

Exploration of Knowledge Sharing Challenges in Value Networks: a Case Study in the Finnish Grocery Industry

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Abstract: Business activities are increasingly organized through networks. This article considers the value network of the Finnish grocery industry, a network where the web of relationships between two or more companies creates tangible and intangible value through the complex and dynamic exchanges. In value networks the relationships between the participants of the network tend to be more complex than the traditional make-buy-relationships, as companies create value together through different types of relationships such as deep buyer-supplier-relationships or strategic partnerships. This variance in the nature and level of collaborative relationships poses new challenges to knowledge sharing. Complementing previous research on the challenges to knowledge sharing in other network settings, this article explores the knowledge sharing challenges specific to value networks based on a qualitative case study about the value network of the Finnish grocery industry. The data consists of 32 thematic interviews of top and upper management representatives from 16 companies in the value network.

The results show that the current collaborative relationships in the Finnish grocery industry are functional and working, but mostly just traditional “arms-length” buyer-supplier-relationships. However, the challenges to knowledge sharing seem to be somewhat different to those present in other network settings. The challenges to knowledge sharing in value networks do not seem to concern so much the opportunities for knowledge sharing, but the motivational and cultural factors affecting what knowledge is shared and how much knowledge is shared. Based on these results, the knowledge sharing challenges of the value network can be crystallized under three points. First, the focus of knowledge sharing has been on information, and the organizational arrangements do not encourage the sharing of valuable know-how. Second, the organizational cultures and top management directives do not encourage external knowledge sharing, and therefore knowledge is not shared. And third, the experiences of past abuses of trust and the retail groups renewed focus on price bargaining undermine the trust between the companies, thus inhibiting knowledge sharing.

Keywords: knowledge sharing, knowledge sharing challenges, value networks, collaboration, case studies

1. Introduction

In today’s competitive environment, business activities are more and more organized through networks as globalization, increased technological complexity, and development of ICT make them increasingly attractive to companies. The concept of network has gained in popularity also in the management literature, and many different collaborative relations such as supply networks (e.g. Harland et al. 1999), industrial networks (e.g. Axelsson and Easton 1992), R&D networks (e.g. Lam 2003), strategic networks (e.g. Gulati et al. 2000), and the network organization (e.g. Baker 1992) have recently been studied. However, even if it has been widely acknowledged that the business of companies or even the company itself should be viewed in the context of networks very few articles consider the actual business, i.e. value creation, in network terms.

To address this lack in existing literature, this article will discuss value networks. A value network is the network of relationships that creates tangible and intangible value through the complex and dynamic exchanges between two or more organizations (Allee 2002). Any network where the participants are engaged in these kinds of exchange relations can be seen as a value network, whether in private industry or in public sector, or whether the value network has been acknowledged by its participants.

In the traditional value chain model (Porter 1985) value was created through the exchange of tangibles such as goods and services. According to the value network approach (Allee 2000, 2002) value is created not only through the exchange of tangibles, but also through the exchange of intangibles such as knowledge, customer loyalty, sense of community, or increased security. The value network approach considers that intangibles are negotiable and deliverable, not just plain assets. People engaged in knowledge exchange, for example, are usually held accountable for the execution of that exchange, and companies have developed various performance metrics for the quality, speed, quantity, etc. of the knowledge they deliver or receive. Further on, companies use the intangibles of others as part of their own offering, and e.g. car manufactures often co-produce value with various insurance and financing companies in order to provide their customers with a complete, competitive package. Thus, in value networks the exchange is not just about realizing value, but about *providing* value for the other participants, enabling them to do something better.

Due to their above described nature, the relationships between companies in value networks tend to be more complex than the traditional make-buy-relationships. Traditional buyer-supplier-relationships consider only the exchange of tangible value, and do not see intangibles as objects of exchange between business partners. On the contrary, in value networks this intangible value exchange is considered to be the real foundation for value creation (Allee 2002). In these value networks companies usually operate through different types of relationships than traditional make-buy-relationships, e.g. deep buyer-supplier-relationships (Dyer 1996; Liker and Choi 2004) or strategic partnerships (Jarillo 1988). Thus, in order to stay competitive companies need to look beyond the traditional “arms-length” buyer-supplier-relationships, and build deeper and more intricate value networks with their suppliers, distributors, customers, competitors, and other stakeholders.

This variance in the nature and the level of collaboration between the different actors of a value network poses new challenges to interorganizational knowledge sharing. A growing body of empirical evidence indicates that organizations that are able to share knowledge effectively from one unit to another are more productive and more likely to survive than organizations that are less adept at knowledge sharing (e.g. Baum and Ingram 1998; Darr et al. 1995). However, even if knowledge sharing is essential for the functioning of any business network, it is especially important in value networks as it directly influences the co-creation of value between the different actors participating in the network. Without the capacity for sharing knowledge, companies can not access and utilize the specialized resources and capabilities of other companies in order to create new knowledge (Nonaka and Takeuchi 1995).

Knowledge sharing is a complex process (Lessard and Zaheer 1996) as it refers not only to information but also beliefs, experiences, and contextualized practices that are difficult to convey (Davenport and Prusak 1998). Most accounts of interorganizational knowledge sharing have disregarded this point, considering sharing more as a process of knowledge transfer, where one unit

(e.g. individual, group, department, division) is affected by the experience of another (Argote et al. 2000). In this article, we will especially concentrate on the challenges of sharing knowledge: why do different units like individuals intentionally make knowledge available to other units? Accordingly, our research question is the following: What knowledge sharing challenges exist in value networks?

In the following we will first present existing literature on the topic of knowledge sharing. We will then discuss the methodology and results of our case study on the value network of the Finnish grocery industry. We will evaluate the factors affecting knowledge sharing in this specific value network, after which we will answer the research question of the knowledge sharing challenges in value networks.

2. Knowledge sharing

Researchers use many different expressions in defining knowledge. Knowledge is often cited to be a “justified true belief” (see e.g. Nonaka 1994). This traditional definition focuses on the truthfulness as an essential attribute of knowledge, emphasizing the absolute, static, and nonhuman nature of knowledge. It can not be denied however, that real-world knowledge is based at least partly on sensory data, and can be inaccurate, not truthful, and value-laid. In deed, knowledge can also present itself as ‘ground truths’ and ‘rules of thumb’ people use to understand and act in different situations, the experience that people develop through time, the intuition and insights that arises from the unconscious use of one’s skills and knowledge, and the values and beliefs that determine in large part what people notice, absorb or conclude from their observations (Davenport and Prusak 1998). So, in practice, there is often little practical utility to make a distinction between information, knowledge, and expertise (Alavi and Leidner 2001). Based on this view, we consider knowledge to include information, ideas, and expertise relevant for tasks performed by individuals, groups, or organizations.

So, knowledge sharing between individuals is the process by which knowledge held by an individual is converted into a form that can be understood, absorbed, and used by other individuals (Ipe 2003). Even if the context in this paper is on the interorganizational setting (the value network), we believe that the collaborative nature of these exchange relations demands interpersonal collaboration and sharing of knowledge. Knowledge sharing is also important because it provides a link between the individual and the organization by moving knowledge that resides with individuals to the organizational level, where it is converted into economic and competitive value for the organization (Hendriks 1999).

Various benefits of knowledge sharing in network settings have been recognized in the literature. Without the capacity for sharing knowledge, companies can't access and utilize the specialized resources and capabilities of the various companies involved in the network. This capacity to share knowledge is also a necessary condition for the creation of new knowledge (Nonaka and Takeuchi 1995), and it has been argued that networks with superior knowledge transfer mechanisms will be able to 'out-innovate' networks with less effective knowledge-sharing routines (von Hippel 1988). As knowledge sharing refers to sharing of not just codified knowledge but also beliefs, experiences, and contextualized practices (Davenport and Prusak 1998), it is only through knowledge sharing that a base of jointly held knowledge, necessary for mutual understanding, can be created (Nonaka and Takeuchi 1995). This jointly held knowledge base is also vital for the development of trust between companies, necessary for deeper collaborative relations (Dyer and Nobeoka 2000; Ring and van de Ven 1994). There is also a growing acceptance of the claim that knowledge sharing is critical to performance achievement (Barthol and Srivastava 2002).

There are, however, numerous dilemmas associated with knowledge sharing in network settings. Previously as individuals in companies have always shared knowledge, knowledge sharing was considered to be a natural function of workplaces, an activity that took place automatically. Now it has been acknowledged that even under the best circumstances, knowledge sharing is a complex process (Hendriks 1999; Lessard and Zaheer 1996). Previous research suggests that there are a number of challenges associated with knowledge sharing in network settings. On one hand, Dyer and Nobeoka (2000) suggest that these problems are related to three principal reasons: lack of motivation of participants to participate and openly share valuable knowledge in the network, the problem of free riders, and the costs associated in finding the opportunities to share knowledge. On the other hand, knowledge sharing between different organizations can also be inhibited due to fear of losing competitive edge by sharing valuable knowledge, fear that can be further increased by top management directives that do not support inter-company knowledge sharing (Sun and Scott 2005). Existing differences between organizational cultures and practices can also create situations that hamper knowledge sharing: there can be clashes due to personal differences of conflicting values, people might not be open to new ideas or ways of doing things, or organizational processes might be inflexible and hard to change (Sun and Scott 2005). Finally, also the existing relationship between two or more companies and how it is managed affects knowledge sharing, for example if there is no common objective set for the collaboration or if experiences of past behavior create mistrust and discourage knowledge sharing (Larsson et al. 1998).

As all these examples suggest, many different challenges relate to the settings of knowledge sharing. However, several challenges exist also related to knowledge and the knowledge sharing process itself. For example the tacit and sticky nature of knowledge can create problems related to how the knowledge can be shared, and at the other end, the limitations related to absorptive capacity can create problems in receiving and understanding the shared knowledge (Polanyi 1966; von Hippel 1994). So, even if explicit and codified *knowledge* is easily shared, the tacit, sticky and complex *know-how* is hard to codify and imitate, and thus difficult to share (Kogut and Zander 1992; Szulanski 1996). Also the limitations related to absorptive capacity can create problems in understanding the knowledge that is being shared (Cohen and Levinthal 1990). Finally, the embedded nature of knowledge makes it context dependent, narrowly applicable, and personalized (Weiss 1999). Therefore, even information that is very context-dependent, i.e. embedded, is not likely to be shared among individuals.

In this article we will study the knowledge sharing challenges in value networks using the conceptual framework created by Ipe (2003). Ipe considers the different factors that are related to the nature of knowledge, but also to the motivations and opportunities to share knowledge. The influence of organizational culture is also considered. This framework is presented in Figure 1, and it will be used to analyze the knowledge sharing challenges in our case study.

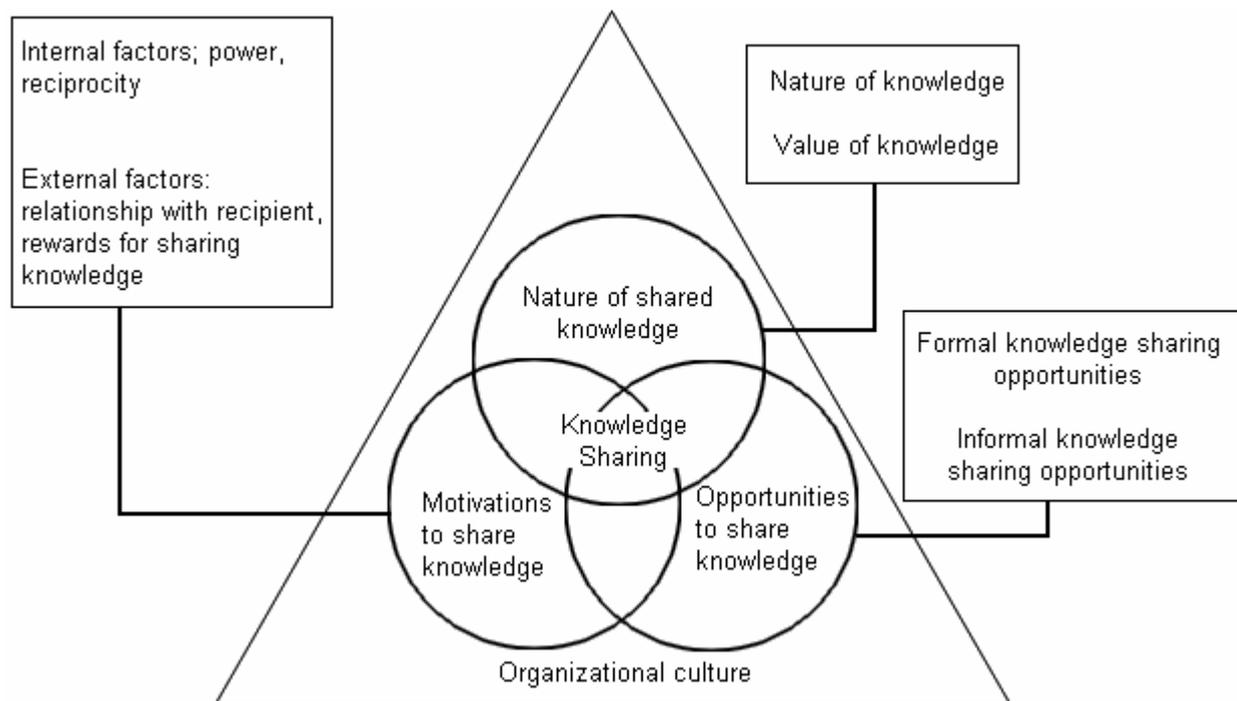


Figure 1: The knowledge sharing framework (modified from Ipe 2003).

3. Methodology

This qualitative case study (Yin 1994) presents the value network of the Finnish grocery industry. In this article, 'retail' refers to the daily consumer goods trade, 'suppliers' or 'food industry' to the food processing industry, and 'grocery industry' is used to cover both retail and food industry.

This case study is based on a research project in which the collaboration between the Finnish retail and its major suppliers was explored. The aim of the research project was to describe the current state of the collaboration from a strategic point of view, and to explore anticipated future directions. The research project was funded by a global IT service company and was carried out between September 2006 and April 2007.

The data for the case study was collected through 32 thematic interviews. The interview themes used in the study were 1) collaborative practices of the company, 2) experiences and impressions concerning the industry-wide forums promoting collaboration, and 3) the current state of the value network. The interviews lasted 1-1.5 hours and were transcribed for the analysis. As the aim of the research project was to take a strategic view to the collaboration, the interviewees represent the top and upper management of their companies: CEOs, sales and marketing executives, retail chain managers, logistics managers, and development managers. The interviewees are from 16 different organizations, including all three principal Finnish retail groups, and the major companies from bakery, meat processing, dairy, brewing, and food processing industries. Figure 2 illustrates the value network of the Finnish grocery industry and all the organizations included in the interviews.

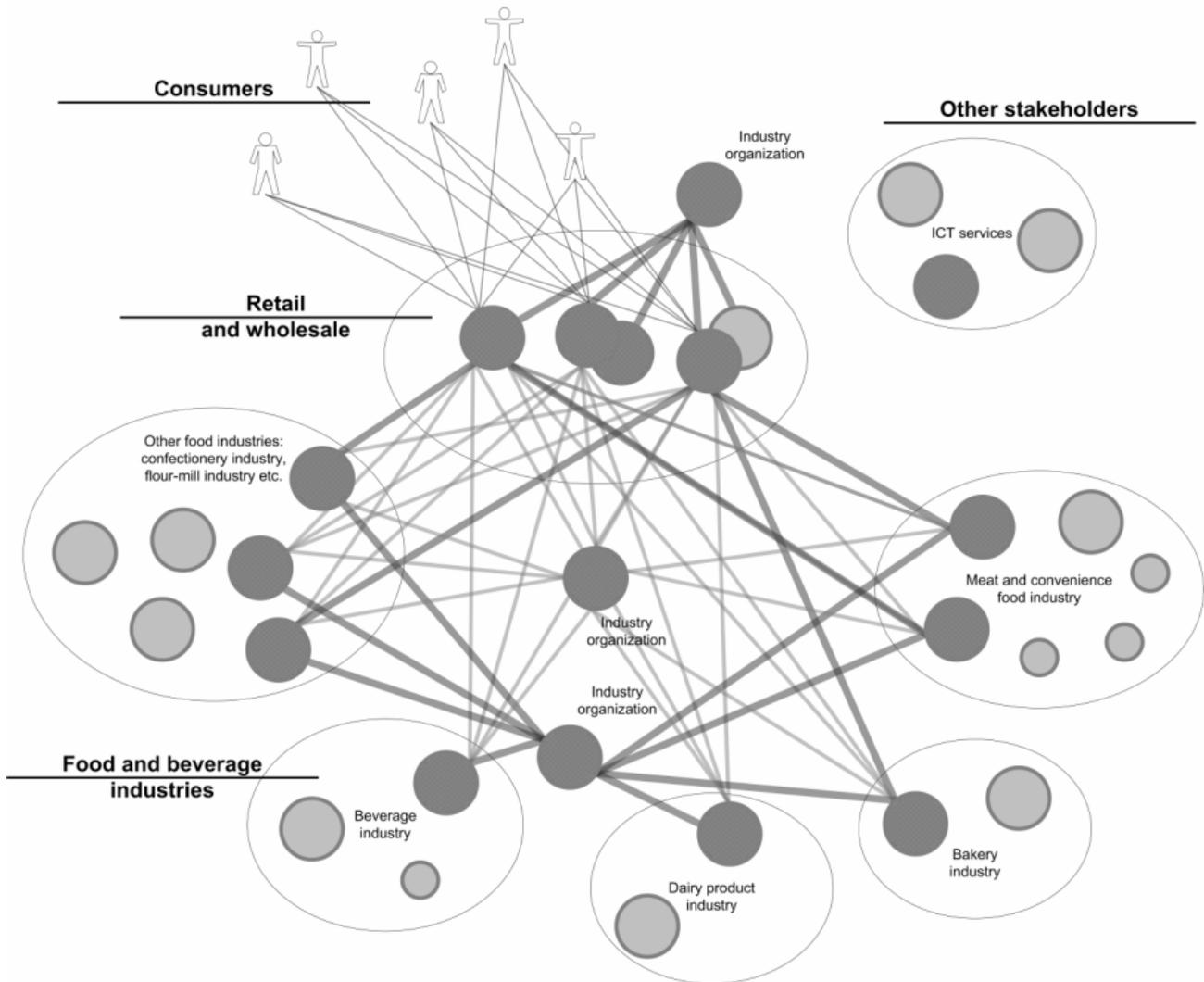


Figure 2: The value network of the Finnish grocery industry. The organizations included in the interviews are marked in squared, darker grey, and only the relationships between these companies are marked in the figure. Deep buyer-supplier-relationships are marked with broader lines.

The interviews were analyzed inductively. First, an analysis framework of twelve sub-themes was constructed based on a first reading of the interviews. Second, quotations concerning different sub-themes were extracted from the transcriptions and analyzed in detail using Atlas.ti software. The results were then validated in a 3-hour workshop together with the interviewees.

In the following we will first discuss the value network of the Finnish grocery industry as the context of knowledge sharing, before concentrating on the results of the study.

4. The value network of the Finnish grocery industry

We consider that the value network of the Finnish grocery industry consists of all the companies participating to the production and delivery of groceries in Finland. The number of companies in this value network is quite small. The retail is dominated by three groups that cover about 85% of total sales. Also in all the food and beverage industry branches the market is dealt between two or three big players. Besides being concentrated, the Finnish grocery market is also quite small, and all major suppliers deliver their products to the three retail groups. It is thus impossible for a retail group to build a dedicated value network, resulting in one big industry-wide value network, which all the companies are embedded in.

In the past few decades, the industry has invested in the development of supply chain processes, logistics, ICT systems for collecting customer data, category management, and continuous replenishment programs. The Efficient Consumer Response (ECR) initiative, a joint retail and food industry movement promoting a more responsive to consumer demand and the removal of unnecessary costs from the supply chain, has

been a major force in this development. There have also been initiatives to develop the collaborative relationships, until the international low-price competition hit the market some five years ago. The stiffened competition has now increased the rivalry between the three retail groups and the focus has sifted from collaboration to a hardening price competition and bargaining with the suppliers. At the same time the concentration of the market has increased the bargaining power of the retail groups over the suppliers, which has even led to some repressing behavior toward the suppliers.

The interviewees consider that these development projects have not resulted in better long-term collaborative practices in general. In fact, the companies in the industry do not currently evaluate or manage their value network. The current collaborative relations in the grocery industry are characterized by the interviewees as functional and working, but traditional: most of the relations are so-called 'arms-length' buyer-supplier-relationships, not deep buyer-supplier-relationships or strategic partnerships. The interviewees say that new collaborative processes are in fact needed, and the value network should be managed. However, as the industry consists of only a few major companies, the key persons still know each other rather well and meet each other regularly through the industry organizations' collaborative forums. Generally, the interviewees consider that the greatest challenges to collaboration are related to the organizational practices and different ways of thinking, not the people themselves.

5. Results

In this chapter we will present the results of the case study considering the knowledge sharing challenges. These challenges will be considered through the following four factors (see Figure 1): nature of shared knowledge, motivation to share knowledge, opportunities to share knowledge, and organizational culture.

5.1 Nature of shared knowledge

Before considering the nature of shared knowledge, we have to discuss what knowledge is actually shared in the value network. The Finnish retail groups collect huge amounts of information about consumers, such as point-of-sale data (what is bought and what groceries are brought together) and demographic information through various customer programs. Through this information the retail groups have developed valuable know-how about consumer preferences. This knowledge is valuable to the food industry in many ways. For example, point-of-sale data can be used to make more accurate demand forecasts which are important for production planning, and know-how about consumer preferences is valuable when developing new products. The retail groups have valuable knowledge also about category management in general, in-store logistics that affect product packaging, retail chain concepts, marketing plans and so on.

The food industry conducts extensive research about various aliments, and on consumer preferences considering individual food or beverage branches. This knowledge can be valuable to the retail groups e.g. when discussing individual grocery categories and their management, or profitable bargain prices of marketing campaigns. The food industry has valuable knowledge also about the logistical challenges of their products, the pricing structure and value added of their products, the effective practices and solutions of competing retail groups and so on.

Based on the interviews, it seems that the Finnish grocery industry values especially knowledge about consumers, prices or value added, category management, other companies, and category management. Only knowledge about production volumes or demand, i.e. knowledge needed for the supply chain processes, is shared voluntarily. Also valuable knowledge is shared, but companies are suspicious and do not engage in sharing of valuable knowledge unless they receive something in return. This is the case even with companies that are engaged in deeper collaboration: companies can share knowledge related to category management, but at the same time they do not share their know-how about customer preferences and new product ideas.

According to the interviewees, the industry values both information and know-how. As we saw, earlier development has recently focused on various ICT systems and processes based on them, so it is natural that the companies attribute special value not just to know-how but also to information. It is true that in the industry the amount of available information is enormous (e.g. point-of-sales data), and its use has high potential e.g. in demand forecasting. However, the potential of this kind of information is dependent on network externalities. For example, in production planning the potential of demand forecasting will realize only if all the retail groups use the same kind of forecasting methods or at least provide the same information to the food industry.

Even if know-how is considered to be valuable, the focus is still on information. In fact, the knowledge that is been shared in the industry is mostly information, not know-how. The interviewees told that some know-how was shared, for example when exact information about demand forecasts were not available, people shared estimates based on know-how. These situations were still mainly informal. One reason why know-how is not shared seems to be that it has more emotional ownership (Jones and Jordan 1998) than information, a matter that affects the motivation to share that knowledge.

5.2 Motivation to share knowledge

The motivation to share knowledge is influenced by both internal and external factors. Internal factors include the perceived power attached to the knowledge, and the reciprocity that results from sharing knowledge (Ipe 2003). Based on the interviews, the perceived power does not seem to affect knowledge sharing in the Finnish grocery industry. Knowledge is not shared because of fear of losing competitive edge by sharing valuable knowledge, not because of motivation to gain power through it. Nonetheless, reciprocity was an important factor in knowledge sharing, as the sharing is easier in situations where both parties considered that they were benefiting from collaboration (win-win-situations). However, the fear of exploitation seems to be present even in these situations, and the trust that was created is easily destroyed if one of the participants leaks the received knowledge to other parties.

External factors that influence the motivation to share knowledge include the nature of the relationship between the companies, and the rewards that are received for sharing knowledge (Ipe 2003). The lack of trust is a critical barrier to knowledge sharing. According to the interviewees, mistrust is often related to experiences of past behaviors. In deed, the interviewees had many stories about situations where the sharing of valuable knowledge with a collaborative partner had resulted in the partner either using the knowledge to his own purposes (e.g. retail groups using new product ideas for their own private labels) or leaking it to competitors.

On an individual level, the relationships are quite good as the people know each other. However, the effects of good personal relations are bounded by two things. First, often the contact between companies is arranged through one specific person, typically a client account manager or a category captain, so only a limited number of opportunities to share knowledge exist. Second, the fact that no formal incentives or rewards for sharing knowledge are introduced hinders the knowledge sharing considerably, especially as people are not likely to share knowledge without strong personal motivation (Stenmark 2001). In the Finnish grocery industry no rewards for knowledge sharing exist, and in general top management has not initiated directives that tell what kind of knowledge can or even *should* be shared.

5.3 Opportunities to share knowledge

The opportunities to share knowledge can be both formal and informal in nature. Formal opportunities include e.g. training programs, structured work teams, and ICT systems that facilitate the knowledge sharing (Ipe 2003). Through the Efficient Consumer Response (ECR) initiative the industry has recently invested on training programs e.g. on the development of a "common vocabulary and mindset" for collaboration. Also various collaborative forums exist, organized by an industry organization common to both the retail and food industries. However, other formal opportunities, especially in company-specific relationships, are lacking. Very few structured work teams are formed, and the ICT systems for sharing information are still under development. As was already stated, formal knowledge sharing between companies is usually organized through one specific person, which creates many problems related to sharing of complex and embedded knowledge (e.g. logistics information), that is not understood by this person. In these cases interviewees normally relied on informal opportunities to knowledge sharing.

Informal opportunities to share knowledge include e.g. personal relationships and social networks that facilitate the sharing of knowledge (Ipe 2003). In the absence of trust, people have an increased need for informal opportunities to share knowledge (Andrews and Delahaye 2000). In the Finnish grocery industry, the close relationships between people and the various collaborative forums imply that plenty of informal opportunities for knowledge sharing exist. However, the focus on information and ICT systems somewhat hinders the use of these opportunities.

5.4 Organizational culture

Organizational culture shapes the assumptions about which knowledge is valuable and when to share knowledge, thus creating the context for knowledge sharing (de Long and Fahey 2000). Based on the

interviews, it seems that most of the companies in the Finnish grocery industry do not have organizational cultures that encourage knowledge sharing. Many companies encourage internal knowledge sharing and openness, but according to one interviewee, they consider external knowledge sharing as a “necessary evil”. It seems that past experiences of deceit have made even companies previously supporting knowledge sharing cynical about the possibilities of honest collaboration.

Even more barriers to knowledge sharing are created by the strong power-position of the retail groups. These groups are now in a powerful bargaining position, and this has made them very self-assured and arrogant toward their suppliers. Some interviewees told stories about retail groups intentionally making decisions against the recommendations of their suppliers at first, just to prove that they can, and later on implementing these recommendations when nobody is watching anymore. This repressing attitude has somewhat deteriorated the collaborative relationships between the companies, and is clearly affecting the attitudes toward knowledge sharing.

6. Discussion

As the results show, the challenges to knowledge sharing in value networks do not seem to concern so much the opportunities to knowledge sharing, but the motivational and cultural factors affecting what knowledge is shared and how much knowledge is shared. The mistrusting atmosphere in the value network is also a major factor in hindering the motivation to share knowledge. Based on these results, the knowledge sharing challenges in the value network of the Finnish grocery industry can be crystallized under following three points.

First, the focus of knowledge sharing has been on information, and the organizational arrangements do not encourage the sharing of valuable know-how. More attention should be paid to developing formal opportunities to share know-how, and in developing deeper relationships that facilitate the development of mutual understanding that promotes the sharing of know-how.

Second, *organizational cultures and top management directives do not encourage external knowledge sharing, so knowledge is not shared.* If the companies truly want to share knowledge, they should pay more attention to the objectives of inter-company collaboration, and create top management directives that clearly specify what knowledge can be shared. For example, formal rewards for knowledge sharing could be taken into use.

And third, the experiences of past abuses of trust and the retail groups’ renewed focus on price bargaining undermine the trust between the companies, thus inhibiting knowledge sharing. The power position of the retail groups and their acting on that position through increased focus on low prices and “arms-length” supplier relationships has highly restricted the amount of knowledge that is being shared in the value network. The companies should pay more attention to the nature of relationships, and develop deeper relationships that promote trust between companies.

In general, these challenges to knowledge sharing reflect the challenges found in previous research. Challenges such as lack of trust and mutual understanding, experiences of past behavior that hamper the knowledge sharing, fear of losing competitive edge by sharing valuable knowledge, and lack of common objectives between companies, are relevant also in value networks.

In value networks no top management directives are available, which stifles the knowledge sharing (Sun and Scott 2005): the question is more about the lack of directives. It seems that in value networks the role of valuable knowledge is also more important than in other network settings, and the power positions between companies are more significant. It should also be noted that value networks are not voluntary in the same sense than e.g. strategic networks, at least in concentrated markets where companies have to collaborate with all the major companies. The companies in value networks collaborate with each other, but at the same time they are competitors. For example, in the grocery industry the private labels directly compete with other food products. In these kinds of situations it is especially difficult to determine what knowledge can be shared, and the role of top management directives gain importance.

7. Conclusion

In conclusion, the knowledge sharing challenges of value networks concern mainly the lack of motivation and tendency to avoid knowledge sharing when it is not specifically encouraged by the top management. As clear opportunities to share knowledge do exist, companies should concentrate on building trust between

their partners and clarifying the objectives of collaboration. More focus should also be paid on the sharing of know-how, supported by deeper relationships and strategic partnerships, especially if companies wish to enhance the co-creation of value through knowledge creation, e.g. in developing new innovative products together.

As this article has studied the knowledge sharing challenges in value networks only through one particular study, the results are hardly very generalizable. We feel, however, that the presented results provide valuable insights into knowledge sharing challenges in value networks that warrant further attention. It seems that the nature of the collaborative relationships and the value network itself affect the processes of knowledge sharing in ways that are not yet covered in the current literature. More research is needed especially on the operational level of collaboration, so that the challenges can be studied in more detail. Future studies should also take into consideration the nature of the value network itself, as different value systems impose different knowledge sharing requirements for the value network (Möller and Svahn 2002) and thus affect also the challenges to knowledge sharing.

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