched earlier. Because a partly structured questionnaire was used, also a preliminary theoretical background was needed. Therefore, the approach in the quantitative part was more deductive than inductive. But the other parts of the research are mainly qualitative and inductive, and mainly aim at answering the questions how and why in single cases. The research doesn't aim at presenting any causal explanation or generalizations valid outside of the sample. However, some common conclusions are drawn if the same issues or meanings appear in several single cases.

Concerning the position of the research with the scales of subjectivist and objectivist approaches of social sciences (Burrell and Morgan, 1979:2-4) this study is located in-between. The ontological and epistemological approaches of this study are closer to realism and positivism than nominalism and anti-positivism. Concerning the assumption of human nature, the approach is closer to voluntarism than determinism. In the methodology, the questionnaire survey represents a quite objective approach, but the interviews and case studies a more

subjective, ideographic approach. In the paradigms of organization studies as defined by Morgan (1981: 608), this study belongs to the functionalist paradigm that is based on the assumption that a society has a concrete, real existence, and a systematic character. However, it could also be considered to belong to the interpretive paradigm where the role of subjective perceptions and inter-subjective experiences of individuals are emphasized.

3.1.2. Portfolio of the Empirical Studies

This research is explorative, and consequently multiple sources of data and several methods were used to understand the issue in focus. Thus, this study constitutes a portfolio of different studies. First, the quantitative and statistical part of the empirical study is enriched and deepened by semi-structured interviews and case studies on the field. Second, the study combines both the objectivist and subjectivist research approaches by using a basic objectivist theoretical framework (answering the questions what and how much) but supplementing it with a subjectivist way of conducting research (answering the questions why and how) (Johannisson, 1995). The research also proceeds from macro level to micro level (from a sample of 108 companies to single company cases), and from cross-sectional studies to a longitudinal study.

Whether the research method can be labeled as triangulation, is a matter of definition. According to Veciana (2002) triangulation can be defined as 1) using different research approaches (qualitative and quantitative) or different methods (different types of data collection techniques or types of measures) in order to examine the same research object or variable, or simply as 2) the combination of methods in the study of the same overall phenomenon. This study doesn't fulfill the first definition, but it complies with the second one. According to Jick (1979) triangulation should be used to capture a more complete, holistic, and contextual portrayal of the units or phenomenon under study. It particularly enriches the understanding of new issues or fields of study. At best, triangulation integrates fieldwork and survey methods: quantitative methods can make important contributions to fieldwork, and vice versa. In this study, the overall phenomenon being researched is the appearance of knowledge management in SMEs. This phenomenon is approached from several perspectives, using different methods. Consequently, the target is to follow the Jick's (1979) idea of triangulation. The research design is summarized in the following table:

Table 4. *Design for this Study*

	<i>Essay 1</i>	<i>Essay 2</i>	<i>Essay 3</i>	<i>Essay 4</i>
Title	Knowledge Management – an Issue not only for the Giants	Knowledge Management and Growth in Finnish SMEs	The Role and Nature of Knowledge Management in Finnish SMEs	A Knowledge Oriented Change Strategy – a Means for SMEs to Remain on an Entrepreneurial Path
Size of data	108 companies	108 companies + 10 interviews	10 interviews	3 case companies
Purpose	To explore the role, frequency, and practices of KM in SMEs, and the characteristics of KM active SMEs	To explore the relationship between sustainable growth and knowledge management activity	To explore the motives, context, methods and experiences of knowledge management	To explore the process of intentional knowledge focusing as means to support change and growth
Theories	Knowledge Management, Intangible Assets, Intellectual Capital	Knowledge Management Small business growth	Knowledge Management Entrepreneurship Small business growth	Intangible Assets Entrepreneurship Life cycles and sustainability
Method of data collection	Questionnaire	Questionnaire and In-depth interviews, incl. narratives	In-depth interviews, incl. narratives	Action research and Follow-up
Methods of analysis	Statistical analysis: frequencies, correlations, factor analysis, regression analysis	Statistical analysis completed with qualitative data from interviews	Narrative analysis- coding of core episodes and sequences of episodes Categorizing concepts	Ethnography Analysis of the case descriptions and the reflections of the researcher and the “researched” others
Author(s)	Sari Salojärvi	Sari Salojärvi (main author) Patrick Furu Karl-Erik Sveiby (co-authors)	Sari Salojärvi	Sari Salojärvi
Publication	International Small Business Journal	Journal of Knowledge Management	International Journal of Learning and Intellectual Capital	International Journal of Knowledge, Culture and Change Management

Questionnaire Survey

The first empirical part of the study consists of a questionnaire survey of 108 SMEs located in Finland. The data gathered through the questionnaires was used in essays 1 and 2. The purpose of essay 1 was to find out to what extent and how Finnish SMEs are aware of, have introduced and or are utilizing tools and processes related to knowledge management and the management of their intangible assets. In essay 2, the same questionnaire data was used but it was complemented with the interview data. The purpose of essay 2 was to more closely study the relationship between sustainable growth and knowledge management activity, and companies' characteristics related to the scales of growth and KM activity.

Interviews

The second part of the study deepens the thematic areas of the questionnaire survey. It consisted of 10 semi-structured interviews with the selected knowledge management active SMEs identified through the questionnaire survey. The data gathered through the interviews was used in essays 2 and 3. In essay 2 the interview data complemented the questionnaire data in order to better describe the characteristics of different types of companies in relation to growth and knowledge management activity. In essay 3, the entire interview data was thoroughly reported. The interviews were conducted with the managers of the companies and lasted 60-80 minutes.

The approach in the interviews was partly narrative. The managing directors were asked to tell the story of their company from the beginning until today as the first part of the interview. According to Johansson (2004) narrative studies are emerging in the domain of entrepreneurship research. The emergence of explicit use of stories in social sciences seems to emanate partly from an acceptance of the way respondents spontaneously account for their experiences. Scholars using the traditional interview have found that this format has suppressed the tendencies of interviewees to answer simple questions by stories. In their stories, entrepreneurs or managers also reflect their own identity and, simultaneously, construct meaning of their own entrepreneurial character. The stories give context and tell about the motivation for knowledge management in this study. Steyaert (1998) also emphasizes the benefits of story telling in the study of entrepreneurship because it better reflects the multi-perspective characteristics of reality in small business context. The second

part of the interview included open questions concerning strategy, targets, and values of the company, and KM processes and practices used, but the answers to these questions often were like small stories too.

Case Studies

The last part of the study consists of case studies that took place in three companies as action research projects. The case studies are reported in essay 4. The projects concerned the designing and implementing assessment of intangible assets and finding suitable knowledge development targets and processes. The research focus was on the process and its' consequences. The case studies were conducted partly according to the methodological concepts of Yin (1989). The study as a case study targets to fulfill the following criteria presented (Yin, 1989: 23):

“A case study is an empirical inquiry that:

- investigates a contemporary phenomenon within its real-life context; when
- the boundaries between phenomenon and context are not clearly evident; and in which
- multiple sources of evidence are used.”

The case studies presented in this thesis can be also characterized as action research projects. Action research is based on making observations about the research situation. Participant observation refers to the specific type of observation in which the researcher is an active participant in the group that is studied (Uusitalo, 1995: 90). An action researcher acts as an agent of change or a facilitator in an organizational change process (Gummesson, 2000: 209).

Action research was chosen as a method of study because it provides an insight into the process of designing and implementing a knowledge management system. It also facilitated the access into the case companies because the author could provide support and guidance in the process of designing and launching a tailored KM system. As the facilitator, I participated in the project meetings and chaired the joint discussions, and participated in the joint process of finding suitable indicators for intangible assets and identifying ways to develop and manage knowledge in the future. During the action research process of either two weeks of intensive work or of two months of part-time work within each case organization, an assessment process of intangible assets, and establishing a systematic knowledge development and management plan were carried out. In each organization, a project team of managers and

key staff members participated in the process together with the author. The final outputs were results of co-operation and interaction within the group.

Also, the case studies can be considered as representing an ethnographic research approach: in the action research process, the author worked inside the organization, and also made silent observations of the organization culture, atmosphere, and ways of communication. Silverman (1985), for instance, defines ethnography as research that contains observations of events and actions in their natural settings, and acknowledges the mutual relationship of theory and empiric study. Furthermore, ethnography according to Hammersley (1990: 1-2) involves 1) the use of several sources of data; 2) the unstructured approach to data collection; 3) the focus on a single or group setting; and 4) the analysis of the data involves interpretation of meanings and functions of human actions with verbal descriptions. Bryman and Bell (2003: 326), in turn, divide different roles for organizational ethnographers. Their view of an ethnographer as consultant, indeed, is very similar to the idea of action research. Accordingly, this research can be interpreted as action research with a consulting ethnographer. However, this study does not fulfill the criteria of ethnographic research, if the strict interpretation of ethnographic research criteria is applied. Fetterman (1994), for instance, defines ethnography as a science that studies, understands and describes a culture based on a longer stay inside that culture, a method that is mainly used in anthropology.

After the action project in the case companies, an 18-month follow-up took place. The follow-up contained 3 interviews, one every 6 months. This can be considered as a prolonged reflection process. Thus, the third part of the research project also contained a longitudinal study.

3.2 Variables

The first part of the study was implemented with a questionnaire including 50 questions. Part of the questions were structured (on LIKERT scale); part of them were open questions. The independent variables in the survey were the *size of the firm, its location, the sector or the industry, the degree of internationalization, the importance of innovation, share of personnel in customer service, the degree of the competition in the sector, and the growth of turnover and the market position of the firm*. The dependent variables were *activity and awareness of knowledge management, concrete knowledge management systems, the experienced*

difficulties and benefits of knowledge management, and the definitions, ideas and estimations of the firm's most important core competences, competitive advantages and intangible assets. Additionally, the survey contained a *self-assessment of the intangible assets* of a company, which is based on the IC models by Sveiby (1997), Roos et al. (1997), Edvinsson and Malone (1997) and the Meritum (2001) guidelines of intangibles assets. The assessment contains three composite variables (i.e.. human capital, organizational capital, and external capital) each consisting of 7 items or statements referring to key activities or state of affairs under the area of the respective composite variable. The following table lists the variables in the self-assessment. The complete questionnaire can be found in Appendix 1.

Table 5. *The Variables in the Self-assessment*

HUMAN CAPITAL	ORGANIZATIONAL CAPITAL	EXTERNAL CAPITAL
Appreciation of personnel Competence of personnel Competence development Motivation of personnel HRM capability Team work Knowledge sharing among colleagues	Values and norms Process development Organization development Intellectual Property Rights Information systems Culture and atmosphere Communication	Customer focus Network focus Brands Customer feed-back Learning from partners Reputation and image Knowledge sharing in networks

Because the self-assessment concerns phenomenon that cannot be measured precisely, the sum of the three constructs is called intangible asset aptitude index (IAA-index). This is explained more precisely in the essay 2 (page 10 of the essay 2).

After the first analysis of the questionnaires, the categories of the variables slightly changed. One of the most interesting results was the significant correlation between the growth of the firm and knowledge management activity, and thus this relationship was taken in to a closer consideration. In this relation, growth cannot explain KM activity and KM activity cannot explain growth, but they interact significantly. Thus, growth, in a way, in the second essay was considered as one of the 'dependent' variables in focus. However, it is somewhat misleading to speak about independent and dependent variables in this study, as the study doesn't aim at giving any causal explanations. Speaking about background variables and variables in focus, instead, might better describe the nature of variables.

In the two other qualitative parts of the research, it is more difficult to explicitly specify the dependent or independent variables. In the interviews, the goal was to understand and explore

the appearance of KM activity in single cases. The aspects and ideas about KM were discussed more in depth. Special attention was paid to the background, motives, targets, vision, strategy and values of the company in relation to KM. In the stories, historical sequences of the company and the entrepreneurial career of the manager were identified. The interview themes can be found in Appendix 2.

In the case studies, KM is, in turn, more like an intermediate variable, and the focus of interest is on company's experiences, learning effects and consequences gained in the assessment process of intangible assets and knowledge management development. More precisely, the research focus was on the following main issues: 1) motivation and situational context of the KM initiatives; 2) the elements of effective knowledge focusing strategy; 3) learning and experiences of the individuals and organization throughout the process; and 4) consequences of the process in the short and longer run.

In summary, the following variables can be considered as the key variables in focus throughout the study: the role of intangible assets in the company, the level of intangible assets (IAA), knowledge management activity (KMA), KM practices and processes, relationship of KMA and growth, and context, motives, and consequences of KM, and knowledge focusing as a strategy.

3.3 Research Data

The research data consists of information gathered through questionnaires from 108 enterprises. The questionnaire contains questions referring to the variables mentioned in the previous chapter, which were analyzed both quantitatively and qualitatively, by using statistical software (SPSS) in the quantitative analysis. Some groupings and factors were created in addition to the original variables.

In the second part of the study, KM as a phenomenon in SMEs was discussed more in-depth in the semi-structured interviews. The interviews were tape-recorded and transcribed. The transcripts were manually analyzed.

The third part of the research data is based on the three case studies. The data is in the form of case protocols, meeting protocols, field notes based on the observation, interview notes and a

research diary that followed the steps of each action research process. Based on this data, the target was to answer the case study questions and to describe and reflect the action research process.

3.4 Methods of Data Collection

The questionnaire was pre-tested by ten companies and improved and finalized based on the feedback. The survey was carried out in October - November 2002 and was sent to 540 Finnish SMEs that had less than 249 employees. The SMEs were randomly selected from three different sources: 255 companies from the SME database of *Teollisuus ja Työnantajat* (Confederation of Finnish Industry and Employers), 197 from *Suomen Yrittäjät* (Federation of Finnish Enterprises), and the remaining 88 companies were selected from the company lists on the internet pages of Finnish Technology and Innovation Centers. The number of companies from each of the three databases reflected the total number of companies in them. After one round of questionnaires, 108 valid answers were received. In addition, 5 respondents replied that they no longer were SMEs due to organic growth or mergers. Hence, the effective response rate was 20.0%. The dropout analysis (the comparison of the demographic factors of the respondents and non-respondents) showed that the only demographic factor that distinguished the respondents from the no-responding group was the degree of internationalization. The respondent companies were slightly more international ($p < 0.05$). There were no differences in size of personnel, industry, location, or annual sales. Therefore, the results shouldn't be biased concerning the factual backgrounds of the companies.

The interviews were carried out with 10 companies that responded to the questionnaire in order to get a more comprehensive picture of the different aspects of knowledge management and SME-specific challenges. The companies were chosen based on the criteria that they had recently been involved in planning and implementing knowledge management processes. Semi-structured interviews of 60-80 minutes were conducted with the managers of the companies. Three of the companies were family businesses, and had family member owner-managers. One company had an employed managing director. Owner-managers holding a relevant part of the shares managed the other six joint-stock companies. The interviews took place in the Helsinki area, as well as in Tampere and Vaasa, in the premises of each company.

The three case enterprises were volunteers (also identified through the questionnaire survey and the interviews) that had expressed their need and willingness to start a knowledge development process. The case studies were carried out as action research, which meant that the researcher was an active team member in the development process. The action research took place in the premises of the three different SMEs. The “action project” dealt with applying an assessment process of intangible assets, and creating a knowledge management and organizational development plan based on the assessment. In two companies, the action project was an intensive period of two weeks. In the third company the ten active working days were implemented inside a time frame of two months. After the action phase, three follow-up interviews were made at six-month intervals during 1.5 years’ time.

3.5 Methods of Data Analysis and Interpretation

The survey data was analyzed mainly by using quantitative methods. Statistical methods, such as comparing means, correlation analysis, factor analysis and regression analysis, were used. The answers to open questions were analyzed more qualitatively by classifying answers into groups and by creating main and sub categories of data.

The semi-structured interviews complemented the survey information on a deeper level. The transcripts were partly analyzed according to the principles of narrative analysis, using analytic induction and selective coding, i.e. by creating core codes and episodes, and by analyzing the sequences of the episodes (see Bryman and Bell, 2003: 435-442), and partly by open coding into concepts and creating categories of the concepts. The method combines subjective and objective research approaches; the narratives were analyzed in an interpretive manner (Alvesson and Sköldböck, 1994: 313–328), while the answers to more structured questions were mainly analyzed by categorizing the facts.

In the case studies, the methods of analysis were mainly qualitative, based on data gathered in theme interviews, meetings, and through observation, and process description and a research diary. The interaction, communication and narratives, and the meanings given by the participants play an important role, and therefore, the analysis can also be described as ethnographic. The analysis of the data was a process similar to carrying out the whole action research. The analysis followed the steps of the case protocol, reporting the experiences, learning and results as reflected by all the participants in different phases of the case project.

Thus, the main method of analysis was the production of a case description that finally led to an overall evaluation and reflection of the whole process and its results both by the organization members and the researcher. In action research the question at issue is addressed by both researcher and the so-called “researched” other (here it is the case organization) that both presents and represents the question. The research as such creates learning as a joint action, and if successful, can at the same time act as a contribution to solve or to clarify practical problems as well as generate knowledge (Tell, 2000).

In the following chapter, the results of each separate study are first presented, and then the overall results will be synthesized.

4. FINDINGS: SUMMARY OF THE EMPIRICAL STUDIES

This chapter will report the main findings of the entire project on a general level. The detailed results with the statistical tests, values and examples from data can be found in each essay in the appendixes. In this chapter, first, each essay is summarized. Then all the findings are summarized and reflected upon. A more thorough discussion of the findings is presented in chapter 5.

4.1 Knowledge Management – an Issue not only for the Giants? An Exploratory Study of Finnish SMEs (Essay 1)

Author: Sari Salojärvi

Data: Questionnaire Survey of 108 SMEs

Status: Paper presented at the 13th International Conference of International Trade and Finance Association 2003. Submitted to International Small Business Journal.

This essay focuses on the role of intangible assets and the density of knowledge management activity in Finnish small and medium sized enterprises (SMEs). Knowledge management (KM) is defined here as understanding the role of intangible resources in the business, and the use, management and development of intangible assets. In this essay the research questions were the following: 1) What is the role of intangible assets in Finnish SMEs?; 2) How frequent is knowledge management in Finnish SMEs? What are the typical KM practices and processes? What are the difficulties and benefits of KM?; 3) What is the level of different intangible assets and KM activities based on the self-assessment (intangible asset aptitude index = IAA value)?; 4) What other factors are related to the knowledge management activity and awareness (KMA-value) and value of intangible assets (IAA-value) in Finnish SMEs?; and 5) Do the KM active SMEs differ from other enterprises in the sample?

This study was implemented as questionnaire survey with a random sample of Finnish SMEs. The study comprised a questionnaire consisting of 50 questions. It was sent to 540 SMEs in the end of 2002. 108 valid answers were received. Hence, the effective response rate was 20%. The companies represent nearly all industries. The questionnaire data was mainly analyzed quantitatively by using statistical methods like correlation analysis, factor analysis, regression analysis and comparing means. The answers to open questions were analyzed by segmenting the answers into different groups.

The results of this study indicate that the intangible assets play a significant role in SMEs. Nearly all the core competences and competitive advantages reported by the responding companies refer to intangible assets. Professional knowledge, management of the business concept, competence and commitment of staff, customer orientation and networks were considered as the most important single assets.

Less than a third of the companies (30%) were somehow active in KM; 17% reported of systematic KM in their companies; 53% of the respondents recognized the concept, but didn't have any experience of KM; 17% of the respondents didn't recognize the term "knowledge management". The most common KM practices were the development discussions, project and process follow-ups and customer satisfaction surveys. The difficulties experienced in relation to KM were the lack of resources and resistance to change. The benefits achieved through KM, in turn, were a better organizational climate, better goal and strategy orientation, and clarification of business focus.

The highest values of the intangible asset aptitude scales were gained in external capital. Particularly, the customer orientation was high. The lowest values, in turn, were gained of the items referring to organizational capital, i.e. processes, practices, management and IPRs. Even though organizational capital items often were considered as core competencies or main sources of competitive advantage, they seem to be the "weakest link" of the intangible asset categories. Therefore, it can be argued that the most natural challenge of KM would be to strengthen the organizational capital. Paradoxically, KM activity itself can be considered as an important part of organizational capital.

The factors clearly connected to KM activity and IAA-index were the general development desire and growth of sales in the past three years. Particularly, KM activity and growth had a significant positive correlation, as shown in the following figure:

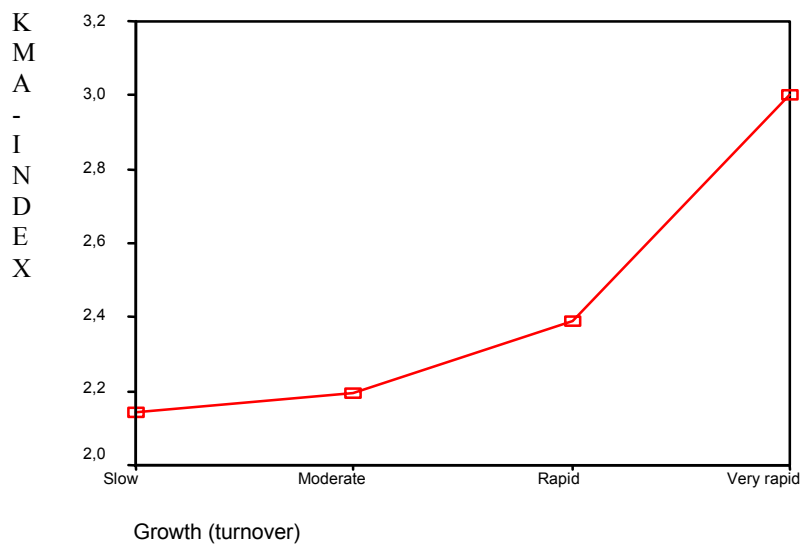


Figure 3. *KM Activity and Growth are Correlated*

Based on the exploratory factor analysis, four factors of intangible asset items were created: organizational development; customer and service orientation; knowledge sharing and knowledge protection. Customer and service orientation was in average assessed as the strongest of these. Knowledge sharing and knowledge protection correlated negatively with each other. This indicates that companies were either sharing or protecting oriented in their KM. Nevertheless, companies that had received high values of both sharing and protection factors were identified. A closer examination showed that these companies were often strongly development oriented, high growth companies. Thus, it seems that an approach to balance sharing and protection strategies in KM is related to organizational success in terms of growth.

In general, it seems that KM active companies are more future-oriented, R&D active and innovative, and thus, have better competitive edge on their target market and ability to survive in the long run than other companies in this sample.

4.2 Knowledge Management and Growth in Finnish SMEs (Essay 2)

Authors: Sari Salojärvi, Karl-Erik Sveiby and Patrick Furu

Data: Questionnaire Survey of 108 SMEs and 10 in-depth interviews with KM active managers

Status: Published in the Journal of Knowledge Management 9 (2), 2005.

The relation of knowledge management and the performance of companies has not yet been researched. This essay makes a modest attempt by exploring the relationship between sustainable sales growth and knowledge management activity in 108 Finnish SMEs. The first part of the study aims at answering the question whether KM activity in SMEs has a positive relationship with sustainable growth, and the second part further explores the relationship of growth and KM and how companies are positioned in these scales. More precisely, the research questions were: 1) Does the employment of knowledge management practices and policies in SMEs have a positive relationship with sustainable growth?; and 2) Does the group of companies exhibiting both high growth and high awareness of KM demonstrate higher command of managing their knowledge assets than do other groups?

The data for this study were collected through a combination of a standardized questionnaire from 108 SMEs in Finland and semi-structured interviews with 10 of the 108 companies that responded to be active in KM. Sustainable growth was measured as a function of two variables, annual sales growth and age of the company. A combination of these two variables was chosen as it can be argued that in order for growth to be a significant measure of “success”, it needs to be sustained over a longer period of time. Other key variables in this study were Knowledge Management Awareness (KMA, referring to familiarity and activity with KM) and Intangible Asset Aptitude (IAA-index, referring to a self-assessment of knowledge management tasks and status of intangible assets). These two variables were also combined into a composite variable “KM Maturity (KMM-index)”. This index was a mean of the IAA-index (scale 1-5) and KMA-index (scale 1-4).

The results indicate that knowledge management maturity and sustainable growth are related. Based on the multiple regression analysis, the drivers of sustainable growth were the degree of R&D and the knowledge management maturity, KMM-index. The only demographic factor having an impact on sustainable growth was the IT-industry (i.e. the companies representing IT sector were better able to sustain growth of annual sales than were companies operating in

other industries). In order to study this relation more in-depth, a cluster analysis was made by using the KMM-index and sustainable growth as scales. Interestingly, an open cluster analysis (without giving any prior selected variables) conducted with SPSS formed exactly the same clusters. Thus, the clusters can be considered reliable within this data. The clusters are illustrated in the following figure:

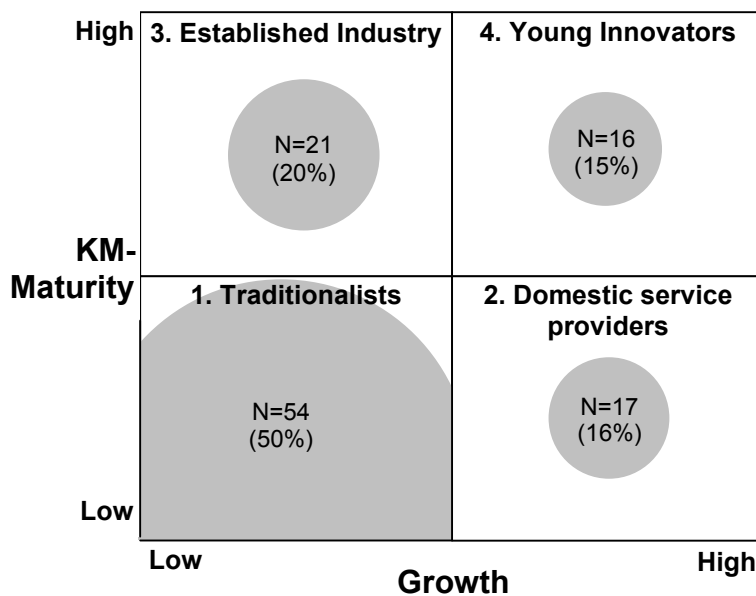


Figure 4. *Four Clusters of SMEs*

Half of the SMEs were labeled as “Traditionalists”. They combine low growth and low KM maturity. The other half of the sample was divided equally among the other three clusters. Companies in the cluster “Domestic service providers” grow rapidly, but they do not employ a high level of KM. Companies in cluster “Established Industry” spend resources on KM activities, but they do not grow. In cluster “Young Innovators” we found rapidly growing companies that are actively involved in KM. Their KM activity is often in balance, taking equally into account all the different categories of intangible assets. Their KM activity is also strongly strategy related. There were untypical cases in each cluster. It seems that these untypical cases in other clusters than “Young Innovators” have more efforts to KM and growth than others in the same cluster. For instance, in the cluster of “Traditionalists” KM efforts could enhance transformation of these companies into more dynamic business.

Based on the evidence, it was concluded that knowledge management and sustainable growth are related. However, because of the cross-sectional characteristic of the study, a causal

relationship cannot be identified. Concerning the second research question, the data also indicated that KM-aware high growth companies have a more comprehensive and strategic approach to knowledge and intangible assets than other companies in the sample. In other words, they had the different categories of intangible assets well in balance (the means of the three composite variables, human capital, organizational capital and external capital, were all on the same level), and they also paid equal attention to them in their reported KM-efforts. They also combined their KM-efforts to their future strategy. Thus, it seems that they have a higher command of managing their knowledge assets than other groups in the sample.

4.3 The Role and Nature of Knowledge Management in Finnish SMEs (Essay 3)

Author: Sari Salojärvi

Data: 10 in-depth interviews with KM active SME managers

Status: Poster presented in the IC Congress 2004. Published in the International Journal of Learning and Intellectual Capital 1 (3), 2004.

This essay explores the context and motives of Finnish SMEs in managing their intangible assets, and describes their knowledge management methods more in-depth. The aim was to understand why and in which context KM activity appears in SMEs. Also, a comparison between large companies and SMEs that were not active in KM was made. The precise research questions were: 1) Why are SMEs interested in knowledge management? What is the situational context for knowledge management? Do these differ from those in large companies?; 2) What kind of knowledge management activities and processes take place in the SMEs? Do they differ from those reported in large companies?; and 3) What obstacles and benefits are perceived to be related to knowledge management in the SMEs?

Interviews with ten SME directors were presented. These ten KM active companies were selected from a sample of 108 companies of the previous study. The companies represent several industries and sizes of SMEs. Semi structured interviews of 60-80 minutes were conducted with the managers of the companies in November 2002-March 2003. In the beginning of each interview, the managers were asked to tell a story of the company from the beginning until the time of the study. Thus, the first part of the interview data is narrative. There were also open questions on the success factors and strengths, competitive advantages, resources and value creating elements, strategic targets, future challenges and KM motives as seen by each company manager. The interviews were tape-recorded and transcribed. The

transcripts were partly analyzed according to the principles of narrative analysis (Bryman and Bell, 2003), and partly by open coding into concepts, and creating categories of the concepts.

Four main types of stories were identified. They were labeled as: “Technology expert through turbulent times”; “Tradition faces new challenges”; “From subcontractor to significant system provider”; and “New generation generates new businesses”. The common elements in all story types were basing the business on ones own professional expertise, management of change, central role of product development and innovation, continuous development activity and search for new challenges and growth. Furthermore, the interviewees considered innovation and networks as more important resources than did the respondents of the questionnaire in average, giving more emphasis on these than large companies in other studies. They also emphasized the importance of values, trust and spirit in the company more than most of the respondents in the questionnaire survey did. Leadership, motivating people, exploitation and sharing of knowledge concerning the intangible assets were considered central challenges by the interviewees. A systematic way of working, flexibility, internationalization, and new product development were considered common development challenges.

All the interviewed companies were, one way or another, facing change. Thus, knowledge management may also serve the purpose of change management, strategy formulation and crystallization of the vision. KM active SMEs in this study were all aiming at innovation, new ways of doing business and an increased knowledge focus in their business. Nearly all also aspired to grow significantly. In a way, knowledge management seems to be a strategy for these SMEs to guarantee their survival in the turbulent markets. Their orientation toward change, growth and knowledge distinguished them from other ‘demographically similar’ SMEs, which the majority of the companies in the previous questionnaire survey sample represented. Based on the existing knowledge management literature, professional journals and press releases, many large companies, in turn, are more interested in either achieving internal efficiency or in increasing the external value than in changing the business concept or focus by knowledge management. Thus, it seems that the KM motives and interests of SMEs differ from the motives of large companies.

Frequently mentioned knowledge management processes in the interviews were:

- The use of balanced scorecard;
- Training;
- Competence mappings;
- Job satisfaction surveys;
- Customer satisfaction surveys;
- Project follow-up systems;
- Development discussions.

These activities are quite similar to those that are also used in large companies. In contrast, measuring, reporting, and information systems, which are valued by many large companies, were not mentioned by these SMEs. Elsewhere in the discussions several other activities emerged that could also be considered knowledge management activities. These included:

- Motivating and encouraging employees;
- Taking care of the well being of the employees;
- Cooperation and interaction with the customers;
- Creating trust in relationships.

Lack of time and resources, and the difficulty to identify and to communicate the critical intangible assets were mentioned as obstacles of knowledge management. The benefits, in turn, were improved understanding of the whole business concept, awareness of the needed competencies and improved motivation of people and more targeted recruitment of employees. Based on this study and existing literature, the SMEs and large companies differ in their knowledge management activity mainly in motives and purpose, and partly in their practices. SMEs work for their internal development, change process and future orientation, while large companies are keener on making the current functions more effective by using different systems, and on measuring intangible assets and reporting them externally. Large companies often start from developing existing resources, while the SMEs in this sample were looking for completely new resources. As a result, it appears that KM approaches of SMEs and large companies are different from the start.

The findings of this study are illustrated in the following figure:

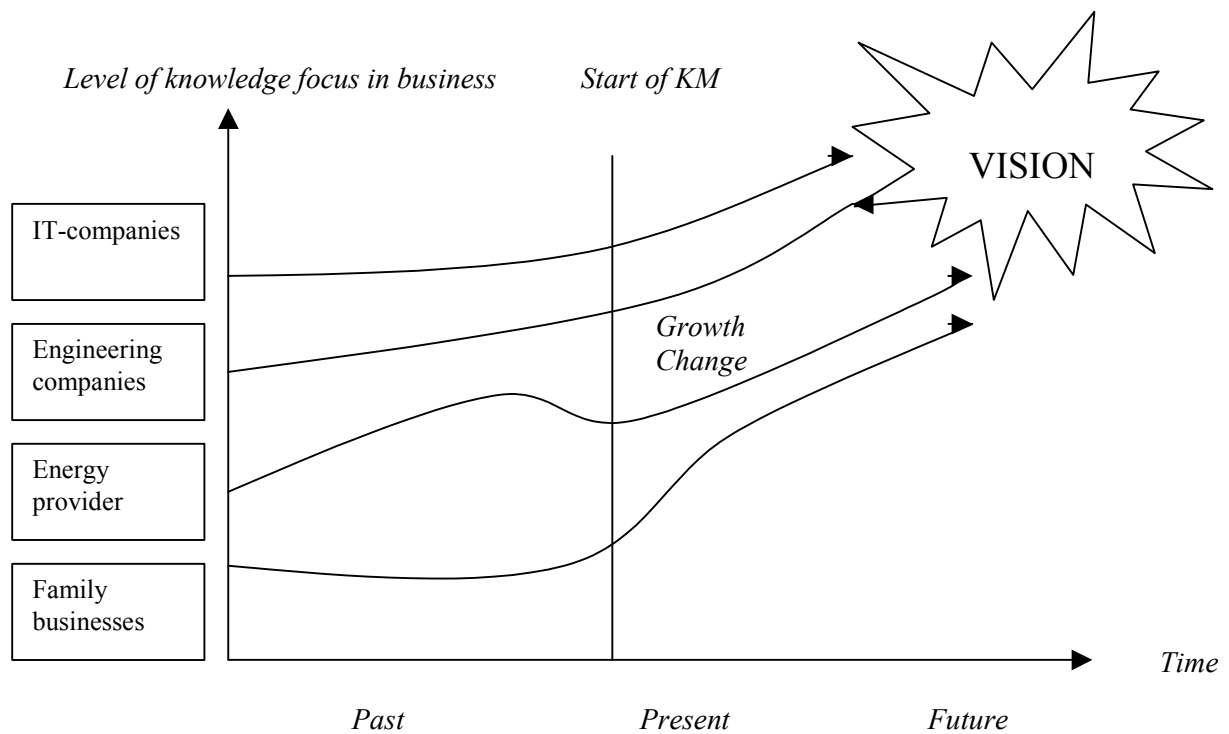


Figure 5. SMEs Target at Increasing the Knowledge Focus of Business by Knowledge Management (N = 10 interviews)

All the companies in this interview sample wanted to take a significant, even radical development step – for instance, from incremental innovation towards more radical (independent) innovation; from traditional energy production to energy brokering and service providing; and from craftsmanship towards opportunistic entrepreneurship. Therefore, it can be concluded that the main role of KM in these companies was to support and enhance the organizational change process towards a more knowledge focused business. In practice, the increasing knowledge focus meant, for instance, shifting the business from producing only a certain metal component as a sub-contractor to a more independent level producing large entities consisting of need analysis, planning, design, project management, service and maintenance, in addition to the concrete product. This means that if the concrete metal product made 90% of the value of the sales before, today it generates only 25%, while “knowledge work” creates the majority of the sales.

4.4 A Knowledge Oriented Change Strategy – a Means for SMEs to Remain on an Entrepreneurial Path (Essay 4)

Author: Sari Salojärvi

Data: Case Studies of 3 SMEs focusing on an action research project on assessing and developing intangible assets

Status: Paper presented in the 4th Conference on Knowledge, Culture and Change in Organizations. Forthcoming in the International Journal of Knowledge, Culture and Change Management 4(1), 2005.

This essay presents findings on three SMEs in Finland. The study comprises a knowledge assessment project that was started to support the change process in the enterprises. Two enterprises were shifting their business towards more knowledge-focused and innovative areas, the third wanted to guarantee sustainability in the future and renew its products and processes. Therefore, they had become interested in managing intangible assets. The research questions were: 1) What are the backgrounds, targets and motives for change of the participating SMEs?; 2) What are the critical intangible assets to be involved in the development?; 3) What kinds of actions does a knowledge focusing strategy involve?; 4) What issues/obstacles appear in the active assessment process?; 5) What are the learning effects and experiences gained throughout the process of assessing intangibles and making knowledge development plans for future?; and 6) What consequences does the process have on the organization and its subsequent performance?

The theoretical background of the study is based on the theory of entrepreneurial life cycles and sustainability. From the single enterprise's perspective life cycles mean different growth and decline stages. A common view is that enterprises within a certain industry and society can only grow and survive a limited time without renewal and change. Based on this assumption, to achieve long-term sustainability in the business, even radical changes are necessary (Smith and Saint-Onge, 1996). Instead of a life cycle with a beginning and an end, there could be an entrepreneurial path, including the idea of the possibility of long-term sustainability and growth of the business. This kind of sustainability could be achieved by radical changes. Traditional manufacturing functions as well as other kinds of sub-contracting services are outsourced to the countries of cheap labor. One way for the Finnish SMEs to survive in this competitive situation is to increase their knowledge focus; i.e. to embed "knowledge work", such as planning, design, service and innovation to their business as much as possible. Additionally, they can increase their own independence. This type of ability to

change reflects the Schumpeterian idea of entrepreneurship (Schumpeter, 1934; Leibenstein, 1966; Kirzner, 1973).

The method used in this study is case study, consisting of an action research project and follow-up interviews. The method in the action research was partly ethnographic, based on observations in the studied context. The action research itself contained a process of assessing intangible assets in the company and preparing a systematic knowledge management and development plan. The process started from identifying the necessary intangibles assets and their interrelations that are needed to fulfill the mission of the company, and continued by combining the intangible assets and knowledge flows into the targets and strategy, and finally concluded by evaluating the current status of intangibles against the desired status. Based on the assessment process, an organizational development plan was made. The aim was that the companies follow the development plan, and implement the changes as suggested.

The main motive for all three companies to participate in this project was to increase the knowledge focus in their business, and thus to guarantee their future success and growth. Two companies also wanted to enhance their independency in the business.

The necessary intangibles were company specific. However, professionally skilled personnel and advanced processes were highly important to all three enterprises. The action plans to enhance the knowledge focus were company specific as well. However, all three chose improvement of innovation or product development and development of work processes as their key development actions.

The common obstacle in the assessment process was to find time for the development actions. Other issues that turned out during the assessment process were actually all related to the extended understanding that innovation and product development are necessary antecedents for change and growth in the context of these SMEs.

The common learning experience for all the participating enterprises was the clarification of the future business focus and strategy. Also the atmosphere, motivation of staff, and ability of the management team to share ideas and discuss strategic issues were improved as a result of the project.

After the action process, a follow-up of 1.5 years was made. All three companies had implemented parts of the development plan, but not all. Some parts of the development plan had been fully ignored in all three companies. The changes were not vast, but there had been positive development in all cases. All companies had improved their performance by some means under the follow-up period. They had attracted new customers and created new networks, they had developed either the existing products (all companies) or launched a completely new product as a result of an innovation process (2 companies), and above all, they all had sustained a period of economic decline. This appeared both in the interviews and in the company documents and accounts. The experienced benefits of the whole development process, among others, were the clarification of the future focus and strategy, getting a common language to discuss strategic issues, and improved balance of intangible assets, which means that the three composite variables, human capital, organizational capital and external capital were in better balance with each other than before. In summary, all three companies had strengthened their position in the business.

In the conclusions of this essay, it is suggested that by working intentionally with the development of the intangible assets, a small company can increase its knowledge focus, which in turn can enhance its chance to remain on a growth path. At the same time, the whole process serves organizational learning and identity creation. However, KM is only one supporting approach, and it cannot be argued that KM alone makes any company successful. The key to enter or to remain on the growth path seems to depend greatly on the motivation and targets of single SME managers.

4.5. Summary of the Findings

The research project was a portfolio of several different studies. The following table summarizes the main characteristics and findings of each essay.

Table 6. *Summary of the Essays*

	<i>Essay 1</i>	<i>Essay 2</i>	<i>Essay 3</i>	<i>Essay 4</i>
Title	Knowledge Management – an Issue not only for the Giants	Knowledge Management and Growth in Finnish SMEs	The Role and Nature of Knowledge Management in Finnish SMEs	A Knowledge Oriented Change Strategy – a Means for SMEs to Remain on an Entrepreneurial Path
Size of data	108 companies	108 companies + 10 interviews	10 interviews	3 case companies
Aim and focus	To explore the role, frequency, and practices of KM in SMEs, and the characteristics of KM active SMEs	To explore the relationship between sustainable growth and knowledge management activity	To explore the motives, context, methods and experiences of knowledge management	To explore the process of assessment and development of intangibles as means to support change and growth, i.e. enhance sustainability
Method of data collection	Questionnaire	Questionnaire and in-depth interviews, incl. narratives	In-depth interviews, incl. narratives	Action research and Follow-up
Findings	Nearly all mentioned competitive advantages refer to intangible assets; 30% of the sample companies deal with KM in some manner; Organizational capital is on average on the lowest level of all intangibles; Growth, organization development and KM are strongly related; KM active SMEs tend to have a more future-oriented and innovative strategy.	Knowledge management activity and sustainable growth are significantly correlated; R&D and Knowledge Management Maturity are the drivers of sustainable growth; 15% of the sample companies show high degree of Knowledge Management Maturity and sustainable growth. They are labeled as “Young Innovators”. This group has a more balanced and strategic command of intangibles than others in the sample.	The main motive of KM was to support change and growth, and to increase the knowledge focus in the business; KM methods were BSC, training, competence mappings, satisfaction surveys, follow-up systems and development discussions; Lack of time and resources are obstacles of KM, understanding the business, identifying competencies needed, and improved motivation of staff are benefits.	Participating companies wanted to achieve a higher knowledge focus and to guarantee their survival and growth; Skilled personnel and advanced processes were commonly the most important intangibles; key development processes were improvement of innovation and product development processes -> it was noticed that exactly these processes are the key determinants in increasing the knowledge focus; After the action project, all companies had improved their performance in most of the selected areas.

Essay 1 reported the results of the KM survey. The main findings were the following: First, nearly all competitive factors, core competencies and key assets of the SMEs, regardless of the industry, were intangible assets according to the respondents' independent answers to open questions. Second, less than a third (30%) of the SMEs in the sample were somehow consciously dealing with knowledge management. Only 17 percent reported of the use of systematic KM. They perceived KM as being more related to human and organizational competence than as information management. Third, among the background variables, growth of sales and organizational development desire were significantly related with KM activity. Fourth, there seemed to be two contradicting tendencies in knowledge management; sharing and protection. Many companies had chosen one of these strategies. However, a certain group of companies implemented both strategies simultaneously. These companies often were innovative high-growth companies. The same companies also had balanced the different categories of intangible assets, i.e. human capital, organizational capital and external capital (i.e. the mean values of these composite variables were on the same level). Thus, these companies seem to represent a competitively strong group among Finnish SMEs. Based on the results presented in the first paper, the following illustration can be made:

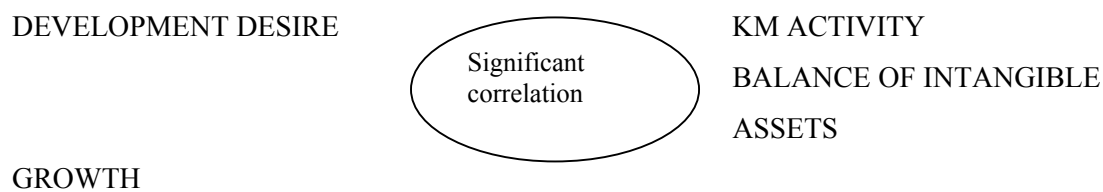
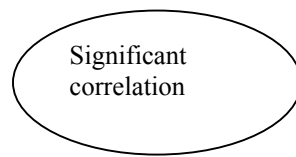


Figure 6. *Synthesis of Essay 1*

In the second essay, the particular focus was on the advanced group of companies, and on the relationship of KM activity and growth as a whole. In this paper, growth was in focus. In order to get a more reliable success factor than just growth as such, growth and age were combined into a composite variable: sustainable growth that was a function of annual sales growth and the age of the company. The KM awareness/activity (KMA) and the intangible asset aptitude index (IAA) were also combined into the composite variable Knowledge Management Maturity (KMM). The results indicated a significant correlation between KMM and sustainable growth. The significant drivers of sustainable growth were KMM, R&D activity, and the IT-sector as the only significant demographic factor. The following figure synthesizes the findings in the second essay:

R&D ACTIVITY
KM MATURITY
IT-SECTOR



SUSTAINABLE GROWTH

Figure 7. *Synthesis of Essay 2*

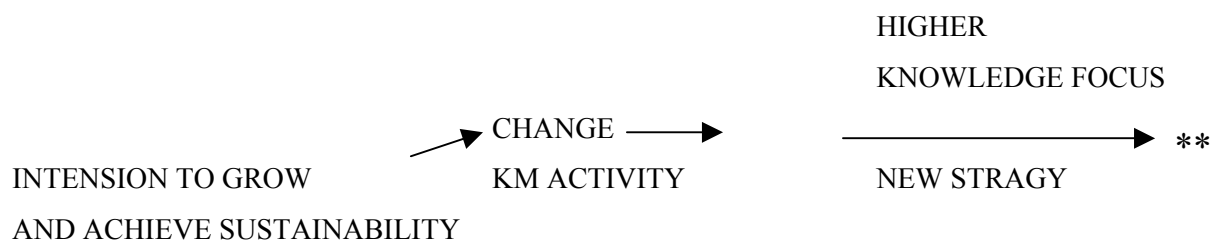
In addition, a cluster analysis of all companies was made. The cluster analysis was qualitatively complemented with material gained from the in-depth interviews. Half of the companies belonged to a cluster of “Traditionalists”. The remaining half was equally divided into “Domestic Service Providers” that grow rapidly, but do not employ KM; “Established Industry” with KM activity but slow growth, and “Young Innovators” that both employ KM and grow rapidly. One interesting notion, however, was that in the cluster of “Young Innovators” there were some old companies representing traditional industries. They had managed to develop their products and process as a result of innovation activity, and renew their business concept, so that the knowledge focus of the business (i.e. the share of knowledge work of the total sales) had significantly increased. As a result, they had managed to grow on a sustainable basis. Only one fourth of the companies in this group represented IT-industry. Therefore, it can be concluded that also other industries than IT-industry, even the very traditional industries and old companies, can become knowledge focused businesses and grow.

The third essay explored the context and motives of the SMEs in managing their intangible assets, and the concrete processes and practices of knowledge management. They were also compared with large companies and other similar but KM passive SMEs. All the interviewed companies were facing a radical change in their business. Thus, KM served as an activity for the management of change, clarification of the vision and new strategy formulation. The KM active companies emphasized the role of values, trust and spirit more than the KM passive SMEs in the questionnaire survey. The interviewed companies were all aiming at improved innovation process, new ways of doing business and higher “knowledge focus” in their business. Nearly all also wanted to grow significantly. The main motivation behind the KM activity turned out to be enhancing even a radical organizational development, like a transfer from craftsmanship to opportunistic entrepreneurship or a shift from incremental innovation to radical innovation. Thus, KM seems to be a strategy for these SMEs to guarantee their

survival in the turbulent markets. Their orientation toward change, growth and knowledge distinguished them from other demographically similar SMEs. The SMEs and large companies seemed to differ quite much in their KM motives, targets and practices. The large companies often start from existing resources and are interested in visualizing; measuring and reporting them (Wilson, 2002), while the SMEs in this study were interested in creating completely new knowledge and resources. The SMEs also had a less formal approach to knowledge management than the large companies that often regard knowledge management as a synonym to information management.

The action research project in the case companies was reported in the fourth essay. A process of assessing intangible resources leading a knowledge management and development plan was implemented and followed in the three case companies. Both the motives to start the project, implementation of the process and the consequences were in focus. The motives were to support the change process and sustainability in the business. The benefits of the assessment process were the clarification of the future focus and strategy, creation of a common language to discuss strategic issues in the company, and improved balance of different categories of intangible assets. After the action project all the case companies had developed in most of the chosen key areas. They also performed better in business than their competitors in the same period in average, which means that they had managed to keep or improve the level of sales, and to improve their profitability in a period of economical decline in their respective industries. In summary, by identifying the knowledge performance gaps and the key competitive advantages through the assessment process, the implementation of new strategic orientation was facilitated.

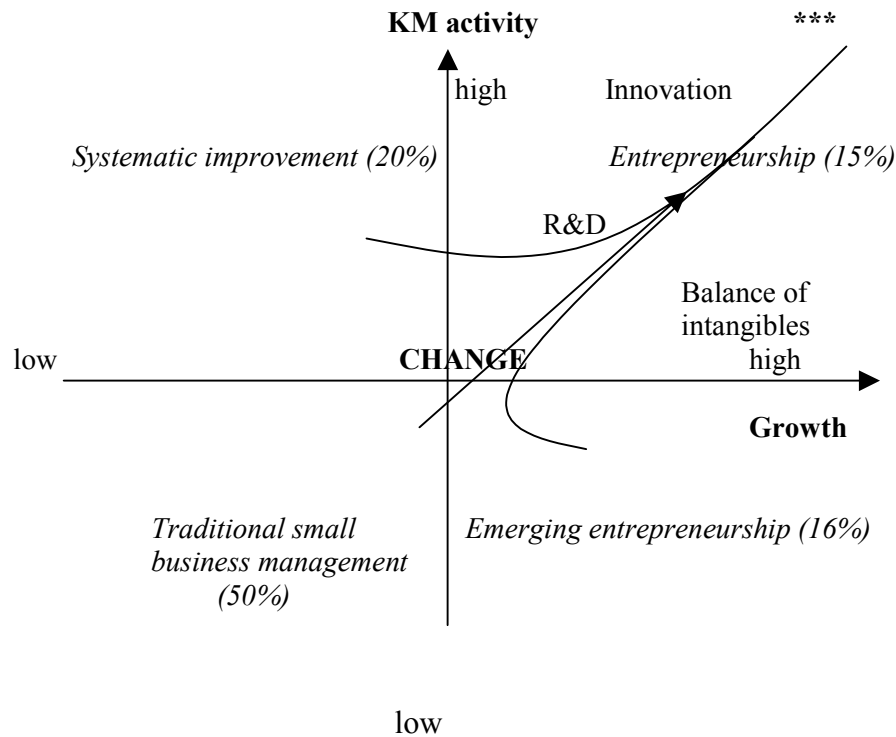
Based on essays three and four, the following synthesis can be drawn:



** = the arrows do not symbolize causality but just the path that the studied 10 and 3 companies had followed

Figure 8. *Synthesis of Essays 3 and 4*

As a summary of all the essays, we can present a figure that aims at illustrating the characteristics of the clusters of the companies in the whole sample (N = 108), and the paths that the KM active (N= 10 and 3) companies had followed.



*** = the lines and arrows do not symbolize causality but the development paths as described by the interviewed SME managers

Figure 9. *The Summary of All Essays*

Figure 9 summarizes all the key findings of this study, both quantitative and qualitative. First, the x and y scales (KM activity and growth), and the division of the SMEs into the four clusters represent the findings of the questionnaire survey. Second, the arrows represent the past development paths as described by the interviewed KM active companies. The cluster names are translated into the terminology used in the study of entrepreneurship. The cluster of traditional small business management (originally labeled as “Traditionalists”) refers to the routine-managing owner-managers as described by Schumpeter (1934), Leibenstein (1966) and Kirzner (1973). The family businesses (story type “New generation generates new business”)

among the interviewed companies represent the development path from traditional small business management towards entrepreneurship. The emerging entrepreneurship refers to the cluster of “Domestic service providers” that were growing rapidly and working in the service sector but not managing their processes or knowledge resources from the beginning. The interviewed IT-companies (story type “From subcontractor to significant system provider”) represent the development path from the emerging entrepreneurship towards entrepreneurship by starting to concentrate on knowledge management and systematic product and innovation development. The original cluster “Established Industry” is named here as systematic improvement, because these companies were active in developing their organization, structures and processes, but they were not particularly innovative. For them to become an “entrepreneurial” company new ways of thinking and flexibility were necessary. The energy provider among the interviewed companies (story type “Tradition faces new challenges”) represents this development path. The original group of “Young Innovators” is here labeled as the group of Entrepreneurship according to the idea of Schumpeter (1934). They are development oriented, growing and KM active companies experiencing continuous change, develop their R&D and innovation, and have their intangibles in balance. The interviewed engineering companies that had from the beginning established their business on a radical innovation (story type “Technology expert through turbulent times”) had probably had these characteristics since they started.

In summary, figure 9 aims at illustrating the links of knowledge management, growth and entrepreneurship. It also describes the positions of the questionnaire sample companies (N = 108) in the scales of knowledge management activity, growth and entrepreneurship. Furthermore, it describes the past development paths that the interviewed managers of growing and KM active enterprises (N = 10) had described in their stories.

5. DISCUSSION

This chapter is devoted to the discussion of the conclusions and the implications of the research. First, overall conclusions are presented. Second, the validity and reliability of the findings are discussed. Then the theoretical and managerial implications of the study and suggestion for future research are presented. Finally, in the postscript, the whole research process is reflected upon from the researcher's personal perspective.

5.1 Conclusions

As a result of the entire explorative study it can be concluded that knowledge management seems to support the sustainability of SMEs. However, it cannot be concluded that the relationship is causal, mainly because of the cross-sectional nature of this study.

It seems that KM activity in SMEs is a diverse phenomenon related to many other variables. A great deal of characteristics are related to the KM active, growing SMEs: they are keen on R&D, innovation, networking, building of trust in relationships, renewal through a higher knowledge focus in business etc. All these issues can be connected to the idea of entrepreneurship as it often is defined in the literature: small business management is about managing routines while entrepreneurship is about creating and innovating something new and finding new ways to combine resources. No single demographic factor was in correlation to knowledge management, except a slight overrepresentation of IT industry among KM active enterprises. Thus it seems apparent that any type of SME can be KM active. However, so far only a minority of SMEs is KM active. Even though over ninety percent of the sources of competitive edge were intangible according to the respondents' own estimation, it seems that only few companies actually pay attention to how to manage and develop these intangible assets.

It is debatable, if only companies that already otherwise are successful, are interested and active in KM. It is quite plausible that companies experiencing serious problems are not interested in managing knowledge or intangible assets. It seems that many of the KM active companies had also performed well before starting the KM initiatives. The characteristics of the owner-managers or entrepreneurs play a key role here. They have always been future oriented managers with visionary skills. Now they have realized that the way to compete and

survive today and particularly in the future is to increase the knowledge focus in the business, which means increasing the share of “knowledge work” of the business. Knowledge work here means, for instance, planning, innovating, designing, prototyping, managing projects, service and maintenance. One of the owner-managers told how “it is amazing how much you can earn by embedding “soft elements” into your concrete material product”. By the “soft elements” he referred to the total service concept, providing comprehensive turnkey projects to customers. The same owner-manager also realized during the interview that actually their core competence is not the expertise in engineering anymore, but it rather is the ability to coordinate projects and networks. The characteristics of the small business managers have been realized as an important determinant of business development in several earlier studies as well (e.g. Woods and Joyce, 2003; Smith and Saint-Onge, 1996).

Like the balance of intangible assets, the balance of knowledge management styles also seems to be important. According to this study, the factors of knowledge management are knowledge sharing, organizational development, service and customer orientation, and knowledge protection. Knowledge sharing and knowledge protection are to some extent controversial. Nevertheless, a group of companies had managed to implement both at the same time. This group mainly represented innovative high growth companies, but also different lines of businesses. Thus, it can be assumed that in order to support successful business, knowledge management has to balance the different approaches.

This study dealt with SMEs. There was a comparison with the knowledge management of large companies. The approaches seem to be partly similar but also in many points quite different. The practices of knowledge management are quite similar both in SMEs and large companies. The differences appear in motives, attitudes and targets in relation to knowledge management. The large companies are often interested in visualizing, measuring, managing and developing the existing intangible resources. They are also more often keen on reporting on their intangible assets externally (i.e. they see knowledge management also as an image building activity). The SMEs appear to be more interested in organizational development through knowledge management. The emphasis seems to be on creation of new opportunities by creating completely new ways of doing business and innovating. There is a strong connection to strategy and change in the knowledge management activity of SMEs. Furthermore, knowledge management comes across as less formal in SMEs than in large companies: None of the studied KM active SMEs understood knowledge management as

equal to information management or data processing. At least in the international comparisons, many large companies refer by knowledge management to different data and information processing systems and processes (Wilson, 2002). This may also be a cultural issue. In the Nordic context, the terms corresponding to knowledge management (“osaamisen johtaminen” in Finnish, “kunskapsledning” in Swedish) refer more to human knowledge than information. The reason for this might be that in these countries human knowledge has long been the key source of competitive edge.

The main contributions of this study were the following. First, knowledge management seems to serve the purpose of change, renewal and new strategic orientation in the SMEs, and to be closely related to organic growth, entrepreneurship and innovation. Second, conscious development of intangible assets seems to support a better balance of different categories of intangible assets, and increasing the knowledge focus, which in turn at least partly facilitated the path to the improved overall performance in the case companies.

5.2. Validity and Reliability of the Research

There are many ways to define validity and reliability in research. Essentially, validity is another word for truth, and reliability refers to the degree of consistency with which the instances are assigned to the same category by different observers or by the same observer on different occasions (Silverman, 2000: 175-189). Bryman and Bell (2003) define validity as a concern with the integrity of the conclusions that are generated from a piece of research, and reliability as the degree to which a measure of a concept is stable. When assessing the validity and reliability of a study, one has to apply different criteria to qualitative and quantitative research. Eisenhardt (1989: 548), for instance, sets the following criteria for qualitative case study research to be “good” research: 1) the concepts, the framework and the propositions emerging from the process are “good theory”; 2) the methodology has clear strengths and the empirics support to the theory; and 3) the entire research process results in new insights. All these criteria have been kept in mind while carrying out this research project. The second and third points are the strengths of this study, but the first point is, in all probability, the weak part of the study: in a new field of study it is challenging to appraise the worth of the theory.

Statistical methods have traditionally been used to test the reliability of quantitative research. Validity, in turn, has been connected to the potential of generalization of results. Thus,

validity has been shown through statistical sampling. As the first part of the study was quantitative, the reliability of the questionnaire was measured statistically. The Cronbach's alphas were on acceptable levels. Also, the dropout analysis of the non-responding companies served the purpose of checking the reliability of the results. The respondents and non-respondents had similar demographic backgrounds. Thus, the answers shouldn't be biased in this sense. The validity of the questionnaire was tested through the piloting process with ten companies. Also random sampling was used when selecting the enterprises for the questionnaire survey. As the goal is not to generalize the results, the reliability and validity of the questionnaire study should be on an acceptable level.

In the interviews, the exact same procedure and pattern of questions was followed in each case. The interview protocols were transcribed and analyzed on a detailed level, by coding small units and episodes. However, as in all qualitative research, the interpretations are and remain subjective.

Both in the questionnaires and in the interviews the reliability and validity of self-assessment can also be discussed. People tend to overestimate their own competence and achievements (Harris and Schauboreck, 1988, Conway and Huffcut, 1997) so self-assessment is more reliable for gauging processes, behaviors and attitudes than for assessing individual results and achievements (Biazzo and Bernardi, 2003; Moore et al., 2002). In this study, the self-assessment is mainly concerned with behaviors and attitudes, and therefore, does not deal with any absolute values. In addition, the research focus was on the differences between the respondents, not on the scale levels as such. Consequently, the results are not in jeopardy even if all respondents slightly overestimate the success of their own company.

In addition, several studies have shown that when the reliability of self-assessments have been tested with multiple sources of information (given by the others in the organization or in the documentation), the correlations have been relatively high, between 0.64 and 0.8 (Baruch, 1996). It can be also assumed that owing to the anonymity of the respondents there is no reason for them to lie when referring to their work processes, practices and ideas.

In the case studies it can be questioned whether only three cases provide enough information to obtain reliable results. The results may suffer from random error if too few cases are presented. However, in this study, the results in the three cases were similar, which suggests

that the number of cases was sufficient. Still, it is impossible to know if a fourth case would have been entirely different. However, the same procedure was followed in all cases, and the results and case descriptions were also checked and approved by the company representatives, which enhances the validity of the study.

All the gained results in different sub-studies support each other, and thus the internal validity of the study is good. The approval of the results by the case companies improved the external validity, but to actually prove the external validity of the results gained through a qualitative study is difficult, and remains a weakness of this study. The use of different methods and sources of data to study the same overall phenomenon should have enhanced the reliability of the results.

5.3 Theoretical and Managerial Implications

The creation of basic knowledge of knowledge management and intangible assets in SMEs could be considered as the main theoretical contribution of this study. Before this study, no extensive studies in the field existed in Finland. The results of this study indicate that knowledge management activity in SMEs is indisputably linked to long-term survival and development of SMEs. Of particular interest is the link between the ability of small businesses to remain on a growth path and knowledge management activity. In other words, the entrepreneurial activity, knowledge focusing and long term business performance seem to be related. This relation should be studied further in order to confirm the results. An interesting finding was that many dimensions of entrepreneurship could be recognized in the knowledge management behavior of SMEs.

A managerial implication of this research is that it is important to relocate the business focus towards knowledge as well as to develop a conscious and active strategy for creating the company's future in small business. The results of this study showed that SME managers consider intangible assets as the main source of competitive edge. However, only a minority are targeting their managerial and development attention to the intangible assets as a whole. Thus the critical assessment of intangible assets and development of their inter-relational processes, leading to a knowledge focused organizational development strategy in line with the key targets of the company, can be recommended to SMEs. Knowledge management alone does not guarantee anything, but when it serves balancing the intangible resource base

of the company, the long-term strategy formulation, and the increasing knowledge focus, it can facilitate entering a new entrepreneurial growth path.

5.4 Suggestions for Further Research

There are three main areas that call for more research attention. First, the impacts of knowledge management on business performance should be studied by using a longitudinal approach to a larger sample of enterprises in order to obtain stronger evidence than in this study. The research topics could cover:

- (1) Impact of knowledge management on the growth and profitability of a company;
- (2) Relationship of knowledge management and innovation;
- (3) Are knowledge-focused companies more profitable than their peers in the same line of business?

Second, the relationship of strategic management, knowledge management and entrepreneurship might provide a fruitful area of research in the small business sector, as this study preliminarily identified some interesting interfaces. The areas of study could be:

- (1) The relationship of the personal styles of small business managers and the knowledge strategy of the company;
- (2) Theoretical interfaces of entrepreneurship, strategy and knowledge management.

Third, the issue of knowledge focusing in the traditional business fields as a survival strategy indisputably deserves further research and political attention in the competitive situation of today, when more and more manufacturing industries and even some services are outsourced and transferred to the countries of cheaper labor. The topics of study could cover:

- (1) An extensive study of success stories in the small business: what enables their survival and stay in business over decades?
- (2) An international study of the factors of sustainability and drivers of growth in the traditional lines of industries.

5.5 Postscript

The purpose of this sub-chapter is to describe the research process from the researcher's personal perspective as a development process that can even be compared to the renewal and development processes of the KM active SMEs that were studied in this thesis.

I became interested in intangible assets and intellectual capital in 2001 after having read the books by Edvinsson and Malone (1997) and Sveiby (1997). That time I was working with how to assess the real value of a small company. I was particularly interested in how to conduct a reliable analysis of the financial value of a small company in a merger or acquisition. I started to design my own model regarding what to take into account concerning intangible assets when trying to define or set the "market" value of the company that is not publicly listed. Consequently, I also read literature on how to manage intellectual capital. At that time, I strongly believed that the purpose of intellectual capital management was to visualize and improve the true market value of a company. I wrote my first research plan based on these ideas. The focus of that research plan was on using measurement of intangible assets as a tool to define the real value of the company. Not a bad idea as such, particularly in the light of the fact that research in that area has been published in the recent years, even one doctoral thesis of the Finnish SMEs and their practices to measure intangible assets (Lönnqvist, 2004). Why my research became something else is the outcome of the following incidents.

When I participated in the European Doctoral Program of Entrepreneurship and Small Business Management in Barcelona and Växjö in 2002, my two supervising professors, Dr. Veciana and Dr. Johannisson made me critical towards my own research idea. They also managed to get me interested in entrepreneurship as a research topic. As experienced and professional supervisors, they accepted my research plan as it was, only with some technical suggestions for improvements. Probably they thought that if I insisted in researching such a management fad, it is better to at least do it correctly.

Consequently, I wanted to convince myself, and maybe others too, of the relevance of my study. I had originally thought that I wanted to do two or three case studies of measuring intangible assets to define the real value of an SME. Now, to create some background for the case studies, I decided to implement a questionnaire survey first. I thought that through the

questionnaire I could identify suitable companies for the case studies, companies that were in desperate need to measure their intellectual capital in order to report it externally and to express the real value of the company in that manner. I chose 500 enterprises by random sampling to send the questionnaire to. The survey was implemented in late 2002. To my slight disappointment, only one respondent out of 108 valid responses was interested in the measuring approach. Luckily, I had included a quite extensive question pattern related to knowledge management activity and the role of intangible assets into the questionnaire, containing open questions as well. This in a way “saved” my research project. Instead of analyzing the needs and ways to measure intangible assets, I had to start reading what the SME managers really were telling of their knowledge management activity, role of intangible assets and their backgrounds. And finally, this appeared much more interesting than just measuring intangible assets.

After having completed the statistical analysis of the questionnaire data, trying to capture all the interesting issues, one finding rose as the most interesting: Knowledge management activity and the level of intangible assets was connected to rapid growth of the companies. It started to look like knowledge management had something to do with the sustainability of the small business. In that stage, I started to gain new focus for my research project: it seemed to be much more important for small companies how to use and develop intangible assets to serve the organizational development than to report the value of the company. To get more information on this, I decided to interview those companies that were knowledge management active and rapidly growing, according to my data. I did the interviews at the end of 2002 and in early 2003. In the interviews it was confirmed that knowledge management and focusing on intangible assets was in all cases bound to the strategic targets of the company: they wanted to implement change towards a more knowledge focused business concept.

As I had received funding and also got my research plan accepted with the idea of carrying out case studies to assess intangible assets in SMEs, I still wanted to keep this promise. But now the starting point for the case studies was completely different. The focus in the case projects was now how to achieve organizational learning and development by assessing intangible assets and working on the development plan accordingly. The case studies and the follow-up of the consequences took place from late 2002 until summer 2004. The case studies finally confirmed the fact that SMEs can benefit from knowledge management or intellectual

capital management much more by combining it with organizational development purposes than by using it as tool to measure and report the market value of the company.

Later on, when analyzing the data, and reading the stories of the SME managers, I started to realize a certain pattern of their personal behavior. The managers of KM active and growing small businesses seemed to represent the entrepreneurial type of small business managers. They were interested in continuous renewal and development, networking, innovation and product development, and they were very ambitious in getting their business to sustain and grow in the long term. Here I returned again to theories that I had learned in 2002. In a way, when inventing the connection of knowledge management activity and entrepreneurship, I felt that the circle had been closed as it comes to this research. I had at least to some extent contributed to the theory formulation in a new field of research, and managed to point out an interface between the two different fields of study: study of knowledge management and entrepreneurship. At the same time, I know that I have opened several new gates for future research.

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APPENDIX 1.

The Questionnaire

The first set of questions (section A) is to collect some background information of your enterprise. The second set (section B) is open questions. It is very important that you also answer the open questions! Your answers may be very short; the most important is to give us some guidelines of your own ideas. The third set of questions (section C) is statements on a scale from 1-5. You have to choose one alternative describing your own opinion of disagreeing to agreeing with the statement. And please, don't hesitate to mark the questions that remain unclear to you and to give feed-back of this questionnaire.

Your answers are considered fully confidentially, and no names appear in the report.

SECTION A

The field of business:

Manufacturing; the precise field: _____

Information technology: _____

Customer services; the precise field: _____

Training and consulting; the precise field: _____

Retail; the precise field: _____

Other: _____

Describe in short the business idea and targets of your enterprise:

The size of the enterprise

Less than 10 employees

10-24 employees

25-49 employees

50-249 employees

The age of the enterprise:

Less than 3 years

3-5 years

6-10 years

11-15 years

More than 15 years

The location of the enterprise:

The enterprise is run by:

A hired manager

Owner of the enterprise, but it is not a family business

A family

The degree of internationalization:

None or almost no international contacts

We have international business contacts through our networks but we don't export our products

Minor part of business is international (up to 25% of our turnover)

Major part of business is international (25%-75% of our turnover)

All business is international (more than 75% of our turnover)

How important are innovation and R&D in your business?

No role

In minor role

In significant role

Innovation and R&D are the core of our business

How many employees in your enterprise work with customers?

- Less than 5%
- 5-15%
- 16-50%
- More than 50%

The degree of competition in your field and location of business:

- There is almost no competition
- There are some certain competitors
- There are competitors but not geographically in our market area
- There is a fair amount of competition in the field
- There is hard competition in the field

The market share of your enterprise is for the moment (own estimation):

- Less than 10% of the target market
- 11%-25% of the target market
- 26%-50% of the target market
- More than 50% of the target market

The growth of your turnover has been in average in the recent three years:

- Slow (less than 3% in year)
- Reasonable (3-10% in year)
- Rapid (11-20% in year)
- Very rapid (more than 20% in year)

Are the concepts of intellectual capital management (ICM) or knowledge management (KM) familiar to you?

- No
- To some extent to me personally
- The concepts are familiar to me and have been in discussion in our enterprise
- Our enterprise works actively with these issues

Have you applied ICM processes, knowledge management practices or similar in your enterprise?

- No
- Yes; Which exactly:

Have you launched any other management system before (like quality management system, balanced score card, knowledge databases, human resources reporting etc.)?

- No
- Yes; Which exactly:

Have you measured customer satisfaction, employee satisfaction or partnerships?

- No
- Yes; Which:

Have you completed competence mapping in your enterprise?

- No
- Yes; How many times:

Do you have regular development discussions?

- No
- Less than once a year per employee
- Once a year per employee
- More often than once a year per employee

SECTION B

Please, answer the questions in this section in your own words, presenting the main ideas you have concerning the following items:

What are the core competencies of your enterprise that distinguish you from your competitors?

What are in your opinion the most important non-material and non-financial resources of your enterprise?

What makes your enterprise successful?

Answer the questions **22-26 only if your enterprise has some experiences of KM processes or closely related management processes and systems:**

What are the main issues (measures, processes etc.) you have taken into account in your system?

How do you use the information produced by the system?

For internal purposes (for management and development)

For external purposes:

to inform authorities

to inform financiers

for marketing

for general communication to stake holders

Other: _____

Who has been responsible for creating and maintaining the system and for collecting information?

What kind of obstacles did you find in building and launching the system?

What are the benefits of the system?

SECTION C

Please choose one alternative that describes best the situation in your enterprise. The scale is following:

- 1 = I fully disagree**
- 2 = I partly disagree
- 3 = I am not able to say
- 4 = I partly agree
- 5 = I fully agree**

I fully disagree.....I fully agree

We are interested in developing our intellectual capital management methods and processes but we don't have the knowledge, tools or resources to do it

1 2 3 4 5

We are interested in developing our business all the time and we are often involved in various development projects

1 2 3 4 5

Human resources play a very significant role in our business and for the growth

1 2 3 4 5

Our personnel is in average highly competent and professional

1 2 3 4 5

We use a lot of time and effort in our enterprise to up-date and develop our knowledge and skills

1 2 3 4 5

Our employees are highly motivated and committed to their work

1 2 3 4 5

Our human resources management functions well

1 2 3 4 5

Team work is typical for us

1 2 3 4 5

Our employees are continuously encouraged to bring new knowledge and ideas to our business to share their knowledge with the colleagues

1 2 3 4 5

Values and norms are very important for us and all our employees are aware of them

1 2 3 4 5

We continuously develop our work processes

1 2 3 4 5

We continuously develop our organization (structure and responsibilities)

1 2 3 4 5

We own several patents, licenses and copyrights

1 2 3 4 5

We have useful and updated information systems in our use

1 2 3 4 5

The culture and spirit in our enterprise are positive

1 2 3 4 5

Our communication is open and reaches everybody
1 2 3 4 5

Customers play the most significant role in our business
1 2 3 4 5

It is important for us to be in continuous contact except our customers to other stakeholders and to our social environment and to develop our networks all the time
1 2 3 4 5

Our products represent well-known brands 1 2 3 4 5

The feed-back from our customers is without exceptions positive
1 2 3 4 5

We are able to learn and add value through our partners
1 2 3 4 5

Good reputation and image are very important for us
1 2 3 4 5

It is important for us to share our knowledge with our partners
1 2 3 4 5

SECTION D

Are you interested in gaining more information of KM and being in further contact with this research?

Yes; I agree on being contacted later

Contact information:

No

Feed-back concerning this survey and questionnaire:

THANK YOU VERY MUCH FOR YOUR VALUABLE ANSWERS!

APPENDIX 2.

Interview Questions

Tell the story of your company from the beginning until today.

What are your competitive advantages? What makes you different?

What guarantees the success of your company? Now? In future?

Describe you mission, vision, aims, strategy and values.

How are you going the achieve your targets (processes, tools, etc.)

What are your most important resources?

What do you experience as the most important development challenges of this company?

What would you include in your company's most valuable intangible (non-material) resources?

How do you take care of these resources?

What you think can explain the market value of the company (as we know that it is much higher than the book value)?

What does knowledge management mean in your company? (also in practice)

Why did you start systematic knowledge management?

What kinds of experiences you have so far of knowledge management? Benefits? Obstacles?

Describe your future plans.

ESSAYS

Essay I: Salojärvi, S. (2004): 'Knowledge Management – an Issue Not Only for the Giants? An Exploratory study of Finnish SMEs', submitted to *International Small Business Journal*.

Essay II: Salojärvi, S., Furu, P. and Sveiby, K-E. (2005): 'Knowledge Management and Growth in Finnish SMEs', *Journal of Knowledge Management* 9(2): 103-122.

Essay III: Salojärvi, S. (2004): 'The Role and Nature of Knowledge Management in Finnish SMEs', *International Journal of Learning and Intellectual Capital* 1 (3): 334-357.

Essay IV: Salojärvi, S. (2005): 'A Knowledge Oriented Change Strategy – a Means for SMEs to Remain on an Entrepreneurial Path', forthcoming in the *International Journal of Knowledge, Culture and Change Management* vol 4.

