Turun yliopisto
University of Turku

INTERNATIONAL SOFTWARE DISTRIBUTION

Selecting suitable channels for business software products

Master's thesis
in International Business

Author
Esa Sallinen 13024

Supervisors
Dr.Sc. (Econ.), Ph.D. Kari Liuhto
M.Sc. (Econ.) Eini Laaksonen

22.12.2011
Turku

Contents

Figures

Tables

1 INTRODUCTION TO INTERNATIONAL SOFTWARE DISTRIBUTION

1.1 Software industry globally and in Finland

The global software industry started developing in the 1950s when the first generic programming languages came into use. Before this, computers were programmed either by customers, or by the few commercial computer vendors of the time. The industry expanded significantly in the early 1960s, almost immediately after computers were first sold in mass-produced quantities. Universities, governments, and business customers created new demand for software. Many of these programs were written in-house by full-time programmers. Some were distributed free-of-charge between users of a particular machine, others on a commercial basis. The industry expanded significantly with the rise of the personal computer in the mid-1970s, which brought computing to the office desktop. Soon an ever growing market for software had emerged (Steinmueller 1995).

A lot has changed since the early days. Today, a relatively large number of the fastest growing businesses in the world are software firms, and the industry continues to increase its significance. In 2006, 15 of the 100 fastest growing businesses in the U.S. were software firms. The U.S. accounts for over 40 percent of the global software market's value (Ali-Yrkkö & Martikainen 2008; SGIG 2010).

The size of the worldwide software industry has shown consistent growth since the "dot-com" bust in 2001 exceeding USD 300 billion in 2008, with an increase of 6.5 percent from 2007. In 2013, the global software market is forecasted to have a value of almost USD 460 billion, an increase of over 50 percent since 2008 (SGIG 2010). Research provider Gartner evaluated that in 2010, the global spending on software was roughly USD 230 billion, and grew roughly 3 percent from 2009 (for reference, see Rönkkö, Peltonen & Pärnänen 2011). The statistics may vary according to which industry definitions and measures are used. Nevertheless, it is clear that the industry is growing at a steady pace.

Besides being a part of global economy itself, the software industry generates economic growth by enhancing the performance of other industries. It develops solutions to business challenges and thus drives productivity and innovation in almost every economic sector, helping businesses of all sizes to perform better in good times and bad. In the U.S., information technology, including software, was responsible for two-thirds of total factor growth in productivity between 1995 and 2002, and virtually all of the growth in labor productivity. Some of the top organizational users of information tech-

nology are manufacturing, telecoms, financial services, construction, health, and utilities (SIFF 2008).

Manufactured products, such as cars, trains, cellphones and elevators, have increasingly software as crucial components. On the other hand, business software, such as electronic resource planning or accounting software, assist firms in performing their everyday tasks more efficiently. Furthermore, new businesses emerge around the software industry providing consultation, training and integration, just to name a few services (Ali-Yrkkö & Martikainen 2008). The positive externalities of the software industry's growth benefit the world economy (Ali-Yrkkö & Martikainen 2008).

The commercialization of the Internet has affected all businesses, but especially the software industry (Ali-Yrkkö & Martikainen 2008). New Internet-based solutions and widespread availability of broadband connections continuously shape the software industry and the ways of conducting business. The change creates new business possibilities and enhances growth. Increasing number of software can be used online, 'from the cloud', without installation to any device (Rönkkö, Ylitalo, Peltonen, Parkkila, Valtakoski, Koivisto, Alanen, & Mutanen 2010). The Internet also enhances the globalization of the industry. Functions can be offshored even on task level, and networks of software firms may be dispersed in dozens of companies worldwide. Through the modern ICT-technology, these firms are able to exchange real-time information globally. The dispersion of the supply chains is has also increased the outsourcing of the support services to outside firms.

New business ventures are drawn by low entry barriers in to the field of software, where knowledge is more important than cash or equipment. Usually business activities can be initiated in a very small scale, which enables testing of business ideas without significant investments or risk. The use of the Internet and solutions based on it furthermore reduce the required investments (Hoch et al. 1999; Ali-Yrkkö & Martikainen 2008). As a result, the birth rate of new firms in the software industry is considerably higher than in other industries (Rönkkö et al. 2011).

The high amount of investments sunk in the R&D activities is very characteristic of the industry. Nonetheless, after the software is once developed, its reproduction costs may be close to zero. For instance, producing the first CD containing Windows 95 cost over 1 billion dollars, whereas the second copy less than 3 dollars (Hoch et al. 1999). New technologies expand globally at a rapid pace, replacing existing ones and continuously changing the industry structure, making software business a highly turbulent field. Software firms can lose their investments in R&D easily, but the possibility to a rapid growth is substantial. By creating a standard status in the global markets by replacing similar software, it is possible to generate enormous profits since the reproduction costs are often low, and profit margins high. A good example of this is Microsoft's Windows operating system. On the other hand, software developed for the needs of a small niche

can find a substantial customer base in the global context. For the reasons above, capability to internationalize quickly is a feature appreciated especially in the software industry (Rajala, Rossi & Tuunainen 2003; Ruokonen 2008).

Software, with its intangibility and knowledge- and service-intense nature, is very distinct from manufactured products. Despite the similarities, software businesses are not a homogenous group. Some software may be described almost as full-scale services, whereas some are very similar to products. Some may be developed and tailored to each from the scratch, while some are sold without any tailoring to millions of customers (Rajala et al. 2003).

The Finnish software industry is described as the most probable growing ground for the "next Nokia" (Nukari, Saukkonen & Seppänen 2003). Finland has been characterized as the second most favorable environment for software industry after the U.S. (Rönkkö et al. 2011). The foundations for competitiveness are in good shape, as Finland has skillful workforce, good international reputation, and plenty of technological know-how. In developing industry-specific software, Finland is one of the top countries in the world. However, there are many weaknesses as the lack of experience in international sales and markets, the lack of capital funding, and resource and competence gaps of small companies (Rönkkö et al. 2010). Finland has numerous flourishing small software firms that possess significant international growth potential, but lack the willingness and resources to expand internationally (Rönkkö, Eloranta, Mustaniemi, Mutanen & Kontio 2007).

From the 50 fastest growing Finnish businesses in 2006, over one fourth was software firms. The size of the industry is over EUR 3 billion and 33,000–48,000 people work in software development (Ali-Yrkkö & Martikainen 2008; OEK 2009). The number of employees covers roughly 3 percent of all the employees in the private sector and the size of the industry covers roughly 1.8 percent of the GDP. In addition to this, also the public sector employs the designer and developers of software that are not included in the statistics (Ali-Yrkkö & Martikainen 2008). Some studies suggest that the size of the industry is considerably higher, even EUR 6 billion (e.g. OEK 2009), but the difference is mostly due to different definitions to the industry, as some of them cover third-party service providers to be a part of the industry. This refers to the firms that do not produce software, but rather provide software-related services, such as consulting. Accenture, for example, is a major player in the field (OEK 2009).

During the recession in 2009, the industry only suffered a little, and its size only decreased by 1 percent. The industry shows clear signs of recovery and it grew by 5 percent in 2010. Though, the growth is still below the pre-recession rate, the growth expectations for 2011 show positive marks. Compared to other industries, the effect of the recession on growth seems to be less significant. In 2009, one fourth of software firms were poised to hire more personnel in the upcoming year, while in other SME dominat-

ed industries one tenth were poised to decrease personnel (Rönkkö et al. 2010; Rönkkö et al. 2011). One rationale for this is the fact that during an economic downturn, most firms aim at increasing their effectiveness and productivity, which is usually put into practice by utilizing IT in the business processes (Ali-Yrkkö & Martikainen 2008).

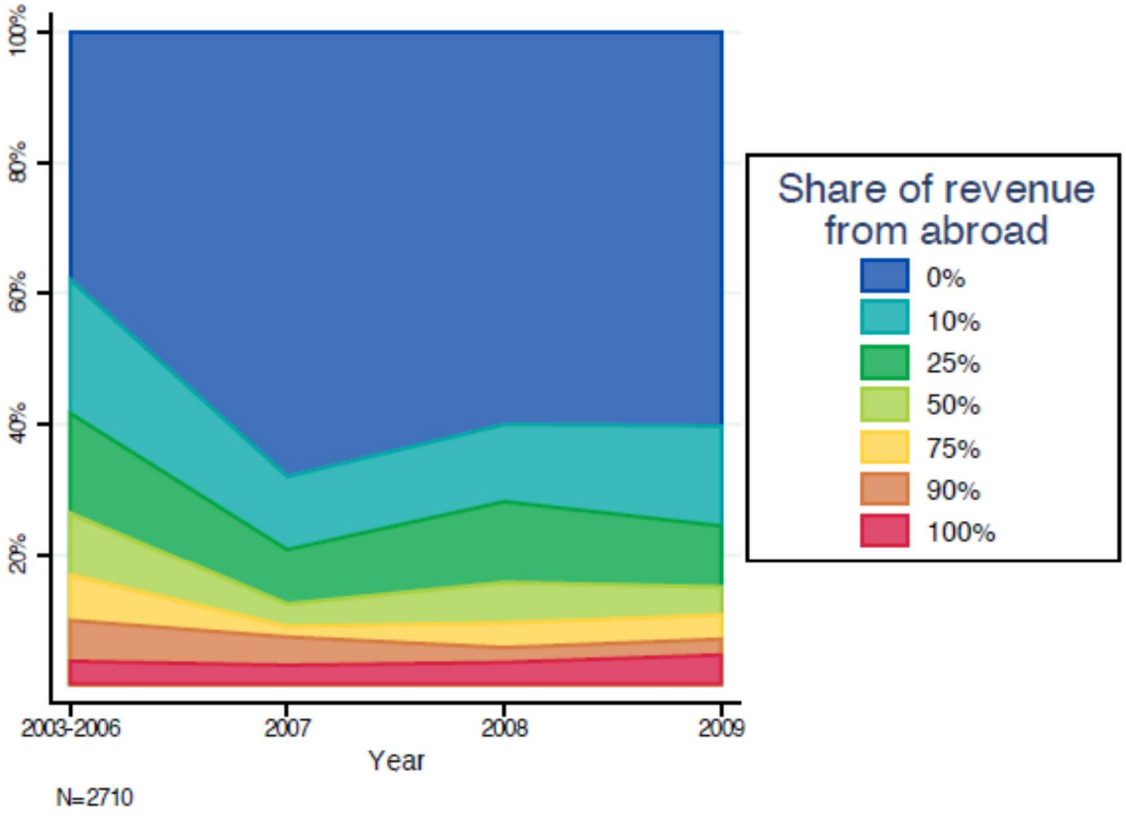
Finnish software firms have powerful incentives to expand abroad as internationalization is often considered as a natural step in the life cycle of a software firm operating in a country with small home markets (Lassila, Jokinen, Nylund, Huurinainen, Maula & Kontio, 2006; Rönkkö et al. 2010) It is typically required from Finnish software firms who desire to grow even to medium-size (Nukari et al. 2003).

Selling software abroad covers roughly 6.5 percent of the total Finnish exports, which is extremely high percentage compared to the European average. Only Ireland's percentage is higher (Software industry 2010).

The small size of firms is very characteristic for the Finnish software industry. Approximately half of the Finnish software firms had revenues less than 300,000 euros in 2009. The large number of small firms in the industry is not typical only for Finland, but for the rest of Europe. This may generate some constraints for internationalization and has been pointed out as one of the key problems of the industry. Successful internationalization of the firms can be seen as a major challenge for the Finnish software industry (Rönkkö et al. 2010).

In 2009, approximately 40 percent of them received some, though relatively small, revenue from foreign countries. For the half of the firms that had international revenue, it was less than 20 percent of their total. Only 18 percent of all software firms considered their international revenue significant. The international expansion of the industry has remained relatively stagnant within the last few years. In fact, the number of firms involved in international operations has slightly declined from the level of 2006. In 2009, roughly 20 percent of the software firms had plans to internationalize. It has been 5-10 percent higher in earlier years and the apparent decrease is most likely caused by the recession and is not permanent (Rönkkö et al. 2010). Figure 1 illustrates the internationalization of Finnish software firms in the terms of their foreign revenue share.

Figure 1 Share of revenue from abroad in Finnish software firms



Source: Rönkkö et al. (2010, 40)

Organizing the international distribution of software is a focal area of internationalization, in which Finnish software firms often lack knowledge. Product-based business model seem to be a significant predictor for Finnish software firms entering foreign markets (Kuitunen, Jokinen, Lassila, Mäkelä, Huurinainen, Maula, Ahokas, Kontio 2005; Rönkkö et al. 2007; Rönkkö et al. 2010) From the more service-oriented firms, international distribution typically requires a stronger physical presence abroad, which requires greater capital investments and involves more risk (Software Industry… 2010). Utilizing low-involvement distribution arrangements such as foreign agents or the Internet is easier to product-oriented firms. The reproduction costs of highly standardized software products are almost nonexistent, which enables significant economies of scale that cannot be fully utilized in small domestic markets (Choi, Stahl & Whinston 1997). It certainly seems that the characteristics of software seem to have significant implications for selecting distribution channels both domestically and internationally.

The results of Finnish software industry survey (2007) reinforce this assumption. Software firms with product-based business models used various channel intermediaries more than firms that are oriented in services or tailoring their products to customers.

Product-oriented firms also utilized the Internet as a sales channel significantly the most (Rönkkö et al. 2007).

Nonetheless, direct sales were used the most by all types of software firms in the distribution, whereas resellers and agents were the second most used. The channel strategies of using the brand or product of a reseller, through subsidiary or joint venture were quite rarely used. Same patterns repeated both on international and domestic markets (Rönkkö et al. 2007).

The Finnish software firms' tendency to rely on direct channels may stem from the fact that most of them operate mainly on business-to-business markets, in which the low use of intermediaries is more common. Over 80 percent serve either other businesses exclusively or businesses and the public sector, while only 14 percent of the companies serve consumer markets. The limited number of business customers decreases the need of using intermediaries (Rönkkö et al. 2010).

The downside of the reliance on direct sales is the fact that it may constrain the growth of Finnish software firms. Utilizing intermediaries in creating an efficient distribution channel network is important for two reasons. Firstly, this allows firms to concentrate on product development, generating benefits in terms of focusing and resource allocation. Secondly, utilizing intermediaries in distribution allows firms to grow faster than through direct sales, which often requires increase in personnel. The successful use of partners also enables access to outside resources. This is especially important on foreign markets (Coviello & Munro 1997; Varis, Kuivalainen & Saarenketo 2005). However, attaining these potential benefits include risk (Rönkkö et al. 2010).

Rajala (1997) points out that the shortcomings in foreign sales, marketing, and delivery systems have been the worst bottlenecks for the internationalization of Finnish high-technology companies (for reference, see Al-Obaidi & Gabrielsson 2002). In 2007, more than 60 percent of software companies found improvement in international distribution, marketing and sales important, very important or extremely important for internationalization. Developing networks abroad and localization and customization of products for foreign markets was seen even more vital (Rönkkö et al. 2007). It is generally recognized that Finnish software firms do not lack know-how in technological sense, but rather in marketing both domestically and internationally. Therefore attaining information how to distribute Finnish software internationally is crucial (e.g. Nukari et al. 2003).

A recent trend in the distribution of software is that the role of the Internet has increased, and is expected to continue to challenge the more conventional channels. The Internet-based software segment is expected to grow 4 to 5 times faster than the traditional software segments. This partly enabled by the increasing availability of broadband connections. According to the European Commission, 93 percent of the EU25 population has broadband Internet access and half of European households and over 80

percent of businesses have fixed broadband connections (Arenius et al. 2006; Rönkkö et al. 2010) Most software firms rely more on online delivery via the Internet than physical delivery (Kuitunen et al. 2005).

The use of the Internet for international distribution enables even small firms' instant access to global markets (Arenius et al 2006; Rönkkö et al. 2010). It requires less capital investments than internationalization through conventional channels and as the website functions as the public image of a firm, the small size makes less difference (Albaum, Strandskov & Duerr 2008). The Internet offers a potential low-cost channel to foreign markets for small resource-constrained Finnish software firms.

1.2 Earlier empirical research on the role of software characteristics in selecting international distribution channels

In this chapter, the empirical studies that address the role of the characteristics of software in organizing the international distribution are discussed briefly. Only the parts of the findings that are relevant for this study are presented.

Bell (1995, 1997) found evidence on the connections between the characteristics of a software firm's products and the entry mode. Finnish, Norwegian and Irish software firms that were in the *solution consultant* or *product tailoring* business used their own export sales staff in dealing with end users, whereas software firms in standard product business chose agents or distributors to handle the market.

McNaughton (1996) investigated Canadian software firms' channel integration decisions by using the transaction cost theory. His study adduced that *channel volume, asset specificity and requirements for product customization* were important determinants for the choice of entry mode. He found out that especially the product customization needs are connected to an integrated entry mode selection.

McNaughton and Bell (2002) conducted quantitative study on channel switching between domestic and foreign markets. The data was collected from 120 software firms. The relevant finding for this study is that the *low asset specificity* favors the use of market-based channels.

McNaughton (2002) continued investigating Canadian software firms to explain the use of multiple export channels by small knowledge-intensive firms. The central argument was that integrated export modes were generally preferred, as they facilitated protection of *knowledge-based assets* and provided *high levels of customer service* and support. McNaughton also claimed that either plural or hybrid selling may be used, if assets can be protected effectively, when sales volumes are sufficient to support multiple channels, and in relatively mature markets, where sales growth has started to level. It was also discovered that finding distribution partners who have both *product- and*

market-specific knowledge, as well as the ability and interest to support the customers, is not an easy task for a small software firm.

Burgel and Murray (2000) studied the determinants of entry mode selection of 246 hi-tech firms and found out that the requirement for *customer support, customization needs* and *newness of the product-related technology* affected the choice of entry mode. The need for *customization* favored direct channels, but quite surprisingly, the need for *after-sales service* did not. It was supposed that when the sales volumes were high enough, after-sales services could be performed by distributors. *New technologies* were exported more through collaborative export modes than through direct exporting.

Varis, Kuivalainen and Saarenketo (2005) investigated partner selection for international marketing and distribution in corporate new ventures. The empirical part of the study consists of a single case study focusing on a corporate venture in the software industry producing systemic enterprise software. The ability to provide *support services* for end-users and *know-how and expertise on the field* were seen as important factors in partnering with foreign companies. One of the conclusions was that the product should be built in such a way that it can be developed further and distributed by co-operative methods.

Ojala and Tyrväinen (2006) examined how software firm's business models impact the entry mode choice in a target country. This was conducted by a multi-case study, which included eight Finnish software firms operating on the Japanese market. The findings imply that a firm's product strategy has a strong connection to the entry mode choice. The firms that have *tailored their products for customer specific needs* favored own representatives in the foreign market. These firms were able to handle the small niche market without investing, for instance, in a subsidiary. The firms who offered *semi-standardized products or enterprise solutions* used more sales subsidiaries as entry modes. *Mass market products* to consumers relied more on cooperative entry modes, such as joint ventures. In software industry, products itself can very often be delivered around the world without any significant distribution costs making physical distribution less important. In many cases, though, software products still require an intensive cooperation with customers in pre- and after-sales phases.

Ruokonen, Nummela, Puumalainen and Saarenketo (2007) studied the market orientation and internationalization in small software firms by studying two Finnish software firms. They found out that *standardized products* that do not require *localization* or *localized training* can be introduced to many new markets quickly. If the product is very *complex and requires customer-specific customization*, however, the importance of network management is highlighted as there is a very limited amount of potential partners that possess sufficient product and customer-specific knowledge to perform the distribution tasks. Furthermore, companies with simple products should consider value-network coordination instead of interfunctional coordination given the fact that partner-

ing is, in many cases, the only option for a small software company that has no resources to invest in its own subsidiaries in foreign countries.

Winkler, Dibbern and Heinzl (2009) examined the influence of product-specific determinants on software firms' international entry mode choices i.e. the degree of ownership in distribution channels. They developed a knowledge-based research model that outlines the influence of software product and service characteristics on software firms' international entry. The data was collected from 172 medium-sized German software firms. They found out that the need for software firms to enter foreign markets through company-owned channels i.e. wholly-owned subsidiaries or employee deployment if the selling requires *unique knowledge inherent in a software product*, or if the *business processes* and the *functionality* reflected in software product are highly specific. Similarly, company-owned channels are chosen if a high share of *complementary services*, such as *implementation, consulting, training, maintenance* and *support*, need to be provided along with the introduction in a foreign market. In contrast, if there is a need for substantial *country-specific adaptations* of software products, especially *language localization*, the required knowledge is most effectively integrated through cooperation with local partners.

Similar patterns can be found in the earlier research on the topic. There is strong evidence that the nature and characteristics of software play role in international distribution selection (e.g. Burgel & Murray 2000). Most of the addressed earlier research suggests that the requirements for customization and services, and the specificity of assets are important characteristics influencing the international distribution channel structure. Most of these characteristics and their role in organizing distribution are supported by the general literature on marketing channels, but they need to be examined in more detail in the case of software.

The earlier studies on the topic provide quite a solid base for new research, but some **gaps in the earlier research** can be found. Firstly, most of the studies give a simplified picture of international distribution assessing only one aspect, for example the level of integration in the channel. Yet, international distribution channels are complex networks of different structures and functions. The structures are often the topic but how the channels of software actually function has not been comprehensively studied.

Only one research was found that concentrated solely on software characteristics role in international distribution channel selection. This was Winkler, Dibbern and Heinzl's (2009) quantitative study on German software firms. However, it only described channel selection as a choice between three possible channel alternatives: 1) company-owned, 2) mixed method, and 3) independent channels. Some simplifications have been necessary, which has been the case in most quantitative studies.

None of the earlier studies made a clear distinction between the characteristics of consumer and business software and none addressed software types separately. Very

often software is considered as a homogenous group, even though this is not the case. Distributing business software is totally different from distributing consumer software.

None of the above studies address the Internet as a distribution channel profoundly. The Internet is crucial for some firms either as a main or complementary channel. Online and conventional distribution channels co-exist and complement each other in the software product business and require be given more attention from the scientific community.

Almost all of the earlier research concentrated merely on foreign entry modes. The chosen entry modes may not be the best possible sales channels, especially in the long run. Nummela and Saarenketo (2011) point out that the most of international business researchers have concentrated their efforts in studying firms' entry to foreign market, and paid considerably less attention to what happens in subsequent phases. And yet, later changes of foreign operation mode seem to be relatively common.

Furthermore, most of the earlier studies are cross-sectional in nature, implying that the empirical data only allows for an analysis of distribution channels at one point in time.

1.3 Objective and structure

While the large software product firms and some game companies typically receive the most media coverage, an SME that serves the business and public sector customers is the most typical case in Finland. These are often small, resource-constrained and technologically-oriented lacking marketing skills, especially in international context. These firms are mostly serving the local markets, but the limited size of the home markets motivates them to internationalize. However, since business software is often bundled with significant amount of services, these business models do not internationalize as easily as pure product businesses (Rönkkö et al. 2011). Studying the distribution of Finnish software-producing SMEs that serve business sector and whose software products are bundled with services, yet succeeded on international markets, can increase the knowledge on the topic.

The nature and characteristics of software set opportunities, but also limitations to organizing international distribution, especially in business software sector where software products are typically highly service-intensive and complex. It is claimed that the thorough understanding of the software product is the starting point for organizing the international distribution channels (Äijö, Kuivalainen, Saarenketo, Lindqvist & Hanninen 2005). Overcoming the limitations and utilizing the opportunities, set by the software characteristics, is crucial for successful channel selection and internationalization.

Therefore **the objective of this study** is to examine how a business software producer needs to consider the characteristics of its software product when selecting international distribution channels. The objective can be explained through three sub-objectives, which are to:

1) describe the international distribution channels suitable for business software products;
2) describe the characteristics of business software products that have role in selecting international distribution channels; and
3) evaluate the role of those characteristic in selecting international distribution channels.

In order to achieve this objective, two globally distributed Finnish business software products are selected as the cases for a qualitative case study. The first two objectives are descriptive by nature whereas the third one is explanatory. The descriptions of the first two are necessary to explain the third.

The structure of the study is constructed in the following way. The definitions of international distribution channels vary depending on their research stream background. A model that combines marketing and international business research streams is introduced is introduced in Chapter 2.1. The different dimensions of channel structure and the channel functions essential to software distribution are presented. In addition, it is explained why these are covered by this study and other functions are left outside.

In Chapter 2.2 two fundamental theories that address the product characteristics' role in distribution are briefly presented as no such theoretical framework exists exclusively for software products. These theories are Transaction Cost Analysis (TCA) and Knowledge-Based View (KBV). As these theories are very comprehensive, only the parts that address the topic of this study are covered. Furthermore, the software characteristics that affect channel selection were recognized from the earlier research since a well-established framework of software characteristics does not already .

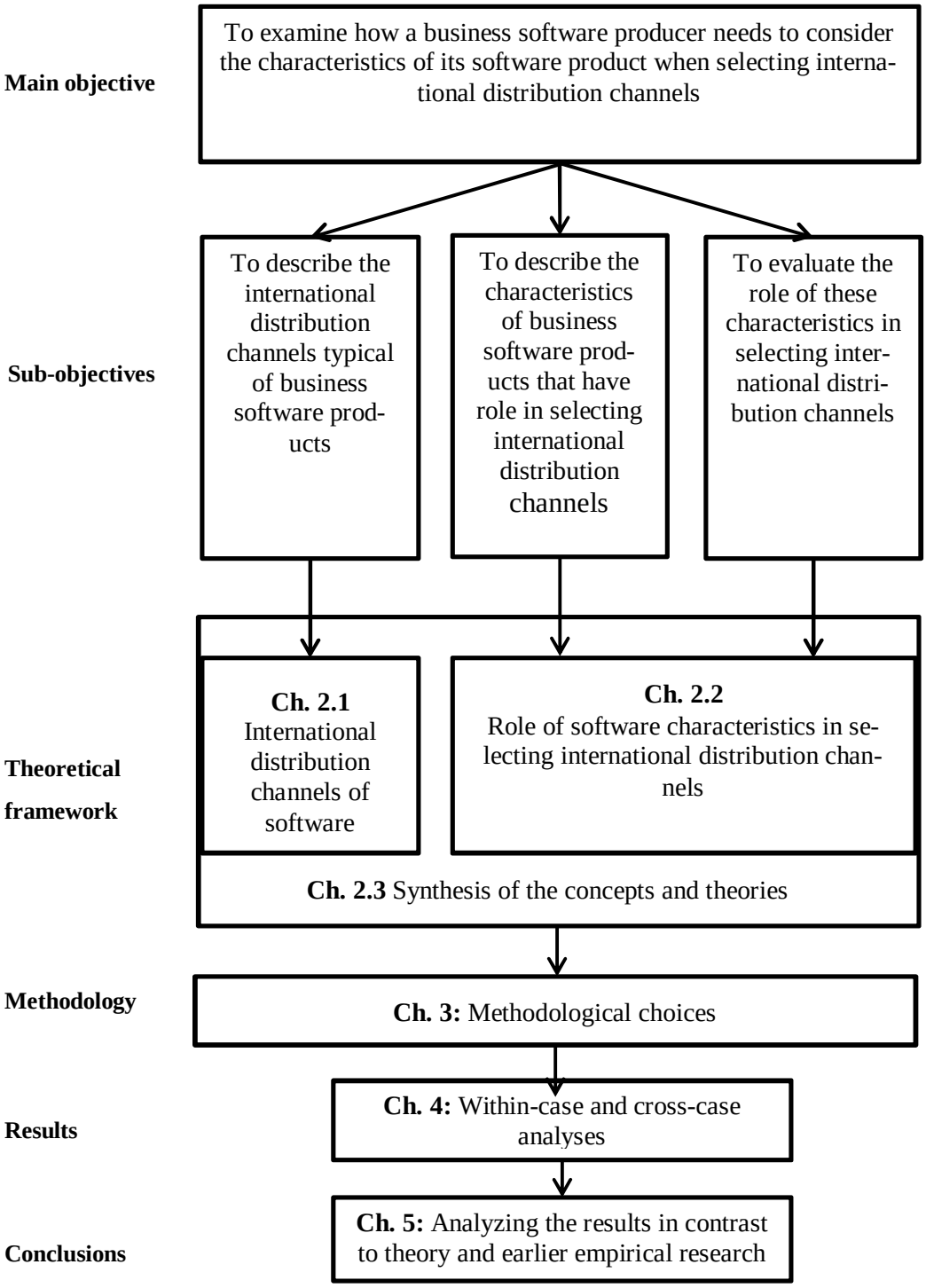
In Chapter 2.3, a synthesis that encapsulates the previous theoretical chapters is built in order to clarify the objective and theoretical background of this study.

Methodological choices are explained in Chapter 3. This is a qualitative, intensive case-study. Two cases with different product characteristics are compared to each other. The data is collected with two theme interviews of the CEOs of two Finnish business software product firms and by utilizing documents and websites provided by these firms.

In Chapter 4, the data is summarized and categorized by themes. These two cases are first cross-analyzed in order to find their similarities and dissimilarities.

In Chapter 5, the cases are analyzed in contrast to theory and earlier empirical research. Also managerial implications and suggestions for further research are given. The structure of this study is illustrated in Figure 2.

Figure 2 Structure of the study



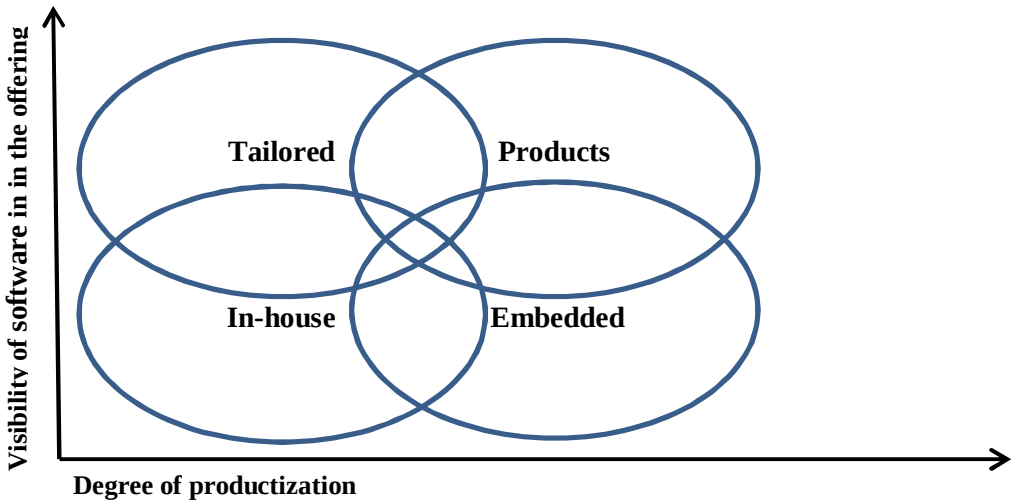
1.4 Key definitions

This chapter defines the most important concepts introduced in this study. This also set the boundaries for the study, emphasizing what is studied and what is left outside of the scope. This is especially important as the key concepts are ambiguous and have multiple overlapping meanings.

Software and software products. The term software refers to the various kinds of programs used to operate computers and related devices. In comparison, the term hardware describes the physical aspects of computers and related devices. Software is highly intangible and knowledge-intensive product or service, or a combination of these. It can be characterized as pure knowledge in codified form (Hoch et al. 1999). A common classification of software is into application software and system software. The purpose of application software is to help the user to perform specific tasks, while systems software is designed to operate the computer hardware and to provide a platform for running application software (ICT 2011).

The concept of software is becoming harder to define since software development is becoming a fundamental part of product development and service design in many areas of business (Rönkkö et al. 2010). Figure 3 illustrates this phenomenon.

Figure 3 Categorization into four types of software



Source: Rönkkö et al. (2010, 2)

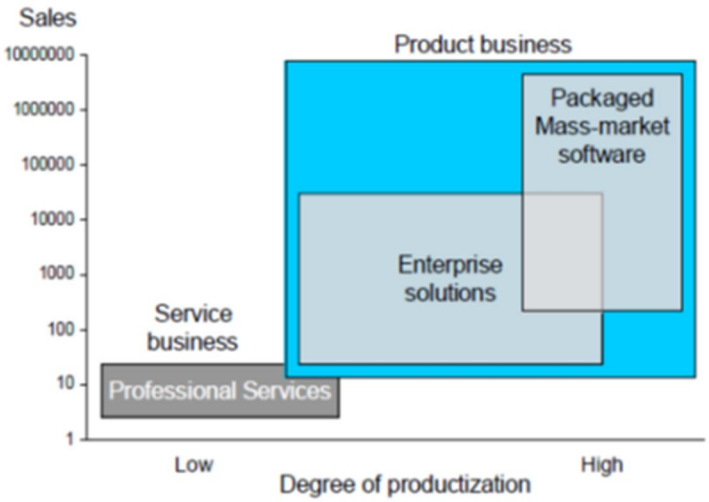
The visibility of software in the offering addresses the question of how apparent it is for the customer that a part of the product or service being purchased has software as a central component or is produced by software. The level of productization refers to the ease of duplication of the software offering, in other words, how much extra work is

needed when delivering software to a new customer. Fully-productized software can be duplicated practically without any costs, whereas fully-tailored software is coded from the scratch for each new customer. In addition, services such as consulting and user training increase to level of productization. Fully-productized and fully-tailored present the polar opposites, but the majority of software locates between these types (Kuitunen et al. 2005; Rönkkö et al. 2010)

In in-house systems, the software is often unique and exists only on one server or server system. It has been built for the needs of one firm, by the firm. In embedded software, the same software is copied on several devices that are sold to different customer. These devices may be, for example, mobile phones, elevators or cars (Rönkkö et al. 2010). This study concentrates of the upper quadrants in Figure 3.

Figure 4 offers another categorization of different software types by the level of productization and the volume sales of sales transactions.

Figure 4 Categorization into three types of software



Source: Hoch et al. (1999, 36)

Packaged mass-market software products can be delivered to a large number of customers in the same format without any tailoring. The product development and order-delivery processes are completely separated. The quantity of sold licenses can be millions. These kinds of software products include hardly any producing costs and the marginal costs of extra copies are next to nothing (Hoch et al. 1999).

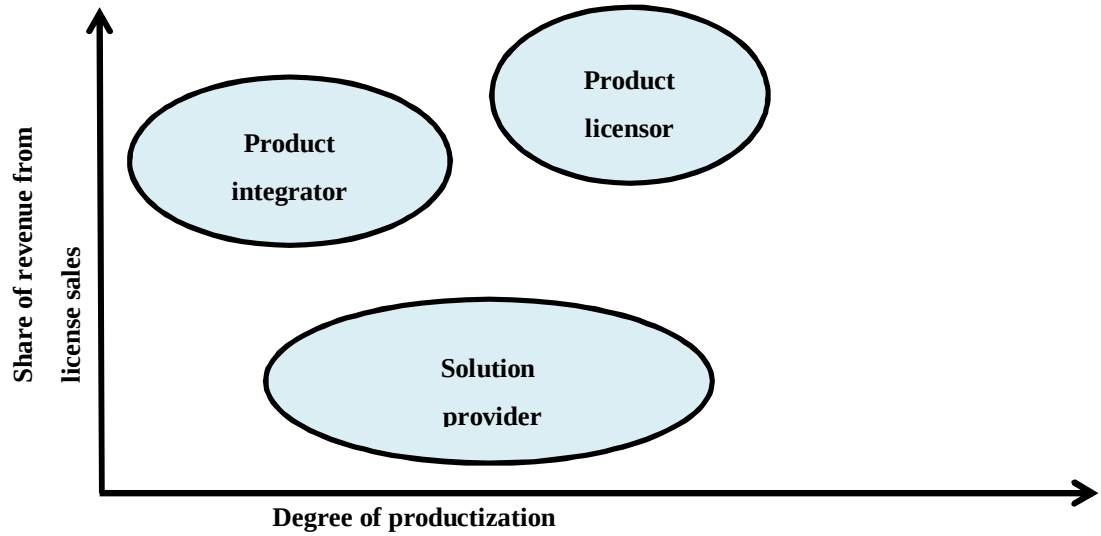
In enterprise solution business at least some customization is almost certainly needed in order to implement and integrate the software to suit the customer's needs. Installation may require a lot of effort and time. However, enterprise solutions business is based on pre-developed software products. Often the customization is made by changing the program's configuration thus requiring no changes to the actual software prod-

uct. Installation projects may take long time, instead of hours or minutes required by mass-market software products. This places certain limits to the number of customers (Hoch et al. 1999).

Relatively lowly productized software can still be distinguished from professional services if the amount of work going into customer-specific tailoring is small in relation to the whole effort of the software product development. If this requirement is not met, a firm is not considered to operate in software product business, but rather in service business. Software that is developed solely for the needs of one particular firm is rather a service than a product. Software products include various types of consumer and business software, or enterprise solutions, as it is referred in Figure 4 (Hoch et al. 1999) Professional services are outside the scope of this study.

The software product business is based on selling company-owned software either as licenses or services, and services that are tightly linked to this business. The software product is the main object of trade even though the total offering may include customer-specific work and other services (Rönkkö et al. 2007; Rönkkö et al. 2010). The firms operating on this field can be divided into three subgroups by the revenue share generated from license sales and the level of productization, and are shown in Figure 5 (Kuitunen et al. 2005; Rönkkö et al. 2007; Rönkkö et al. 2010).

Figure 5 Categorization of software product firms



Source: Rönkkö et al. (2007, 31)

Product licensors receive most of their income straight from license selling and renting software rather than from accompanied services. They focus on developing and selling highly productized, ready-made, off-the-shelf software products. Product licensors are in the purest end of software product business and are often expected to have high

growth potential. Product licensors may operate on both, consumer and business markets (Rönkkö et al. 2007).

Product integrators may have a relatively standardized software product, but it is usually sold with a certain amount of service or as a service. These companies highlight their roles as service providers and the pricing is often based on the usage of service or customer perceived value addition. Nevertheless, the software is still the core part of their offering (Rönkkö et al. 2007).

Solution providers have a product with a relatively low degree of standardization or such a complicated product that every delivery has to be accompanied with a unique project. As a consequence, a large amount of their revenue may come from services, but still their own software product is the essential part the all customer-deliveries (Rönkkö et al. 2007).

All the categories overlap to some extent and they should not be considered as wholly separate entities, but rather as a continuum of different characteristics. This implies that most of the software product firms generate income from other sources in addition to their main revenue source. For example, Finnish software survey of 2007 shows that product licensors received approximately 74 percent of their revenue from licenses whereas product integrators only 28 percent, other sources of revenue being different services and customizations. However, both types of firms still had revenues from other sources as well (Rönkkö et al. 2007). In which firm type a software firm falls into, is fundamentally determined by the characteristics of the software product it produces.

Business software products. This study concentrates solely on business software products. The definition is mainly drawn from Hoch, Roeding, Purkert, Lindner and Müller's (1999) enterprise solutions. The word 'product' refers to the fact that full-scale professional services are out of the scope of this study. The solution to a business related problem domain must have a software product as a central component, i.e., the solution has to be productized at least to some degree. Obviously, the customers have to be mostly businesses or other types of organizations instead of consumers.

Software characteristics. The intention in this study is not to identify the characteristics that separate the software products from the manufactured products, but rather on identifying the software-specific characteristics that separate business software products from each other and other types of software.

International distribution channels. The international business and marketing literature have developed distinct definitions of distribution channels. The international business literature examines distribution channels from the internationalization stage and entry mode perspective (Al-Obaidi & Gabrielsson 2002; Gabrielsson, Kirpalani &

Luostarinen 2002). Entry mode can be defined as an institutional arrangement for organizing and conducting international business transactions (Erramilli 1991). These enable the transfer of products and resources such as technology, skills, or management to foreign operations (Sharma & Erramilli 2004). An entry mode is the initial form of a distribution channel when launching operations in a foreign market, but distribution channels may evolve and different operation modes to be utilized in the later phases of internationalization.

The marketing literature has more strategic and managerial perspective. It often operates from a domestic market or single market perspective and emphasizes slightly different aspects than the internationalization literature. According to Kotler (1994) marketing channels are designed to move the goods from producer to consumers and overcome the gap of time, place and possession that separate goods and services from those who would use them. In other words, marketing channels are links connecting producers and final customers (Hollensen 1998). Besides satisfying demand, they also stimulate it through promotional activities (Stern, El-Ansary & Coughlan 1996). Marketing channels are also described as network of activity flows from producer to satisfy the needs of the customer (Bowersox & Morash 1989). Obviously, as this this study concentrates on international distribution channels, the producer and its customers have to locate in different countries. Maybe the most used definition for marketing channels in the marketing literature is Stern, El-Ansary and Coughlan's (1996):

> *"Marketing channels can be viewed as sets of interdependent organizations involved in the process of making a product or service available for consumption or use."*

Distribution channel, marketing channel, sales channel, entry mode and operation mode have similar, but still distinct meanings. The term distribution channel is used in this study. All the above definitions apply for this term as well, but some boundaries are set. Only the channel functions of sales, delivery and promotion are included in the definition as they are the most crucial ones for software distribution (Al-Obaidi & Gabrielsson 2002; Tähtinen & Parvinen 2003; Rönkkö et al. 2010). These functions and the reason for choosing them are further explained in Chapter 2.2.

The perspective of producers is taken in this study. They are in the beginning of the distribution channel and ultimately in control of decisions concerning distribution. They also best know the characteristics of their software products as they are have designed them.

2 CHARACTERISTICS AND INTERNATIONAL DISTRIBUTION OF SOFTWARE

2.1 International distribution channels of software

The international business literature usually recognizes two main groups of international marketing operations: export operations and direct investment operations. These form the base for channel strategies. Export operations are further divided into three different export modes: an indirect export mode, a direct export mode, and an own export mode (Luostarinen 1970; 1979; for reference, see Al-Obaidi and Gabrielsson 2002).

Marketing literature usually recognizes two main channel alternatives. The indirect channel refers to using one or more independent channel intermediaries located in the target market, whereas the direct channel refers to selling directly to the customers through own organization (Hardy & Magrath 1988).

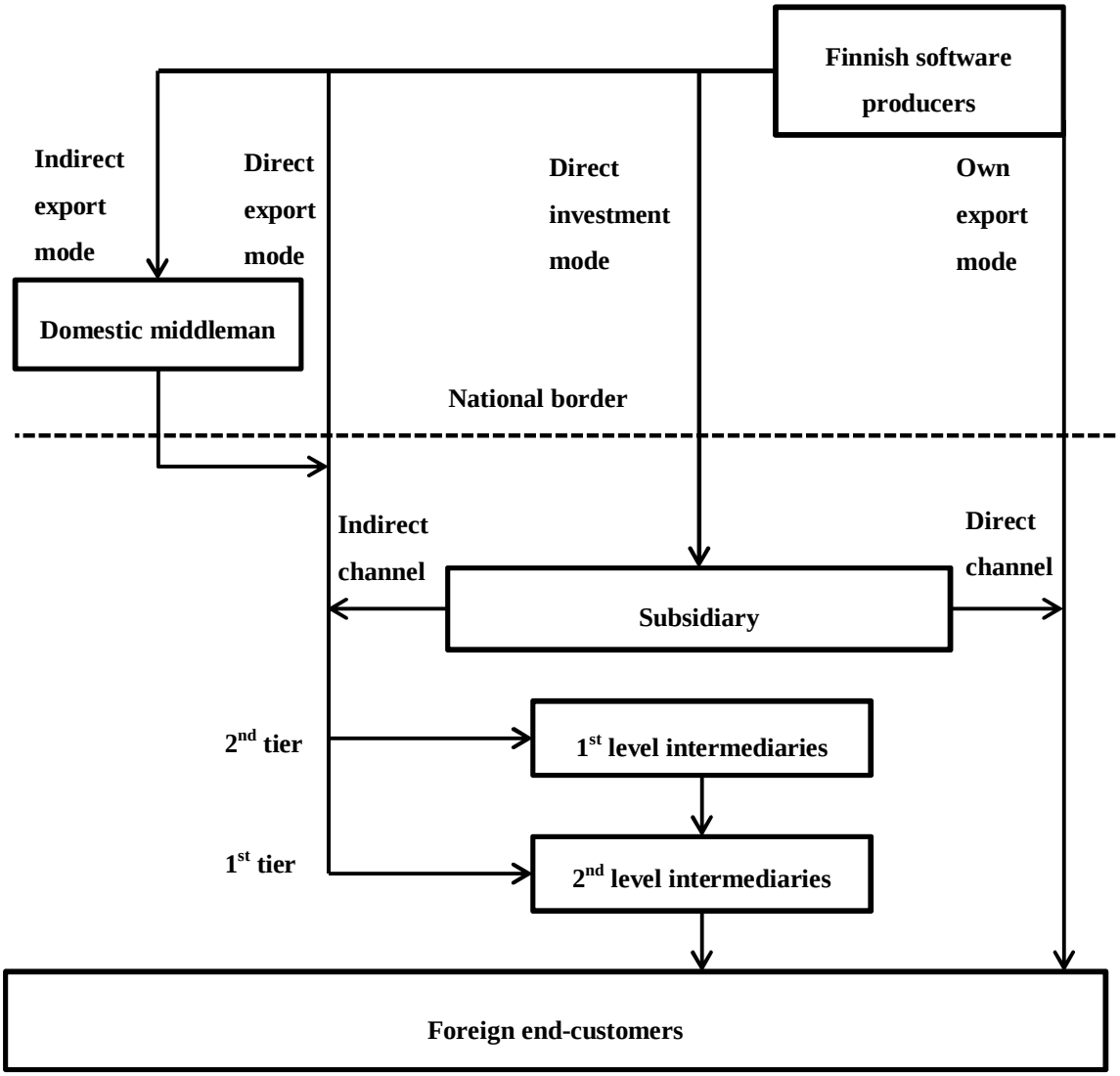
Despite the differences, the marketing and international business research streams emphasize such dimensions as the directness, the degree of ownership, the variety and quantity, and the degree of selectivity of the channels (Pelton, Strutton & Lumpkin 1997; Gabrielsson et al. 2002; Hollensen 2007).

Gabrielsson (1999) combined the two research streams into **a model of international distribution channels.** This model has been originally developed for computer hardware firms, and has been mostly used to depict the channel structures in hi-tech firms. Arenius, Sasi and Gabrielsson (2006) have also used this model in a study concentrating on a software firm. Thus it is seen as suitable for this study as well.

Though originally developed for conventional channels, the model can be easily adapted to online channels as well. The Internet can be used on three channel levels: 1) by the producers for exporting purposes 2) by the foreign subsidiaries, 3) or by the intermediaries (Arenius et al 2006). The chosen strategy for Internet as a main distribution channel or a complementing channel will reflect on the extent of which conventional international operation modes and distribution channel are selected (Arenius et al. 2006).

Figure 6 illustrates various possible international distribution channel arrangements. The arrows represent the flow of sales, delivery and promotion functions through the channels.

Figure 6 International distribution channel model



Source: Modified from Gabrielsson (1999, 23)

Pelton, Strutton and Lumpkin (1997) suggest that distribution **channel structures** vary along the following dimensions: the number of levels in the channel, the number of intermediaries at each level and the types of intermediaries at each level. Hollensen (2007) has made a similar division into channel length, channel width, the types of channel intermediaries and the level of control in the channel. In this study, channel structure is viewed through two dimensions: 1) operation mode and 2) channel strategy, i.e., the shape of the channel. All these arrangements provide different levels of control. Therefore control is not included as a structural dimension separately.

All firms should choose from the four **types of operation modes** operation modes when expanding abroad: by 1) exporting indirectly through a middleman at home country, 2) exporting directly through a middleman in the host country, 3) using own export

mode by serving the foreign customers directly from home country, or 4) establishing a sales, promotion or marketing subsidiary (Gabrielsson, 1999). As many of the software firms are small and lack the resources to establish a green field subsidiary by themselves, it is quite possible to establish a firm with a partner or to acquire an equity share of an existing firm. The World Bank defines foreign direct investments as the investments to acquire a lasting management interest of 10 percent or more of voting stock in an enterprise operating in an economy other than that of the investor (World Bank 2011).

Brouthers, Brouthers and Werner (1996) divide the types of foreign operation modes in to three: 1) market-based, 2) cooperative and 3), hierarchical. Examples of market-based, modes are: licensing, franchising, distributors, resellers, agents, and contracting. In the case of cooperative intermediaries, the domestic firm and one or more other independent firms join together. In integrated or hierarchical mode the producer either acquires an existing entity or establishes a start-up company to perform all distribution functions or some of them. In Gabrielsson's (1999) model, the direct investment mode includes both cooperative and hierarchical modes. An operation mode is considered as direct investment mode, if the equity share of the foreign entity exceeds 10 percent.

If a firm chooses to export through market-based channel a question of selecting a suitable intermediary comes next. This applies that the producer relies on a separate company that it does not own and often has a little control over. However, a variety of alternatives that provide the producer with different levels of control exist. The question of selecting an intermediary includes two partly overlapping questions: 1) what kinds of firms are wanted to operate as intermediaries (e.g. industrial firm vs. professional sales organization) and 2) what kind of roles these firms have in distribution (e.g. agents vs. resellers)?

Many types of potential intermediaries exist for software producers. These include, for example, value-adding resellers (VARs), system integrators (SIs), consultants that provide guidance and training, and agents (Varis et al. 2005). All alternatives can be distinguished from each other and seen as different types of distribution channels. The most usual types of intermediaries used in the software industry, as well as their roles and functions are listed in Table 1.

Table 1 Potential intermediaries for a software producer

Intermediary type	Function	Role in distribution
System integrator	Provides consultation for the end-users (defines their needs) and designs custom solutions	Should know your product, so you should train and educate them.
Solution provider	Provides solutions. Work is based on the end-user's definition of needs.	Should know your product, but you should also market it to potential end-users (they need to know your product and to ask for it).
(Value added) Re-seller (VAR)	Provides products with configuration and integration; turn-key projects.	Effective channel, if good partners can be found
Value distributor	Distributor in the chain provides value added services in addition. Target customer normally not the end-user, but the one who sells to the end-user.	Could take care of international operations (similar role to that of indirect exporter).
Volume distributor	Distributor in the chain, mostly usable for packaged software products.	See above.
Retailer	Business front-end sales partner	Might be able to bring in more sales from new markets. The length of the chain increases, hopefully also sales.
Sales agent/representative	Third-party software vendor. Revenues based on fees from the actual sales.	Might be useful in distant markets in which one's own presence is not always useful or profitable.
Independent software vendor	Software provider without contractual relationship with you	Usable for packaged software (i.e. software products).
Influencer, consultant etc.	Companies that comment, evaluate, and give guidance and advice to end-users	Useful and important especially in the case of systemic software (e.g., extra applications of ERP systems).
Own equipment manufacturer (OEM)	Normally provides one privately labeled product.	Easy way to get your products onto the international market. However, this does not develop your own brand (potentially risky).

Source: Varis et al. (2005, 24)

These types of intermediaries are often the ones who enable the producer firm's internationalization by representing its products at different markets. By using different kinds of partners firms can benefit from various complementary assets. The key aspect is to find the right firm or person, for the right task in the distribution network. Regarding international distribution, most of the partners who are able to sell and deliver are

useful, but there are many possible problems in finding suitable partners and in managing to establish successful relationships with them (Varis et al. 2005).

Depending on the type of the product, whether it is a software service or packaged software product, the need for a partner may increase and the available options differ. For example, in the case of enterprise solutions, software products and supporting services are dependent on each other and partnering becomes even more crucial. Such software firms require additional services and partners who are willing and able to provide these (Varis et al. 2005).

Besides the operation mode, a firm must select **a channel strategy** from two basic options: direct, where the producer sells directly to its end-customers, and indirect, where the producer sells through one or more channel middlemen to its end-customers (Hardy & Magrath 1998; Gabrielsson 1999). Furthermore, multiple channels, both direct and indirect, can be used simultaneously. These issues are related to the shape of the channel network. How long and wide a channel structure should be are focal questions concerning channels strategy (Frazier 1999; Gabrielsson et al. 2002; McNaughton 2002).

Each intermediary that performs a particular function in bringing the product and its ownership closer to the final buyer constitutes a channel level, increasing the length of the channel. Every channel consists of at least two channel levels, the producer and the customer. This is called a zero-level or a direct channel. Consumer products are generally sold through longer and wider channels than industrial or business products (Kotler 1994; Hollensen 2007). However, when distributing to foreign countries, more complex arrangements are often needed to ensure the channel performance, due to multiple factors such as liability of foreignness, time difference and distance.

The amount of market coverage the channels provide and the use of parallel channels define the width of the channel. The first one refers to deciding how many sales outlets should be established in a particular geographic area. Intensive coverage means that the product is distributed through the largest number of different types of intermediaries and the largest number of individual intermediaries of each type. Selective coverage means choosing a limited number of intermediaries. Exclusive coverage involves choosing only one intermediary in a market (Stern et al. 1996; Hollensen 2007). Within indirect channels, when an exclusive or highly selective approach is taken, the intent is normally to provide territorial protection to intermediaries to promote their investments in the brand (Frazier 1999).

Another issue related to channel width is the use of parallel channels. Frazier (1999) claims that the use of multiple channels of distribution is becoming the rule rather than the exception, given the fragmentation of markets, advancements in technology, and heightened interbrand competition, among other things. While multiple channels potentially increase the firm’s penetration level and raise entry barriers, intrachannel conflict

may become a major problem, leading to lowered levels of support in the firm's direct and indirect channels. Two types of multiple distribution channel structures are often recognized in the literature: 1) dual channels and 2) hybrid channels (Frazier 1999; Gabrielsson et al. 2002; McNaughton 2002).

In dual channel structures two or more channel members are serving consumers in the same geographic area performing the same distribution functions. In hybrid channel structures, channel members are serving the same consumer, but a division of duties exists. For example, a marketing subsidiary can be responsible promotion, whereas an intermediary is in charge of sales and delivery (Gabrielsson et al. 2002). Hybrid sales channels are often utilized in hi-tech businesses, such as in software firms. The Internet may function as a global direct channel (Gabrielsson et al. 2002; McNaughton 2002).

All of the above-mentioned distribution arrangements lead to some level of control in the channel. Vice versa, the desired level of control affects the distribution channel selection. Each type of channel alternative provides a different level of control (Cateora & Ghauri 2000). The control of one member in the channel is its ability to influence the decisions and actions of other channel members. Producers must decide how much control they wish to have over their software. There is usually a trade-off between producers' ability to control important channel functions and the requirements for financial resources and risks (Hollensen 2007). Usually full control is not practical because of the high costs (Cateora & Ghauri 2000). Distribution through hierarchical channel structures provides more control than through market based-intermediaries. In between there are many options such as contractual agreements or equity investments. Short channels provide more control than long. Similarly selective or exclusive distribution provides more control than intensive distribution (Hollensen 2007). The more involved a firm is with its distribution, the more control it gets (Cateora & Ghauri 2000).

Channel functions are the tasks performed by the distribution channel. The selected distribution channels are the structure through which these functions 'flow', from producer to end-customers (Kotler 1994). Bowersox and Morash (1989) (see also Kotler 1994; Stern et al. 1996) have defined eight channel functions: 1) physical exchange, 2) title transfer, 3) promotion, 4) negotiation, 5) financing, 6) risking, 7) ordering, and 8) payment. Physical exchange, title and promotion move forward in the channel, whereas ordering and payment move backwards. Negotiation, financing and risking functions move to both directions (Bowersox & Morash 1989).

Beckman and Davidson (1967) have grouped marketing functions into three major categories. The exchange functions include the marketing activities related to selling. The exchange process requires additional tasks such as finding and seeking buyers and stimulating sales by using promotional means. The logistical functions are connected to the physical distribution of products. They deal with such issues as transportation, storage, and inventory management. In the case of products that can be delivered online,

logistical functions have a different nature as the product has no physical form. Facilitating functions, such as, financing, payment and order handling are sub-functions that merely support the first two functions (for reference, see Tamilia, Senecal & Corriveau 2002).

This study concentrates only on the channel functions that are related to the exchange and logistics of products, and the facilitating functions are left outside. As the view is from producer's perspective, only channel functions that are directed forward within the channel are covered. The forward moving exchange and logistics functions are: physical exchange, title transfer, promotion and negotiation. These functions can be compressed into the general terms of delivery, sales and promotion. Performing these functions effectively is crucial in the software industry. The functions are often attached to each other, especially in the software business as sales and delivery are often combined due to the intangibility of software (Gabrielsson & Al-Obaidi 2002; Tähtinen & Parvinen 2003; Rönkkö et al. 2010).

Performing **the sales function** is often considered as the most essential task of distribution channels. Its purpose is to complete sales transactions with customers through either producer's own channels or through various types of intermediaries by generating and closing leads and turning prospective customers into actual ones. Sales require include negotiation the terms of contract with customers and the transfer of the ownership. Sales functions can also be performed online through a web-store that can be either operated by the producer or an intermediary. There line between sales and promotion may be flickering, for example in the case of direct marketing (Tähtinen & Parvinen 2003). Business-to-business sales are much more relationship-based than consumer sales. There are different types of sales approaches in software business that closely relate to the software- characteristics differing from product-oriented to solution-oriented. Also the sales cycle (i.e. the time used for making buying decision from the first customer contact) may differ significantly, up to being years. In solution-oriented selling the customer problem is the starting point instead of the product. A software product firm have to consider whether it is able to deliver a solution based on it software product by adding services and customizing the software (Sahwney 2006).

Performing **the delivery function** is necessary to transport the sold products to customers (Tähtinen & Parvinen 2003). Software can be delivered: 1) in interaction with customers, 2) by posting software on CDs or DVDs, or 3) online. Traditionally software products have been delivered physically on CDs, but technological development has enabled sending them through or downloading them from the Internet. Online delivery can be further divided into two types. All digital products, including software, can either be delivered as full products at one time through Internet downloads or they can be delivered interactively on a continual basis. When the product is delivered via download, the value of the product is transferred to customers in a relatively clear-cut fashion. On

the contrary, in the case of online services, interaction between the customers and the service provider via the Internet is often needed during the transaction. Therefore, the functions or the values of the products are provided in a piecemeal fashion and in an interactive mode (Hui & Chau 2002).

Software is increasingly delivered interactively as a service. This implies that nothing is installed to the systems of the customer, but it is ran online instead (Rönkkö et al. 2010). The applications are hosted online and the user only needs to sign up online to use the service. This method is often faster and cheaper to implement than traditional software (Hazard 2006). Even though the name of the delivery method, Software as a Service (SaaS) refers to services, it should not be mixed to software service business. It is rather used to deliver standardized software products (Rönkkö et al. 2010). SaaS blurs even further the line between software product business and service business.

Since business software products are mostly service-intensive, the selected distribution channels have to be able to deliver the services. Some services, such as installation, are necessary for a successful software delivery, and some, such as customer training add value to the customer.

Performing **the promotion function** is needed to provide an information flow from producers to customers. Tähtinen and Parvinen (2003) have listed the most essential promotion channels in software business: advertising, direct marketing, fairs, seminars, PR-meetings, relationship marketing and the utilization of the Internet. The Internet can be applied to most of the promotional means and it should not be considered as just a single channel. For example, the Internet can be utilized in promotion through e-mail marketing, search engine optimization (SEO), social media or pay-per-click-advertising. Advertising is traditionally used less in the software business than in many other lines of business. The most prominent channels for advertising business software are professional magazines and Internet advertising. Direct contact with the customer is useful mean in promoting business software. It refers to promotional means that is concentrated directly to the customer or a potential customer (Tähtinen & Parvinen 2003).

These functions may be performed through single or multiple channels. Furthermore, they may flow through the same or different channels. For example, a software package may be bought at a web store and delivered through post service. The same package may be also sold in physical outlets owned by intermediaries. In this case, multiple channels are used for sales. In addition, channels are different for delivery and sales. However, in the case of software, these three channel functions are often intertwined (Tähtinen & Parvinen 2003).

All the channel functions can be performed both through conventional channels and online channels. Choi et al. (1997) have created a model to determine fully digital business. It consists of three dimensions, product, process and agent, which all have to meet the following standards. Obviously, the product has to be digital. The agents (sellers,

buyers, intermediaries) have to communicate via an electronic interface. Also the process has to be digital. A simple example illustrates the nature of the process. Searching on the Internet is a digital process whereas visiting a store is a physical process. All this is applicable to software, especially when the offering is highly standardized. Some software products, for example packaged mass market software, meet all the requirements of the model (Choi et al. 1997). For example virus protection programs can be sold and delivered online easily. In the reality though, there are many constraints for performing all the functions online. As a result both conventional and online channels are often utilized in the distribution of software.

2.2 Role of software characteristics in selecting international distribution channels

There are plenty of theories and models that are used to explain the construction of international distribution channels, from which two were chosen: TCA and KBV. These theories are very comprehensive and therefore only aspects that are relevant for this study are introduced in this chapter. They provide the basic understanding why the characteristics specific to software play role in channel selection. After explaining the key aspects of these theories, a more practical view is taken by identifying the characteristics specific to software and their role in selecting international distribution channels.

Transaction Cost Approach (TCA) is one of the most commonly used methods in the research of distribution channels. It is based on the early work of Coase (1937) and later Williamson (1975, 1985). It provides a general framework for better understanding the forces shaping distribution channels. Most international business research on software relies exclusively on the TCA to explain entry mode choice decisions (for reference, see Brouthers & Brouthers 2002).

TCA suggests that the level of vertical integration, i.e. the selection between market and hierarchical control, is based on the efficiency of transactions. Transaction costs are the costs related to performing functions necessary to accomplish transactions, and they reduce the efficiency. These may be, for example, the costs of finding, training and maintaining an appropriate partner to perform the distribution functions on international markets, the risk of disseminating proprietary knowledge, and the risk of deterioration of the quality of the product or service. Because it is difficult to measure such costs, the following proxies suggested by TCA researchers are often used: asset specificity, external uncertainty, internal uncertainty, and transaction volume (size multiplied by frequency) (Gabrielsson et al. 2002).

Asset specificity is the concept mainly utilized from TCA in this study. It is defined as the extent to which specialized or nonredeployable investments are needed to support an exchange (John & Weitz 1988; Klein, Frazier & Roth 1990). Example of such investments include railcars specialized to haul one bran of automobile, refrigerated trucks needed to ship unpasteurized beer or specialized software that communicates only with one firm's computers (John & Weitz 1988). Furthermore, teaching a salesperson to speak English, one of the most widely-understood languages of the world, is a highly asset unspecific investment. Conversely, teaching Lithuanian to a salesperson is a highly specialized investment, as the language can be only used in a relatively small market area, and cannot be redeployed somewhere else. Similarly, in the world of software, learning to use a word processing software program has a low asset specificity compared to a sophisticated technical engineering software program. The basics of the latter may take weeks to learn, whereas the basic use of the former takes minutes and the skill can be utilized in many different tasks.

The main suggestion of the TCA relevant to this study is that the high level of asset specificity supports a high level of channel integration and control on foreign markets (Al-Obaidi & Gabrielsson 2002). Firms will internalize the activities that they are able to perform at lower cost than by using an outsider, and will rely on the market for activities in which other providers have an advantage (Klein, Frazier & Roth 1990). A simple example illustrates this; selling chewing gum requires no specific assets to support the distribution functions, and it can be distributed through kiosks, shops and vending machines. In comparison, when selling highly specialized machinery, the seller must be perfectly educated on all the sophisticated details of the machines. The amount of knowledge inherent in specialized machinery is very high compared to chewing gum and absorbing this knowledge is a specific investment. Thus the asset specificity of the latter is significantly higher.

The positive effect of asset specificity on channel integration has received empirical support in several studies, such as Anderson’s (1985), Anderson and Coughlan’s (1987), and John and Weitz’s (1988) (for reference, see Klein, Frazier & Roth 1990). Nevertheless, TCA has its limitations. It usually addresses only the question of whether a firm should adopt an integrated or nonintegrated channel, despite the importance of various types of middlemen (Anderson & Coughlan 1987). Bello and Lohtia (1995) suggest that moderate transaction cost pressures can lead to quasi-integration. It means only partly integrating the distribution functions and utilizing, for example, an agent to perform the functions that it can complete at lower costs than hierarchies. In this sense, the quasi-integrated mode is an intermediate governance form because it has characteristics of market and hierarchy modes, as one function, most often sales, is contracted out and other functions are self-performed (Bello and Lohtia 1995).

Despite its limitations, the TCA provides an insight to the basic logic of channel selection. If software has high asset specificity, i.e. if distributing through intermediaries requires specialized investments, firm-owned channels are favored.

As software is "pure knowledge in codified form", the knowledge assets are the most important assets concerning software. This implies that **Knowledge-Based View (KBV)** is the most suitable theoretical approach to characteristics of software. It effectively captures the knowledge- and service intensive nature of software (Hoch et al. 1999; Winkler et al. 2009). It is based on the resource-based view of a firm that considers knowledge as a critical input in production and as the primary source of value of the firm. Each firm possesses its own unique set of human resources that is a unique source of knowledge (Conner 1991).

The choice whether to use intermediaries is affected in two ways. Firstly, a firm may choose to get access to knowledge of the foreign market. Secondly, a firm needs to consider that getting access to external knowledge requires a certain level of knowledge integration between internal and external knowledge. That integration may become costly in the case of highly specific knowledge (Winkler et al. 2009).

Knowledge exchange is often required between two parties in the distribution channel. Such knowledge transfer requires time and effort which has to be taken into account in terms of knowledge transfer costs (Demsetz 1988). Knowledge transfer costs are transaction costs that include the cost of transmitting knowledge and the cost of absorbing knowledge (Teece 1977). The question is under which circumstances the external market is too costly in terms of knowledge transfer costs.

Knowledge will be inefficiently transferred to intermediaries if it is highly firm-specific (Fransman 1994). This is especially true if the potential intermediaries lack the capability to absorb such knowledge (Winkler et al. 2009). For instance, if the distribution of a product requires sophisticated firm-specific knowledge on its technical features, it is unlikely that a volume distributor would possess neither such knowledge nor the capability to absorb such knowledge with reasonable costs.

Conner (1991) claims that knowledge that is not firm-specific can be easily transferred through market-based channels without a loss of value. For example, even though cars are highly complex products, their basic characteristics are widely known. This enables the use of market-based channels, such as car dealers, to distribute the product. Driving a car is taught in driving schools, instead of the car producers. Even though it takes a long time to learn to how drive, the producers are not the only ones possessing the knowledge. The knowledge related to driving is highly firm-unspecific.

These theories give direction what characteristics favor integration and what characteristics enable the use of market-based channels in international distribution. KBV suggests that knowledge transfer needs time and effort which has to be taken into account in terms of knowledge transfer costs. The more specific the knowledge inherent in

a product is, the more costly it is to both transmit and absorb (Winkler et al. 2009). According to TCA, if the transaction costs of transmitting and absorbing knowledge are higher than the costs of performing the distribution functions internally, the firm will internalize the respective functions. Thus the channels selection is affected by the software firms' ability and ease to transfer knowledge about software-specific characteristics to a foreign entity (Winkler et al. 2009).

Besides these two theories, there are plenty of models in general marketing and international business literatures that classify general *product characteristics* and evaluate their impact on selecting distribution channels. It is generally accepted in these models that all products that require adjustments (i.e. customization) are generally distributed through shorter channels than standardized products. Specialized and complex products favor more direct channels (Aspinwall 1958; Root 1994; Rosenbloom 2004) and service intensive products can be effectively distributed through licensing or direct investment modes. Also technology intensive products favor licensing (Root 1994). All these characteristics also favor exclusive distribution instead of utilizing all possible channels available (Lewison 1999).

Though these types of classifications of product characteristics exist, they are fundamentally designed for manufactured products and do not take into account the special nature of software. However, these product characteristics and their affect mechanisms are quite similar compared to the characteristics recognized in earlier research regarding software.

All business software can be characterized as specialized, complex and service- and technology-intensive compared to other products. Consequently, it is reasonable to familiarize with the *characteristics specific to software* in more detail, since software differs from regular manufactured products a great deal (e.g. Winkler et al. 2009).

The software-specific characteristics presented in this chapter were chosen, since they: 1) were repeatedly mentioned in the earlier research, 2) their impact on channel selection can be explained through existing models and theories, and 3) were all included in Winkler, Dibbern and Heinzl's (2009) theoretical research model that was a source of inspiration for this study. The model is shown in the Appendix 1.

Many traditional product characteristics, such as bulk and weight do not apply to software as it is knowledge in codified form. The characteristics related to knowledge and services are more important. Thus, the characteristics are divided into two groups: 1) the specificity of knowledge inherent in software and 2) the level of productization, i.e., the adjustments and services needed supplement the core software before delivering it to customers. Adjustments and services make the duplication of software more costly and effort consuming, and thus decrease the level of productization. Purely productized software can be delivered practically without any costs or extra work.

The specificity of assets seems to have impact on the international distribution channel selection in the software industry (e.g. McNaughton 1996, 2002; McNaughton & Bell 2002; Winkler et al. 2009). Since knowledge is the most important asset in the software industry, **the specificity of knowledge inherent in software** is under scrutiny in this study. Winkler, Dibbern and Heinzl (2009) distinguished three types of knowledge inherent in software: 1) business process, 2) functional and 3) technical.

For software based on these types of knowledge, it will be necessary to transfer this knowledge to foreign channel members to a certain extent, as it may be required to perform the distribution tasks, such as promoting, selling delivering the software and related services. Complicated software requires certain level of expertise from the partners, and therefore the complexity sets a barrier to involving intermediaries (Burgel & Murray 2000). The more product-related knowledge is required to sell the product, the more likely the channels are integrated. Especially, when some highly specific knowledge is important for the transaction, selling function tends to be integrated (Ramaseshan & Patton 1994). The producers need salespeople that are capable of conveying the software's features to potential users and service people who provide continuing value after the sale. These can be either employees of the producer or outsiders. Which ones are favored, is strongly dependent on the product that is sold, and what kind of knowledge is inherent to it (Rosenbloom 2004; Pelton et al. 1997).

The term tacit knowledge is closely related to these types of knowledge. According to Polanyi (1966) explicit knowledge related to software can be coded into systematic language and easily transferred to external entities, but transferring tacit knowledge is more difficult as it is based on personal experiences and skills.

Specific knowledge inherent in software requires more assets invested in knowledge transfer. This means basically the cost of transmitting the software-specific knowledge that is required to perform the distribution tasks. If these costs are higher when using intermediaries than performing respective functions internally, hierarchical channels are favored over market-based (John & Weitz 1988). For example, training foreign sales intermediaries requires much more resources in the case of highly specific software.

Business process specificity refers to the knowledge about the application problem domain, i.e., the area of expertise that needs to be examined to solve a particular problem. This knowledge serves as the basis for the functionalities of a system and typically resides among the users of software and is seldom explained in written documents (Bjerknes, Bratteteig, & Espeseth 1991).

Some software programs are used across industries whereas some software programs are designed for a particular industry, which requires knowledge on the industry's business processes in order to offer solutions they valuate. To develop and distribute highly business process specific software, it is crucial to know the customers' businesses well (Ali-Yrkkö & Martikainen; Winkler et al 2009).

Different branches, such as banking logistics, media and communications have typically industry-specific software applications designed particularly for them. In addition there are generic applications that are not specific to any particular industry (Ali-Yrkkö & Martikainen). For instance, designing an accounting software program requires knowledge on accounting principles, but not necessarily knowledge on all the businesses that use the particular program.

This kind of knowledge is expected to be transferred to foreign markets through company-owned channels as external firms may not be able to invest in absorbing such knowledge. On the other hand, business processes that are not industry-specific and are based on general practices, such as human resource applications, can be distributed internationally through market-based entry modes since other software firms or international distributors are likely to possess such knowledge (Winkler et al. 2009).

Functional specificity refers to the extent to which software's structure, functionality, underlying operational procedure and use are unique to particular software (Winkler et al. 2009). The functional specificity is often high in the case of highly specialized and unique software as no similar software is sold on the markets.

Possessing functional knowledge on the product is absolutely crucial in order to be able to thoroughly explain a product's functionality to customers. If the functionalities are not understood by the channel member with the customer contact, serving the customer may be very difficult. The functionalities of a product may have evolved from complex social interactions during the development process (Winkler et al. 2009).

Software with low functional specificity may largely involve standard or commoditized functionality that is well-established in the market (West 2003). This kind of knowledge is more widely available than knowledge on the products with highly specific functionality that is often bound to the developer firm of the software.

Knowledge concerning unspecific functionality can be efficiently transmitted through independent channel members. But as the level of functional specificity increases, more interaction between the software developers and the sales people of the foreign entity will be required to transfer the knowledge. Knowledge transfer to independent intermediaries may be more costly than through vertically integrated channels, since internal personnel may possess higher levels understanding based on longer-term experiences with the software (Kogut & Zander 1993; Dibbern et al. 2008).

Technical specificity refers to the complexity and the technical design principles of software (Bjerknes et al. 1991). Software may include proprietary knowledge that is organization-specific or they can be also built upon common technologies that are already well-established and available on the market.

Complex software requires more technical knowledge during the sales process in international markets as complex technical products usually require explanation. This

implies that sales personnel should be familiar with the underlying technology of software (Winkler et al. 2009).

External firms may not be able to absorb proprietary, organization-specific knowledge since it usually requires long-time involvement in the specific context. This kind of knowledge is expected to be transferred more efficiently within firm boundaries (Winkler et al. 2009). In addition, Anderson and Gatignon (1986) claim that the proprietary content of sophisticated products increases monitoring and control costs, making distributor use inefficient. This encourages manufacturers to self-perform most export functions (for reference, see Bello & Lohtia 1995). Thus the specificity of technical knowledge affects the selection between hierarchical or market-based distribution favoring hierarchies.

The level of productization, i.e., the extra work going into delivering the software to each customer, has a significant role in selecting international distribution channels. Generally, software is described as knowledge-intensive having cost characteristics typical to other information products; expensive to produce, but very cheap to reproduce (Shapiro & Varian 1999). However, there are characteristics that increase the reproduction costs by making the duplication more and costly and effort-consuming. In this study, these characteristics are divided into two groups: 1) requirements to localization and 2) requirements to services, including implementation services such as customizing and consulting, and after sales services such as product support.

The more implementation, maintenance, and repair services are required, the more direct and selective will the channel be. When middlemen are used, they must be able to provide these (Mallen 1996).

Figure 7 illustrates this by showing how the final customer offering of a software firm constructs. In the case of highly productized software, the core software is delivered to the customer as such, whereas in the case of non-productized software a lot of effort needs to be put on implementation and after-sales services. Figure 8 is modified from Ruokonen's (2008) model by adding the localization perspective.

Figure 7 Components of the offering of a software firm

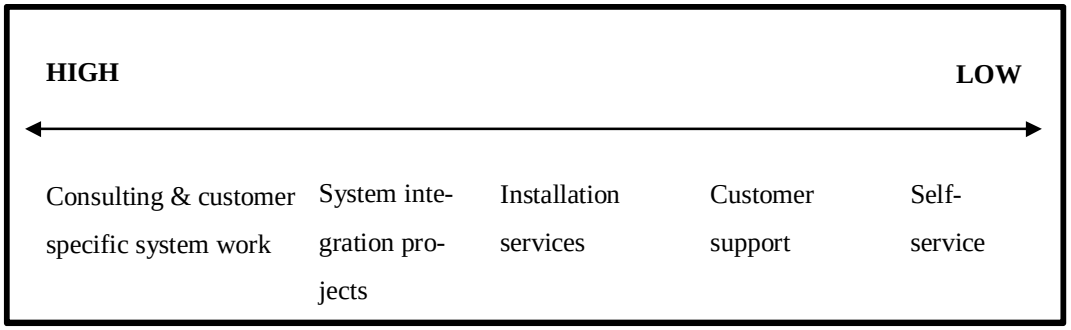
Source: Modified from Ruokonen (2008, 78)

When distributing software to foreign countries, some adjustment for foreign market areas are often needed as local cultures, languages and standards may impose requirements. There are three types of these *localization requirements:* 1) language, 2) legal requirements and 3) foreign standards (Winkler et al 2009). The user interfaces need to be translated to the foreign market's native language or at least to a language that is understood by users in the foreign market. Furthermore, localization of software involves the adaptation according to the respective legal requirements of a foreign market, for example, tax rates (Chan & Suwanda 2000). During the process of localization, software must also be adapted to a foreign country's customary standards. This implies to numbers, units of measurement, dates, currencies and time formats etc. Anticipating typical requirements of potential foreign customers and localizing the software accordingly increase the attractiveness in the eyes of foreign customers (Collins 2002).

Different types of software require different amounts of adjustment for the local conditions. The amount and complexity of localization work can be thus seen as a characteristic of software. In order to be able to perform localization tasks, a software firm needs to adopt specific knowledge about foreign market requirements. By partnering with firms in the respective foreign markets, software firms are able to close such knowledge gaps. Thus, in case of higher localization requirements, foreign partners are favored over hierarchical channels, at least in the entry mode stage (Winkler et al. 2009).

Service requirements consist from implementation services and after-sales services. Another common categorization is between customization or tailoring services and other services. Typically customization is considered as one of the implementation services among installation and customer training, and so is the case in this study as well. Figure 8 illustrates the services that often accompany a software delivery. If the total offering includes customer specific systems work and consultation, the service level can be considered high. On the other hand, for some software, mere customer support in problem situations, or even self-service can be sufficient (Rajala et al. 2003).

Figure 8 Service requirements for software



Source: Rajala, Rossi and Tuunainen (2003, 16)

The provision of services generally requires close interaction between the services provider and the customer in a foreign market (Bell 1995; Messerschmidt & Szyperski 2003). Complementary service requirements may include installation, maintenance, support, deployment, integration and consulting services. When any product requires for a high level of before or after-sales service, direct channels will help to ensure that service will be performed (Ramaseshan & Patton 1994; Pelton et al. 1997). Close interaction with a customer also enables feedback to the producers about problems and new customer requirements that emerge during the customization process or provision of services. This feedback can be important for the development of later versions of software. This favors direct channels when the services or customization requirements are high (Winkler et al. 2009).

Rosenbloom (2004) suggests that wholly custom-made manufactured products are typically sold directly as intermediaries they often lack the necessary product-specialized knowledge. Semi-custom products such as accessory equipment in the industrial market often include one intermediary whereas highly standardized products tend to have more than one intermediary. Burgel and Murray (2000) claim that it is more probable that the technological skills to customize a particular product to the needs of a customer reside within the producer and developer of the product rather than with the distributor in a foreign country. If the producer requires these skills from an intermediary, it may need to invest in knowledge transfer. If this is very costly, it is easier to customize the product for the customer. Thus, intermediaries are excluded from the sales process if a high degree of customization services is provided. The costs of acquiring specialized technological skills and creating networks to be able to sell products that require customization may be prohibitive and economically irrational for the partner.

McNaughton and Bell (2000) suggest that customized software has a stronger service component. There is close interaction between the developer-producer and the final user at all stages from conceptualization through prototyping and implementation. The producer often provides training and maintenance. It is assumed that an integrated channel facilitates this. Contrariwise, packaged software is a standardized product that is not customized by the producer for individual users. Support for packaged software is usually limited to notification of upgrades, newsletters, and telephone help lines. Packaged software has more in common with a product than a service, and it is assumed that it can be more easily distributed by market channels.

Blomstermo, Sharma and Sallis (2006) suggest a division between hard and soft services. With soft services production and consumption occur simultaneously and the customer act as co-producer, which requires a stronger presence abroad from the producer. Especially the producers of soft services are more likely to choose a hierarchical high control entry mode.

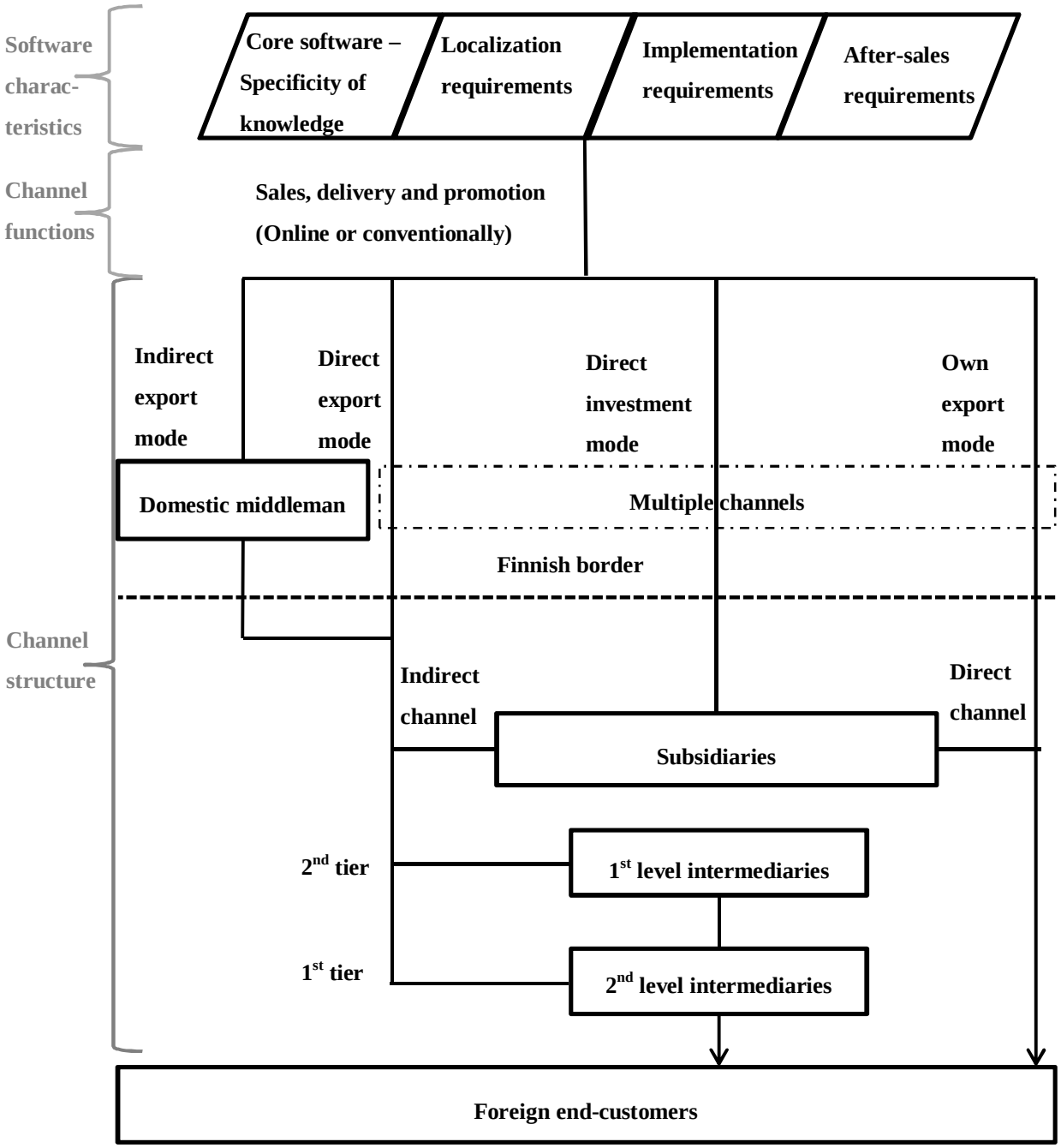
From the software producers' perspective, the closeness to the customer becomes especially important as software innovation usually derives from both the supply side and the customer demand side. Close interaction with a customer during the development of a software solution enables feedback to the developers not only about problems, but also about new customer requirements that emerge during the provision of services. This feedback can be utilized in the development of later versions of software (Winkler et. al 2009).

2.3 Synthesis of the theories and concepts

The synthesis in Figure 9 summarizes the theories and concepts introduced in previous chapters. This synthesis aims to be as relevant as possible; it has exclusively built for software taking into account their special characteristics: knowledge-intensity and service characteristics.

The key findings of earlier research on the topic, as well as some earlier models were utilized in building this model. The research model of Winkler, Dibbern and Heinzl (2009), the sales channel model of Gabrielsson (1999) and the software offering concept of Ruokonen (2008) were all utilized in this synthesis.

Figure 9 Synthesis of concepts and theories



The upper part of Figure 9 illustrates the characteristics specific to software: the knowledge- and service-intensity. The fewer requirements to supplement the core product with different adjustments (i.e. services and localization) exist, the more productized is the software offering. It is suggested in the theories and earlier literature that localization needs favors the use of outside intermediaries whereas the service requirements favor integrated modes. In addition, the core software product may entail specific busi-

ness process knowledge or be technically complex. It is expected such products are rather distributed through integrated channels than intermediaries.

A firm must consider its channel operation mode, channel strategy and how to perform the distribution functions in the selected channel. The lower is related to this, depicting the channel structure through which the distribution functions flow from the producer to end-customers. The lines and arrows show the movement of channel functions through the chosen channel structure in order to get the total software offering to the foreign customers. Performing these functions can be easy or challenging depending on the software characteristics. Multiple channels may be used simultaneously and all the functions may flow through the same path or through different paths. For example, the delivery may be direct but the sales indirect. This is related to the channel strategy chosen. There are different types of multiple channel strategies including dual and hybrid distribution as well as quasi-integration, which is a type of hybrid channel. Also the Internet can be used to perform all the distribution functions or some of them. It can be used only in some levels of the channel or it can be the main channel distribution of distribution.

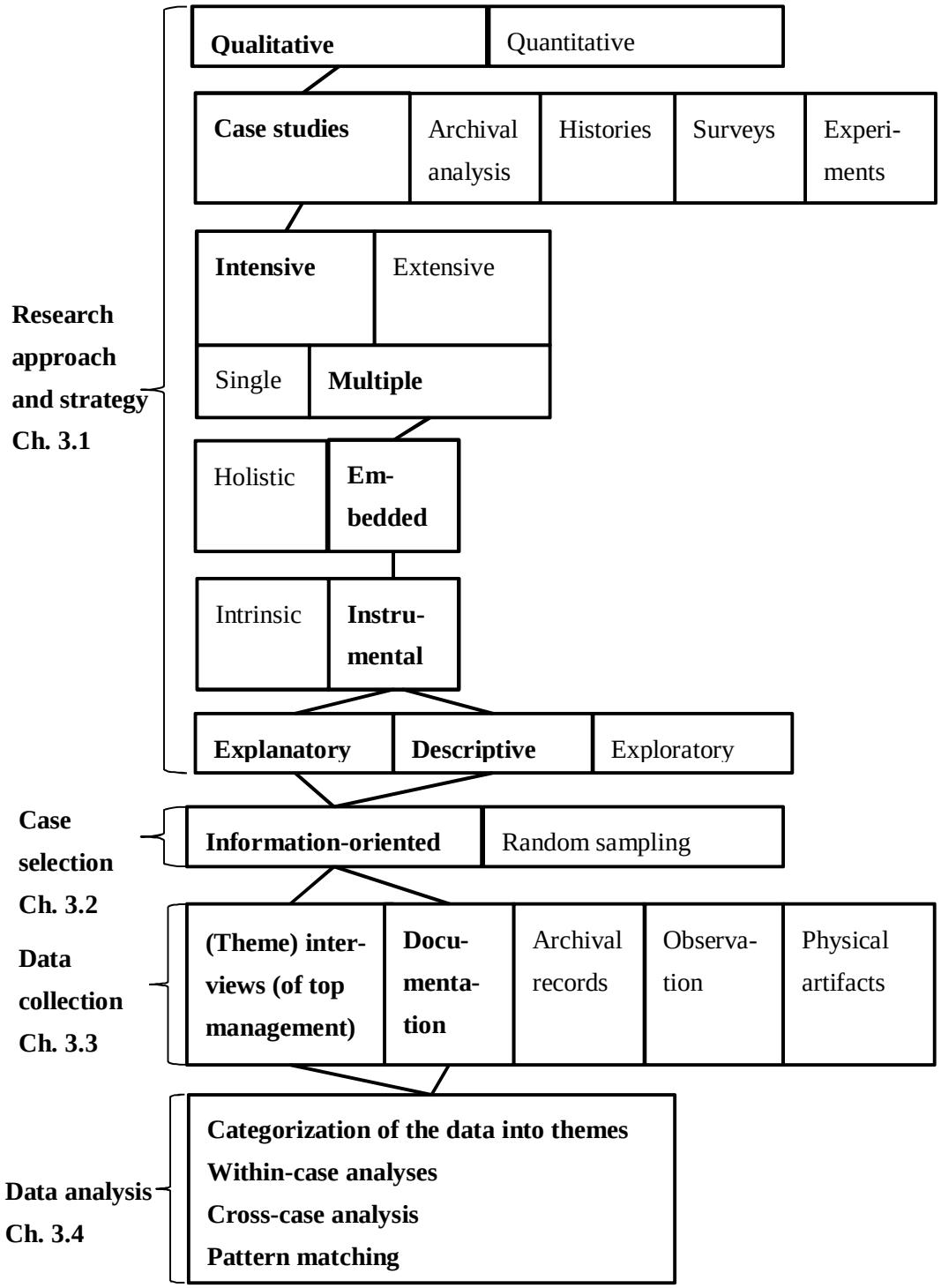
Performing these functions requires some level of knowledge transfer between the producer and the channel members in foreign countries. These can be independent, partly or fully-owned (10–100 %). When using independent channel members, the producer needs be able to transfer the knowledge to an outsider that needs to be able to absorb such knowledge. Transferrin knowledge within an organization is less demanding (transaction costs).

This model provides a useful framework for examining how a business software producer needs to consider the characteristics of its software products when selecting international distribution channels. It shows all the issues that are under scrutiny in this study. The suitability of this model is evaluated and possible changes are presented in the conclusions. It is also examined if the causalities between the characteristics and channels selection recognized in the theoretical framework are reinforced by the results of this study.

3 METHODOLOGY

The methodological path followed in this study shown in Figure 10. It gives an overview of the research methodology used and is explained in the following chapters.

Figure 10 Methodological path followed in this study



Source: Modified from Sekki and Yin (1994; for reference, see Ruokonen 2008, 54) to match the methodology of this study

3.1 Research approach and strategy

Both **qualitative** and quantitative research approaches are commonly used in business research (Koskinen, Alasuutari & Peltonen 2005). The difference between the approaches mostly derives from the different methods used to demonstrate their scientific explanatory power (Grönfors 1982). Mostly quantitative approaches have been used for researching topics similar to this. These studies have usually aimed to find correlations between internal characteristics of software firms and channel characteristics, such as the business model and the degree of channel integration. It is quite well-known what product characteristics affect distribution channel selection and whether they favor integration or intermediaries. However, explaining more specifically how and why these causalities occur has remained partly unanswered. This study utilizes the software characteristics recognized in the earlier research in order to deepen the understanding of the phenomenon of international distribution channel selection by studying it more deeply with a smaller sample. Typical of qualitative research is that the sample is small, but all units are analyzed very profoundly. Quantitative studies are often prone to structured, standardized, and abstracted modes of collecting data, whereas qualitative studies provide more flexibility (Eriksson & Kovalainen 2008).

Quantitative research often gives a simplified picture of distribution channels. When using hypotheses-based and strictly predefined questions sent to hundreds of respondents, simplifications are necessary. By using a qualitative approach this study addresses international distribution channels as the complex networks of different structures and functions as they truly are. The underlying objective of this study is not to create theories, but rather to test the fit of existing ones within this particular context. In addition the suitability of existing concepts is challenged.

This study is conducted as **case study.** Case study takes into account the background of the phenomenon that is under investigation and discusses it in its natural environment. It does not isolate the target from the surrounding world, but rather aims to explain the interactions between the target and the surrounding phenomena. In this way it enables creating a deeper insight to the target (Yin 2002; Koskinen et al. 2005.) The focus of case study is on a phenomenon within its real-life context. It is very suitable for studying complex social phenomena (Yin 1994). This study is concerned with the channel selection, which is a social phenomenon. It is a complex set of decision made by the top executives.

Case studies can be roughly divided into two categories: intensive and extensive. In **intensive case study** single or few cases are used, whereas in extensive case research multiple cases are used. This study is an intensive case study as it concentrates only on two cases, which are studied intensively in their proper contexts. Intensive case study draws on the qualitative and ethnographic research tradition, highlighting understanding

and interpretation of the case. The main purpose is to understand and explore the case from the inside and develop understanding from the perspectives of the people involved in the case. This does not mean that this understanding would not be theoretically informed or that the case study could not develop theory. Yet, often the objective is to provide a thick description of the unique nature and the workings of the case (Eriksson & Kovalainen 2008).

Yin (2003) makes a division between single and **multiple case studies**. A clear set of testable propositions based on theories can justify a single case. Nevertheless, multiple case studies are often more robust than a single case study (Yin 2003). As this is a two-case study, it has characteristics of both intensive and multiple case studies.

The small number of cases is justified since the theoretical framework of this study provides a relatively clear set of testable propositions. Two cases were chosen instead of one to improve the external validity and to enable a comparison across the cases to provide a more comprehensive view on the topic (Yin 2003). Yin (2003) claims that by applying two-cases, the changes of conducting a successful case study improves significantly.

Extensive case study was not chosen as the method, since the limited resources of the researcher favored the selection of only two cases. Nonetheless, a number of studies on quite similar topics have addressed only one or two cases (e.g. Varis et al. 2005; Ruokonen et al. 2007). Applying more than two cases could improve the generalizability of the results. On the downside, taking into account the researches limited resources, this could have led to rather superficial examination.

Case study may involve more than one unit of analysis. This occurs when within a single case attention is given to subunits. In this study there are three units of analysis: 1) the characteristics of the case software, 3) the international distribution channels of the case software and 3) the characteristics role in selecting channels. Therefore this case study is **embedded** by design in distinction to holistic case study design, in which one case does not divide into units of analysis (Yin 2003).

Eriksson and Kovalainen (2008) divide case studies to intrinsic and **instrumental.** Intrinsic case study focuses on learning about a unique phenomenon. The researcher needs to be able to define the uniqueness of this phenomenon, which distinguishes it from all others. The instrumental case study provides a general understanding of a phenomenon using a particular case or cases. The chosen cases are studied as instruments that allow the researcher to generate knowledge that extends beyond the case itself. The cases chosen can be typical, although unusual cases may help to illustrate matters overlooked in a typical case because they are subtler there. Instrumental case studies are typically constructed around a well-defined set of questions, whereas intrinsic case studies are often based on recognizing something particular, unusual or special about the chosen case and seeking to understand the case by close sustained attention. This study

is based on a defined set of questions and is instrumental by nature, which means that the two cases are more seen as instruments used in researching this particular business related phenomenon. This is often characteristic of extensive case study, but does not mean that all intensive case studies would be interested only in the cases themselves, and could not have a main focus on certain phenomenon (Eriksson & Kovalainen 2008).

As two cases is not a very extensive sample, they are positioned to a larger framework by utilizing theory and earlier studies on similar topics (Yin 2002). Yet this research has no great aspirations in generalizing the results to all software firms. The unique settings of these cases and the possible randomness in the channel selection have to be taken into account. Nevertheless, the results and conclusions may be useful for firms that produce business software and are planning to internationalize.

Furthermore, case studies can be divided into: 1) exploratory, 2) **descriptive**, and 3) **explanatory**. Exploratory studies often are often pilot studies about a certain new phenomenon. Descriptive studies give descriptions of real-life cases in order to provide answer to well-defined research questions. Explanatory studies strive to explain and understand a specific complex case to find relationships between constructs. This study is both descriptive and explanatory by nature (Yin 2002; Eriksson & Kovalainen 2008). This study produces detailed descriptions of the international distribution channels and the characteristics of the case business software products. These descriptions are necessary to evaluate the relationship between the channel selection and characteristics, i.e., to accomplish the third sub-objective, explanatory by nature.

3.2 Case selection

Case study is a flexible method as it allows searching information from where it is available. Often cases are selected in a discretionary manner and the selection is ultimately based on the original research objective settings (Syrjälä, Ahonen, Syrjäläinen & Saari 1994). The selection of cases in this study was **information-oriented,** instead of random sampling. The expectations about the cases' information content were utilized in order to maximize the utility of information from the small sample (Flyjberg 2006).

The case selection is generally influenced by numerous factors. When selecting a typical case, the results are transferrable to other similar situations to a certain extent. Unique, special or educating cases can be chosen when the aim on learning some specific features of a certain phenomenon. Revealing research can be produced by studying phenomena that cannot have been approached through scientific research methods earlier. Critical cases can challenge theories or conceptual systems (Syrjälä et al. 1994).

Two globally distributed business software products, Alpha and Beta, were chosen as the cases of this study. The case software products have truly global customer bases and

have been sold internationally for a long time. Their offerings to customers are clearly based on core software products, but still bundled with services. These firms have met challenges in distributing their products internationally, and have been forced to consider the suitability of their channel arrangements in the past. Yet they have succeeded in distributing their software in all the continents all over the world to thousands of customer organizations.

These software products are software very typical of the Finnish software industry, and thus provide a cross-section of a larger group (Patton 1990). The case firms have succeeded in selecting suitable channels to globally distribute their business software products along with the necessary services, in which many similar Finnish have had difficulties. This makes these cases, if not unique, at least special. The case software products are quite typical for the Finnish software industry, but the firms have succeeded in something that is considered problematic in the industry.

The selection of two quite similar cases was intentional. Two extremely dissimilar software types would have had too little in common. For instance, the distribution of mobile games and highly specialized software projects are from two different worlds and would have provided very little for meaningful comparison. Then again, these case software products are quite different by nature when examining within the concept of business software products, which enable rich comparison of the cases.

These case software products have been distributed internationally for a long time. This has given the producers an extensive amount of knowledge on the topic of this study. On the other hand these software products have been internationalized recently enough to ensure that the knowledge from the early stages of the internationalization is still fresh on the respondents' minds.

Many newly internationalized firms may not yet have considered the best possible distribution network for their software. The international distribution networks of the case software products have evolved over time, and therefore the respondents of these firms know which distribution arrangements have or have not worked for their software.

Both case firms are of Finnish origin and develop, produce and sell their own software, and are therefore in the control of their global distribution network. They are SMEs with less than 100 employees and EUR 10 million turnovers. Firm Alpha was in the 208th place and Firm Beta in the 212nd in the listing of largest ICT-firms in Finland (Tietoviikko 2011). Their software products are the main objects of trade though services are relatively significant parts of the total solutions. Both generate significant international revenue through their global distribution channel networks, in which various forms of foreign operation modes and the Internet have been utilized.

3.3 Data collection

There are several ways of collecting research data for case study, such as: archives, documents, interviews and observations (Hirsijärvi et al. 2001; Yin 2003). For the objective of this study interviews seemed the most suitable data collection method. Second-hand sources were utilized to reinforce the interview data, and to familiarize with the cases beforehand. Thorough familiarization with the cases was important to fully utilize the finest features of interviewing, the insightfulness and the possibility to focus directly on relevant issues (Yin 2003).

Interviewing is the most used way of qualitative data collection in Finland. The methods vary from strictly structured interviews to open interviews with no structure. A method between the two opposites was chosen for this study. **Theme interviews** are flexible, yet structured enough to insure that all the topics are discussed within the time limit. Though the themes and questions had no strict form and order, the topics of discussion were predefined. The topics were rather discussed in an order that felt natural in the interview situation (Eskola & Suoranta 1998). Flexibility also enabled covering interesting issues beyond the original framework (Hirsijärvi et al. 2001).

Theme interviews with the CEOs of Firm Alpha and Firm Beta produced the main body of the research data. A digital recorder was used to capture the interviews. No distractions occurred, the situations were relaxed and there was plenty of time to conduct the interviews. The first interview with the CEO of Firm Alpha took roughly 80 minutes and the second one about 70 minutes. An informal lunch of with the CEO of Firm Beta paved the way for the recorded part of the second interview, which created a relaxed atmosphere.

The CEO of Firm Alpha was interviewed in the headquarters in Tampere on the 24th of March in 2011. The respondent had worked over 20 years for the firm. He had been in his current post since 2005, but before that worked as the vice-president and as a branch manager. According to his own words he had been constructing the international distribution network from the beginning. The data was reinforced with second-hand sources, such as Firm Alpha's website, articles in newspapers, and customer magazines.

The CEO and co-founder of Firm Beta described had been in an executive role in the decisions concerning the international distribution of Firm Beta since the foundation of the firm. He was interviewed at Firm Beta's office in Helsinki on the 8th of April in 2011. Besides the interview material, some second-hand sources were utilized, including Firm Beta's website, articles in newspapers, and earlier scientific case studies on the firm. Some of this material was provided by Professor Nummela from the Turku School of Economics, who has researched Firm Beta earlier. Some was found from the Internet and libraries. Taking contact to Professor Nummela was suggested by the CEO of Firm Beta.

Welch, Marchan-Piekkari, Penttinen and Tahvanainen (2002) address the term **elite interviewing**, elites being synonymous to top management. They recognize four issues that require attention when interviewing corporate elites: access, power, openness and feedback.

Access to the elites may require substantial efforts (Welch et al. 2002). In this study the accesses were established quite easily by sending e-mails to four CEOs of Finnish software firms whose software products seemed suitable for this study. Two of the respondents answered within few days that they are willing to participate, as long as the interviews are conducted in their premises. Two of the CEOs never answered, but a quick familiarization with the other two firms and their software products revealed that they offered an interesting sample. Checking the backgrounds of the respondents further encouraged to select Alpha and Beta. During the interviews, the researcher was told that the CEO of Firm Alpha had been willing to support students in their Master's Thesis when possible. The CEO of Firm Beta had cooperated with Turku School of Economics before, and was therefore interested in participating. The easiness of access was also probably due to the relatively small size of organizations of the interviewees. There were no gatekeepers and the direct contacts with the CEOs were easy to establish as their contact information was publicly available.

A power imbalance between the researcher and interviewees can hinder the development of a successful relationship between them. Elite interviewees may patronize the interviewer, dominate the conversation, and avoid undesirable question (Welch et al. 2002). It has to be admitted that a power imbalance was present in the interviews since the interviewer was a novel business researcher and the interviewees experienced business executives. However, both of the respondents were used to work with business researchers, and had no false images what was to come. Both were talkative, but yet let the interviewer to lead the conversation. The CEO Firm Alpha had given many interviews for students writing their Master's Thesis and the CEO of Firm Beta even had supervised and guided a student writing his thesis. He also encouraged the researcher to be more informal during the interview.

While the openness of interviewees is always crucial, the question is especially important when interviewing elites. Elite interviewees are more practiced in fielding questions and are more tightly bound to organizational policies. Especially senior executives often speak behalf of a formal organization, or even if they were the organization. It may be disappointing for a researcher to realize not gaining anything more than information already available in press statements and annual reports. However, elite interviewees are more than capable of dealing with demanding and probing questions (Welch et al. 2002). The interviewees spoke very openly, probably due to the fact that this study did not address very confidential issues. Only the exact sizes of few figures

were kept as secrets. Both of the respondents were offered a change to see the results before the publication, but only the CEO of Firm Alpha seized this opportunity.

Post-interview cooperation with the elite informants is can be very beneficial to research, as the factual verification of findings by the interviewees increases the validity (Welch et al. 2002). Both respondents offered to answer additional questions by telephone or e-mail. The findings were sent to be verified by the CEO of Firm Alpha from request.

3.4 Data analysis

The purpose of analysis in qualitative research is to create new knowledge on the researched topic by creating a clear meaningful entity from dispersed data. The data should be summarized without losing any essential information (Eskola & Suoranta 1998).

The analysis of the interview data was conducted in the following steps. Firstly, the tapes were transcribed as text documents and scrutinized thoroughly. The transcriptions were read multiple times in many phases: before, during and after of writing the results. This was done to assure that no valuable information was left unutilized.

Secondly, the data from both cases was **categorized by themes** and summarized. Categorization enabled extracting themes from the raw data that address the objective of this study. Quotations referring to the themes were utilized abundantly to invigorate the text and to justify the researchers' interpretations. The division into themes is illustrated in Table 2.

The analysis in case studies most often begins with the analysis of each individual case separately. This is called within-case analysis, in which data from each case is treated as a separate "experiment" (Miles & Huberman 1994). It often includes drafting general descriptions of the cases, which may be structures either in chronological order (emphasizing events, actors, and actions) or in thematic order (emphasizing themes, issues, problems, and conceptual categories. The key objective of this is to construct for a meaning by linking empirical patterns to each other to form a holistic configurations, the cases (Eriksson & Kovalainen 2008). These **within-case analyses** of both case software products were conducted in thematic order. Also short descriptions were given in chronological order to illustrate the development of the case software products' international distribution channel networks.

Thirdly, the analysis progressed to **cross-case analysis** where the results of the cases were compared to each other in order to find similarities and differences across the cases (Eriksson & Kovalainen 2008). This also eased the positioning of the cases into the theoretical framework and revealed some new insights. Comparison of seemingly simi-

lar cases by a researcher looking for differences can break simplistic frames (Eisenhardt 1989). Also the cross-case analysis was carried out in the thematic order.

Fourthly, the results were analyzed in contrast to earlier empirical research and theory, as discussion between empirical data and theory is required for effective theme analysis (Eskola & Suoranta 1998). This is a typical challenge for intensive case study research is to relate theoretical concepts with empirical examination that engage the readers to learn (Eriksson & Kovalainen 2008).

This can be referred as **pattern matching** introduced by Yin (2003). It means comparing empirically based patterns with theoretically predicted ones. It is especially fit for explanatory and descriptive studies. In explanatory studies the patterns may be related to the dependent or independent variables of the study, or both. Using this terminology, typical of quantitative research, the international distribution channels would be dependent variables and software characteristics independent. The dependency between these variables was predicted in a theoretical part. Even if case study is descriptive by nature, pattern matching is still relevant, as long as the patterns are defined prior to the data collection. The description of the software characteristics was provided in Chapter 2.3 and the description of international distribution channel model that was typical of software products was illustrated in Chapter 2.2. As two cases were applied instead of one, the research findings are more robust due to the replication (Yin 2003).

Table 2 below shows the operationalization of the research objective into sub-objectives and themes, and the interaction between theories and empirical data.

Table 2 Operationalization of the objective of the study

Objective of this study	Sub-objectives	Theoretical background	Themes	Results
To examine how a business software producer needs to consider the characteristics of its software product when selecting international distribution channels.	To describe the international distribution channels suitable for business software products.	Chapter 2.1.	• Channel structure • Channel functions	Chapters 4.1.1, 4.2.1 & 4.3.1
	To describe the characteristics of business software products that have role in selecting international distribution channels.	Chapter 2.2.	• Knowledge specific to business software • The level of productization	Chapters 4.1.2, 4.2.2 & 4.3.2.
	To evaluate the role of those characteristic in selecting international distribution channels.	Chapter 2.2.	• Role of the specificity of knowledge in channel selection • Role of the level of productization in channel selection	Chapters 4.1.2, 4.2.2 & 4.3.2.

3.5 Evaluation of the research

There are many ways to evaluate the trustworthiness of the study (Hirsijärvi et al. 1997). In qualitative research the concepts of validity and reliability have traditionally provided a framework for the evaluation, and are also utilized in this study (Eriksson & Kovalainen 2008).

The validity of a research refers to how well the chosen research methods measure the object that they are meant to measure (Hirsijärvi et al. 1997). If the research is valid the findings accurately represent the research topic and are backed up by evidence. Yin (2003) suggests that validity can be analyzed from three perspectives: 1) construct, 2) internal, and 3) external.

Construct validity refers to establishing correct operational measures for the concept that is studied (Yin 2003). In other words, it is the extent to which what was to be

measured was actually measured. It is especially problematic in case study research and has been a source of criticism because of potential investigator subjectivity. Yin (2003) proposed three remedies to counteract this: 1) using multiple sources of evidence 2) establishing a chain of evidence, and 3) having the draft report reviewed by the interviewees.

The main body of data was collected was in two long interviews with the CEOs. The interview data was reinforced with second-hand data, such as company websites, company documents, earlier cases studies, and news bulletins. This enabled triangulation of the sources of evidence to a certain extent. Interviews with other personnel besides the CEOs could have been beneficial. On the other hand, the respondents were experienced in their roles as executives and had been internationalizing the case software products from the beginning until today. The researcher was privileged with a plenty of time in a disruption-free environment with the CEOs to conduct long interviews. They possessed knowledge on their products, distributing them, the decision-making behind the channel selections, and thus, on the topic of this study. The interviews were recorded and therefore it was easy to return to the raw data through the whole analyzing process. The draft report was sent to the CEO of Firm Alpha.

Internal validity is the approximate truth about inferences regarding cause-effect or causal relationships and is only relevant in studies that try to establish a causal relationship. It's not relevant in most observational or descriptive studies. Internal validity in this study is related to the third sub-objective (Yin 2002). There are many factors besides software product characteristics influencing distribution channel decisions, such as financial resources or environmental uncertainty. The researcher acknowledged this, and attempted to carefully asses the importance of software product characteristics compared to other factors. The respondents were first asked about the important factors influencing the international distribution channels in general. Most answers addressed issues related to software characteristics, even though this was not directly asked. For instance, difficulties in finding potential partners that know the end-customers' businesses well enough can be interpreted in a way that the high level of business process specificity hinders the use of outside partners.

However, the respondents knew the topic of this study, and may have adjusted their answers accordingly. Any signs of this did not occur, but the researcher cannot prove otherwise. Nevertheless, the general image that the characteristics specific to business software had played a significant role in international distribution channel selection passed on to the researcher. Strong evidence from existing theories and earlier studies further provide evidence of this causality. Pattern matching technique suggested by Yin (2002) was used to increase the internal validity.

External validity refers to the generalizability of the case outside the case contest. Being an intensive case study, this research is not externally very valid. Generalization

of results is problematic in qualitative research in general, but especially in intensive case studies. The problem of weak generalization can be adjusted with the use of theories. Usually the generalizations are not made to the population but to theory. Through a general theory, a small number of cases may enable more general conclusions (Eriksson & Kovalainen 2008; Yin 2002). Yin (2002) calls this analytical generalization. Theories enable assessing the reasons that affect the case and also evaluating how the case would have been in different conditions. They enable positioning a case into a more general framework (Koskinen et al. 2005). Also in this study, all the results were analyzed in contrast to theory and earlier empirical research to increase the understanding of the phenomenon and to better position the cases to a larger framework.

It is possible to increase the external validity of a research by providing rich description of the cases (Koskinen et al 2005). Case study research does not need to satisfy the ideals of quantitative research as the thick descriptions of cases support the interpretation and understanding of the cases (Eriksson & Kovalainen 2008). In this study, the case software products and their international distribution channels were described quite thoroughly.

Reliability is the other classic evaluation criteria commonly used in qualitative business research. It refers to the level of consistency in the research. If the study would be replicated by another researcher, he should come up with similar findings. There is no randomness involved (Hirsijärvi et al. 2000; Eriksson & Kovalainen 2008). The repeatability of the observations is one of the cornerstones of scientific research. If the observations cannot be repeated by outside researchers, will be unable to neither qualify nor disqualify the results. If the observations can be repeated, it is possible to perceive that the studied phenomenon is real and the interpretations can be accepted. However, the repeatability is a very strict demand considering business research and should not be taken literally. The settings are constantly changing. For example, when studying a firm that evolves, grows and employ new key personnel, it may be difficult or even impossible to repeat the study (Koskinen et al. 2005).

The methodological path was very clearly explained to increase the possibility to repeat this study ending up with relatively similar findings. Furthermore, the unit of analysis, the reasons for case selection, the data sources, the data collection and how the data was analyzed were presented in such a way that other researchers could replicate this study (Yin 2003). The abundant use of quotations in presenting the results enables the readers to make their own interpretations of the answers (Koskinen et al. 2005). Consequently, quotations were used plentifully in the result chapter.

4 CHARACTERISTICS AND INTERNATIONAL DISTRIBUTION OF THE CASE SOFTWARE

The results of this study are presented in this chapter in a similar order to Chapter 2. The results are presented in two parts regarding: 1) international distribution channel structures and functions, and 2) the case software's characteristics and their role in selecting these channels. Both cases are first introduced separately and then together.

Both secondary and primary sources have been utilized in collecting the data. As the vast majority of data is from the interviews, references are only marked if they are from secondary sources.

4.1 Software Alpha

Alpha is application software for computer aided design and product data management (CAD-PDM) purposes. It is used to construct 3-dimensional models of different objects, such as machines or buildings. Alpha consists of customizations to several industries that are all based on the same core software. The industry-specific customizations are supplemented with PDM features to add value for the customers by enforcing processes in product development, design, sales and production (Firm Alpha's website 2011).

Alpha is mainly used in machinery and equipment manufacturers of metalworking industry, building and furniture industry, process industry and energy production as well as in the corresponding engineering companies. The customer base is global as over 8000 licenses have been sold to thousands of customers in over 30 countries (Firm Alpha's website 2011).

The software is sold as licenses that can be either bought or rented. The license prices are around a couple thousand euros, and upgrades are included in the price. Additionally, a wide variety of services, such as consulting, training, customization or implementation, is available from additional fees. The basic support services, if provided remote instead of on-site, are free of charge (Firm Alpha's website 2011).

Firm Alpha, founded in the 1970s, is the producer of the software. It is an internationally-oriented SME headquartered in Finland and a parent company for a global network that consists of two subsidiaries in Asia and an affiliated firm in the U.S. It also runs foreign offices in three countries, the U.K., Germany and France. The group employs globally nearly 100 individuals, mostly in Finland, Asia and the U.S. Firm Alpha's primary focus is in Europe and North America, but it is capable of providing customer support worldwide. The turnover of the parent firm, Firm Alpha is currently approximately 6 million euros and it employs roughly 80 persons.

4.1.1 International distribution channels of Alpha

The international distribution network of Firm Alpha has developed over two decades. All started in the beginning of the 1990s, when a potential partner in the U.S was found. The software had prospered on the Finnish market and the executives thought they could easily transfer the success into the U.S. by establishing an affiliated firm with a local partner. The road to success proved to be more problematic than expected, but the international distribution network was established.

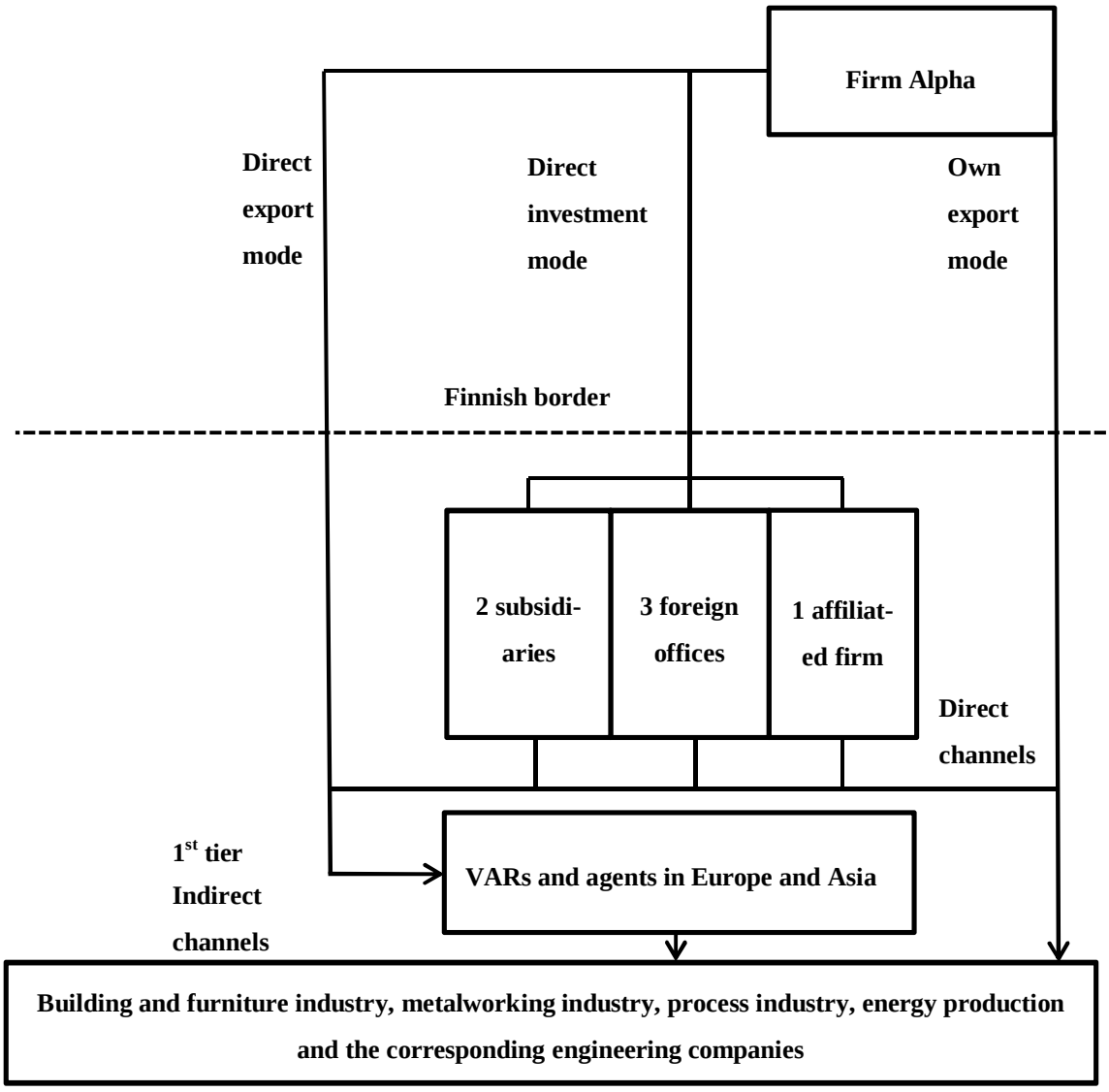
In Europe, Firm Alpha participated in an export ring and managed to find an intermediary in France, who still sells Alpha on an agent contract. Gradually, more intermediaries were found. Some succeeded, some failed, but eventually Firm Alpha ended up establishing a sales office in the U.K. in 2003. It had not succeeded in finding partners effective enough. Same followed in Asia, where subsidiaries were established in Australia and Singapore to cover the distribution on the Asian market. The firm-owned channels have been supplemented with intermediaries in both, Europe and Asia, and pursuing new intermediaries yet continues.

The CEO of Firm Alpha described the formation of the current channel structure as follows:

> *"Determinedly it [international distribution channel network] has grown. The know-how has increased in the channel, and I guess, we've learned how to operate the channel. It's a growing process all in all. And I guess, the selections, the successes and failures have increased our knowledge and will direct our [future] selections."*

The structure of Firm Alpha's international distribution channel network is illustrated in Figure 11 according to the model introduced by Gabrielsson (1999).

Figure 11 International distribution channels of Alpha



Source: Modified from Gabrielsson (1999) to the case of Alpha

The types of operation modes that Firm Alpha currently utilizes are: 1) direct export mode through foreign intermediaries, 2) direct investment mode through fully-owned subsidiaries, foreign offices and an affiliated firm, and 3) own export mode directly from the headquarters in Finland.

The network of intermediaries partly covers Europe and East Asia. In Europe, the independent intermediaries consist of four VARs (value adding reseller) and one agent. These intermediaries can be characterized as VARs since they provide a wide variety of services to the customers. Three of the VARs distribute the building design software and one the mechanical engineering software. In East Asia operates a single VAR and numerous agents. All of these only concentrate on mechanical engineering software and

are controlled by the subsidiaries in East Asia. The subsidiary in Australia solely performs the distribution of the building sector software in East Asia.

In East Asia, most of the intermediaries are operating in the metal and machinery related-industries. They only sell and promote Alpha to their customers and leave delivery of the product and services to the Singaporean subsidiary. An exception is the VAR in Japan, which performs all the functions itself. In East Asia's mechanical engineering sector agents do not perform the delivery and it is taken care of by the Singaporean subsidiary.

The channel members in Europe, and the one in Japan, operate on reseller contracts and are concentrated on the sales and service concept of software. In Europe the only exception is the intermediary in France that operates on an agent contract and does not provide delivery of the software nor the services.

Firm Alpha has an American sister company, which operates quite independently and takes care of the distribution on the American markets (North and South). The firms are under the same ownership, but Firm Alpha is the parent firm of Alpha group.

The CEO of Firm Alpha refused to comment on the division of turnover between different channel members in detail. However, he evaluated that roughly 15 percent from the foreign sales derive from the headquarters' own exports. Furthermore, he added that approximately half of their turnover is generated through intermediaries.

Firm Alpha is seeking to expand to new markets areas. For example, the newly found office in Germany is searching for potential resellers in Poland and German speaking countries. It has not been determined whether to expand through independent intermediaries or direct investments, but these decisions are rather made according to the situation. Potential partners are actively searched.

> *"I'd say were looking for new markets. That's the point. And to get onto new markets, you need a partner." (The CEO of Firm Alpha)*

If effective channel intermediaries cannot be found, it is possible that a subsidiary or sales office is established. This has occurred in the UK and East Asia already.

The channel strategy of Firm Alpha is to distribute through both, direct and indirect channels, yet not more than through 1st tier channel structures. The sales responsibilities are geographically divided between the headquarters, local units and intermediaries. Sales are highly exclusive and no dual channel structures exist. When contacted by customers in areas where foreign unit or intermediaries locate, Firm Alpha re-directs the potential customer to these. Own exports are used only in areas where no intermediaries or foreign units operate. Promotion on the other hand is performed through both direct and indirect channels. Especially the website of Alpha Group operates as a global promotion channel. This is typical of hybrid channel structures.

Multiple channels may be used for sales in a particular market, but then the sales are focused on different industries. For example, the VAR in Japan distributes exclusively mechanical engineering software in Japan while the distribution of building design software in the whole East Asia, including Japan, is performed by the subsidiary in Australia. Yet, a solution for a particular segment is not sold through more than one channel in a certain market area.

Firm Alpha aims at providing sales and delivery functions from a single channel in a single market. This implies that also the intermediaries are increasingly expected to perform the delivery. The channels for mechanical engineering software in East Asia are quasi-integrated. The subsidiaries provide the delivery while agents take care of the sales.

The structure of the distribution channel network is quite complex. Both direct and indirect channels are used, and various kinds of firms with different relations to Firm Alpha are utilized as intermediaries. To illustrate the variation, an example is given. Alpha is simultaneously sold by Far-Eastern metal processing machine firms operating as agents and by European professional software firms that provide full-scale services.

The distribution functions were performed through both: online and conventional channels. *Selling* Alpha is more solution than product-oriented and requires deep interaction with the customers. It is based on recognizing the customer need and assessing whether they could be solved with Firm Alpha's software. The sales negotiations take place very traditionally by participants meeting face-to-face. Online sales channels, i.e. web store, are not utilized at all.

> *"We may sell additional services online, but the first deal, you don't buy it on the Internet or anything. […] this business doesn't work that way." (The CEO of Firm Alpha)*

Nonetheless, the importance of the Internet has increased significantly and continues to do so. It is a crucial channel for the promotion and delivery.

> *"It's a tool for marketing and information sharing, that's what the Internet is for us – and a support tool, of course*." (The CEO of Firm Alpha)

Delivering the core software through the Internet is simple and it has overthrown physical delivery almost completely. Some customers still insist delivery on CD, but they are a small diminishing minority as the software program can be easily downloaded from the Internet.

Similarly, the related services can be provided online. It is possible to customize, integrate and install the program to the customers' existing systems through the Internet,

without any activities on-site. Yet these pre-sales services are usually conducted conventionally in customers' premises. For example, from the customer trainings over 90 percent are conducted on-site even though the training could be completed also through the Internet by arranging a video conference. After-sales services are mostly delivered online through support websites. The recent trend in the software delivery, cloud computing, was not utilized in delivering Alpha as CAD-software requires so much computing power that it cannot be run from the cloud.

Promoting Alpha is conducted in cooperation with the headquarters, foreign units and intermediaries. The guidelines are created on the top, but local units and intermediaries localize promotion to local conditions. Promotion is heavily dependent on direct contacts.

> *"Our customer base is such that the customers can be easily found. We [Firm Alpha's employees and the employees of an intermediary] take our briefcases and go there alone or together, and check out what's the situation. We familiarize ourselves with it and see if we can find enough value to the customer in order to continue." (The CEO of Firm Alpha)*

Organizing events, campaigns and participating fairs play fairly important role in the promotion. Also advertising is utilized, not in the mass media, but rather in professional magazines and publications. Firm Alpha also publishes its own customer magazine in Finnish and English.

Online channels have become very important for promotion. It is expected that all the relevant information is provided online.

> *"Well it has increased [the importance of the Internet]. Everything's there. When we were at a fair in the States, nobody took our brochures or leaflets. They just asked if we had them online." (The CEO of Firm Alpha)*

The visibility on the Internet, especially high rankings in search engines, is absolutely crucial for Firm Alpha. Instead of searching for a firm, the customers search for a product or a feature. Therefore search engine optimization and search engine advertising are extremely important. Firm Alpha aims to be among the first three search results, and the minimum requirement is to be on the first page. After a contact is once established direct marketing by e-mail is easy. As the CEO put it:

> *"Today within this industry, within our customers, if somebody needs a solution like ours – what he's going to do? I bet he'll google it."*

4.1.2 Role of Alpha's characteristics in selecting international distribution channels

The specificity of knowledge inherent in Alpha seems to have limited the number of potential intermediaries. The nature of the software is such that finding partners has been problematic.

> *"We've got to find the know-how there [on foreign markets], in one way or another. We've looked for intermediaries on new markets; that's the option number one. But many times we've realized that we can't find ones that meet our requirements, or if we do, they've something similar or competitive going on and we can't cooperate. That's why we've established our own [foreign units]." (The CEO of Firm Alpha)*

Especially the fact that Alpha offers solutions to highly specific business processes seemed to play role in selecting international distribution channels. Even though Alpha is not specific to one industry, it truly requires knowledge on the customers' industries as it has been developed further to offer customized solutions mainly to homebuilding industry, machinery industry and smaller niches within these industries. Possessing knowledge on these industries is crucial for the channel member with the customer contact.

> *"In mechanical sector we have some niche-areas, such as sheet metal design, where you really need to know the industry. Same applies in house building, it is absolutely essential that we know the processes of the industry and the ways they work there." (The CEO of Firm Alpha)*

The division of education backgrounds of Firm Alpha's employees gives an idea about how extremely business process-specific software is in question. The majority of the employees are engineers with education in fields such as building industry, mechanical engineering or facility planning. Only few employees in the headquarters have education on computer software programming. As the CEO crystallized it:

> *"It's way more important for us that our guys know what our customers are talking about than that they know how to code, because that you can learn. It's more difficult to get the branch know-how."*

This seems to be important in selecting distribution channels. As Alpha requires a very high level of expertise on customers' businesses, possible intermediaries need to meet certain requirements. Consequently, the intermediaries distributing Alpha are somehow linked to the industry they are distributing to. This hampers the use of inter-

mediaries that are professional sellers (e.g. volume distributors), but lack the industry know-how. Simultaneously, this limits the length of the channel since no intermediaries without the business process knowledge can be included. The respondent strongly denied that an only requirement for an intermediary could be effective selling capability, know-how from the business processes of the customers' industries is certainly needed.

The exclusiveness of distribution mainly stems from the fact that Alpha is a highly specialized professional application sold to small niches. The number of potential customers is limited and there is simply no need for intensive distribution as one effective intermediary in one market area is usually enough to cover the markets.

The decision not to sell Alpha online is not technical by nature. The core software is actually quite standardized package and it could be sold on a web store. However, the CEO of Firm Alpha claimed that the nature of Alpha essentially prevents this:

> *"This is such specialized software that it's not going to go there. Well, we can put this on sale on the Internet, but nobody would buy this."*

CAD software programs' user interfaces have simplified over the years and now all of them share certain de facto standards. Therefore, mastering some other CAD software program also helps to understand the functionalities of Alpha. The respondent suggests that certain strength of Alpha is its easiness to use. Similar software may take weeks to learn, but for Alpha it is possible to train new users in a week. Yet, compared to many other software products, the program is not the easy to master, though some industry-specific solutions of Alpha require a little less from the users than others. Most of the solutions, such as building design, just cannot be built easy-to-use, which makes the software very complex.

> *"Ok, let's put it this way. You want to build a house. Inside the wall of the house, there are all the pieces that the wall comprises of, and all the little things inside those pieces; and you need to know exactly where to place all of them. Our software designs everything. It has got to be complex. It's not like word processing or playing a computer game. It has so many functions. That's just the nature it has." (The CEO of Firm Alpha)*

This sets high standards for selecting intermediaries. They need to be able to deliver the services related to the product, which requires some knowledge on the field of CAD software, besides the customers' industries.

> *"When we've worked with companies [intermediaries], they've had the right kind of profiles. Know-how about [the customers'] industry and*

> *about this type of software [3D design], as well as possessing local knowledge, have been important reasons [for cooperation].” (The CEO of Firm Alpha)*

Firm Alpha utilizes universally used 3D-modeling components in their program. As they are readily available, there is no sense in making them from the scratch. Yet Alpha is mostly based on technology developed in-house, and outside coders would be quite useless in developing the software, before thorough familiarization. This implies that in programming sense, the knowledge inherent in the program is quite specific.

> *“…if we compare to other Autodesk or Solid Works [Other CAD-programs], it’s a totally different world. […]…they have the same function, but are made differently.” (The CEO of Firm Alpha)*

However, as the program has been built easily customizable, some alterations such as adding data libraries can be made by outsiders quite easily. These customizations can be made to the software even without fully understanding of the underlying principles of how it constructs. This decreases the amount of technical knowledge required from the intermediaries, as well as from the customers who are willing to perform customizations their selves.

Even though the software is mostly based on proprietary technology, protecting this from outsiders was not seen critical and nothing is protected with patents.

> *“We haven’t patented anything. The protection of our software is based on the fact that we’re making such a specialized application. If you want to copy, be my guest. We’ll run a step ahead.” (The CEO of Firm Alpha)*

The level of productization is supposed to have significant role in selecting channels. Firm Alpha has productized industry-specific solutions, all based on the same software, that are customized to fit the basic needs of different customer segments. Nonetheless they require further customization and other implementation and after-sales services to construct the solution. Also the requirements for localization proved to be significant.

Alpha has relatively high service content. It is so complex to use and rich in features that most software deliveries have to be accompanied with training courses. Firm Alpha provides a wide variety of product- or customer-specific training courses to its customers. There are courses available from sheet metal pressing to log house building. The courses are arranged either in the premises of Alpha or at a mutually agreed location near customer. Also a possibility for online-training exists (Firm Alpha’s website 2011).

User training may take a week just to learn the basics. However, according to the CEO, this is quite modest time compared to other similar software that may require few weeks.

The installation process is quite simple, and most of the customers install the program their selves. Sometimes installation may require more complex procedures and is conducted by the distributor. After-sales support services are always provided. Services can be performed either on-site or off-site according to what best suits the customer's needs (Firm Alpha's website 2011).

The amount of services that accompany the product delivery varies. In an average project roughly 80 percent of the income derives from selling the software license and 20 percent from services. However, the percentages may vary significantly up to being another way around depending on the customer's capabilities and needs.

The CEO of Firm Alpha saw the new intermediaries' capability to deliver the services very important. Mere selling capability is not enough.

> *"The most important is that we believe that they can sell and support. Which one is more important? Well… I guess you have to sell first. But on the other hand, if you're not able to install and implement and support that solution to the client, you're not going to be selling it for long. They're both important." (The CEO of Firm Alpha)*

Alpha is already pre-customized to meet the needs of various industries, such as house building and mechanical engineering. It consists of quite standardized industry-specific packages, which all are based on the same core software. Yet these packages are hardly ever delivered as such, but rather with varying levels of customization depending upon the needs of the customers. Also the customers' willingness and capability to perform these services themselves affect the amount of services that the distribution channel has to provide. The customizations are increasingly performed by the channel since not all the customers have the possibility or willingness to put effort in conducting the customization internally.

> *"Sometimes the customers are willing to do it. They want to train their own main user for making adjustments and build [data] libraries and such. But today it's pretty much that we make them [adjustments] since not all have the time or staff for that. Then they'll buy them as services." (The CEO of Firm Alpha)*

Even the slogan of Firm Alpha refers to the fact that some customer-specific work is often included to the deliveries. The firm delivers complete systems more comprehen-

sive than the standard software, and attempts to serve the development of customers' core business. The CEO described this as follows:

> *"Very rarely, very rarely [standardized package is delivered unchanged]. Well, we do have a standardized package, but very often we add something as the customers have different needs."*

Alpha has been designed to be easily customizable to the needs of each customer. The support engineers can develop customized functionality such as modifying or creating component libraries and material databases to more closely integrate the system to the needs of customers. As the CEO describes:

> *"[…] the basic software product has been built in a way that it's same for all […] everybody uses the same program globally. But we can customize it for every client. It has been taken into account in the features of the product."*

Customizations among other implementation services relate to providing solution instead of mere products. The CEO claims that this type of special software is just not bought online, even though selling is technically possible. The distribution function that most requires physical customer contact is the sales.

> *"[…] this business doesn't work that way, because it's always related with selling solutions. There will be a contact [with the customer] in a way or another." (The CEO of Firm Alpha)*

Also the implementation services usually take place on-site, from slightly different reasons than the sales negotiations.

> *"It's not a technical barrier [providing services online]. It's just a little bit boring for our guys and the customers, if you just sit on the computer the whole day instead of traveling and doing it face-to-face […] it's the humane aspect and face-to-face you get the service experience way better […] the Internet is, even with the cameras and all, quite a cold tool. […] but I do think that the use of the Internet will increase [in delivering services]. We use it quite a lot and our customers are beginning to get used to it." (The CEO of Firm Alpha)*

Alpha has often required *localization* when introduced to new markets. According to the CEO the level of localization requirements depends on the characteristics of the new market area.

> *"…When we went to England, we needed to make some changes to the [data] libraries and the presentation of drawings. But when we went from England to Australia we didn't need to do those things anymore [localize]. We always need to do something, but it depends on the market. You don't always need to translate the language."*

Also quite surprising localization requirements have occurred. When first introduced on the U.S. market, the font of the text needed to be changed to look like hand-written. This played no role on the Finnish market, but in the U.S. at that time, it was seen very important.

Alpha is designed in a way that language localizations can be done easily. There are language options in the program, but all the translations are not yet made, since they require the most effort. Also the different industry-specific solutions may require different levels of localization work. Especially house building is always local activity as the desired building designs vary significantly from country to country. This truly requires knowledge on the local preferences. When localization requirements go beyond language, the localization requires more technical knowledge on the software.

> *"Well, the job [localization] needs to be done. And then comes the question of who's going to do it. In that way it [localization requirements] affects [selecting channels]. A sales buddy is not enough when making a strict localization; it needs to have the technical competence." (The CEO of Firm Alpha)*

4.2 Software Beta

Beta is an application for permanent and reliable data erasure. It overwrites the destroyable data 7 times with random data, and the erased data cannot be recovered with any existing technology. A detailed data destruction report is automatically generated, once the information is erased. Besides being reliable, the software is well differentiated from other similar products with many value-adding features. Many types of organizations need this kind of software as they hold confidential or delicate information that must be erased in a way it can be never restored (Firm Beta's website 2011).

Beta is pre-customized to different needs and segments. It can be used to erase data from mobile phones, PCs and laptops, and data centers. Different variations of the software can be used from simple daily data erasure from PCs to more complex server systems. It has been granted many certificates, such as NATO's. The public sector such as governments and defense organizations covers 20 percent of the sales. In the private sector, Firm Beta serves the needs of banks, insurance and financing companies, and recyclers of used companies just to name a few.

The main customer segments have been recently defined: 1) large companies, 2) public sector, 3) sellers of used computers, and 4) service providers, such as data centers. Sellers of used computers are an especially important segment, covering roughly half of the sales. This segment is called ITAD (IT-asset disposition).

Though similar products exist, the market is not yet saturated. The market potential is extensive on business markets alone. Beta is not even sold to consumers at this point despite the possibility. The firm is globally a major player in the field of data erasure, and has sold millions of software licenses. Usually, one license is per one machine, and entitles for a single erasure (Firm Beta's website 2011). These licenses are mostly sold in bulks to large customers, while small customers are generally ignored.

Firm Beta is the producer of Beta Data Eraser-software. The firm was founded in Joensuu in 1997. It has experienced rapid international growth ever since its foundation. Internationalization has been a natural step for this firm as the size of the home market is minuscule, approximately 500 000 euros. International markets are truly the lifeblood of Firm Beta as the vast majority of 97 percent of the total sales of is generated abroad. The firm has expanded abroad rapidly and the Beta Group now consists of two units in Finland and thirteen abroad. Firm Beta has named its foreign units as international area offices, which are all except one at least partly owned.

The size of the personnel is over 80, roughly half of them working in Finland. The CEO believes that the sales will continue to grow at a pace of 30 percent and that the number of employees will exceed 100 this year. The turnover of Firm Beta was 4.7 million and the growth rate near 40 percent more than the year before and the corresponding figures of Beta Group were 7.5 million and almost 40 percent. Firm Beta has been awarded multiple awards from its innovativeness, growth and rapid internationalization (Firm Beta's website 2011).

4.2.1 International distribution channels of Beta

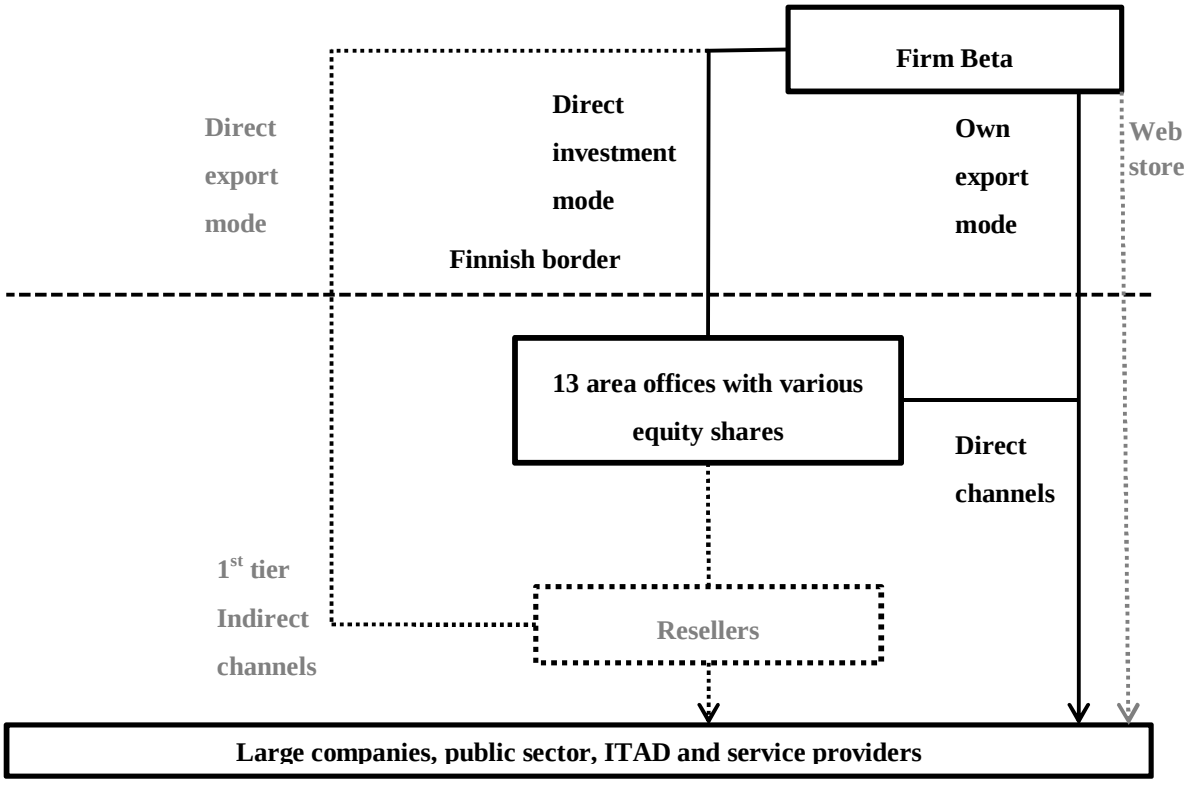
The international operations of Firm Beta began in the late 1990s by exporting from Finland to the newly-found foreign customers. In the end of the 1990s, the firm started to build a network of foreign intermediaries in order to respond to the increased interna-

tional demand. In 2003, the partner network was cut drastically in order to increase the efficiency of the remaining partnerships as the extensive partner network was difficult to manage. The model changed to franchise model where some of the remaining partners started to operate under Firm Beta's name. To increase the control over its distribution and to commit the channel members to distribute its software, Firm Beta has moved towards direct channels through direct investments (Nummela & Saarenketo 2011). The CEO of Firm Beta described the formation of the distribution network along these lines:

> *Basically it [Firm Beta's international distribution network] has developed in such a way that at first we sold straight through resellers – didn't work out that well, and tried to sell directly from Finland – had its own challenges. Then we started these franchising activities and gave Firm Beta's name to everybody who wanted to do that [sell Beta]. After that it developed into – umm – that we started to establish subsidiaries and affiliated companies.*

The current form of the international distribution network of Beta is illustrated in Figure 12.

Figure 12 International distribution channels of Beta



Source: Modified from Gabrielsson (1999) to the case of Beta

The types of operation modes Firm Beta currently utilizes are principally direct investment mode and own export mode. Also resellers were utilized actively in the past, but their role has diminished and they cover only few percent of sales anymore (therefore dashed arrows in Figure 12). The main body of the international distribution channel network currently consists of 13 international units, called area offices. They locate in Canada, Italy, Spain, the U.S., Mexico, Great Britain, Japan, France, Germany, Australia and Sweden.

From these one is a foreign office and the rest are either subsidiaries or affiliates. These are in most cases established with ex-intermediaries that now operate under Firm Beta's name. It is noteworthy to point out that the Finnish employees are a minority within the group, which consists of 15 different nationalities (Nummela & Saarenketo 2011). Beta still has independent resellers in several countries, but their share of the total sales is currently less than 1 percent. Also the significance of own export mode is decreasing since the international area office network expands.

Most of the area offices are subsidiaries with the ownership of 51 percent, though exceptions exist, such as Sweden's office with 75 percent and England's office with 100 percent. In affiliated firms, the ownership is usually around 20 percent. The ownerships are divided between Firm Beta and the local area office managers, except in one case, where the co-owner is a firm. The distribution model can be considered as entrepreneurial, though it is not franchising anymore. This kind of an arrangement provides control, but is less resource-demanding than establishing green field subsidiaries with full ownerships.

The channel strategy of Firm Beta is to distribute through partly-owned subsidiary network, sales being exclusive to subsidiaries in their responsibility areas. The number of levels in the distribution channel structure is currently quite limited. Indirect channels have been utilized by exporting directly through local intermediaries, but this has decreased rapidly as Firm Beta has constructed its own distribution network. The sales through resellers cover less than a percent of the total sales and are no longer seen as crucial. Firm Beta has been moving towards direct investment mode for some time by establishing area offices with either minority or majority shares. A small percentage comes from the few customers that also resell Beta. Their percentage from the total sales though is currently few percent.

The aim of Firm Beta is to sell only through a single channel in a particular market area. The sales are highly exclusive; the parent company directs customers to the local area offices if they contact the headquarters. Own export mode is used in areas where no area offices operate. A majority of the area offices provide delivery and promotion, in addition to sales. Providing everything via one channel in one geographic area is the aim in the future.

The headquarters and area offices are together responsible of the international promotion of Firm Beta. Beta Group's website constructs an important part of the global image and provides the contact information of all the area offices.

The distribution functions are mostly performed through online channels, the sales being an exception. The *sales* negotiations mostly require the buyer and seller meeting in person as they are more based on recognizing the needs of the customers rather than offering same software to all. This is currently considered basically as the only way of attaining worthy new customers.

> *[…] we do it face-to-face - in sales we almost always visit the customer. You've got to see the face when you're making expensive deals […] you don't buy expensive systems from a web store. (The CEO of Firm Beta)*

Beta is also sold on a web store. However, this web store is more used for promotional means. Often only single licenses are sold online and online sales do not cover even 1 percent of the total. The web store is maintained as it provides Firm Beta with sales leads, i.e. identities of entities potentially interested in buying Beta. As a result the web store may trigger sales since direct promotion is focused on the leads.

Performing the *delivery* function of both core software and services is increasingly an online activity. Both implementation and after-sales services are mainly delivered through online channels. It has almost completely replaced the conventional delivery. The respondent defined two main ways of delivering the core software.

> *[…] one: we send the software from the headquarters to the customer if it is our direct client. It is either send directly as an e-mail or as an e-mail link to a FTP-server where the customer downloads the software. Our area offices use the same method. Or two: that we install it, for example, by using a remote connection. (The CEO of Firm Beta)*

Sending the software on CD is quite uncommon, but in deliveries to some countries this still occurs. Nevertheless, this method of delivery is gradually disappearing as the CEO described vividly:

> *The age of the CD-ROM shall never return*

Firm Beta actively *promotes* its software to the media by preparing press releases to the media with ready content for newspapers. This content mostly ends up in online newspapers, but some even on print. The firm is actively present in direct marketing fairs and other events, participating to 25-30 events a year.

The single most important promotion tool is direct contacts to potential customers by e-mail, telephone and customer visits. Direct marketing is seen more important than indirect, such as advertising. Firm Beta has also advertised indirectly in the print media, but cancelled after it was realized that measuring the actual results was very problematic. Online advertising is seen more traceable and the returns for investments are easy to estimate.

> *If you put an ad on a magazine it's really hard to follow if it brings any profit. Online you can see it directly. Big old fat companies say that half of their marketing works; they just don't know which half. (The CEO of Firm Beta)*

The online visibility of Beta is enhanced by online marketing and search engine marketing and optimization. Also the web store is used as a promotion tool. The Internet's role in promotion is seen more significant than the traditional media's. Tens of thousands of euros every year are invested in search engine marketing alone since ranking high in search engines is seen as crucial part of promotion. The benefits of online advertising are quite traceable and the returns for investments are easy to estimate.

> *[…] we invest in that [Internet marketing], and attempt to create demand through it. We monitor quite accurately how many leads we get, how long people spend time on our websites, what's the rebound rate, and what's the average time spent on our website. (The CEO of Firm Beta)*

4.2.2 Role of Beta's characteristics in selecting international distribution channels

The specificity of knowledge inherent in Beta seemed to have role in selecting the international distribution channels. The CEO of Firm Beta stated that the knowledge on the customer's business processes is very important for operating with some customer branches. For example, an extensive share of the turnover generates from the sellers of used computers, to whom Firm Beta has developed customized branch-specific solutions. The CEO describes their requirements for business process knowledge on their customers' industries in a following way:

> *Absolutely [requires business related knowledge]. The biggest, roughly half, 48 percent, of our turnover came from the re-users of computers […] we've customized a really good branch-specific solution for that IT-AD-segment [IT-asset disposal].*

Firm Beta has customized solutions to other segments as well that are data centers, large companies, and public sector. For instance, the Dutch public sector uses one certificated process to erase data designed by Firm Beta. Despite its few segments with customized solutions, Firm Beta serves the needs of quite a vast variety of different firms and therefore the business process specificity can be seen as moderate.

Explaining the basic functionality of Beta is easy and the use only takes minutes to learn. The complexity lies in delivering the product, which has been recently a topic under discussion in Firm Beta.

> *Unfortunately we've made the delivery and stuff a little too difficult. […] So it is really simple to explain [the basic principles], but after that it goes dirty and muddy. (The CEO of Firm Beta)*

The delivery requires specific technical knowledge on the software and thus technical know-how from the channel members. Hence, resellers are not ideal for delivering the product, as the successful delivery would require training of the intermediaries or software that is easier to deliver.

Beta is based both on self-developed technology and common standards. The software is based on Linux, on which Beta has built its own user interface. In the U.S., where protecting software with patents is possible, Firm Beta has considered of protecting their software. Protecting the technology is not seen as very crucial though, as long as their brand and such things are protected with intellectual property rights.

The level of productization is dependent upon the services that are required to accompany the software delivery. Beta has relatively low service content and only few services are delivered with the software. Only roughly 5 to 10 percent of income in an average sales transaction derives from service deliveries. The CEO enlightened their business model accordingly: on a scale from 0-100, at the other end being project business (0) and at the other end fully product-based business (100), they would situate somewhere near 85. It was clearly stated by the CEO that Firm Beta mainly concentrates on developing software:

> *We don't go to our customers' premises to erase data. We are a software firm.*

Nonetheless, Firm Beta provides installation services to implement the software to customer's systems, maintenance and support services and regular updates. The installation is complicated and requires technical knowledge on the software. It is usually conducted through an electronic interface, using remote connection, instead of performing it on-site.

> *The day will come when these [the installations] are simple. Now we are far away. (The CEO of Firm Beta)*

A significant reason the current distribution channel structure is the fact that the successful delivery of Beta requires a complex installation process. This has been facilitating the movement away from independent intermediaries towards direct investment modes.

> *We have drifted towards subsidiary model or area office model. It is due to the fact that this is not a very good product for resellers, because it's technically complex to deliver, but the size of the deal is relatively small. So even if you get a big percentage [commission], it isn't necessarily profitable. (The CEO of Firm Beta)*

Also the difficulty to add any value adding services to data erasure software products discouraged intermediaries to distribute Beta.

> *There isn't a value adding service that you could combine with data erasure software. If you sell, let's say, financial management software, you can offer user training, other financial management software or customizing. (The CEO of Firm Beta)*

Especially combined with the complexity of delivery and small transaction size, the resellers are not provided with enough incentives to distribute the product.

In addition to other implementation services, roughly 90 percent of the product deliveries require some *customization*. However, Beta has been built easily customizable by developing its own configuration tool to customize the software to each customer. The CEO called it mass customization, and described it as follows:

> *"When you buy a car, they are usually built on the same base, on which they pile up a car that you ordered. We basically got the same base for everybody and we pile up different kinds of configurations on it. I'd call it mass customization."*

In addition to mass customizing, Beta is occasionally customized even further by altering the source code of the product. This occurs in approximately 5 to 10 percent of customer deliveries. As a result, roughly 80 to 85 percent of the software deliveries are

mass customized, while the rest is sold either non-customized or further customized by changing the source code.

> *The source code is usually a bit like a tree trunk, it's same for all. But then we make our own branches by modifying the source code, from which we then deliver own branches to customers. (The CEO of Firm Beta)*

Firm Beta have utilized own export mode more in the past, but it made the delivery of services significantly harder. The own export mode is still used, but its significance is decreasing all the time. The CEO described the difficulties as follows:

> *Selling directly from Finland takes you only until a certain point, when come the practical issues, such as, time difference, language, culture, and stuff like these. There are lots of challenges on that field.*

For instance in Japan, the requirements for product support and technical assistance are very high, which necessitates local presence. This is especially true for some of the customer segments.

> *Yeah, as said our product support in some segments is so intense that we have had to go for a local salesman and a local supporter. (The CEO of Firm Beta)*

The resellers of used computers require very intensive product support, which place requirements for the distribution arrangements

> *When selling from Finland, for example, product support becomes very difficult and it's crucial part of the process. If it goes wrong and they (re-sellers of used computers) receive truckloads of stuff and our products don't work, it's going to be hard for them to call to Finland (from the West Coast of the U.S.) at noon. Here everybody's already at home. (The CEO of Firm Beta)*

The *localization* requirements for new market areas are relatively low. The software is designed to be easily localizable.

> *We have made localization easy, in a technical sense I mean. If we want the Chinese language, we can implement it maybe within a day if some-*

> *one has translated it first. Getting the translation is usually more demanding, though. (The CEO of Firm Beta)*

Beta is currently available in 12 languages. In addition to the language localizations, there are only minor localization requirements, such as time formats. These relatively low localization requirements did not set heavy constraints on organizing distribution. Operating with locals makes the language localization easier, but is not necessary.

The lack of localization requirements (i.e. the ease of localization) played a significant role in building the international network of intermediaries, as the excerpt from Firm Beta's business plan from year 2000 shows (for reference, see Nummela & Saarenketo 2011).

> *Due to global need for the data erasure software, Firm Beta considers all the countries its market. However due to limited resources will concentrate to major European (Scandinavia, Germany Great Britain and Ireland) and American markets. Because Beta can be localized relatively easy, Firm Beta will make localized version of product if it can find good partners for the other markets also.*

Due to the intangible nature of the product, the Internet is considered as a natural channel for delivery. The delivery of the software requires no physical interaction. Also the most complicated part, installing the software, can be also conducted through remote connection.

> *The easiness and quickness [are the reasons]. In practice it's always free to send. Always when you use some traditional media, somebody must do something and it costs. […] Because we can, we do it like that. (The CEO of Firm Beta)*

The *transaction size* seemed to have role in the distribution. Firstly, the average transaction size was too small to motivate resellers taking into account the complexity of the delivery and the lack of suitable value adding services. Secondly, it was too high for Internet sales. Even though single licenses can be bought online for tens of euros, it is not what Firm Beta aims to.

> *We don't want the small customers. Our segmentation goes in a way that we don't concentrate on consumers or SMEs and that's why we don't concentrate on that [selling through the Internet]. Not many buy a large*

> *amount; let's say thousands of licenses via the Internet. (The CEO of Firm Beta)*

The CEO wanted to add one more characteristic that played role in organizing international distribution. This could be referred as *the liability of foreignness* that means the hardship of doing business as a foreigner. Though it is not directly software characteristic, the respondent claimed that especially when selling certificated products, the nationality of the seller makes a lot of difference.

> *[…] and when we certificate our products on different market areas, it usually leads into that […] the end-customer wants to buy the product from a local seller, not from some far away country or else. It's kind of a spiritual thing. (The CEO of Firm Beta)*

Firm Beta also desires to have control over their distribution network, which independent intermediaries do not provide enough.

> *When we operate through resellers, we got no control over what they're doing. They represent other products and focus on Beta just for a small time. Instead, when we operate through self-owned or partly-owned channel, we get the controllability and at the same time we get them to focus solely on Beta. Resellers are always concentrated on many things. Discipline – control - focus. (The CEO of Firm Beta)*

4.3 Cross-case analysis

4.3.1 Comparing the international distribution channels

The international distribution channel structures of Alpha and Beta seemed quite different on the surface, but a closer scrutiny revealed many similarities. Table 3 summarizes the main characteristics of the channels.

Table 3 Distribution channels structures of Alpha and Beta

Channel structure:	Alpha	Beta
The types of operation modes	• Direct investment mode: foreign units with full-ownership • Direct exporting through VARs and agents	• Direct investment mode: subsidiaries and affiliates
Channel strategy	• Both indirect and direct channels • Hybrid structures • Quasi-integration in East Asia • Aim to direct all the distribution functions through one channel • Exclusive distribution	• Mostly direct channels • Hybrid structures • Aim to direct all the distribution functions through one channel • Exclusive distribution (used to be more intensive)

Firm Beta relied almost exclusively on direct investment while Firm Alpha utilized various types of intermediaries along with its direct channels. However, Firm Beta's model was not as hierarchical as it appeared since the area office network was actually only partly owned. Neither of the firms relied solely on hierarchical operation modes (i.e. fully-owned subsidiaries), although both have foreign units with full ownership. Firm Beta's distribution network could be characterized as entrepreneurial, close to franchising but with significantly more control. Firm Alpha seeks control with a close cooperation with its VARs. In the future, Firm Beta aims at expanding its area office network while Firm Alpha seeks for new intermediaries, keeping the option of new subsidiaries or foreign offices open if suitable ones are not found.

Firm Beta has smoothly switched its operation mode by changing resellers to franchisees, and further to area offices. Firm Alpha's operation modes and channel strategies have been more constant over the years. Constructing the international distribution networks took place at very different pace in the case firms. Firm Beta built a global reseller network very rapidly, whereas Firm Alpha had difficulties even in finding few suitable resellers. The foreign units of both firms were relatively small, employing few persons.

Both firms relied on short channels. Firm Alpha distributed directly and through its intermediaries. Firm Beta distributed mainly directly through its area offices. Both case software products were sold through highly exclusive channels. Sales in a particular market were exclusive to the channel member operating in that area. In some cases in both firms, delivery was performed separately from the sales. This was due to the inca-

pability of the foreign channel members to do this. Both respondents emphasized that in the future they are aiming at providing all the channel functions through a single channel in a given market.

Promotion on a global scale was taken care of by the producers. On the local level channel members took care of the direct promotion, contributing with their local knowledge. This was often done in cooperation with the producers. Nonetheless, the duties were always divided in the case firms, and channel did not compete with each other.

The channel functions were performed in rather analogous manners in both firms. The ways of performing these functions are summarized in Table 4.

Table 4 Performing the distribution functions in Firm Alpha and Firm Beta

Distribution functions:	Firm Alpha	Firm Beta
Sales	• Always require face-to-face contact • Solution-oriented	• Mostly require face-to-face contact • Solution oriented • Web-store
Delivery	• Core software delivered online • Implementation services mostly provided on-site • After-sales mostly online	• Core software delivered online • All services deliveries mostly provided online
Promotion	• Web-site promotes also channel members • Search engines optimization and advertising • Direct promotion crucial • Events, ads in professional magazines, own customer magazine	• Web-site promotes also channel members • Search engines optimization and advertising • Web-store • Direct promotion crucial • Events, press releases

Both the CEOs strongly emphasized that selling their software require face-to-face customer contact. This was especially true for Firm Alpha as the respondent emphasized that the first sales transaction always requires face-to-face negotiations. Firm Beta sometimes closed deals without on-site meeting and had a web store through which occasional sales of single licenses took place. However, most of the sales deals in Firm

Beta required customer contact and the web-store was mainly used to support sales by creating customer leads. Both firms sold solutions rather than mere products, which required different approach to selling as it requires knowledge on the customers' businesses. The starting point was the customer's problem rather than own product. This was especially clear in selling Firm Alpha and was clearly stated by the CEO. Firm Beta on the other hand had a little bit more product-oriented approach.

Firm Alpha could quite easily identify its potential customers whereas Firm Beta's potential customer base was more extensive. Alpha was sold to industrial niches and the corresponding engineering companies. Other types of firms will probably not come up with a need to use Firm Alpha's software. Firm Beta's software on the other hand, could be sold to all who need reliable data erasure. Potential customer base was very vast, but currently only few segments were served with industry-specific solutions. After identifying potential customers, both firms approached them with direct contacts. The line between sales and promotion was often blurry. The CEO of Beta jokingly said that a customer visit that does not lead to a sale is a promotion visit.

In delivering the case software and the services related to them, Firm Alpha relied more on on-site deliveries, while Firm Beta conducted almost all deliveries via online channels. For Firm Beta the decision to deliver conventionally was not a result of technical barriers, but rather on customers' conventional preferences. Working with the customer was believed to increase the customer experience and to motivate the employees. Delivering the services also required longer time of involvement with the customers in the implementation phase, due to the customer training. This may have been another reason for the on-site deliveries. Anyway, both respondents believed that online channels and cloud computing will further increase their importance in delivering software in the future. The change in customer preferences was seen crucial in this development.

Promotion of both case software products was heavily dependent on the visibility on the Internet. The firms' web-sites operated as the global images to the customer's world-wide in both firms. Neither of the firms utilized customer leads generated through the Internet in an opportunistic manner disregarding the foreign channel members. On the web-sites of both firms, the contact information of resellers and subsidiaries were given. Both firms seemed to avoid channel conflict. Usually channel conflict is not seen as an issue when using direct channels. However, as Beta's distribution network was not fully firm-owned and was in fact highly entrepreneurial, channel conflicts could have occurred if the parent firm had behaved opportunistically. Both firms had clear goals on generating traffic to their web-sites. This goal was mainly promoted through search engine optimization and advertising.

Direct promotion by telephone, email and customer visits was seen as crucial in both firms. Firm Beta did not advertise in magazines, like Firm Alpha, but offered ready material for the press. It also used web store innovatively to create customer leads.

To sum up, both products have been distributed through various distribution channels. Firm Alpha seemed to rely more on indirect distribution through independent channel members, whereas Firm Beta was building its own area office network under its own name. The first was keen on finding new reseller partners, while the latter had practically abandon its reseller network and more concentrated on direct distribution. Nevertheless, taking into account that the products were totally different by their functionality, other being a data erasure program and other a CAD-PDM program, their distribution channels and the ways of performing the distribution functions, were surprisingly similar.

4.3.2 Comparing of the role of characteristics in selecting international distribution channels

Table 5 summarizes the key characteristics of the case software products and their role in selecting international distribution channels. It has to be remembered that the amounts that these products possess particular characteristics are compared to each other, not software in general. The concepts of functional specificity and technical specificity are compressed in to one term, technical complexity.

Table 5 Characteristics and their role in selecting international distribution channels in Firm Alpha and Firm Beta

	Characteristic of Alpha/ role in organizing the distribution	Characteristic of Beta/ role in organizing the distribution
Implementation service requirements	• Extensive training requirements →Intermediaries need to be very competent • Customizations were made rather easy →Still, solutions not sold online	• Installation complex → direct channels • Weak possibilities to add value-adding services → direct channels
After-sales service requirements	• Some support services required	• In some segments very high support service requirements → no own exports
Localization requirements	• Very high → using foreign partners, which need to have technical knowledge in addition to local knowledge	• Low localization needs → lower requirements for intermediaries → more flexibility in channel selection
The importance of knowledge on customers' businesses	• Applications really specialized →channel members need to be experts in the field →direct channels	• Some knowledge needed on the field
Technical complexity	• Very complex →Explaining the software requires skilled salespeople →Channel members need to be technically competent	• Easy to use • Complex to install → direct channels

The case software products were both clearly enterprise solutions rather than mere products, and required some implementation and after sales services. The most crucial implementation service for Alpha seemed to be the customer training, which took a lot of time. It was not easy to find intermediaries that knew enough about the industry and software to provide the training. On the other hand, if an intermediary could be found, providing training services offered an income source for the resellers. The installation and customization of Beta seemed to be more complicated than Alpha's. Both firms customized their products for each customer, but Firm Alpha's customers were able to make the customizations their selves. Firm Beta sometimes even customized on source code level, which required technical competence and knowledge on the product. One of the reasons that moved Firm Beta towards direct investment operation mode was that the installation process was too demanding for intermediaries to perform. Customization

requirements seemed also to affect the possibility to use the Internet as a sales channel. As the total offering almost always required some level of customization, it was difficult to utilize online channels. It could not be known what the kind of customization and other services the customer needs before familiarization with the situation.

The service requirements clearly played role in selecting the international distribution channels. When the time difference was substantial and quick customer response valued, providing the service required presence abroad. Firm Alpha valued more the on-site provision of services while Firm Beta delivered all services primarily via the Internet.

In the end, both software products were quite equally productized, though Firm Alpha received more income from services than Firm Beta, which had products that can be bought online without any customizations for personal data erasure. However, these only covered less than a percent of Firm Beta's turnover, majority consisting of customized solutions to large organizations.

While Beta was more complex to install, Alpha was much more complex program to use. It also required much more information on the customers' industries than Beta. Actually the whole software was designed from the beginning for these industries. Even though knowledge on customers' business processes was important for Firm Beta as well, this knowledge was rather related to the world of software than to completely different industries. A simple example illustrates this. Firm Beta did not have to know about warfare when providing solutions to NATO, knowing the specific data erasure needs of the organization was enough. For Firm Alpha on the contrary, it was crucial to know what is important in building houses when developing software to customers in the house building industry. The functionalities of Beta were always tied to the core business of the customer.

Both software products set high standards for choosing distribution channels. For Firm Alpha the key characteristics hindering the use of independent intermediaries were substantial training needs and the high knowledge requirements of customers' business processes. Complex localization sets requirements for the technical competence of intermediaries, but still favors their use. For Firm Beta these were especially the needs for installation and customization, which were complicated to perform for outsiders of the firm. Furthermore, no value adding services could be easily added by the intermediaries, which discouraged them to invest in learning the skill required for installation. Low localization needs provided flexibility in channel selection.

In the case of both software products, online sales channels were not utilized even though the products could have been easily sold and delivered online. The reasons for that were not of technical nature. Both firms aimed to making large transactions with each customer and when the price tag for a deal is thousands, purchasing online is hardly the practice.

Face-to-face contact was still crucial in selling the case software products, even though everything else from installation to customer service can be conducted online. All the not-standardized parts of the offering, such as training, customization and installation needs, hindered the use online sales channels.

5 CONCLUSIONS

5.1 Theoretical implications

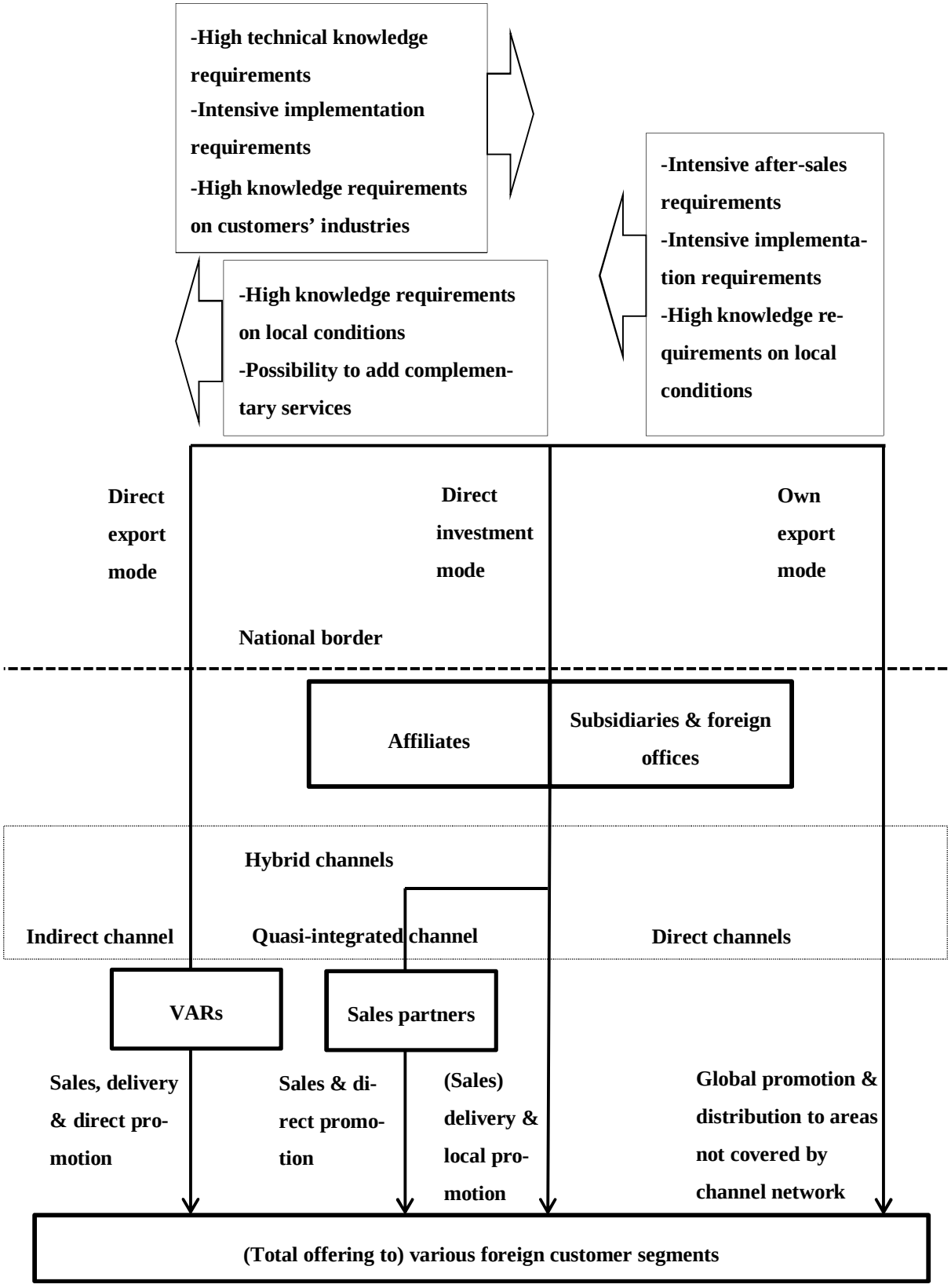
This chapter begins with the synthesis model that aims to find an answer to the main objective of this study, which was to examine how a business software producer needs to consider the characteristics of its software product when selecting international distribution channels. The model is illustrated in Figure 13 and is discussed according to the sub-objectives and themes of the research.

The results of this study did not reveal any revolutionary contradictions to existing theories, concepts or earlier research. Contrariwise, the software characteristics and distribution channels proposed in the theoretical chapter were mostly identified in the case software products. The causal relationships proposed between software product characteristics and channel arrangements were also mainly reinforced. However, the models are slightly altered to better correspond business software products.

In Figure 13, the upper part reveals the characteristics that need to be considered when selecting international distribution channels for business software products. The thick arrows show what kind of operation modes certain characteristics favor. For example, high technical knowledge requirements, intensive implementation requirements and high knowledge requirements on customers' industries favor direct investment mode over direct export mode.

The bottom part of Figure 13 is related to the channel structures. Gabrielsson's (1999) model is modified to better depict the channel structures suitable for distributing business software products. The thin arrows represent the flow of sales, delivery and promotion, whereas the lines represent the flow of distribution function-related information from the producer to the subsidiaries and intermediaries.

Figure 13 Concluding synthesis



The first sub-objective was **to describe the international distribution channels suitable for business software products.** All the possible channel alternatives are not shown in this model, only the ones that seemed to be the most suitable for business software products in the light of this study.

Transferring software-specific knowledge from a producer to foreign channel members is crucial for performing sales, promotion and delivery efficiently. It came apparent that the distribution functions do not necessarily flow all the way from the producer to the customers. In the case of traditional products, this logic seems more suitable as the producer often sells and delivers its products to its reseller. In the case of software, this movement does not necessarily take place. The producer rather transfers knowledge to its channel members to support them in selling, promoting and possibly delivering the product. When a sale occurs, software is simply downloaded on the Internet and the responsible channel member performs the implementation and after-sales. The sales revenues are then divided between the producer and channel members. Software products are usually not bought in advance by intermediaries nor delivered to them, and thus, these functions do not flow through the whole channel, only between customers and intermediaries.

A producer of business software can select from three different **operation modes** when distributing abroad: exporting through intermediaries, investing directly to an existing or green field entity in the target markets, or exporting from the home country. Direct investments can be divided into two: investments into subsidiaries, when more than 50 percent of the voting stock of a foreign entity is acquired, and investments into affiliated firms when this share is less than 50 percent but more than 10 percent. Domestic intermediaries were not utilized by the case firms. This may be since they often possess no knowledge on the target markets and add an extra level to the channel.

Exporting through intermediaries is seen as a viable alternative because it provides knowledge on the target market and is less resource constraining than direct investments. However, it seems that the intermediaries need to be highly committed to the relationship. Firm Alpha had high requirements for its intermediaries. Similarly, Firm Beta realized that its relatively loose relationships with its intermediaries were not the best possible ones, and moved towards tighter cooperation and control. Ultimately, for both firms, these issues led to direct investments into foreign entities. The cooperation with intermediaries resembles service channels a lot as the intermediaries provide the necessary and complementary services, but no actual products is sold to intermediaries.

For rather small software firms, expanding through hierarchical operation modes can be too resource-constraining. Therefore, it is suggested that producers of business software should actively seek for good distribution partners. This does not exclude the possibility of later developing the relationship and establishing an entity with the partner or

invest in the existing firm, as Firm Beta did. Switching the operation mode is actually quite common (Nummela & Saarenketo 2011). Another option that is less-resource demanding than hierarchical mode is to establish fully-owned foreign units to support indirect channels. It seems that the Internet as an only channel is not a sufficient for distributing business software products globally from the home country, at least when sales volume is high, markets distant, and localization needs extensive. Consequently, rapid internationalization utilizing the Internet as the main channel is not suitable strategy for most business software products. The Internet can be rather utilized as a complementary channel. Physical interaction with the customers in sales negotiations appears to be needed, at least when selling the type of software that is not standardized, but rather customized to meet the individual needs of customers. It became clear that solutions cannot be sold online as easily as 'off-the-shelf' software products.

A producer's direct contact with its customers, or at least with the intermediaries with the customer contact, was considered important in both firms. It is thus assumed that channels with more than one tier are not suitable for most business software products. Rosenbloom (2004) suggest the same for industrial (B-to-B) products in general. Depending on the level of their customization they are either distributed through zero-level or 1st-tier channel structures. Longer channels could be useful in distributing more productized software.

Intermediaries can be used together with direct channels. Nevertheless, dual distribution was avoided in the case firms. It is not seen as a very suitable strategy for high-tech firms, in which distribution through intermediaries often requires close cooperation rather than competition. Frazier (1999) suggests that channel conflict between direct and indirect channels may become a major problem. This can be avoided by not using dual distribution and dividing the responsibility of distribution functions among the channel members. Moreover, different channel members can sell the same software's industry-specific solutions within the same market area if these solutions have clearly dissimilar customer bases. Otherwise, exclusive or at least selective distribution is recommended in order to avoid channel conflicts.

Performing the three distribution functions of sales, delivery and promotion were highly integrated in the case firms, which supports Tähtinen and Parvinen's (2003) proposition that these functions are highly incorporated in the software industry. However, these functions did not always flow through the same channels. Gabrielsson, Kirpalani and Luostarinen (2002) suggest that in a hybrid channel, the distribution functions are shared by the producer and the channel intermediary; the former usually handles promotion and customer-generation activities, whereas the intermediary is in charge of sales and delivery. Both firms utilized hybrid channels. The global promotion and customer generation was performed by the case firms. Beta's distribution network was direct so it cannot be called hybrid distribution in the traditional sense. However,

the channel strategy was quite similar to hybrid channel strategy; the parent company was promoting the software on a global scale, while the channel network handled the promotion locally, in addition to sales and delivery.

The web-sites of the case firms constructed important parts of their global image. As Albaum, Strandskov and Duerr (2008) suggest, when the website functions as the public image of a firm, the small size makes less difference. Even though the online promotion of the parent firms' web sites generated contacts and offer requests from foreign countries, these potential customers were redirected to the responsible channel members.

The promotion is mainly conducted through the Internet, but also by attending events together with local intermediaries. Also traditional advertising was utilized to some extent, but the benefits of Internet promotion were seen as more traceable. The means of promotion used in the case firms were generally very similar to the ones suggested by Tähtinen and Parvinen (2003). Not surprisingly, the visibility on the Internet, especially on search engines, has increased its importance in software promotion since 2003, and is considered crucial in promoting business software.

There is a possibility to utilize also a different kind of hybrid channel structure by establishing a subsidiary to support sales intermediaries such as agents in delivery and promotion in the target markets. This alternative called quasi-integration was introduced by Bello and Lohtia (1995), and it often used when the transaction cost pressures are moderate, as in the case of Firm Alpha that utilized this channel strategy in East Asia. The quasi-integration channel strategy can be utilized if delivering the software cannot be handled by the intermediary for some reason. The delivery can then be performed by the headquarters if the target markets are not distant, after-sales requirements not intensive, and localization requirements not significant. If are, foreign subsidiaries should be established to support the delivery.

Both case firms are moving towards further integrating delivery and sales, Firm Beta by investing in subsidiaries and Firm Alpha by seeking for establishing partnerships with technically competent foreign intermediaries that can perform the delivery.

The findings of this study suggest that the delivery of services is a crucial function regarding business software distribution. The core product can be easily delivered online, but delivering services requires more work. There is a possibility to deliver all the services through online channels, from implementation to after-sales Also soft services that have traditionally required physical presence in the market can be provided from another country. This eases the use of quasi-integrated channel structures because the headquarters or a subsidiary can deliver the services. However, if the delivery is handled by the headquarters, it consumes the producers' time and resources. This can be avoided by establishing foreign subsidiaries to support intermediaries in distant market areas, which allows the producer to concentrate on its core business.

The second and third sub-objectives are discussed together. The sub-objectives were to: **2) describe the characteristics of business software products that have role in selecting international distribution channels** and **3) to evaluate the role of those characteristic in selecting international distribution channels.** The upper part of Figure 13 shows the knowledge-and service characteristics specific to business software and their role in channel selection.

It is claimed that the reproduction costs of software products can be almost nonexistent, which enables significant economies of scale (Choi, Stahl & Whinston 1997; Hoch et al. 1999). Neither of the case software was productized enough to meet this standard, which seems to be the case concerning most business software products, due to the high amount of services. As suggested by Hoch, Roeding, Purkert, Lindner and Müller (1999), in enterprise solution business at least some customization is almost certainly needed in order to implement and integrate the software to suit the customer's needs. This suggestion certainly applied to the case software products. In addition to these customization services, business software products often require other services as well. These issues fundamentally separate business software form consumer software and hinder the utilization of market-based distribution channels and the Internet.

The specificity of knowledge inherent in software is not isolated from the service requirements. For example, technical complexity is closely related to the required level of implementation services, such as training and installation.

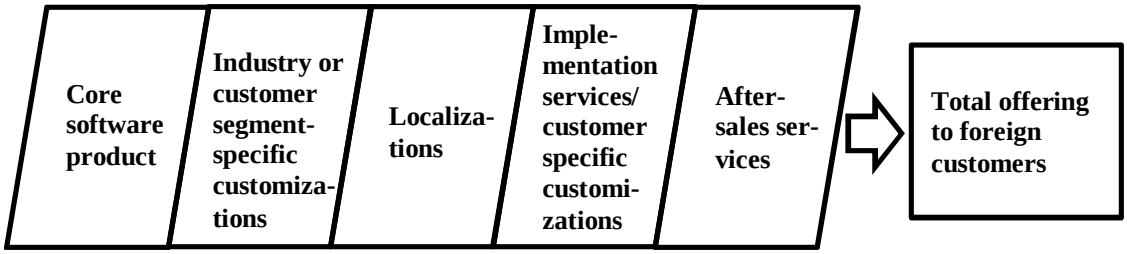
Case-Beta surprised the researcher as he was convinced it was very highly productized software. In the field of business software, Beta can be considered as relatively productized, but in comparison with consumer software products this is not the case. On the surface, the facts gave an image of an 'off-the-shelf' software package, as millions of licenses had been sold through numerous intermediaries and a web store. But by giving a closer look, this image proved to be false. Actually the number of customers was very limited, their demands high and specified, and they required the installation of the software. The importance of web store proved to be miniscule for sales volume and the intermediaries were continuously getting less significant. The high volume of licenses sold was mainly due to the fact that the large customers had bought large amounts of licenses.

This well describes the nature of business software. Even the producers of productized business software, such as Beta, have limited freedom in selecting international distribution channels. Cusumano (2004) suggests that manufacturers of productized software receive more than 60 percent of their revenues from license sales. Applying this criterion, both case products can be considered as relatively highly productized.

It is suggested in this study that the total customer offering in an international context comprises of the parts showed in Figure 8. Core software is the foundation on which the total offering constructs on. In addition to this, industry or segment-specific customiza-

tions are often needed. Also localization is usually required when introduced to new markets. Implementation services and customer-specific customizations are needed to offer solutions to individual customers, and after-sales services to keep customers satisfied. The amount of these modifications and services defines the level of productization. For fully-productized software, only the core software product would be delivered to the customer. The components of the total offering to foreign customers are shown in Figure 14.

Figure 14 Components of the total offering of a business software firm



Source: Modified from Ruokonen (2008, 78) on the basis of the empirical data

The case software products were built as easily customizable and localizable from the beginning as possible. This is also suggested by Varis, Kuivalainen and Saarenketo (2005). They state that the product should be built in such a way that it can be developed further and distributed by co-operative methods.

Drawing from the earlier research (e.g. McNaughton 1996; 2002; McNaughton & Bell 2002), TCA, and the results of this study, asset specificity seems to have indisputable role in selecting international distribution channels. The basic proposition of the TCA is that a firm will internalize activities that it is able to perform at lower cost and will rely on the market for activities, in which other providers have an advantage. If the knowledge is too specific for external intermediaries to absorb at a reasonable cost, direct investments are favored.

Case-alpha showed that high asset specificity may not directly guide top executives to select direct channels, but may complicate finding partners so much that own units are established. Firm Beta instead, has been eliminating intermediaries and moved towards subsidiary network, partly because the delivery is complex and requires investment in training the intermediaries.

Knowledge transfer costs are transaction costs that include the cost of transmitting knowledge and the cost of absorbing knowledge (Teece 1977). The question is under which circumstances the external market is too costly in terms of knowledge transfer costs. As the CEO of Firm Alpha stated, they need to find the know-how in a way or another. This led to directly investing in wholly-owned subsidiaries as there was a lack

of foreign firms that possessed enough knowledge. Firm Alpha also utilized intermediaries in distribution, but these had to possess knowledge on customers' businesses and CAD-software, in addition to local markets. This kind of knowledge would probably have been too costly to transfer.

Saarenketo, Kuivalainen and Jääskeläinen (2000) suggest that the requirements to VARs are rather high when distributing business software, since the relatively complex product and rapid technological advancements necessitate expertise in many fields. As a result, it is not easy to find new companies that are willing and able to become VARs. It is a real challenge for software producers to build an attractive proposition for the potential partners (Saarenketo et al. 2000). Also McNaughton (2002) states that finding distribution partners who have both product- and market-specific knowledge, as well as the ability and interest to support the customers, is not an easy task for a small software firm. Firm Beta was able to construct a wide network of resellers in a short time to sell its software, while Firm Alpha was struggling to find even few capable ones. This was mainly due to the fact that potential intermediaries of Firm Alpha had to possess knowledge in many fields, regarding customers' businesses, technology and local markets. Yet, knowledge transfer costs concerning the installation of Beta discouraged the use of intermediaries. Transferring the knowledge concerning the installation required certain efforts from Firm B and the resellers. Investments in such knowledge transfer could have not paid off as the average transaction size and sales volume were small, and value adding services were difficult to include into the offering.

Knowledge on the customer's business processes can be seen as a very important determinant for selecting distribution channels. It is generally supposed that all specialized products, not only software, are sold through short and exclusive channels (Lewison 1994). This statement seems to fit software as well. Both Alpha and Beta are sold to a wide variety of industries, and are not in that sense very business process specific or specialized. But taking a closer look reveals that both are customized to the needs of various segments and industries, and thus require knowledge on customers' industries. In the case of highly business process-specific software, outside firms operating in the same or related fields of end customers' businesses can be utilized as intermediaries, especially if distributing the software does not require technical knowledge.

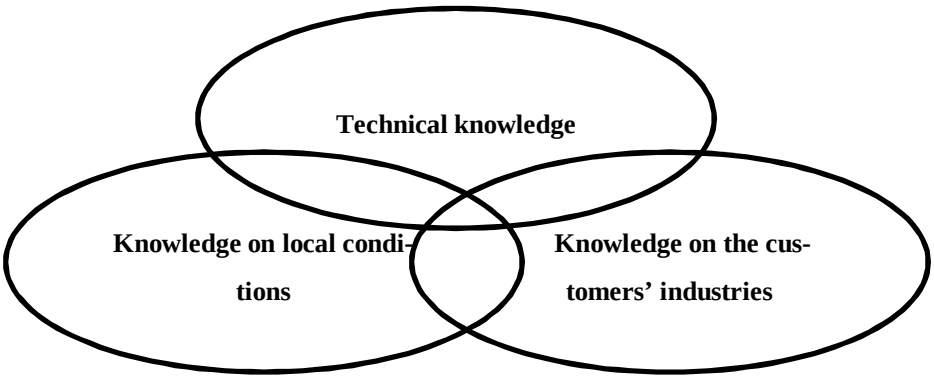
McNaughton (2002) argues that integrated export modes are generally preferred since they facilitated protection of knowledge-based assets. At least in these two cases, proprietary assets did not seem to have significant impact on channel selection as proprietary technological knowledge required no protection from the resellers. Winkler, Dibbern and Heinzl (2009) ended up with similar results in their study.

Software can be complex in two ways that have bit different affect mechanisms. If software product complex to use, it requires user training. If the software is complex to deliver (i.e. customize, localize, install) it requires training the intermediaries. User

training can actually offer a source of revenue for intermediaries and thus encourages them to operate as VARs. Complex delivery on the other hand, seems to discourage the use of intermediaries. Business process specificity and complexity, especially together, significantly increase the knowledge transfer costs.

The knowledge requirements of software have significant implications for channel selection. Figure 15 illustrates what types of knowledge foreign channel members should possess. If all these requirements are very high, the possibility to find channel members that meet all these requirements is low. Local intermediaries often possess local knowledge, but often lack the two other types of knowledge. Own personnel, on the other hand, lack local knowledge.

Figure 15 Knowledge requirements for foreign channel members



Service requirements are generally seen to favor direct channels. McNaughton (2002) found out that integrated export modes were generally preferred as they provided high levels of customer service and support. Also Winkler, Dibbern and Heinzl (2009) found evidence that company-owned channels are chosen if a high share of complementary services are required along with the introduction in foreign markets. Burgel and Murray (2000) noticed that the need for after-sales service did not correlate with the use of direct channels, but all other service requirements did. Based on the results of this study, it is suggested that high amount of services does not automatically favor integrated channels. The possibility to add value adding services may actually encourage resellers to sell the product and charge the end-customer of these services. However, if providing the necessary implementation and after-sales services require high amounts of knowledge, finding potential intermediaries may be too problematic, and direct channels are favored.

Ojala and Tyrväinen (2006) propose that firms who offer semi-standardized enterprise solutions in distant markets use more sales subsidiaries as entry modes than other types. Both case firms of this study have established subsidiaries in the East Asia. They also point out that in software industry, products itself can very often be delivered around the world without any significant distribution costs making physical distribution

insignificant. This was also true for the case software. The service requirements, however, necessitated presence on foreign markets through intermediaries or integrated operation modes. This was also acknowledged by Ojala and Tyrväinen (2006). They suggest that in many cases software require an intensive cooperation with customers in pre- and after-sales phases. If there is a need for quick customer response as in Firm Beta's ITAD-sector, there should be a channel member in the same time zone as the customer. Obviously, this channel member needs to be able to deliver the service.

Earlier empirical research reveals that requirements for customization to customer-specific needs favor direct channels (McNaughton 1996; Burgel and Murray 2000; Winkler et al. 2009). It is also suggested that if the customization requirements are high and the product is complex, the role network management is highlighted, since there are only few potential intermediaries (Ruokonen et al. 2007). This very much resembles the Firm Alpha's situation; complex and customized solution can be distributed through intermediaries, but finding potential ones and training them can be quite resource constraining. These intermediaries are basically partners and a lot of effort is put on making the relationship work. If the services require very specific knowledge on the software, integrated modes may be the best way to go to into foreign markets.

Collins (2002) claims that software products are increasingly designed to support international conventions, languages, formats and processing from the beginning. This seems to apply to case software products; both have designed to be easily localizable. However, it depends on the nature of software how much can be done for the localization the early phases. Localization requirements may be hard to predict in advance, before launching the product on new markets. In some industries business practices are rather global, but in some, extremely local, house building as an example. Consequently, Alpha's localization needs were greater than Beta's.

Ruokonen, Nummela, Puumalainen and Saarenketo (2002) discovered that standardized software products that do not require localization or localized training can be introduced to many new markets quickly. Firm Beta was able to introduce its software to new markets at a fast pace due to the lack of extensive localization requirements. Firm Alpha however, needed to localize its software more than Firm Beta and its channel members in new market areas had to be technically capable to localize the software, which decreased the number of potential intermediaries.

Winkler, Dibbern and Heinzl (2009) propose that the requirements for localization favor market-based entry modes, instead of hierarchical ones. In this study, it is rather suggested that high localization requirements favor the use of local employees, no matter whether they work for the producer or an intermediary. If extensive localization is necessary, own export mode is hard to utilize since it does not provides knowledge on local conditions.

Figure 15 is quite complex as it attempts to capture everything that is covered in this study. Thus, it is reasonable to present the main findings also in summarized written form. Figure 16 encapsulates the main findings into ten arguments. These arguments have been already discussed in this chapter and are not further explained.

Figure 16 Main findings of the study

1. The service- and knowledge characteristics of software should be taken into account when selecting international distribution channels. Business software often requires modifications on country, industry or individual customer-level, as well as various services to accompany the delivery.

2. High service requirements and the complexity of software-related knowledge generally favor integrated channels, or at least selectiveness in choosing intermediaries.

3. However, a possibility to add own services may encourage outside firms or individuals to become intermediaries.

4. Intensive service requirements and localization needs, as well as great time difference to foreign markets, hinders utilizing own export mode through the Internet.

5. Transferring software-related knowledge to outside entities and finding competent intermediaries may become difficult to carry out especially if performing the distribution requires both, knowledge on a specific industry and technical software knowledge. In this case, direct investments in own foreign units may a more viable alternative.

6. Simple and standardized products with low service content, as well as general applications used across various industries can be more easily distributed through independent intermediaries or the Internet.

7. Involving foreign actors in distribution is especially beneficial if extensive modifications to local conditions are needed. Low localization needs provide more flexibility in selecting channels.

8. The Internet has a significant role in promotion and delivery but is not solely a sufficient channel of distribution. Especially sales negotiations require face-to-face contact as the customer offerings are usually not standardized.

9. Direct or hybrid distribution strategies seem to suit business software the best.

10. Exclusive sales responsibilities prohibit channel conflicts. One efficient foreign unit or intermediary is enough in a single market area, especially in the case of very specialized products.

5.2 Managerial recommendations

Since the objective of this study was from a producer's point of view, and took a very managerial perspective, most of the managerial insights have been somehow mentioned in the previous chapter. However, in this chapter, managerial perspective is emphasized and the main findings are translated into as practical instructions as possible.

On the light of the results, earlier studies, and the theoretical framework, a conclusion could be drawn that it is very important for a software producer to consider the characteristics of its software when selecting international distribution channels. Some channels just seem more suitable for software products with certain characteristics. By carefully evaluating the characteristics of its software product, a producer can avoid extra costs and lost opportunities caused by unsuitable channel selections.

Consequently, a software producer should always assess the following points. These recommendations need to be remembered, not necessarily followed, when selecting distribution channels. Channel selection is always dependent on numerous variables besides the software characteristics.

As a rule of thumb, the more knowledge-intensive and less standardized a software product is, the more resources a software producer should be prepared to invest in organizing international distribution, no matter what kind of operation mode is utilized. Complex and non-standardized software products are more difficult to distribute through the Internet and intermediaries. If using foreign intermediaries is yet seen crucial for distribution, a producer should be prepared to invest time and resources in searching potential intermediaries and training them properly. Switching intermediaries afterwards may become costly as a lot of time and effort has been sunk in training and cooperation. If a software product possesses such characteristics that make it difficult to distribute through cooperative modes, a producer may have to directly invest in its foreign distribution channels.

Standardized and non-complex software, with simple localization needs, leaves a producer with much more freedom in selecting channels, because the requirements for intermediaries are lower, their training does not take much time, and they are easier to replace. On the other hand, the more a software product requires localization to foreign conditions, the more foreign helpful foreign individuals or organizations become when operating in foreign markets.

A software producer needs to consider the distribution arrangements also from the intermediaries' point of view, and assure that its software product provides them with enough incentives to become distributors. A possibility for intermediaries to include their own expertise and services into the total customer offering may act as a powerful incentive. On the other hand, if delivering a software product requires complicated pro-

cedures that are necessary to perform, outside firms are less likely to be willing to distribute it.

The problems of dual and intensive distribution were not discussed thoroughly in this study, but it is assumed that these are not best possible strategies. In the case of highly specialized software sold to niches, one competent intermediary in a particular market area is usually enough to cover the markets. Thus, selling same software product through multiple intermediaries and direct channels in one area simultaneously is not seen reasonable. Direct and hybrid distribution, on the other hand, can be very suitable strategies for a business software producer. A producer can promote its software on the Internet on a global scale, and locally together with local intermediaries, for example, by attending fairs. Potential customer contacts that a website may generate should be directed from the headquarters to the respective foreign units or intermediaries, in order to avoid conflicts between channels. A producer should sell directly to the customers generated through its website only when its foreign distribution network does not cover the area where the customer locates. However, different industry-specific customizations can be distributed through multiple channels in one area, as long as they do not compete with each other. Cooperation, rather than competition, with channel members is seen sensible, since in the case of complex software, new intermediaries are not easily found.

A software producer should not rely on the Internet as a complete channel of distribution, even though its benefits in promotion and delivery are indisputable. Own export operation mode through the Internet can be useful in the early stages of internationalization, or in foreign areas where sales volumes and localization needs are low. Nevertheless, the first international steps of a business software product producer do not necessarily require any kind of direct investments or distribution contracts as the Internet can be used to overcome national borders. In the long run, however, especially in distant markets, foreign presence is often needed, which necessitates partnering with independent intermediaries or direct investments. Otherwise providing the services effectively may become too difficult.

5.3 Suggestions for further research

This study offers plenty of material for further research since it provides quite wide frameworks into two issues, distribution channel selection and characteristics of software. This study concentrated only on how software's characteristics need to be considered in selecting channels. A software product and its characteristics, however, are not the only factors determining which channels are finally selected. Financial resources, personal contacts, foreign environment, just to name a few, are also important determi-

nants. Either of the frameworks provided by this study could be used to research some other phenomenon, for example, how financial resources of a business software producer affect channel selection, or, how the software characteristics affect the speed of internationalization.

Due to the lack of resources, a lot could have been done more profoundly. This study only concentrated only on two cases, and a need for more comprehensive research remains. More cases would probably generate more insights into the phenomenon. Furthermore, this study focused on business software products that were not fully-productized and contained clear service elements. However, they were productized enough to be called products, instead of projects. Similar study could be conducted on more service-oriented firms. It is assumed that these 'business software projects' possess the same characteristics as product firms, but to different extent. Also very highly productized business software products that are sold practically unmodified to all the customers would offer an interesting sample. It would be very interesting to compare the results of such studies with the ones of this study

Distribution was discussed as the channels through which sales, promotion and delivery are conducted. These functions are highly connected in the distribution of software, and scrutinizing all of them provided a comprehensive picture. Yet, focusing only one of these functions would have narrowed the scope and could have provided deeper insights. Furthermore, this study assessed the role of multiple characteristics in channel selection, but it could be interesting to concentrate only on one specific characteristic with a larger sample. This could generate deeper insights into this particular characteristic's role.

This study took producers' perspective. However, with more resources, more channel members could have been interviewed, which would have given a more thorough picture on the topic. This would have revealed also the difficulties in distribution from the channel members' point of view. For example, a single case study could be conducted by interviewing all types of channel members of a single firm, for example agents, VARs and subsidiaries.

This study concentrated on both, conventional and online channels. However, online distribution could offer an interesting topic for further research on its own. The field is constantly evolving, and new business models based on the utilization of the Internet are increasing their importance rapidly.

To conclude, the internationalization of software is a topic that is generally quite well researched. Yet, especially qualitative studies on topics similar to this study are required to deepen our understanding on how to select international distribution channels for business software, as well as for software in general.

REFERENCES

Albaum, G. – Duerr, E. – Strandskov, J. (2008) *International marketing and export management*. 6th edition. Prentice-Hall, Harlow.

Ali-Yrkkö, J. – Martikainen, O. (2008) *Ohjelmistoalan nykytila Suomessa.* Discussion papers No. 1119, ETLA, Helsinki.

Al-Obaidi, Z. – Gabrielsson, M. (2002) Sales channel strategies in export marketing of small and medium sized high tech companies. *Journal of Euromarketing,* Vol. 12 (2), 5–27.

Anderson, E. – Coughlan, A. T. (1987) International market entry and expansion via independent or integrated channels of distribution. *Journal of Marketing,* Vol. 51 (1), 71–82.

Anderson, E. – Gatignon, H. (1986) Modes of foreign entry mode: A transaction cost analysis and propositions. *Journal of International business studies,* Vol. 17 (3), 1–26.

Arenius, P. – Sasi, V. – Gabrielsson, M. (2005) Rapid internationalisation enabled by the Internet: The case of knowledge intensive company. *Journal of International Entrepreneurship,* Vol. 3 (4), 279–290.

Aspinwall, L. (1958) The characteristics of goods and parallel systems theories. *Managerial Marketing,* 434–450, eds. Kelly, E. J. – Lazer, W., Irwin, Homewood, IL.

Bell, J. (1995) The internationalization of small computer software firms. *European Journal of Marketing,* Vol. 29 (8), 60–75.

Bell, J. (1997) A comparative study of the export problems of small computer software exporters in Finland, Ireland and Norway. *International Business Review,* Vol. 6 (6), 585–604.

Bello, D. C – Lohtia, R. (1995) Export channel design: The use of foreign distributors and agents. *Journal of the Academy of Marketing Science,* Vol. 23 (2), 83–93.

Bjerknes, G. – Bratteteig, T. – Espeseth, T. (1991) Evolution of finished computer systems: The dilemma of enhancement. *Scandinavian Journal of Information Systems*, Vol. 3 (1), 25–45.

Bowersox, D. J. – Morash, E. A. (1989) The integration of marketing flows in channels of distribution. *European Journal of Marketing,* Vol. 23 (2), 58–67.

Brouthers, K. D. – Brouthers, L. E. – Werner, S. (1996) Dunning's eclectic theory and the smaller firm: The impact of ownership and locational advantages on the choice of entry modes in the computer software industry. *International Business Review,* Vol. 5 (4), 377–396.

Burgel, O. – Murray, G. C. (2000) The international market entry choices of start-up companies in high-technology industries. *Journal of International Marketing*, Vol. 8 (2), 33–62.

Cateora, P. R. – Ghauri, P. N. (2000) *International marketing*. European edition. McGraw and Hill Publishing Company, Maidenhead, Berkshire.

Chan, Y. – Suwanda, H. (2000) Designing multinational online stores: Challenges, implementation techniques and experience. *Proceedings of the 2000 conference of the Centre for Advanced Studies on Collaborative research*, 1–14.

Choi S. Y. – Stahl D. O. – Whinston A. B. (1997) *The economics of electronic commerce*. Macmillan Technical Publishing, Indianapolis, IN.

Collins, R. W. (2002) Software localization for Internet software: Issues and methods. *IEEE Software*, Vol. 19 (2), 74–80.

Conner, K. R. (1991) A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management*, Vol. 17 (1), 121–154.

Coviello, N. – Munro, H. (1997) Network relationships and the internationalisation process of the small software firm. *International Business Review*, Vol. 6 (4), 361–86.

Cusumano, M. A. (2004) *The business of software.* Free Press, New York, NY.

Demsetz, H. (1988) The theory of the firm revisited. *Journal of Law, Economics and Organization*, Vol. 4 (1), 141–161.

Dibbern, J. – Winkler, J. – Heinzl, A. (2008) Explaining variations in client extra costs between software projects offshored to India. *MIS Quarterly*, Vol. 32 (2), 333–366.

Eisenhardt, K. M. (1989) Building theories from case study research. *Academy of Management Review*, Vol. 14 (4) 532–550.

Eriksson, P. – Kovalainen A. (2008) *Qualitative methods in business research*. Sage Publications, London.

Erramilli, M. K. (1991) The experience factor in foreign market entry behavior of service firms. *Journal of International Business Studies*, Vol. 22 (3), 479–501.

Eskola, J. – Suoranta, J. (1998) *Johdatus laadulliseen tutkimukseen*. Vastapaino, Gummerus, Jyväskylä.

Firm Alphas's website (2011), retrieved 7.19.2011.

Firm Beta's website (2011) retrieved 7.10.2011.

Flyvbjerg, B. (2006) Five misunderstandings about case-study research. *Qualitative Inquiry*, Vol. 12 (2), 219–245.

Fransman, M. (1994) Information, knowledge vision and theories of the firm. *Industrial and Corporate Change,* Vol. 3 (3), 713–757.

Gabrielsson, M. – Kirpalani, M. – Luostarinen, R. (2002) Multiple channel strategies in the European personal computer industry. *Journal of International Marketing*, Vol. 10 (3), 73–95.

Gabrielsson, M. (1999) *Sales channel strategies for international expansion*. Helsinki School of Economics, Helsinki.

Grönfors, M. (1982) *Kvalitatiiviset kenttätyömenetelmät.* WSOY, Porvoo.

Hardy, K. G. – Magrath, A. J. (1988) *Marketing channel management: Strategic planning and tactics.* Scott Foresman, Glenview, IL.

Hazard, J. (2006) SAAS: More, not less, channel. *eWeek,* Vol. 23 (46), 24–27.

Hoch, D. J. – Roeding, C. R. – Purkert, G. – Lindner, S. K. – Müller, R. (2001) *Secrets of software success*: *Management insights from 100 software firms around the world.* Harvard Business School Press, Boston, MA.

Hollensen, S. (2007) *Global marketing: A decision oriented approach.* 4th edition. Prentice-Hall, Harlow, Essex.

Hyvönen, E. (2003) Johdatus ohjelmistoalaan. In: *Ohjelmistoliiketoiminta,* 1–8, eds. Hyvönen, E., WSOY, Vantaa.

ICT (2011) *ICT – Tavoitteena toimivampi maailma.* Tieto ja viestintäteknologia Suomessa 2010–2011. Teknologiateollisuus Ry.

John, G. – Weitz, B. A. (1988) Forward integration into distribution: Empirical test of transaction cost analysis. *Journal of Law, Economics, and Organization*, Vol. 4 (2), 121–39.

Klein, S. – Frazier, G. L. – Roth, V. J. (1990) A transaction cost analysis model of channel integration in international markets. *Journal of Marketing Research*, Vol. 27 (2), 196–208.

Kogut, B. – Zander, U. (1993) Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies* Vol. 24 (4), 625–645.

Koskinen, I. – Alasuutari, P. – Peltonen, T. (2005) *Laadulliset menetelmät kauppatieteissä*. Vastapaino, Tampere.

Kotler, P. (1994) *Marketing management: Analysis, planning, implementation, and control.* 8th edition. Prentice-Hall International, Englewood Cliffs, NJ.

Kuitunen, H. – Jokinen J-P., Lassila, A. – Mäkelä, M. – Huurinainen, P. Maula, M. – Ahokas, M. – Kontio, J. (2005) *Finnish software product business: Results from the national software industry survey 2005.* Centre of Expertise for Software Product Business.

Kuivalainen, O. – Lindqvist, J. – Saarenketo, S. – Äijö, T. (2007) International growth of Finnish software firms: Starting points, pathways and outcomes. *Journal of Euromarketing*, Vol. 16 (1/2), 7–22.

Kuivalainen, O. – Saarenketo, S. – Jääskeläinen, J. (2000) Creating more value through the international network: The case of a business-to-business e-commerce software producer and value added resellers. *Proceedings of 16th Annual IMP Conference*, September 7–9. 2000, Bath.

Lassila, A. – Jokinen, J-P. – Nylund, J. – Huurinainen, P. – Maula, M. – Kontio, J. (2006) *Finnish software product business: Results of the national software industry survey 2006.* Centre of Expertise for Software Product Business.

Mallen, B. (1996) Selecting channels of distribution: A multi-stage process. *International Journal of Physical Distribution & Logistics Management,* Vol. 26 (5) 5–21.

McNaughton, R. B. – Bell, J. (2000) Channel switching between domestic and foreign markets. *Journal of International Marketing,* Vol. 9 (1), 24–39.

McNaughton, R. B. (1996) Foreign market channel integration decisions of Canadian computer software firms. *International Business Review,* Vol. 5 (1), 23–52.

McNaughton, R. B. (2002) The use of multiple export channels by small knowledge-intensive firms. *International Marketing Review,* Vol. 19 (2), 190–203.

Messerschmidt, D. G. – Szyperski, C. (2003) *Software ecosystem: Understanding an indispensable technology and industry.* MIT Press, Cambridge, MA.

Miles, M. B. – Huberman, A. M. (1994) *Qualitative data analysis.* Sage Publications Inc, Thousand Oaks, CA.

Moen, O. – Gavlen, M. – Endresen, I. (2004) Internationalization of small computer software firms: Entry forms and market selection. *European Journal of Marketing,* Vol. 38 (9/10), 1236–1251.

Nukari, J. – Saukkonen, J. – Seppänen, V. (2003) Globaali liiketoiminta. In: *Ohjelmisto-liiketoiminta*, 160–213, eds. Hyvönen, E., WSOY, Vantaa.

Nummela, N. – Saarenketo, S. (2011) Switching operation mode: A strategic approach. *Proceedings of the 38th Annual AIB UKI Conference,* April 2011, 14–16, Edinburgh, UK.

OEK (2009) *Ohjelmistoala edelleen kasvussa*. Tekes. <http://www.tekes.fi/fi/community/Uutiset/404/Uutinen/1325?name=Ohjelmistoala+edelleen+kasvussa>, retrieved 15.10.2011.

Ojala, A. – Tyrväinen, P. (2006) Business models and market entry mode choice of small software firms. *Journal of International Entrepreneurship*, Vol. 4 (2/3), 69–81

Patton, M. Q. (1990) *Qualitative evaluation and research methods.* 2nd edition. Sage Publications Inc., Newbury Park, CA.

Pelton, L. E. – Strutton, D. –Lumpkin, J. R. (2002) *Marketing channels: A relationship management approach.* 2nd edition. McGraw-Hill, Boston, MA.

Polanyi, M. (1966) *The tacit dimension*. Doubleday, Garden City, NY.

Rajala, R. – Rossi, M. – Tuunainen, V. (2003) Ohjelmistoalan liiketoimintamallit. In: *Ohjelmistoliiketoiminta,* 8–21, eds. Hyvönen, E. WSOY, Vantaa.

Ramaseshan, B. – Patton, M. (1994) International channel choice of small business exporters. *International Marketing Review*, Vol. 11 (4), 19–34.

Rönkkö, M. – Eloranta, E. – Mustaniemi, H. – Mutanen, O-P. – Kontio, J. (2007) *Finnish software product business: Results of national software industry survey 2007.* Helsinki University of Technology.

Rönkkö, M. – Peltonen, J. – Pärnänen D. (2011) *Software industry survey 2011*. Aalto University, School of Science.

Rönkkö, M. – Ylitalo, J. – Peltonen, J. – Parkkila, K. – Valtakoski, A. – Koivisto, N. – Alanen, L. – Mutanen, O-P. (2010) *Software industry survey 2010.* Aalto University, School of Science and Technology.

Rosenbloom, B. (2004) *Marketing channels: A management view.* 7th edition. Thomson South-Western, Mason, OH.

Ruokonen, M. – Nummela, N. – Puumalainen, K. – Saarenketo, S. (2006) Network management: The key to the successful rapid internationalisation of the small software firm? *International Journal of Entrepreneurship and Innovation Management*, Vol. 6 (6) 554–572.

Ruokonen, M. (2008) *Market orientation in rapidly internationalizing small companies: Evidence from the software industry.* Lappeenranta University of Technology, Lappeenranta.

Sahay, S. (2003) Global software alliances: The challenge of standardization. *Scandinavian Journal of Information Systems*, Vol. 15 (1), 3–21.

SGIG (2010) *Software: Global industry guide.* DataMonitor. <http://financial.tmcnet.com//budgeting-planningforecasting/news/2010/05/04/4768024.htm>, retrieved 4.10.2011.

Shapiro, C. – Varian, H. R. (1999) *Information rules: A strategic guide to the network economy*. Harvard Business School Press, Boston, MA.

Sharma, V. M. – Erramilli, M. K. (2004) Resource-based explanation of entry mode choice. *Journal of Marketing Theory & Practice* Vol. 12 (1), 1–18.

SIFF (2008) *Software Industry Facts and Figures.* Business Software Alliance. <http://www.bsa.org/country/Public%20Policy/~/media/Files/Policy/Security/General/sw_factsfigures.ashx>, retrieved 29.8.2011.

Steinmueller, E. (1995) The U.S. software industry: An analysis and interpretive history. In: *The international computer software industry*, eds. Mowery, D. C., Oxford University Press.

Stern, L. – El-Ansary, A. – Coughlan A. T. (1996) *Marketing channels*. Prentice-Hall, Englewood Cliffs, NJ.

Syrjälä, L. – Ahonen, S. – Syrjäläinen, E. – Saari, S. (1994) *Laadullisen tutkimuksen työtapoja*. Kirjayhtymö Oy, Helsinki.

Tähtinen, J. – Parvinen, P. (2003) Ohjelmistojen markkinointi. In: *Ohjelmistoliiketoimint*a, 41–76, eds. Hyvönen, E. WSOY, Vantaa.

Tamilia, S. – Senecal, G. – Corriveau, G. (2002) Conventional channels of distribution and electronic intermediaries: A functional analysis. *Journal of Marketing Channels,* Vol. 9 (3-4), 27–35.

Teece, D. J. (1977) Technology transfer by multinational firms: The resource cost of transferring technological know-how. *The Economic Journal*, Vol. 87 (346), 242–261.

Tietoviikko (2011) Tivi 250. <http://www.tietoviikko.fi/listat/tivi250/>, retrieved 14.10.2011.

Varis, J. – Kuivalainen, O. – Saarenketo, S. (2005) Partner selection for international marketing and distribution in corporate new ventures. *Journal of International Entrepreneurship*, Vol. 3 (1), 19–36.

Welch, C. – Marschan-Piekkari, R. – Penttinen, H. – Tahvanainen, M. (2002) Corporate elites as informants in qualitative international business research. *International Business Review,* Vol. 11 (5), 611–628.

Winkler, J. – Dibbern, J. – Heinzl, A. (2009) The impact of software product and service characteristics on international distribution arrangement for software solutions, *ICIS 2009 Proceedings*, Paper 145.

Yin, R. K. (2003) *Case study research: Design and methods.* 3rd edition. Sage Publications, Thousand Oaks, CAL.

Äijö, T. – Kuivalainen, O. – Saarenketo, S. – Lindqvist, J. – Hanninen, H. (2005) *Internationalization handbook for the software business.* Centre of Expertise for Software Product Business, Espoo.

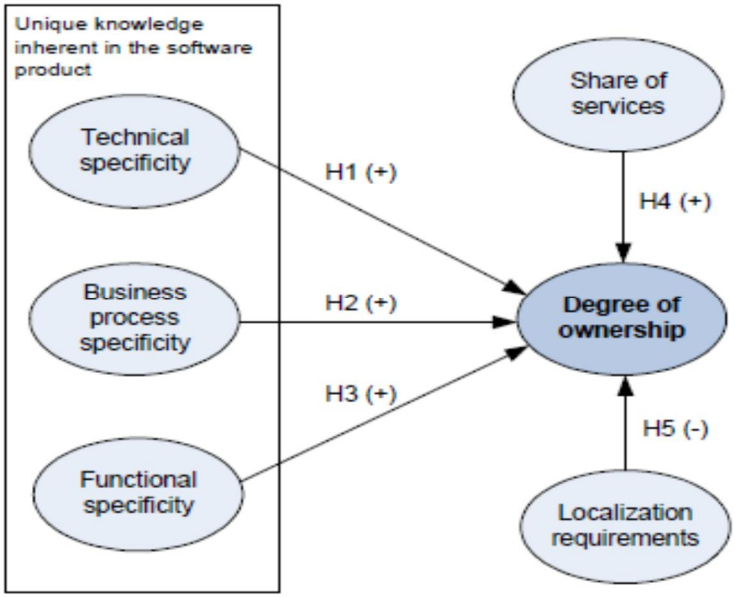
INTERVIEWS

The CEO of Firm Alpha. Theme interview on the 24th of March in 2011. The interview was conducted in Firm Alpha’s premises.

The CEO of Firm Beta. Theme interview on the 8th of April in 2011. The interview was conducted in Firm Beta’s premises.

APPENDICES

Appendix 1 Research model of Winkler, Dibbern and Heinzl (2009, 4)



Appendix 2 Topics discussed in the interviews

Background questions:

- The respondent's role regarding international distribution
- International sales figures
- The development of the international distribution channel structure from the beginning until today.
- The development of the distribution channels in the future

Theme questions:

1. Through what kind of structures are the channel functions performed?

- What kind of foreign operation modes have been utilized?
- What kinds of channel strategies have been utilized?

2. How the channel functions are performed in distribution channels?

- How the sales are performed?
- How the delivery is performed?
- How the promotion is performed?

3. How specific is the knowledge inherent in software?

- Business processes specificity
- Technical complexity

4. What is the level of productization?

- Service requirements (Implementation and after-sales)
- Customization requirements
- Localization requirements

5 & 6 Why is the channel structure as such?

- Why these foreign operation modes were selected?
- Why these channel strategies were selected?

Why the channel functions are performed in the current way?

- Why were the sales performed as they were?
- Why was the delivery performed as it was?
- Why was the promotion performed as it was?

How and why have the characteristics specific to your software affected the channel structure?

- How and why have the characteristics specific to your software affected the selection of foreign operation modes?
- How and why have the characteristics specific to your software affected the selection channel strategies?

How and why has the characteristic specific to your software affected performing the channel functions?

- How and why have the characteristic specific to your software affected performing the sales?
- How and why have the characteristic specific to your software affected performing the delivery?
- How and why have the characteristic specific to your software affected performing the promotion?