VALUE CHAIN MANAGEMENT CAPABILITY IN INTERNATIONAL SMES

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Abstract

Literature on SME internationalisation often ignores that internationalisation is a process that involves the whole value producing chain of activities. This study takes a holistic view to the internationalisation of an SME by examining, also its capabilities to manage the value chain. Therefore, it makes an important contribution to organisational capabilities, value chain management and international business literatures. The qualitative case study captures the capabilities needed to manage the value chain in a higher-level construct of value chain management capability. The value chain management capability is found to consist of international orientation, network capability, market orientation, technological capability and teamwork management capability.

Key words: capabilities; international entrepreneurship; internationalisation; management; small and medium-sized companies; SME; value chain; value network.

1 Introduction

The nature of international business has changed dramatically during the past decade. In addition to globalisation, the growing importance of the 'non-manufacturing' sectors has transformed firms' value creating activities. We are experiencing a service-driven business revolution (Möller et al. 2008) and witnessing the rise of service-dominant logic (see Vargo and Lusch 2004). In this new situation the providers must be close to their customers, that is, to have a close contact with the customer and good understanding of the customer's operations (Sawhney 2006). This trend does not, however, concern only service sectors, but also manufacturing. The boundary between physical products and services has become blurred, and some products are claimed to have become service-like. (Grönroos 2006)

Simultaneously, the role of location, which has always been central in international business research, is changing (e.g. Dunning 2000). First of all, revolutionary developments in ICT (UNCTAD 2003) have profoundly reconstituted the nature of international business. We have seen changes in all the elements of a company's value chain (cf. Porter 1985) or value network (for a detailed discussion of the impact on international business research, see de la Torre and Moxon 2001). Additionally, the importance of location is challenged by a 'global shift' (cf. Dicken 1998) in the economy. As

multinationals have started to move their mobile assets globally to create a perfect fit with their immobile assets (UNCTAD 2003), their value chains have become disintegrated and scattered worldwide. The outcome is a 'global factory', a structure reflecting the combination of innovation, production and distribution of goods and services globally (Buckley 2009, Buckley and Ghauri 2004).

These developments influence also small and medium-sized enterprises (SMEs), and push them to internationalise more rapidly than before. Even though companies benefit from technological advances in the form of opportunity identification, strategy execution, and resource building (Loane 2005, Aspelund and Moen 2004), technology also creates challenges in the form of excess information and markets (see also Jones 1999). To survive, an SME must be capable of managing[1] the internationally dispersed value creating operations effectively amidst the overload of information.

Management of the new kind of organisational structure presumes new kinds of capabilities[2] from the SME. There is only very little if any previous research in this area, and hence our knowledge of the capabilities required from an SME to manage its globally dispersed value chain in the service-dominant world is very limited. This study aims at partially filling the gap by answering the following research question: *what kinds of capabilities are required from a SME to overcome the challenges in value chain management induced by the global dispersion of the value chain?* Through a detailed analysis of the capabilities needed in management of the internationally dispersed value chain, this study contributes primarily to the body of literature on organisational capabilities. Additionally, the study contributes to research on value chain management, especially important is the increased understanding of how to combine globally dispersed value creating activities and the need to be close to the customers in different markets. Finally, the study contributes to the research on international business through increasing our understanding of the international activities of SMEs.

The phenomenon is examined in real-life context, in a case company which is a small firm offering systems that combine hardware and software. At the time of conducting the study, the case company is transforming its value proposition from product-based towards solution-based. To make this happen, it strives for increasing the service and software components of its offering. Additionally, although the company has been operating globally already for some time, its partner network is created for small-scale operations, while the market is developing towards larger project deals. Based on literature review and face-to-face interviews with the key persons of the case company, the study describes the requirements of the changing environment and analyses the capabilities needed.

2 SME's in global software business

In software industry the company size is not as critical as in many traditional bricks-and-mortar industries (see, e.g. Bell 1995). Very small software developers can deliver excellent solutions that have global potential. Nevertheless, compared to large firms, SMEs face more limitations in terms of, for example, resources and capabilities (Jarillo 1989, Beamish 1999). SMEs in the global software business are no exception, but are subject to several liabilities such as newness (Stinchcombe 1965), smallness, foreignness (Hymer 1976) and outsidership (Johanson & Vahlne 2009). The last one is especially important in software industry. To be successful, a firm has to have an established position in a network; to be an insider. If an SME entering a market does not have a relevant network position, it suffers from the liability of outsidership. It is argued that foreignness actually complicates becoming an insider. (Johansson & Vahlne 2009)

[1] Value chain management" refers to the actions that aim at influencing, coordinating, controlling or integrating the activities in the value chain (Westerlund et al. 2007).

[2] A repeatable pattern of action in the use of resources, which is aimed at creating, producing and/or offering products to markets (Sanchez et al. 1996)

Software SMEs, actually, question the conventional internationalisation theories, since they tend to internationalise differently from SMEs in general: earlier, more rapidly and with a wider scope (see, e.g. Bell 1995). Moreover, as internationalisation is traditionally understood as selling the firm's products in multiple countries, it is often forgotten that especially for software SMEs it is a comprehensive process that includes the entire value chain (cf. Servais et al 2006). As argued by Johanson and Mattsson (1988), in order to understand how companies become international, one needs to study not only the company itself but also the network in which it operates. This is especially relevant in the software industry.

The spreading of value creating activities imposes considerable management challenges that only escalate when other key characteristics of the software business are taken into consideration (see, e.g. McGrath 1995, Etemad 1999, Cusumano 2004, Kuivalainen et al 2007):

- Constantly forming and growing new markets.
- Short product life-cycles combined with the need to recover substantial development costs.
- The law of increasing returns – high development costs and zero-copy costs: need to be market leader or among the "top three."
- Network externalities – value of the product often depends on the number of other users of the product: the need to be market leader.
- Need to adapt to collapsing markets.

Due to fast changes in the market software SMEs must be able to adapt quickly. With its limited resources the firm, however, is bound to its core capabilities. The essence of flexibility for SMEs is having partners whose resources and capabilities complement those of the focal firm. Software SMEs, thus, face a challenging task of building and managing a global network of partners that is capable of producing such an output that the prospective customers value. Due to various distances (e.g. cultural and temporal) and asymmetries (e.g. power and goal) operating the network is quite a task for an SME.

Customer value is created as a result of joint effort of the whole network (see Möller 2006). In line with other industries, also in software business the current trend is to provide wider, more comprehensive systems that solve some of the customers' problems (Sawhney 2006). This requires not only more sophisticated coordination mechanisms (Möller and Rajala 1999), but also different kinds of capabilities compared to the ones needed previously (cf. Brady et al 2005).

3 Capabilities and value chain management

Despite the scarcity of knowledge on the area, some insights could be drawn from previous research and especially the resource-based view of the firm, where the discussion on organisational capabilities stems from. Already Penrose (1995, originally from 1959) argued that the resources per se are not the key issue, but the services that the resources yield. These services differ according to the needs and abilities of the organisation, and hence differentiate firms from one another. So, she refers to the firm's ability to put the resources into use. This is exactly the idea with organisational capabilities. Based on existing literature it seems that international orientation, network capability, technological capability and market orientation are central to the management of the internationalising SME's value chain.

First of all, management of an internationalising value chain presumes an active entrepreneurial attitude and an ability to recognise and utilise international opportunities. This is captured in the concept of international orientation. It is important that especially managers in the small system

supplier firm are geared towards international operations. For example, Knight & Kim (2009) found that international orientation is an important factor in the international success of the contemporary firm. International orientation (also referred to as foreign orientation) comprises of both cognitive and demographic factors (Dichtl et al. 1990) and it is typically discussed on individual level.

Due to the limitedness of software SMEs' resources and capabilities on one hand, and the complexity of software offering on the other, the importance of the networks and partnerships is often highlighted. This is further reinforced by the fact that these companies tend to start their international activities through network relationships, e.g. by following their clients abroad and forming partnerships (e.g., McNaughton 2001, Coviello and Munro 1997, 1995, Bell, 1995). Management of the created network is essential for the internationalisation of the small system supplier (Ruokonen et al. 2006, 2008). It can, therefore, be expected that small system supplier would benefit from network capability.[1] (cf. Ritter et al. 2002). Network capability, actually, has two sides: maintaining the network as a whole, and managing individual relationships in the network (Ritter et al. 2002). Managing the network as a whole calls for an understanding of what are the value adding activities that are needed to create the value to customers. The nature and complexity of the product offered, then again, impact the partnership capabilities needed in managing individual relationship (Ruokonen et al. 2006).

It is, moreover, important for a system provider to understand well the central technologies in the offering. Technological capability is needed to be able to orchestrate the interfaces between the different components of the system, i.e. to ensure interoperability (Helander and Möller 2008), and to be able to provide valuable solutions to the customer (cf. Kim and Mauborgne 1997). These call for technical expertise (Zhou & Wu 2010). Additionally, technological capability contributes to the ability to compare and assimilate external technologies (cf. Cohen & Levinthal 1990). This is important, since, as stated above, small system suppliers are typically heavily dependent on their partners. However, innovativeness requires also potential for creativity, such as an ability to generate novel ideas and communicate them both inside one's own organization as well as to customers (cf. DiLiello and Houghton 2008, Kim and Mauborgne 1997).

The operating environment of system suppliers in software industry is typically very dynamic. The markets change continuously and product life-cycles keep shortening. Therefore, a small system supplier must understand the market it is serving and be aware of the dynamics of the market. Acknowledging the need for market knowledge is especially important for internationalising system suppliers, since they operate on multiple markets across countries (Ruokonen et al. 2008). The awareness of what is going on in the market and how the markets are likely to develop has been referred to as market orientation (Day 1998), or as the market sensing capability (Foley and Fahy 2009). Market oriented companies are good at both generating and disseminating market intelligence. Additionally they are responsive to the market intelligence. (Kohli & Jaworski 1990) The components of market orientation have been found to be customer orientation, competitor orientation and inter-functional coordination (Narver & Slater 1990).

[1] The original concept in Ritter et al (2002) was network competence, but because of consistency, the term capability is applied here.

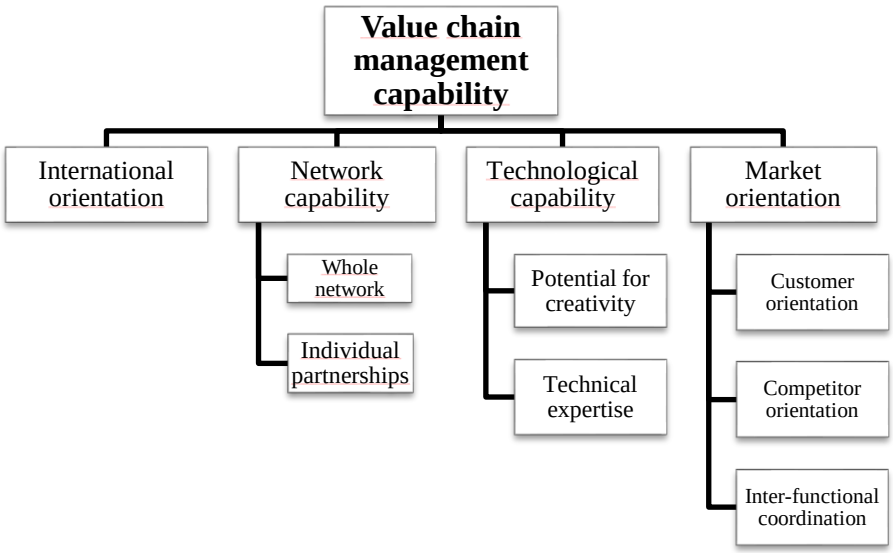

Figure 1 Theory-based framework of value chain management capability

As it can be seen in the figure, value chain management capability is a higher level capability that draws together a variety of lower level capabilities. Each of the lower level capabilities is valuable and necessary as such, but they come together to form a higher level capability that gives a more holistic approach to management of internationalising value chain.

4 Research design

This qualitative case study analyses managerial level employees' understanding of what kinds of capabilities are needed to manage an internationalising value chain in the context of small systems supplier in software industry. As stated above, previous research on the topic is nearly non-existent, and hence this study is exploratory in nature (see e.g. Yin 1981, 1994). It serves as one of the first steps towards deeper understanding of the phenomenon, and brings new perspective to the discussion on SME internationalisation. Additionally, synthesising studies that examine capabilities together and analyse how they come together as higher level capabilities are largely missing.

Case study approach was chosen here, since it allows inductive investigation of the research topic, analysis of the phenomenon in its contextual setting, and more holistic coverage of selected case (Ghauri 2004). Moreover, single-case design was considered appropriate for this study, since smaller number of cases allows going deeper into the cases. Additionally, the researchers had a unique access to a company that has track record in managing its internationalising value chain (cf. Yin 1994). Single-case design was, therefore considered to lead to more holistic view.

Case selection is crucial, particularly in single-case research, and must therefore be considered carefully. To be able to critically evaluate the alternatives theoretical sampling is recommended instead of random sampling (Eisenhardt and Graebner 2007). This implies selecting a case that is likely to replicate or extend the emergent theory (Eisenhardt 1989). One must also pay attention to the theoretical qualifications of the case: how well it fits the conceptual categories and the extent of its explanatory power (Eisenhardt 1989, Smith 1991).

In this study it was particularly important to find a company which would be undergoing internationalisation of the value chain and transition towards solutions business. This, however, poses one of the greatest challenges for researchers: getting the access. Companies are usually reluctant to

reveal information of their ongoing strategic processes. Additionally, it was important that the company would already have experience on value chain internationalisation, and especially on steering the chain. The authors had a collaborative research project with a suitable company, and hence access was possible. Access, therefore, played an important role in the case selection. Yet, the case was primarily chosen based on theoretical considerations; it was expected that analysis of this particular case would extend the understanding of the topic at hand.

To preserve the anonymity of the informants, the case company is referred to with an assumed name AlphaTech. The company has turnover of roughly 10 million Euros, and it employs around 70 people. Approximately half of these are located in the home country and the other half in various countries all over the world. The headquarters is located in Scandinavia, and the company has sales offices in Europe, North America, South America and Asia. The company is represented by its resellers and integrator partners in more than 70 countries. Software for the offered systems is developed internally and externally, but hardware production is completely outsourced.

The data was collected with six semi-structured face-to-face interviews and one telephone interview in spring 2009. The interviews lasted from one to two hours each. The interviews were elite interviews (cf. Welch et al 2002), as the upper management of the case company was interviewed. The interviews were transcribed and hence rich written data could be analysed. The data was analysed by themes to assure that it was done systematically. The qualitative data analysis software Nvivo was utilised in the analysis phase for coding the data. The interview guide served as the starting point for the analysis, but also some themes arose from the data.

As this is a single-case study, it has its limitations. The findings are not generalisable to all SMEs. Nonetheless, as the key characteristics of the case firm are reported here, analytic generalisation to similar cases may be possible. Moreover, the study analyses the manager's perceptions of what capabilities are needed, which means that subjective measures are used. This may be considered as a shortcoming, although measuring the need for capabilities with objective measures could be deemed unattainable due to ambiguities around the concept of capability.

5 Key capabilities at AlphaTech

Based on the interviews, there are several different capabilities that are necessary for a small system integrator to manage its internationalising value chain. In the following, these capabilities are discussed one by one. There are some overlapping aspects, but it actually reinforces the notion that these are all needed to make up the capability of value chain management. Our findings support and add to the findings of Knight and Kim (2009). Their focus is on skills needed on the marketing and sales side of the international value chain. Because we take the whole value chain into consideration, the picture gained is more complete.

International orientation vs. Global mindset

It was interesting to note that the interviewees mentioned the term "international" altogether only a couple of times, whereas "global" was brought up several times in all but one of the interviews. It really seems that the operations of the company are global, as it does business on all continents. Therefore, also the term global mindset could be used here (see Nummela et al. 2004). Internationality is built-in in the organisation and since it is so obvious, the managers do not necessarily even think about it. Nevertheless, a couple of the interviewees emphasised that the firm must have personnel with international orientation and skills to operate in multiple countries.

Even though there exist a couple of organisational level examinations of international orientation or global mindset (Begley & Boyd 2003, discusses multinationals), the focus in previous research has been largely on managerial level employees (Levy et al. 2007, Nummela et al. 2004). However, the findings of this study show that in a small firm, the mindset of all employees is important for managing the internationalising value chain. In other words, there should be collective awareness of and openness to e.g. multitude of cultures (cf. Levy et al 2007).

The interviewees emphasised that having the knowledge of global markets disseminated throughout the organisation is one of the advantages of being small and highly networked. In larger, centrally-led organisations, the country units often do not have the understanding of the markets on global scale: "*their focus is in the specific country and they lack the larger perspective that we are kind of forced to have*". Therefore, it is necessary that the employees and the culture in the organisation are internationally oriented. This includes most importantly the courage and enthusiasm to operate internationally. Moreover, hiring people with complementary language skills and different cultural backgrounds were seen important. This has resulted in an organisation that is tuned to global business: "*It is not just about communicating, but actually co-operating with different people in different environments*." There clearly is international orientation in the firm, and it contributes to the management of the internationalising value chain. Operating internationally, even globally is business-as-usual for the small organisation.

Technological capability

In terms of technological expertise, the current strengths of AlphaTech relate to the versatility of the core product. It offers good possibilities for expansion to several business areas. Currently the firm has three product lines that each are based on different technologies. The knowledge of the core technologies is strong: "*when we need to build something new to existing systems, those steps are easily forecasted*". All of the needed technological knowhow does not, however, reside within the firm. Due to resource limitations it has outsourced some development work to its partners. Additionally, AlphaTech has done some co-development with a partner. The greatest benefit of this close collaboration that is done in the same location sharing the tools and databases has been that "*in a way, knowhow has been transferred over the table*".

The interviewees recognized a need to expand the pool of technological expertise through partnerships. Currently the R&D network is very small, and when facing new kinds of requirements, the firm has to start searching for a new partner. This is costly in terms of both time and money. "*It may take up to six, eight months... such a delay in the beginning is quite significant.*" In software, where the product life-cycles are short, the time to market is crucial. Therefore, a larger pool of potential R&D partners would give AlphaTech the option of more rapidly choosing the best partner for innovative projects from its network, and hence speed up the development process (cf. Kim and Mauborgne 1997). This is a notable bottleneck in current operations, especially with more innovative projects.

Previous research asserts that innovativeness presumes also potential for creativity (DiLiello and Houghton 2008). Creativity was seen important in the case company, since innovativeness is fundamental to its operations. However, also an additional aspect of technological capability came up in the interviews. Strong technological expertise is not enough to fully utilise the technologies. To bring value to the customer, very good understanding of the specific area where the technology is used was seen necessary (cf. Rajala and Westerlund 2007). Thus, in addition to knowing the technology and having potential for creativity, technological capability includes also good knowledge

of the context where the technology is applied. This links further to knowing the customers, and their business.

Market orientation & customer orientation

Market and marketing-related capabilities (Möller and Anttila 1987) play a central role in AlphaTech's current and especially future business. "*If during chimney-stack time we optimized the production processes, now we should optimize our marketing drive to full speed.*" The growing emphasis on services and software, hence, poses new requirements to marketing (cf. Vargo and Lush 2004). The interviewees named consistent brand image as one of the strengths of their firm: "*We have been able to disseminate the AlphaTech brand in a more or less consistent and uniform fashion; we are recognized as the same beast almost everywhere where we exist and that has worked.*" Beyond the integrator partners, the consistent brand image is often communicated also to the end customer in the cooperation with the sales partners.

The interviewees told there is a need for a functioning market intelligence system to keep track of market: "*we all need to be very much focused on what's available and what's already there. So we are talking about market awareness but also following trends*" As the company operates in numerous different countries, it is important that it knows each of the markets it operates in. Defining the market may, nonetheless, be challenging, as mentioned above, and also therefore, the awareness of the market is even more pronounced.

Additionally, solutions business requires strong focus on marketing and partner training, because selling solutions is more complicated than selling products (cf. Ruokonen et al. 2006). A related critical question concerns the extent to which the company should be present in the customer interface. The firm recognises that there is a need for it to develop its customer contact point: "*The whole thing culminates in the need of being close to the customer interface, if not directly in it.*" However, presence is challenging when sales happen mainly through sales partners. Since the firm offers a complicated technological system, sales require presence. Nevertheless, as the firm is very small, global scale is only attainable through a network (further discussed in the section of network capability). The interviewees actually told that being close does not, in their case, automatically mean selling directly to the customer, but customer orientation can be realized even when selling through partners.

The interviewees emphasised that there must be an understanding of customer needs throughout the organization, as well as in both upstream and downstream operations. Customer orientation seems to be crucial also because: "*If you sell a solution, it must be a solution to the customer as well, not just from our perspective.*" Actually, the change towards solutions business stems from the changing customer needs. The way customers purchase the AlphaTech system has started to change, and the firm saw an opportunity in moving towards solutions business. Nevertheless, there is still room for improvement in detecting and understanding the customer organisations' needs and preferences. Moreover, the end users of AlphaTech's systems are mainly young people who are familiar with latest information technology. Therefore, in-depth and up-to-date knowledge of also the end users is necessary.

Market orientation seems to be necessary for the system provider so that it can steer the value chain effectively. Customer orientation was the most emphasised element of market orientation, yet also the two others (see Narver & Slater 1990) were mentioned in passing by some of the interviewees. The nature of the business may have an influence here. Since the systems sold require customer

contact before (specification etc.) and after sales (operational support and strategic care cf. Helander and Möller 2008), strong customer orientation is necessary.

Network capability

Networking has clearly benefited the company, as the organization that currently employs about 70 people has managed to create an image of a considerably larger unit: "*From the outside, we have the image of a 70 000 people organization, and most of our strategic partners actually wonder how we manage our operations and bigger OEM partners in practice.*" The network of partners is the key to the scale and flexibility of the operations (cf. Ritter et al. 2002). One of the core capabilities of AlphaTech and a critical enabler of its current position has been its ability to approach potential partners with high success rate: "*we have to hit the target every time; we cannot afford to miss. That means that we have to know the key persons as high in the organizations as possible to create the domino effect.*" The company has managed to create valuable headquarters– headquarters -relations with its partners. However, it has been realized that it is important to cooperate on regional level as well: "*When it is region-region, then it results in business*." Some level of technology and system integration with reseller partners was mentioned as a tool to strengthen the partnership bond and to promote the commitment of the partners (cf. Ruokonen et al. 2006), and is hence an important aspect of managing individual partnerships.

Small firm also faces challenges with large partners. In the case of the partner being considerably larger firm, the small operator may not have any chance of actually influencing the partner organisation. "*what we try to do, and have been doing, is that we are actively in contact with the Microsoft people*" Through establishing good personal relations and frequent contacts to the managers in the larger value chain members they try to make sure the large partner remembers their existence and would turn to them when in need of the expertise they can provide. Dubini and Aldrich (1990) as well as Coviello and Munro (1995), for example, discuss the importance of informal networks or relations.

Management of individual partnerships is, nonetheless, emphasised more than the management of the portfolio as a whole. Therefore, the portfolio of partnerships is quite fragmented. In literature it is suggested that linking different parts of the value chain would be part of managing the chain. AlphaTech has not tried to link the network of partners together, though for some parts of the network this was seen as a potential next step. There have been some experiments to combine partners in the downstream reseller end to manage larger projects, but the management representatives were even a bit sceptical concerning openness of the whole partner network: "*Assuming we have significant R&D partners, then we would not even want to reveal those to our strategic partners in sales… we would like to keep that behind our back*." Though, some coordination of the different operators in the value chain might be necessary in larger scale projects. Hence, even though it might not be beneficial to link all partners with each other, it might be advisable for the company to pay more attention to its network also as a portfolio.

Teamwork management capability

In addition to the capabilities highlighted in the literature review, effective utilisation of virtual teams was brought up in the interviews. The firm has made intercultural teams work, and views this as a capability. Working in virtual teams is a part of the personnel's everyday routines, and it was told by the interviewees that this has proven to be productive in their organisation: "*the way we work, just a very small organic organization we need to be able to come together in different project teams to get things done*" The culture in the organization supports teamwork.

Furthermore, the employees must be tuned to teamwork in the sense that they see the benefits of doing things together. When asked about their most important personal skills one of the managers put it well: "*in my case it culminates with sort of controlling of time zones and motivating and managing virtual teams*" The firm has put an effort into promoting teamwork. This has developed into an important organizational capability, and it is one of the enablers of the global scale business with the company's limited resources. It is moreover an important factor in the value chain management, as the internationally spread virtual teams coordinate and try to influence the operations of the value chain members.

Additional aspects of value chain management capability

Management of the value chain may be, to a large extent, quite tacit in small firms. When asked about the management, one of the interviewees started: "*I don't know if we're managing it… Let me think how it really is*" This illustrates how some of the actions taken to steer the value chain are so deeply rooted in the organization, that people do not even come to think that the activities are value chain management. On the other hand, in small firms, the processes are neither systematic nor systematically reported. The term value chain management, hence, sounded like an overstatement from the perspective of a small firm. The interviewees mainly felt that naming the actions taken value chain management is too strong of an argument: "*let's say we would manage the actions of Microsoft, so it is quite a utopistic thought*." Nonetheless, as the elements of management (influencing, controlling & monitoring, coordinating and integrating (Westerlund et al. 2007)) were explained to them, they could easily think of the actions taken and the capabilities they posse to manage the value chain. The baseline being that they have purposefully created the partner network by screening and selecting suitable partners.

The operations of the firm are to large extent networked. This has enabled such a scale that would not be possible otherwise. Despite the network being a crucial factor in AplhaTech's operations, being small has its disadvantages: "*I think our biggest challenge is, not talent or anything, but simply we need a bit more mass*." For solutions business on a global scale, the organization seems to be somewhat too small. The people are so busy with running the day-to-day operations that development of the business to a new level is extremely difficult. Nonetheless, it was seen that the firm has the necessary skills, and thus the limitedness of the resources in numbers seems to be the bottleneck.

6 Discussion and conclusions

The holistic perspective to the internationalization of a small software system provider promoted in this study enabled examining various different capabilities the organization needs in managing its internationalising value chain. Taking also the upstream and downstream operations into consideration provides a more comprehensive picture of what does it take from a small firm to succeed in the undertaking.

When a company transforms from product-based towards solutions business, it actually repositions itself in the market, and may therefore face again some of the liabilities it was subjected to when initially entering the markets (newness, foreignness, smallness, outsidership). None of the capabilities discussed would be as such the key to solving all types of liabilities alone, but together as the value chain management capability, they should suffice to enable overcoming the liabilities.
Internationality is an overarching theme in the value chain management of a small software system supplier. Therefore, it is argued here that collective international orientation is the basis for value chain management capability. This is illustrated in the following figure.

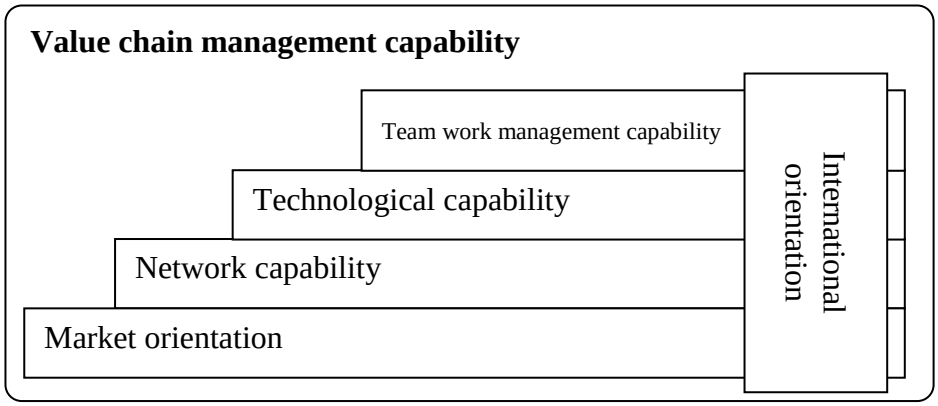

Figure 2 Proposed model of value chain management capability

As it is shown in the figure international orientation penetrates all the other capabilities needed. Therefore, it seems that in addition to researchers also managers must take a holistic perspective to internationalisation. Nonetheless, also other employees' international orientation is important for executing the international operations in managing the value chain. Therefore, we argue that every employee must have a mindset that supports internationalisation (cf. Levy et al. 2007).

Market orientation was found to be another element fundamental to other capabilities. Closeness to customers and knowledge of their needs are focal for solution-based business and therefore market orientation and especially customer orientation as part of market orientation are underlined (cf. Narver & Slater 1990). Closeness to the customer is vital, yet challenging when operating on international markets through sales partners. Networked international operations that are central in software industry may, hence, conflict with the need of solutions business. We argue that network capability is the key to balancing these two, and hence a part of the value chain management capability. Also balancing the management of individual relationships with the management of the whole network is essential (Ritter et al. 2002).

Technological capability is quite self-evident in the software industry. Nonetheless, the knowledge of technologies is insufficient unless there is also good understanding of the conditions in which the technology is utilized. Deep understanding of the special requirements the context of application sets for the technology in necessary (cf. Rajala and Westerlund 2007). This is important for R&D, and the selection and management of the value chain partners. Also the partners should be knowledgeable of the context if it affects their contribution to the solution. This comes back to customer orientation, and reminds us that technology is not everything.

Finally, teamwork management capability arose from the empirical data. It is especially important that the employees are motivated to work in teams and they see the benefits of teamwork. Managers play a key role in this. As Eby and Dobbins (1997), we acknowledge that the shift from individually-oriented to team-based work does pose some management challenges, which would deserve more attention also in the context of internationalizing SMEs.

Having discussed the different capabilities individually, it is time to discuss the utility of the upper level construct of value chain management. While analysing the different capabilities, it became apparent that the capabilities are very much interlinked and overlapping. The fact that the elements go hand in hand supports the need to have an upper level construct of value chain management capability. When changes in one area affect also the other areas of the higher level capability, it is important to be aware of the big picture. Synthesising the individual capabilities into the upper level

construct gives a more extensive view of the phenomenon and enables indeed finding linkages between the capabilities. Moreover, linkages between the different elements also support the use of qualitative research methods. Identifying the overlapping, yet separate capabilities would be difficult, if not impossible with only quantitative methods.

Moreover, introducing the concept has important managerial implication as it emphasises managerial know-how. The role of management is focal in developing the elements of value chain management capability. The concept brings to the foreground the importance of taking into consideration all the aspects of value chain management if the small firm is to internationalise its value chain.

To conclude, it is argued that the concept of value chain management capability needs further development and more extensive research is required. This study provides interesting insights to this real-life phenomenon but it also points out that theoretically it would deserve additional attention. In further empirical research it would be interesting to conduct more of these holistic case studies to be able to analyse the phenomenon across cases. Additionally, extending the case study at hand to cover informants also from other organisations of the value chain could bring interesting new insights. Since internationalising value chains appear to be requisite for small firms in the software industry, and managing them very challenging, it is vital to know more about what makes it possible to succeed with them.

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