

Arto Ojala

Internationalization of Software Firms

Finnish Small and Medium-Sized
Software Firms in Japan



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Editors

Seppo Puuronen

Department of Computer Science and Information Systems, University of Jyväskylä

Irene Ylönen, Marja-Leena Tynkkynen

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ABSTRACT

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Finnish summary

Diss.

This dissertation investigates internationalization of small and medium-sized software firms first from a general point of view and, thereafter, from the point of view of the Japanese market particularly. The quantitative findings in this dissertation suggest that small and medium-sized software firms enter the large software markets very early in their internationalization process. However, the Japanese market seems to differ from this trend. For this reason, qualitative case studies were employed to elaborate the market entry and entry mode choice of Finnish small and medium-sized software firms in the Japanese market. The findings imply that these firms entered Japan at a very early stage by using direct entry modes. This was mainly due to the market size, sophisticated industry structure, and requirements for intensive cooperation with the customers during the sales process. The firms' product offering was also found to be closely related to the entry mode choice in the market. Despite of the psychic distance between Finland and Japan, the firms were able to enter the market by hiring local employees and western managers who already had working experience in the Japanese market. Moreover, the findings suggest that the firms actively seeking market opportunities in Japan used formal or mediated relationships, whereas the passive firms were invited into the market through their informal relationships. Investigation to the success factors and entry barriers in the Japanese market revealed that the success factors and entry barriers are mainly related to the firms' business execution capabilities to operate in the market. The summary part of this dissertation analyzes how these findings can be explained by using the Uppsala internationalization model, the network model of internationalization, and the international new venture theory. Based on the findings, none of these theories alone does adequately explain the internationalization behavior of small and medium-sized software firms. For this reason, a new model that integrates these three theories, to the appropriate extent, is being developed. The model emphasizes the software firms' product strategy as the main driver for the internationalization behavior.

Keywords: Market entry, entry mode choice, internationalization, software firms, SMEs, knowledge-intensive firms, Finland, Japan

Author's address Ojala, Arto
Department of Computer Science and Information
Systems
University of Jyväskylä, Finland
P.O. Box 35 (Agora), 40014 University of Jyväskylä
Arto.K.Ojala@jyu.fi

Supervisors Nahar, Nazmun
Department of Computer Science and Information
Systems
University of Jyväskylä, Finland

Tyrväinen, Pasi
Department of Computer Science and Information
Systems
University of Jyväskylä, Finland

Reviewers Jones, Marian V.
Business School
Department of Management
University of Glasgow, Scotland, UK

Oviatt, Benjamin M.
J. Mack Robinson College of Business
Department of Managerial Sciences
Georgia State University, Georgia, USA

Opponent Bell, Jim
School of International Business
University of Ulster, Northern Ireland, UK

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Arto Ojala

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LIST OF THE ORIGINAL ARTICLES

- I. Ojala, A. and Tyrväinen, P. (2007). Market Entry and Priority of Small and Medium-Sized Enterprises in the Software Industry: An Empirical Analysis of Cultural Distance, Geographical Distance, and Market Size. *Journal of International Marketing*, 15 (3), 123-149.
- II. Ojala, A. and Tyrväinen, P. (2008). Market entry decisions of US small and medium-sized software firms. *Management Decision*, 46 (2), 187-200.
- III. Ojala, A. Entry in a Psychically Distant Market: Finnish Small and Medium-sized Software Firms in Japan. *European Management Journal*, (in press).
- IV. Ojala, A. (2007). Network Relationships in the Market Entry of Small and Medium-sized Software Firms. *Proceedings of 33rd European International Business Academy (EIBA) Conference [CD-ROM]*. Catania, Italy, December 13-15.2007.
- V. Ojala, A. and Tyrväinen, P. (2006). Business Models and Market Entry Mode Choice of Small Software Firms. *Journal of International Entrepreneurship*, 4 (2-3), 69-81.
- VI. Ojala, A. and Tyrväinen, P. (2007). Entry Barriers of Small and Medium-Sized Software Firms in the Japanese Market. *Thunderbird International Business Review*, 49 (6), 689-705.
- VII. Ojala, A. and Tyrväinen, P. (2008). Best Practices in the Japanese Software Market. *Global Business and Organizational Excellence*, 27 (2), 52-64.

1 INTRODUCTION

Several studies have acknowledged the increase in the participation of small and medium-sized enterprises (SMEs) in international markets in the past decades (see e.g., Coviello & Jones, 2004; McDougall, 1989). Internationalization of SMEs has been fast (OECD, 1997, 2000), particularly in high-technology industries (Alajoutsijärvi et al., 2000; Fernhaber et al., 2007; Oviatt & McDougall, 1994, 1995, 2005). The drivers for the increasing involvement of these knowledge-intensive SMEs in the world markets, to name a few, have been small domestic markets, increasing competition, and the fast development of information and communication technologies. The rapid internationalization of knowledge-intensive SMEs has also received increasing academic attention in various academic fields since the late 1980s (Coviello & Jones, 2004; Oviatt & McDougall, 2005). However, there are still many unanswered questions related to this phenomenon. As indicated in several studies (see e.g., Bell et al., 2003; Coviello & Martin, 1999; Crick & Spence, 2005; Johanson & Vahlne, 2003; Jones, 1999; Oviatt & McDougall, 1997; Young et al., 2003), internationalization of knowledge-intensive SMEs is a complex process, and studies which take a more holistic view to this phenomena are needed. For these reasons, this dissertation uses three different theories, namely the Uppsala internationalization model, the network model of internationalization, and the international new venture (INV) theory, as the baseline for the investigation of internationalization of knowledge-intensive SMEs in the software sector.

1.1 Theoretical background

This sub-chapter presents three commonly used theories in the literature investigating the internationalization of knowledge-intensive SMEs. Due to their historical contexts, each of the theories takes a different viewpoint on how firms internationalize their operations. The Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) was developed in the 1970s to explain the slow internationalization process of multinational firms. Because the

development of the Uppsala model was based on large multinationals, it has been commonly challenged in the field of international entrepreneurship (see e.g., Autio, 2005; Bell, 1995; Oviatt & McDougall, 1994, 1997). The main critique has been targeted toward its inadequacy in explaining internationalization of knowledge-intensive SMEs. As a consequence of this, several studies (see e.g., Bell, 1995; Coviello & Munro, 1995, 1997; Moen et al., 2004) have proposed that the reasoning for internationalization behavior of knowledge-intensive SMEs provided by the network model (Johanson & Mattsson, 1988) is superior to that of the Uppsala model. The network model (Johanson & Mattsson, 1988) was presented in the 1980s when it became evident that most of the firms used various networks to facilitate their internationalization activities. The INV theory (Oviatt & McDougall, 1994) was developed to explain why, beginning in the late 1980s, some firms' internationalization behavior did not follow the traditional internationalization theories, such as the Uppsala model. In the following, each of these theories is discussed in detail.

Many of the traditional internationalization theories describe internationalization as a step-wise process (Bilkey & Tesar, 1977; Cavusgil, 1980; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975; Luostarinen, 1979). The so-called "Uppsala model", developed by Johanson and Wiedersheim-Paul (1975) and Johanson and Vahlne (1977), is probably one of the most cited and best known traditional theory in the international business literature. It describes internationalization as an incrementally evolving process, in which a firm internationalizes its operations by going through various stages. In the model, internationalization mechanism is seen as based on increasing market knowledge that increases market commitment through commitment decisions and current activities (Johanson & Vahlne, 1977, p. 26). In market selection, firms are expected to enter first into nearby markets which share a similar language, culture, political system, level of education, level of industrial development etc. Thereafter, when a firm's knowledge to operate internationally increases, it gradually starts to develop activities in psychically more distant countries. According to the model (Johanson & Wiedersheim-Paul, 1975, p. 307), firms are expected to go through the following "stages" (1-4) in their entry mode choice:

1. no regular export activities
2. export via independent representatives
3. sales subsidiary
4. production/manufacturing

Hence, the operations in a foreign country are supposed to start through indirect entry modes (stages 1-2), which do not require extensive knowledge about the environment of the target country. These indirect entry modes increase the firm's knowledge about the target country and about how to deal with the customers in that country. Once the country has become more familiar for the firm it can establish direct operations there (stages 3-4). In the model, knowledge and learning of the foreign markets has a central role. The model

divides knowledge into general knowledge and market-specific knowledge. The general knowledge is objective and transferable from previous countries entered to the target country. It includes general issues about marketing methods, operation modes, and typical customers in a global scale. The market-specific knowledge is based on earlier experiences about the target country environment, including its culture, the market structure, customers in the market, etc. This knowledge is mainly acquired through operating in the target country (Johanson & Vahlne, 1977). In their later studies, Johanson and Vahlne (1990, 2003, 2006) develop their model closer to the network view of internationalization. These studies propose that interactions in networks increase firms' knowledge and create new opportunities in international markets.

In the network model of internationalization (Johanson & Mattsson, 1988), internationalization occurs when a firm starts to develop relationships with another firm that belongs to a network in a foreign country. Relationships between the firms in different countries act as a bridge to new markets (Johanson & Vahlne, 1990, p. 20). In the model, a firm is dependent on resources controlled by other firms, but it can get access to these resources by establishing new relationships and developing its position in the existing network (Johanson & Mattsson, 1988). In these networks, the firms share common interests which motivate them in developing and maintaining relationships with each other in a way that provides them mutual benefits (Johanson & Mattsson, 1988, 1992; Johanson & Vahlne, 2003). Thus, in international markets, a firm can have relationships with many kinds of actors, for instance, with customers, distributors, suppliers, competitors, non-profit organizations, public administration, etc. Development of relationships with actors in the market can be active or passive. In active networking, the initiative is taken by the vendor, whereas in passive networking it comes from the customer (Johanson & Mattsson, 1988, p. 292). The main distinguishing factor between the Uppsala model (Johanson & Wiedersheim-Paul, 1975) and the network model is that the network model is not gradually progressing in nature. Moreover, the network model says nothing about the countries a firm is entering into (Johanson & Vahlne, 2003, p. 95).

The INV theory has attracted increasing attention after the seminal work by Oviatt and McDougall (1994). Although the phenomenon of INVs is nothing new, the study of Oviatt and McDougall (1994) gave a theoretical foundation as to why these kinds of firms exist in international markets. The theory is motivated by the observation that internationalization of INVs is related to opportunity seeking behavior where an INV "...seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries" (Oviatt & McDougall 1994, p. 49). It proposes that INVs' origins are international because they have commitments to valuable resources in more than one country. In the theory, "international from the inception" means that the founders of an INV seek growth opportunities in foreign markets and have already made some decisions related to the international scope of the activities before their foundation (McDougall et al., 1994; Oviatt &

McDougall, 1994). The theory emphasizes the fact that INVs do not have to own their resources, since they are able to use external resources in international markets. Thus, the usage of alternative resources for internationalization distinguishes new ventures from multinational enterprises (MNEs). For instance, in the original theory (Oviatt & McDougall, 1994), network structures are seen as a valuable resource in that cooperation within a network creates new opportunities for INVs. The importance of networks for INVs is discussed further in the work of Oviatt and McDougall (2005). Because these network relationships cross national borders, the theory suggests that the founding teams of INVs have to have already existing knowledge about international markets. The main difference between the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) and the INV theory is that the INV theory suggests that firms can skip stages or not have any stages at all in the internationalization process (Oviatt & McDougall, 1994, p. 52).

1.2 Comparison of the theories

As the theories discussed above have very different viewpoints about how firms internationalize their operations, there is a need for a closer comparison of these theories. To do this, this dissertation uses seven dimensions to relate the theories and to analyze internationalization of knowledge-intensive SMEs. These dimensions consist of internationalization process, market selection, psychic distance, network relationships, product, entry barriers, and success factors. They are listed in the left column of table 1. The three middle columns give an overview of the Uppsala model, the network model, and the INV theory from the viewpoint of these dimensions. The rightmost column lists the articles included in this dissertation that analyze the research target from the viewpoint of each dimension. Where the article is marked with an asterisk (*) it indicates that the dimension is in the main focus of the article.

Firstly, internationalization process is seen very differently in these theories. The Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) suggests that a firm follows certain stages when it internationalizes its operations to foreign countries whereas the INV theory (Oviatt & McDougall, 1994) mainly ignores these stages. In the network model (Johanson & Mattsson, 1988), internationalization is seen to be related to available networks, which a firm can follow to enter foreign markets. In empirical studies related to internationalization of knowledge-intensive SMEs, there has been growing evidence that these SMEs do not follow any particular stages in their internationalization process (see e.g., Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Moen et al., 2004). On the other hand, studies of Coviello and Munro (1997) and Hashai and Almor (2004) have recognized various stages in the internationalization process of knowledge-intensive SMEs. However, the internationalization process of these SMEs has been faster and included fewer stages than in the Uppsala model (Coviello & Munro, 1997; Hashai & Almor,

2004). The network model has received increasing support from many studies (Coviello, 2006; Coviello & Munro, 1995, 1997; Crick & Spence, 2005; Loane & Bell, 2006; Moen et al., 2004; Zain & Ng, 2006) where networks are seen as an important initiator for foreign market entry. However, the studies of Malhotra et al. (2003) and Bell (1995) propose that the network approach is inappropriate to explain the internationalization of firms that do not have any network relationships available for their foreign market entry. In addition, Malhotra et al. (2003) criticize the network approach due to its non-predictive and ad hoc nature. The INV theory focuses on explaining in detail why INVs exist and why they are able to be international from their inception, but it seems to ignore how these firms internationalize their operations. The question remaining is: Is there any logic in the internationalization process of knowledge-intensive SMEs or are they just going to wherever they see opportunities?

TABLE 1 Dimensions and theories used

| Dimension | Uppsala model | Network model | INV theory | Article(s) |
|------------------------------|---|--------------------------------------|--|-----------------------|
| Internationalization process | Stepwise | Through networks | Opportunity seeking | I*, II, III*, and IV* |
| Market selection | From nearby markets to more distant markets | Depends on networks available | Early - to leading markets | I*, II*, III, and IV |
| Psychic distance | Important impact | N/A | No impact | III* |
| Network relationships | Important resource | Determines market selection | Important resource | IV* |
| Product | N/A | N/A | Resource | III, IV, and V* |
| Entry barriers | Related to learning and entry mode change | Related to network relationships | Depends on resources | III, IV, and VI* |
| Success factors | Iterative learning | Access to resources through networks | International focus, innovative product, strong networks, tightly managed organization, rapid learning | III, IV, and VII* |

Secondly, market selection is explained very differently in these theories. In the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), firms are expected to enter first nearby markets and thereafter to expand gradually to more distant markets, whereas in the network model (Johanson & Mattsson, 1988) firms are assumed to enter countries where they have network relationships available. The original INV theory (Oviatt & McDougall, 1994)

does not tackle this issue directly, but the conceptual model of Bell et al. (2003) indicates that knowledge-intensive SMEs enter leading markets very early on in their life-cycle. The survey by Bell (1995) and the case study by Coviello and Munro (1997) have found evidence that small software firms enter countries within a short geographical and/or psychic distance before expanding to countries within at a greater distance. However, there seems to be a lack of studies investigating those factors which would best predict market selection and priorities of knowledge-intensive SMEs.

Thirdly, the concept of psychic distance has a very distinctive role in these theories. In the Uppsala model, psychic distance has a central role because firms are expected to enter first to psychically close markets which share a similar language, culture, political system, level of education, level of industrial development etc. (Johanson & Wiedersheim-Paul, 1975, p. 308). Thereafter, once a firm has acquired more knowledge about how to operate internationally it might establish operations in countries at a greater psychic distance. The network model of internationalization (Johanson & Mattsson, 1988) does not say anything about psychic distance. Instead, it conceptualizes all barriers as being related to relationships establishment and building (Johanson & Vahlne, 2003, p. 93). In the INV theory, psychic distance does not have impact on foreign operations. The INV theory proposes that developed communication and transportation channels, homogenization of markets, and international awareness (Oviatt & McDougall, 1994, 1995; see also Autio, 2005, p. 11) have lessened and removed psychic distance between countries. However, Zahra (2005, p. 24) argues that the INV theory may lead to an idea that "...entrepreneurs can easily and quickly learn about opportunities that lie outside their home markets". According to Zahra (2005), learning about other cultures is a challenging and time-consuming process. Empirical studies related to internationalization of knowledge-intensive SMEs (Arenius, 2005; Bell, 1995; Coviello & Munro, 1997; Crick & Spence, 2005; Lindqvist, 1988; Moen et al., 2004) have tested the appropriateness of the psychic distance to explain the internationalization behavior of knowledge-intensive SMEs. These studies propose that knowledge-intensive SMEs tend to enter first to markets in a psychical proximity but that there are other factors which explain their internationalization better than the psychic distance between countries. However, these studies investigated firms' internationalization to several countries without focusing on any particular country. Furthermore, these studies have mainly investigated initial market entries where firms commonly enter nearby, 'psychically close' countries. This kind of research setting can be argued to skew the results related to psychic distance if the nearby countries share a similar business environment, cultural values, language, etc. In addition, it can be argued that developed communication channels do not benefit firms if they do not have a common language for communication with their customers. Thus, the remaining question is: To what extent does the psychic distance influence the market entry of knowledge-intensive SMEs when they enter a market that truly differs from their home country in terms of culture, language, business practices, etc?

Fourthly, network relationships have an important role in all three theories. Although the original Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) mainly ignores the impact of networks, later studies by Johanson and Vahlne (1990, 2003, 2006) have emphasized the important role of networks for learning and knowledge creation. The network model conceptualizes network relationships as determinants for market selection where a firm follows network relationships to foreign markets. In addition, networks provide an access to resources controlled by other actors in the market (Håkansson & Snehota, 1995; Johanson & Mattsson, 1988). In the INV theory, networks are seen as a valuable resource for INVs when they reach to international markets (Oviatt & McDougall, 1994). The importance of network relationships in knowledge-intensive SMEs internationalization behavior has been highlighted in many empirical studies (Bell, 1995; Coviello, 2006; Coviello & Munro, 1995, 1997; Crick & Spence, 2005; Moen et al., 2004; Zain & Ng, 2006). These studies emphasize the essential role that network relationships have between firms or individuals in the internationalization process of knowledge-intensive SMEs. The common proposition in these studies has been that the network model offers a better explanation for internationalization than the original Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). However, in these studies the impact of the network relationships on the market entry has been viewed from the perspective of firms internationalizing their operations to several countries. Thus, it remains unclear what the impact of network relationships to the market entry is when a firm is entering a certain individual country. In this case, one may ask, what are the kinds of relationships that knowledge-intensive SMEs are using, what is their activity in building networks for the market entry, and to what extent do these network relationships affect the country and operation mode selection?

Fifthly, the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) and the network model (Johanson & Mattsson, 1988) ignore the impact of the product and/or services to the internationalization process. In the INV theory, on the other hand, a firm's product is seen as a valuable resource (Oviatt & McDougall, 1994). The theory also concludes that an innovative product and/or service is an important element in INVs success in international markets. Empirical studies have also emphasized the importance of firms' products to the ways they operate and to the internationalization behavior of knowledge-intensive SMEs. These findings suggest that the nature of the business (Jones, 1999), the strategies implied (Brouthers & Van de Kruis, 1997), the characteristics of products (Bell, 1995, 1997; Brouthers et al., 1996), the requirements for customer support (Burgel & Murray, 2000), and customization needs (McNaughton, 1996) are closely connected to the internationalization behavior of the firm in question. Still, there seems to be a lack of research focusing on how these product and business execution related issues impact knowledge-intensive SMEs' market entry and entry mode choice in a foreign market.

Sixthly, the Uppsala model conceptualizes entry barriers as an uncertainty to act in foreign markets; uncertainty can be avoided there by learning and

selecting a proper entry mode (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). For this reason, the psychic distance and entry barriers can be overcome in the target market through iterative learning and by first using entry modes which do not require a strong commitment to the market. In the network model (Johanson & Mattsson, 1988; Johanson & Vahlne, 2003), entry barriers are mainly related to the firms' capabilities to establish and maintain relationships with other actors in the market. The INV theory proposes, in accordance with Hymer (1976), that foreign firms are at a disadvantage against local firms due to governmental barriers to trade, incomplete understanding of laws, language, and business practices (Oviatt & McDougall, 1994, p. 55). The theory also indicates that INVs cannot use resources at the scale of MNEs as they have to find these resources, for instance by using their network structure (Oviatt & McDougall, 1994, 2005). Although entry barriers are important at least for managers and other practitioners in the field, earlier studies related to knowledge-intensive SMEs have largely ignored them because the focus has been on theory development and testing rather than on practical issues. One exception to this is the study by Bell (1997), which investigated the export problems of small software firms. Bell found that most of these export problems are related to financial resources and marketing. However, the study did not focus on market entries to any specific country; it investigated such initial market entries where firms generally entered nearby markets sharing a similar market environment, business language, culture, etc. It can be argued that if the home and target countries share similar business environments, entry barriers are lowered. There seems to be a need for studies that investigate entry barriers in cases where the business environment of the home and target countries differs greatly.

Seventhly, the success factors for international market operations differ in these three theories. The Uppsala model suggests that iterative learning increases a firm's knowledge and enables successful operations in a foreign country (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). In the network model (Johanson & Mattsson, 1988), success is achieved through networks, which facilitate the acquisition of new resources for operations in foreign markets (see also Håkansson & Snehota, 1995). The INV theory conceptualizes success factors as being more related to international vision, innovative products or services, strong networks, and tightly managed organization (Oviatt & McDougall, 1994, p. 47). In their later study, Oviatt and McDougall (1995) identified the following seven success factors for INVs: a global vision from the inception, managers with international experience, a strong international business network, pre-emptive technology or marketing, a unique intangible asset, closely linked product or service extensions, and a worldwide closely coordinated organization. Empirical research related to success factors in foreign markets has largely been studied by using MNEs while research related to knowledge-intensive SMEs has been almost non-existent. Thus, we have a very limited knowledge about the factors which contribute to the success of knowledge-intensive SMEs in foreign markets. This knowledge is

particularly important if a firm is competing in a country where business practices are very different from those of other markets.

1.3 Research objectives

As mentioned earlier, internationalization of SMEs is a complex process and there is a need for a more holistic understanding of this phenomenon. The main argument here is that none of the three theories described above can explain the internationalization of knowledge-intensive SMEs in the software sector. Knowledge-intensive refers here to firms which use unique know-how in their R&D activities, produce intangible products (Almor & Hashai, 2004), and use highly specialized employees as the main resource in their knowledge work (Nahar, 2001; Prashantham & Berry, 2004; Prashantham, 2006). Knowledge-intensive firms commonly exist in industries such as software, information and communication technologies, electronics, pharmaceuticals, biotechnology, etc. (Almor & Hashai, 2004; Hashai & Almor, 2004). The software industry is commonly selected as a target group for studies investigating knowledge-intensive firms (see e.g., McNaughton, 2002; Prashantham, 2006). Due to the intangible nature of product, low reproduction costs, virtually nonexistent production, electronic distribution, niche markets, and dependence of adequate knowledge (Almor & Hashai, 2004), to name of few, the internationalization behavior of these firms presents a challenge to the existing internationalization theories. Due to their niche product strategies, these firms are usually seeking growth opportunities very early on in their life-cycle from the leading markets, such as the U.S and Japan (Bell et al., 2003). However, several studies (Chetty & Campbell-Hunt, 2004; Coviello and Munro, 1997; Hashai & Almor, 2004) have also observed that these firms enter first to the nearby markets, underlining the importance of psychic, cultural, and geographical distance. Thus, the tradeoff between the attractions of the market and the repellent distance factors remains unresolved. For the reasons discussed above, the analysis of the following dimensions in the internationalization of software SMEs was selected as the main research objective for this dissertation:

- Internationalization process
- Market selection
- Psychic distance
- Network relationships
- Product
- Entry barriers
- Success factors

Furthermore, this dissertation investigates how the above mentioned theories can be integrated, to the appropriate extent, to provide a more holistic understanding of the internationalization of knowledge-intensive SMEs.

1.4 Relationships of the included articles

This dissertation contains seven articles focusing on the research objective from different viewpoints. The relationships of the articles and the structure of this dissertation are shown in figure 1. First, internationalization process and market selection are described in Articles I and II. The findings in these articles propose that firms enter the leading software markets very early in their internationalization process. For that reason, Japan was selected as the target country for the subsequent articles (other reasons for selecting Japan as the target country are elaborated in the chapter on methodology and scope below). Thereafter, Articles III-VI investigate the market entry of software SMEs to the Japanese market by analyzing the impact of psychic distance, network relationships, product, and entry barriers. Finally, Article VII analyzes the success factors for operating in the Japanese market.

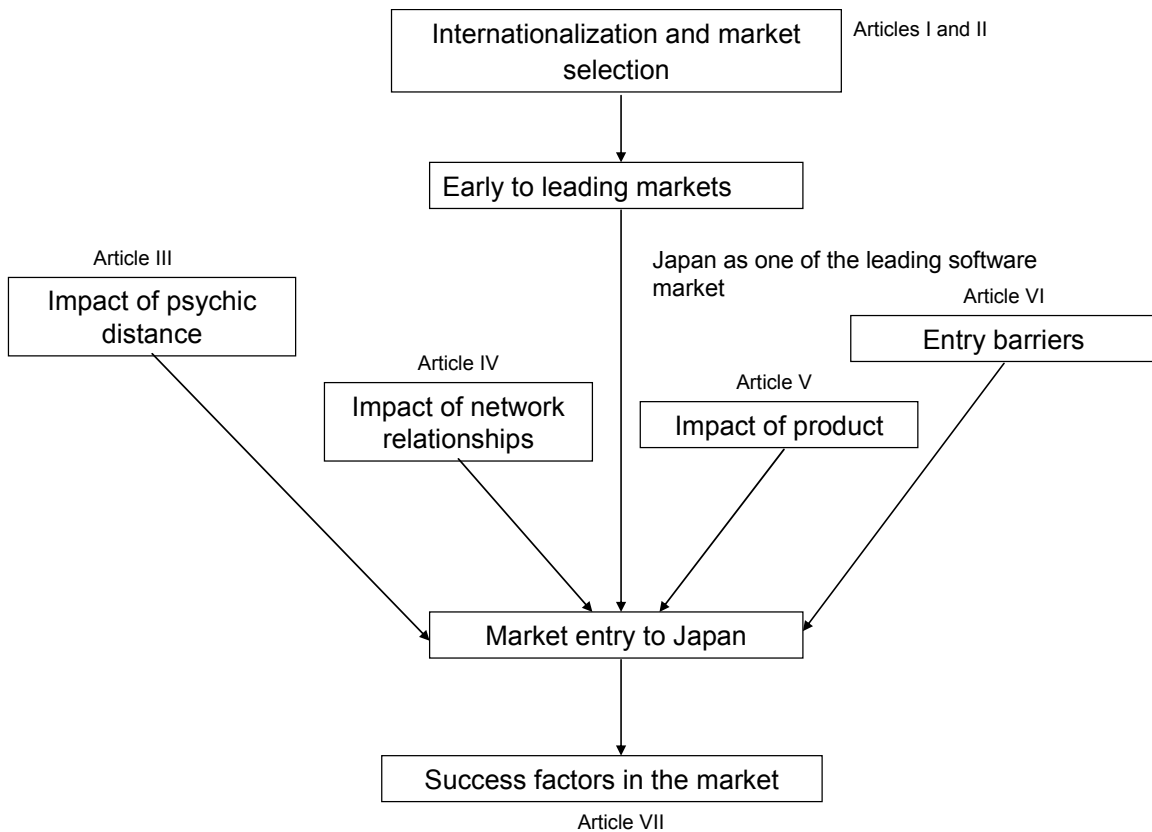


FIGURE 1 Relationships of the included articles

2 METHODOLOGY AND SCOPE

2.1 Quantitative analyses

The quantitative method was selected to investigate internationalization process and market selection in Articles I and II. This was due to the need for general understanding of the phenomena under investigation (Creswell, 1994), and, for this reason, statistical analyses were needed. Both of these quantitative articles use secondary data. For Article I, the data was collected from Finnish National Software Industry Survey and for Article II from the Software 500 publication. A sample of Finnish SMEs was examined in Article I whereas SMEs from the U.S. were selected for Article II. The selection of firms from the two countries helps in validating the results and increases the generalizability of the findings. In both of the articles, bivariate correlations were used to observe the ability of each single independent variable to explain the variation in the dependent variables. Thereafter, multivariable models were created to explain market entry preference using the linear stepwise multivariable regression analysis. The models created were evaluated based on their ability to explain the variation of target market selection in the target group (R^2 and adjusted R^2 values), the statistical significance of the model, and the F value. The collinearity effects of alternative market size indicators were controlled by stepwise creation of regression models, along which the drop of the F value was monitored. The Durbin-Watson test (see e.g., Savin & White, 1977) was used to ensure non-autocorrelation of residuals. Moreover, in Article I, t-tests were employed to observe any possible change in countries which were targeted as the first, second and third market entry.

2.2 Case studies

The multiple case study method (Yin, 1994), which required analyzing more firm-specific behavior, was selected for Articles III-VII, because it is not possible

to analyze this kind of behavior by quantitative research approaches. According to Yin (1994), the multiple case study method enables explaining the significance and cause-and-effect relationships of the phenomena under investigation. In addition, Eisenhardt (1989) suggests that the multiple case study method allows studying patterns that are common to the cases and theory under investigation.

2.2.1 Selection of the target group

Finnish software SMEs with direct business operations in the Japanese market were selected as the target group for case studies in this dissertation. The selected firms complied with the following criteria: a) they have their headquarters in Finland, b) they have direct business operations in the Japanese market, c) they do business in the field of software, and d) they have a maximum of 500 employees worldwide.

In this dissertation, Finland was chosen as the country of origin due to its small and open economy with a very limited domestic market (OECD, 1997). In countries, where the domestic market size is small, internationalization is an important growth strategy to guarantee a long-term survival (Autio et al., 2000; Sapienza et al., 2006). Although the case firms selected for this dissertation originate exclusively from Finland, the sample can be generalized, with some caution, to other contexts, because software firms generally use global industry standards and platforms for their products and services (Gawer & Cusumano, 2002; Hoch et al., 2000). In addition, the research results (Bell, 1995; Coviello & Munro, 1997; Loane & Bell 2006; Loane et al., 2004; McNaughton, 1996; Moen et al., 2004; Spence, 2003; Zain & Ng, 2006) related to the internationalization of software SMEs originating from Australia, Canada, Finland, Ireland, New Zealand, Norway, Malaysia, and the USA imply that these firms generally use similar routes, networks, and strategies in their internationalization processes. Furthermore, choosing Finnish software firms in Japan enabled addressing the firms in the target group almost inclusively with a qualitative case-study method.

Japan was chosen as the target country for the following reasons: firstly, as Articles I-II in this dissertation indicate, software firms tend to favor countries with large software markets. According to EITO (2006) and U.S. Commercial Service (2006), Japan is the world's second largest market for software products. Thus, Japan presents one of the leading markets (see also Bell et al., 2003) for software firms. This makes Japan a very attractive country for foreign software firms. Secondly, due to the differences in culture, language, and business practices between Finland and Japan, Japan can be ranked as a psychically distant country from Finland (Karppinen, 2006; Karppinen-Takada, 1994; Luostarinen, 1979; Peltokorpi, 2007; Ronen & Shenkar, 1985). A large psychic distance between two countries makes the market entry very challenging, as indicated in traditional internationalization theories (Bilkey & Tesar, 1977; Cavusgil, 1980; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). Furthermore, Lu and Beamish (2001, p. 573) indicate that a large difference

between countries makes the market entry more entrepreneurial in nature. Thirdly, in several studies (see e.g., Czinkota & Kotabe, 2000; Czinkota & Woronoff, 1993; Reid, 1995a, 1995b; Shetty & Kim, 1995) Japan is cited as a very difficult country to enter and conduct successful business. In addition, the findings in Article II indicate that the number of market entries of software SMEs to Japan is pretty low in relation to its market size.

Software industry was selected as the target sector for this dissertation, because software firms are commonly used as a target group when analyzing internationalization of knowledge-intensive SMEs (see e.g., Bell, 1995; Brouthers et al., 1996; Coviello, 2006; Coviello & Munro, 1997; McNaughton, 1996, 2002; Moen et al., 2003, 2004; Prashantham, 2006; Zahra & Bogner, 2000; Zain & Ng, 2006). Focusing on a single sector in this dissertation helps complement the existing studies related to the software industry and reduce the confounding influence of industry specific variables (Coviello, 2006; Rouse & Daellenbach, 1999; Zahra & Bogner, 2000). The software industry differs somewhat from other industries due to the intangible nature of its products, short product life cycles (Nambisan, 2002), low reproduction costs (Bakos & Brynjolfsson, 1999), specific localization needs (Collins, 2002), electronic distribution (Almor & Hashai, 2004; Bakos & Brynjolfsson, 1999; Moen et al., 2003), etc. However, the software industry still shares common characteristics with other knowledge-intensive industries (Spence, 2003) and the service sector (O'Farrell et al., 1997). Thus, the sample is comparable and can be generalized, with some caution, to larger settings. Furthermore, the software industry is one of the world's fastest growing industries. For instance, the annual growth rate of the software patent applications between 1987 and 2005 was about 19 percent world-wide (McQueen, 2005) and the growth rate of Finnish software product industry was 21 percent in 2004 (Kuitunen et al., 2005). In addition, the software industry attracted the largest amount of venture capital investments in the U.S. between 1995 and 2002 (Green, 2004).

To increase the generalizability of the results, the case firms for this dissertation were selected by using the definition of SMEs as consisting of firms with 500 or fewer employees. However, all the firms had fewer than 250 employees at the time of their market entry to the Japanese market. Thus, the case firms identified for this dissertation fit also fairly well to the Finnish government's and European Union's definition of SMEs as being firms with less than 250 employees (OECD, 2003). Defining SMEs by the number of their employees is justified as SMEs do not usually want to reveal their sales data. This was noted also in the studies of Julian (2003) and Brouthers and Nakos (2005). In addition, the study of Coviello and Jones (2004) indicates that a firm size is commonly used as a selection criterion for studies related to international entrepreneurship.

The terms 'small and medium-sized software firms' and 'software SMEs' were chosen for this study instead of labeling these firms as 'born globals' or 'INVs'. This was mainly due to the reason that not all firms conform to some commonly used definitions for INVs, for instance, being international within six years or less (Coviello, 2006; Fernhaber et al., 2007; Shrader et al., 2000; Zahra et

al., 2000). However, there seems to be also a lack of commonly accepted definition for INVs (Coviello & Jones, 2004). For this reason, the firms here are defined by using the European Union's and Finnish government's definitions for SMEs. In Article II, the U.S. SMEs are defined by using the U.S. government's definition (OECD, 2003).

2.2.2 Data collection

Firms suitable for this dissertation were identified with the help of the websites of the Finnish Chamber of Commerce in Japan and Finnish Software Business Clusters, as well as by examining a list of firms in the publication "Software Product Business Cluster in Finland 2005". By using these sources, altogether nine suitable firms were identified. These firms were contacted with an e-mail request to participate in the research. Eight of the nine firms answered and were willing to share their knowledge and experience of the Japanese market. All nine firms figure in Article VII.

The semi-structured open-ended interviews were conducted with a total of 16 managers from the eight firms (17 interviews from the nine firms were conducted for Article VII) in the firms' headquarters in Finland and in their units in Japan. The initial field study for this dissertation took place in Finland and Japan in 2003; executives and consultants with in-depth knowledge about Japanese high-technology markets were interviewed. Results of this initial field study are presented in the studies of Ojala (2004, 2005) and Ojala and Nahar (2004, 2005a, 2005b, 2006). These interviews and studies gave an idea for this dissertation and helped to develop a more focused questionnaire. The actual interviews for this dissertation were conducted in Finland and Japan in 2005 and 2006.

The author of this dissertation conducted all the interviews with those executives who had in-depth knowledge of their firms' market entry and operations in the Japanese market. The interviewees included founders of companies and/or executives with titles such as President, Executive Vice President, Managing Director, Director, Chief Technical Officer, and Sales Administrator. These professions correspond to those of informants that are commonly used in the field of international entrepreneurship (see Coviello and Jones, 2004). The language used in most of the interviews was Finnish. However, English was used with three Japanese managers and with one manager whose native language was Hungarian. Each interview took approximately 60-90 minutes and was digitally recorded, carefully listened to, and transcribed verbatim with the help of a word processor. A second listening took place to ensure a correspondence between the recorded and transcribed data. Thereafter, the complete case reports were sent back to the persons interviewed to ensure the validity and authenticity of the collected data. Whenever the interviewees found some inaccuracies in the text, these were corrected based on their comments. In addition, telephone and e-mail interviews were used to collect further information from the interviewees when needed. Additional information from the case firms was collected by using the

websites and annual reports of the case firms. The collected interview data was also compared with these sources.

2.2.3 Data analysis

In the data analysis, the guidelines suggested by Eisenhardt (1989) and Yin (1994) were followed. All eight individual cases were written out as standalone case histories. After that, the unique patterns in each case were identified. Similar patterns were categorized under common themes. This helped to organize and summarize the collected data. In addition, analytical tools were applied within and across the cases as proposed by Miles and Huberman (1994). For instance, checklists and event listings were used to identify critical events related to the market entry and networking of each case firm. In addition, the ordinal scale data analysis (Babbie, 1989) was used in Article VII and grounded theory (Strauss & Corbin, 1990) in Article VI to arrange and categorize the interviewed data.

3 OVERVIEW OF THE ARTICLES

3.1 Article I: "Market Entry and Priority of Small and Medium-sized Enterprises in the Software Industry: An Empirical Analysis of Cultural Distance, Geographical Distance, and Market Size"

Ojala, A. and Tyrväinen, P. (2007). Market Entry and Priority of Small and Medium-Sized Enterprises in the Software Industry: An Empirical Analysis of Cultural Distance, Geographical Distance, and Market Size. *Journal of International Marketing*, 15 (3), 123-149.

Research objectives

The aim of this paper is to investigate the country selection and priority of small and medium-sized software firms by analyzing the impact of cultural distance, geographical distance, and three market size variables. In addition, the shift of priorities in SMEs' country selection is observed by analyzing how these factors impact the selection of the first, second, and third target countries. Although the importance of these factors is highlighted in both traditional internationalization theories (Davidson, 1980; Dunning, 1973; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975; Luostarinen, 1979) and in the current findings related to knowledge-intensive SMEs (Bell, 1995; Bell et al., 2003; Coviello & Munro, 1997; Jones & Coviello, 2005; Moen et al., 2004), earlier studies have provided very little knowledge of the interrelations between these factors in the target country preference. The data for the study were collected from the Finnish National Software Industry Survey conducted in 2003. To find out the best indicator for country selection and priority, stepwise creation of linear multivariable regression models was employed.

Findings

The findings in this study indicate that geographical distance and software market size in the target country explain almost 70 % of country choices. Thus, software SMEs favor countries within a short geographical distance and with large software markets. In addition, the large size of the software market in the target country, instead of the widely used indicators, such as GDP or GDP per capita (see e.g., Clark & Pugh, 2001; Rothaermel et al., 2006; Terpstra & Yu, 1988), was the most important determinant for country preference. This finding adds the important factor 'vertical market size' to the current literature suggesting that it gives the best explanation for country preference. Findings related to country priority indicate that the market entry of software SMEs shifts very fast from countries within a short geographical distance (first country) to countries with large software markets, high purchasing power, and a greater geographical distance (second and third countries).

Summary and the relation to the whole

Summarizing, this paper analyzes the impact of five macro-level variables to the market entry and priority of small and medium-sized software firms. As findings in the paper indicate, software firms start to favor countries with large software market size at a very early phase in their internationalization process. This finding emphasizes the important role of countries such as the U.S. and Japan, the two largest software markets in the world, for foreign software firms.

3.2 Article II: "Market entry decisions of US small and medium-sized software firms"

Ojala, A. and Tyrväinen, P. (2008). Market entry decisions of US small and medium-sized software firms. *Management Decision*, 46, (2), 187-200.

Research objectives

The aim of this paper is analyze the impact of cultural distance, geographical distance, country risk, and three market size variables on market entry decisions of the U.S. software SMEs. Studies related to knowledge-intensive SMEs have mainly investigated the impact of firm-level factors, such as network relationships, knowledge, and resources (see e.g., Bell, 1995; Coviello, 2006; Coviello & Cox, 2006; Prashantham, 2005) to internationalization behavior and to foreign market entry decision. However, there seems to be a lack of systematic quantitative research on how knowledge-intensive firms select their target countries. Although this study investigates only the most commonly cited macro-level variables, it contributes to the literature by integrating earlier findings related to firm-level factors with findings in this study. The sample

used in this study consists of secondary data obtained from the Software 500 publication, which includes the 500 world's largest software and service firms based on their annual revenue. The final sample included 100 most successful U.S. software SMEs with 500 employees or less, the headquarters in the U.S., and at least one office or subsidiary in a foreign country indicating direct business operations abroad. To find out the best indicator for market selection, stepwise creation of linear multivariable regression models was used.

Findings

The findings of this study indicate that vertical market size (size of the software market) in the target country was the best single indicator for a market entry decision explaining 63% of country selection and having statistically significant correlation in all models. This finding indicates that in their direct business operations U.S. software SMEs favor countries with large software markets. By integrating the findings of this study to findings of earlier studies focusing on firm-specific variables, it can be seen that successful knowledge-intensive firms develop their network relationships and focus their resources in order to enable them to enter the leading software markets in the world. Thus, the firms should take an active role in networking, because otherwise they might lose market opportunities in the leading markets and end up in countries where the real market potential is low.

Summary and the relation to the whole

In line with Article I, this paper highlights the importance of software market size in the target country selection of software firms. This paper differs from Article I, in that it investigates direct entry modes and, thus, indicates the importance of software market size in the target country also in direct business operations. This also adds further generalizability to the findings in Article I. The results of this study suggest that the number of market entries to the Japanese market in relation to the size of the software market in Japan is really low. If Japan were to be excluded from the source data, that would increase the explainable software market size from 63% to 76%. This finding indicates that, although Japan has the world's second largest market for software products, there is a limited number of entries of foreign software firms in relation to the country's software market size. For this reason, the market entry and entry mode choice for the Japanese market is in the focus of the following five articles in this dissertation.

3.3 Article III: "Entry in a Psychically Distant Market: Finnish Small and Medium-sized Software Firms in Japan"

Ojala, A. Entry in a Psychically Distant Market: Finnish Small and Medium-sized Software Firms in Japan. *European Management Journal*, (in press)

Research objectives

This paper examines the market entry and entry mode choice of eight small and medium-sized Finnish software firms in the Japanese market by employing the concept of psychic distance in the Uppsala internationalization model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). In the paper, the following two research questions are investigated: 1) To what extent does psychic distance influence market entry and entry mode choice in the Japanese market? and 2) How are firms able to overcome the psychic distance in the Japanese market?

Earlier empirical studies (Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Coviello & Munro, 1997; Lindqvist, 1988; Moen et al., 2004) have generally challenged the concept of psychic distance in explaining the internationalization behavior of knowledge-intensive SMEs. However, these studies have investigated firms' internationalization to several markets instead of focusing on any specific country. If the firms first enter nearby or psychically close countries, as earlier studies suggest (Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Coviello & Munro, 1997; Moen et al., 2004), this does not give a reliable viewpoint to analyze the impact of psychic distance due to the fact that these countries commonly share similar cultural values, language, business practices, etc. Another weakness of the above mentioned studies is that they do not give an adequate description about how the firms move from one entry mode to another and through various stages in a particular market as described in the Uppsala model. The multi-case approach of this study includes eight Finnish small and medium-sized software firms having direct business operations in the Japanese market.

Findings

In line with earlier studies (Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Coviello & Munro, 1997; Lindqvist, 1988; Moen et al., 2004), the findings of this study indicate that knowledge-intensive SMEs select their target country for other reasons than those related to psychic distance. In this study, firms entered the Japanese market due to its market size and sophisticated industry structure for their products. They also favored direct entry modes due to the complex nature of their products, which required intensive liaison with the customers throughout the sales process. As distinct from earlier studies, this study validated these findings by focusing on countries with a wide psychic distance between them and many differences in language, cultural values, and business

environment (Karppinen, 2006; Karppinen-Takada, 1994; Luostarinen, 1979; Peltokorpi, 2007; Ronen & Shenkar, 1985). In addition, this study analyzed how the firms' entry modes evolved in the target country according to the Uppsala model – a consideration that has been largely ignored in previous studies. The findings also show that the firms were able to overcome the psychic distance between Finland and Japan by hiring local employees for sales activities and managers with knowledge of both the home and the host country. This finding suggests also that the perception of cultural differences by the managers is more important than the actual variation in cultures. This gives further support to the studies of Brewer (2007) and Sousa and Bradley (2006) indicating that psychic distance is based on a manager's experiences and feelings about how distant a country is rather than on cultural differences between countries. Although the concept of psychic distance in the Uppsala model seems valid, knowledge-intensive SMEs are nevertheless forced to find ways to conduct business also in countries at a greater psychic distance. For this reason, their market entries and entry mode choices do not follow incremental routes or stages as suggested in traditional internationalization theories.

Summary and the relation to the whole

Altogether, and in agreement with Articles I and II, the case findings in this study show that small and medium-sized software firms enter large markets for their products very early on in their internationalization process. This article contributes to the dissertation by highlighting the fact that Japan was selected as the target country for providing a large and sophisticated market for the firms' products, which suited for the firms' niche product offering. In addition, the complexity of the firms' products increased the need to establish an own unit for the market very early. There were also the requirements for intensive cooperation with customers in the sales process, implementation phase, and in after-sales services. However, the firms were able to lower the psychic distance significantly by recruiting local employees and managers familiar with Japanese and Finnish culture.

3.4 Article IV: "Network Relationships in the Market Entry of Small and Medium-sized Software Firms"

Ojala, A. (2007). Network Relationships in the Market Entry of Small and Medium-sized Software Firms. *Proceedings of 33rd European International Business Academy (EIBA) Conference* [CD-ROM]. Catania, Italy, December 13-15.2007.

Research objectives

This paper investigates the market entry of eight Finnish small and medium-sized software firms into the Japanese market through network relationships. In

earlier research (Bell, 1995; Coviello, 2006; Coviello & Munro, 1995, 1997; Moen et al., 2004; Zain & Ng, 2006), network relationships in the market entry of knowledge-intensive SMEs have commonly been studied by investigating the firms' internationalization to several markets without focusing on any specific target country. Due to the different focus of these earlier studies, there are several issues about firms internationalizing to a certain country that they cannot explain. Thus, the aim of this study is to analyze various types of focal network relationships, firms' activities in developing relationships, and the impact of network relationships to the market and entry mode choice for the Japanese market. A multi-case study provides the data for the analysis.

Findings

Findings in this study reveals that the case firms used formal, informal, (c.f., Birley, 1985; Coviello & Munro, 1995, 1997; Westphal et al., 2006) and mediated network (c.f., Ellis & Pecotich, 2001; Havila et al., 2004) relationships for their market entry. Those firms that were actively seeking market opportunities in Japan used formal or mediated network relationships, while the more passive firms were invited to the market through their informal network relationships. The main theoretical contribution of this study is that it recognizes the importance of mediated relationships with non-profit government-owned consulting firms and/or exhibition organizers, which have been largely ignored in earlier studies. These mediated relationships act as focal links for the firms which do not have other (formal or informal) relationships available for the market entry. The findings also emphasize that in the market entry into a particular country, the network relationships do not play such an essential role in the target country or entry mode choice. The Japanese market was commonly selected as the target market due to the advanced industry structure that suited the case firms' niche product offering. The choice of entry mode was mainly based on the high complexity level of software products, which was also the main reason why the firms favored direct business operations.

Summary and the relation to the whole

Concluding, this article contributes to the dissertation by emphasizing the fact that almost all the firms selected Japan as the target country before they started to actively search network relationships for the market entry. This was mainly due to the large and sophisticated market for the firms' niche products as already suggested in Article III.

3.5 Article V: "Business models and market entry mode choice of small software firms"

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

Research objectives

The aim of this paper is to examine how software firms' business models impact the entry mode choice in a target country. In the paper, the business models are divided into product strategy, revenue logic, distribution model, and service and implementation model according to the framework of Rajala et al. (2003a, 2003b). The business model framework is used as a tool to analyze the nature of a software firm. This helps in finding similarities between firms that are using a certain business model and a selected entry mode to operate in the market. A multi-case study, which included eight Finnish software firms operating in the Japanese market, was used to analyze connections between the business model and entry mode choice.

Findings

The findings in this paper imply that firms' product strategy has a strong connection to the entry mode choice in the target country. The firms which tailored their products for customer specific needs favored representatives in the market. Due to the niche market for their products, these firms were able to handle the market without investing, for example, in a subsidiary. The firms that offered semi-standardized enterprise solutions used a sales subsidiary entry mode in the market. This approach enabled better localization and customization activities for local customers and allowed the use of local sales and marketing staff. Mass-market software firms used cooperative entry modes, which enabled the use of local knowledge in the localization of products which were targeted to the Japanese consumer markets. Revenue logic and service and the implementation model were also somewhat related to the entry mode choice, but because these were closely connected to the nature of the product offering, they should be understood more as a subset of the product strategy. The findings also revealed that the distribution model does not have any connection to the choice of the entry mode in the market.

Summary and the relation to the whole

Summarizing, as discussed in Articles III and IV, the firms' product offering and requirements for the customer support seem to have a central role both in the market choice and in the entry mode choice. This article contributes to the dissertation by investigating, in more detail, the nature of the firms' business.

The findings in this article give further support to Articles III and IV, which emphasize that a firm's product strategy is closely tied to the entry mode choice in the market.

3.6 Article VI: "Entry Barriers of Small and Medium-Sized Software Firms in the Japanese Market"

Ojala, A. and Tyrväinen, P. (2007). Entry Barriers of Small and Medium-Sized Software Firms in the Japanese Market. *Thunderbird International Business Review*, 49 (6), 689-705.

Research objectives

The aim of this paper is investigate the entry barriers of small and medium-sized software firms in the Japanese market. The literature review in this study presents six frameworks (Czinkota & Kotabe, 1999, 2000; Dunning, 1996; Graham, 1996; Maguire, 2001; Mason, 1992; Namiki, 1988, 1989; Samiee & Mayo, 1990; Yoshitomi, 1996) used to analyze entry barriers in the Japanese market. However, none of these frameworks is widely employed, and most of them investigate the entry barriers of large MNEs. Based on interview data, a new framework was developed to analyze the entry barriers of small and medium-sized software firms. The framework developed includes the following three categories: barriers related to the organization, barriers related to the sales process, and barriers related to the target industry segment, corresponding to the resource-based theory (Barney, 1991), the network approach (Johanson & Mattsson, 1988), and the Uppsala internationalization model (Johanson & Vahlne, 1977) respectively. The shortcomings of the earlier frameworks in the analysis of entry barriers are also presented. The research method is based on a multi-case study and targets eight Finnish software SMEs, which have direct business operations in the Japanese market.

Findings

The findings in this study suggest that most of the barriers are mainly related to the software SMEs' resources and capabilities to operate in the market. The five most significant entry barriers encountered by the firms were: how to convince the headquarters of market requirements, slowness of the customers' purchasing process, recruitment of employees, customization of the software products, and the lack of common language in communication with customers. The entry barriers encountered by the firms also differ from those of earlier investigations (Czinkota & Kotabe, 1999, 2000; Dunning, 1996; Graham, 1996; Maguire, 2001; Mason, 1992; Namiki, 1988; Samiee & Mayo, 1990; Yoshitomi, 1996), which mainly focused on large manufacturing firms. The case firms in this study did not face some of the commonly cited barriers, such as tariffs

(Namiki, 1988, 1989; Samiee & Mayo, 1990), weak intellectual property protection (Anchordoguy, 2000), and the Japanese government restrictions for foreign direct investments (Czinkota & Woronoff, 1993; Dunning, 1996; Mason, 1992; Samiee & Mayo, 1990). Thus, there seems to be a shift from the regulation-related entry barriers to barriers related to firms' business execution capabilities in the Japanese market.

Summary and the relation to the whole

To conclude, as indicated in several studies (see e.g., Dunning, 1996; Yamawaki, 2004; Yoshitomi, 1996) Japan has a low amount of foreign direct investments despite its large market size. This seems to be also the case in the software sector as indicated in Article II. This article contributes to the dissertation by investigating the entry barriers of software SMEs by using two countries where the business environment of the home and target countries differs greatly.

3.7 Article VII: "Best Practices in the Japanese Software Market"

Ojala, A. and Tyrväinen, P. (2008). Best Practices in the Japanese Software Market. *Global Business and Organizational Excellence*, 27 (2), 52-64.

Research objectives

The aim of this paper is focus on the best practices which small and medium-sized Finnish software firms perceived as critical for successful operations in the Japanese software market. Due to cultural differences, business operations in the Japanese market often differ from practices that managers implement in other markets. Although these differences have been widely documented in earlier studies, most of these studies have focused on traditional industries, such as manufacturing or retailing. In addition, earlier investigations have commonly taken a gross-industrial approach without an industry-specific focus and primarily employed statistical analyses or surveys which give a very narrow view of the practical issues that managers are forced to deal with in real-life settings. On the whole, earlier studies (see e.g., Alden, 1987; Czinkota & Kotabe, 1999, 2000; Martin, 2002; Min, 1996; Mirza & Sparkes, 1996; Reid, 1995a, 1995b, 2007; Simon, 1986; Yoshihara, 1991) provide only general information for managers of software firms due to the specific nature of the software business. This study compares the findings of the present study with the results of previous studies (e.g., Douglas & Craig, 1990; Shetty & Kim, 1995; Simon & Palder, 1987) which have analyzed the factors contributing to success in the management of large MNEs in Japan. A multi-case study approach is used to analyze managers' experiences regarding the best practices for successful operation in the Japanese market. The ordinal scale measurement method

(Babbie, 1989) was employed to arrange the success factors in the order of importance.

Findings

The findings in this study reveal that the most important factors for successful operations in the Japanese market were product strategy, perseverance in business, personal contacts, and Japanese language. Product strategy, which included uniqueness, quality, functionality, design and customization, was notably the most cited factor. The success factors recognized in this study seem to differ somewhat from the findings of the earlier investigations (e.g., Douglas & Craig, 1990; Shetty & Kim, 1995; Simon & Palder, 1987). The case firms in this study did not report the following success factors: distribution strategy, packaging, advertising / promoting, good relationships with headquarters, and global networks. The absence of these might be due to the presence of different product types and niche market segments.

Summary and the relation to the whole

This article contributes to the dissertation by focusing on best practices in the Japanese market. The findings in this study confirm that success factors in the Japanese market are closely related to the earlier concepts used in this dissertation. For instance, the important role of the product strategy (Articles III, IV, and V), personal contacts (networks in Article IV), perseverance in business, and language (psychic distance in Article III) are indicated.

3.8 About the joint articles

The author of this thesis wrote Articles III and IV by himself. In the other papers, the authors' contribution was the following:

The idea and the theoretical background for Articles I and II were mainly due to Ojala whereas Tyrväinen conducted all the data analyses for these articles. Both authors contributed equally to the writing process.

For articles V, VI, and VII, Ojala conducted all the interviews and case analyses. Tyrväinen contributed to these articles by helping to organize the case findings and by emphasizing managerial implications. Ojala was the main contributor in the writing process; Tyrväinen reviewed the articles and made some minor modifications.

4 CONCLUSIONS, LIMITATIONS, AND FURTHER STUDY

This dissertation investigates the market entry of small and medium-sized software firms first generally and, thereafter, as regards the Japanese market. The findings in this dissertation give rise to several theoretical and practical contributions, which are discussed below. Finally, the limitations of this dissertation and some future research directions are indicated.

4.1 Theoretical contributions

Based on the findings in the articles included in this dissertation, the three theories (Uppsala model, network model, and INV theory) can now be related to the findings through the seven selected dimensions (see table 2). Only small and medium-sized software firms are considered here due to the industry and product specific characteristics of the software firms. However, the findings are generalizable, with some caution, to other knowledge-intensive SMEs.

4.1.1 Internationalization process

The internationalization process of software SMEs included two steps or stages as indicated in Article I. The first stage was the entry to a nearby market and the second stage was the entry to leading software markets with high purchasing power. This kind of behavior includes elements from both the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) and the INV theory (Oviatt & McDougall, 1994). The internationalization behavior was opportunity seeking, the firms targeting the leading markets in their field. This is consistent with the INV theory. However, the firms first entered the nearby markets. Two stages were indentified there, which is also consistent to a certain degree with the Uppsala model. However, the internationalization process included fewer stages than the Uppsala model. This corresponds to similar findings of Coviello and Munro (1997) and Hashai and Almor (2004). Although

the networks were an important resource as indicated in Article IV, their impact on the internationalization process was somewhat limited.

TABLE 2 Comparison of theoretical findings and theories

| Dimension | Theoretical findings in this dissertation | Uppsala model | Network model | INV theory |
|------------------------------|---|---------------|---------------|------------|
| Internationalization process | Two stages | + | + | + |
| Market selection | Opportunity seeking | + | + | ++ |
| Psychic distance | Psychic distance impact | ++ | N/A | - |
| Network relationships | Network relationships are important but do not determine the market entry or entry mode | + | - | + |
| Product | Determines the market and entry mode selection | N/A | N/A | + |
| Entry barriers | Firm specific and related to the capabilities and resources to operate in the market | - | + | ++ |
| Success factors | Product strategy | - | + | ++ |

++ = consistent

+ = somewhat consistent

- = not consistent

N/A = not applicable

4.1.2 Market selection

Market selection was strongly related to opportunity seeking behavior, because the firms favored leading software markets very early on in their internationalization process (Articles I and II). However, some elements from the Uppsala model and the network model were also observable. The firms tended to favor nearby markets, at least, if they also shared large markets for software products (Article I and II). This is consistent with many empirical studies which indicate that knowledge-intensive SMEs first enter nearby markets (Bell, 1995; Coviello & Munro, 1997). The impact of network relationships was also seen as important. Those relationships were regarded as an important resource for firms which were actively targeting a certain country (Article IV).

4.1.3 Psychic distance

The concept of psychic distance in the Uppsala model was valid as indicated in Article III. However, the firms were forced to find ways to conduct business

also in a country at a greater psychic distance. The absence of the psychic distance factor in earlier empirical studies (Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Coviello & Munro, 1997; Lindqvist, 1988; Moen et al., 2004) related to internationalization of knowledge-intensive SMEs might be due to the research settings: the market entries have been targeted mainly to the countries with similar business environment, culture, language used in business, etc. The firms investigated in this dissertation were able to overcome the psychic distance by using outside resources such as network relationships (Article IV) and by acquiring local knowledge through recruiting (Article III). This accords with Ghemawat's (2001, 2003, 2007) suggestion that distance still matters in contemporary business and that firms should focus their strategies to be able to manage differences between countries.

4.1.4 Network relationships

Network relationships were in an important role in the market entry and the firms employed three kinds of network relationship (formal, informal, or mediated) for their market entries (Article IV). These networks were seen as a resource helping the firms to find their way to the target market. Thus, this is consistent with the INV theory and also the Uppsala model. However, these relationships were not the major determinant in the entry decision as suggested by the network model and by some empirical findings (Coviello & Munro, 1995, 1997; Moen et al., 2004; Zain & Ng, 2006). The firms had already realized opportunities in the target country before they had started to search network relationships available for market entry. This contradicts the assumption in the network model (Johanson & Mattsson, 1988) that network relationships are the major initiator for market selection. Thus, firms are not passively following their networks to foreign markets. Instead, they actively seek opportunities in the foreign markets and develop networks to realize these opportunities. This is consistent with the INV theory (Oviatt & McDougall, 1994) and to the empirical findings of Loane and Bell (2006).

4.1.5 Product

Although both the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) and the network model (Johanson & Mattsson, 1988) have ignored the impact of the product to the internationalization process, it seems to play a central role in the software firms' internationalization process (Articles III, IV, and V). This is mainly due to the reason that the firms selected their target countries based on large markets (Articles I and II) and high demand (Articles III and IV) for their products. These markets were targeted in a very early phase of the internationalization process. The entry mode selection for the target country depended on the product strategy (Article V) and on the need for close cooperation with clients during the sales process (Articles III, IV, and V). This is somewhat consistent with the INV theory (Oviatt & McDougall,

1994), which regards a firm's product as a valuable resource that enables opportunities in foreign markets.

4.1.6 Entry barriers

The entry barriers recognized in this dissertation were mainly related to a firm's resources and capabilities to operate in the target market. Due to early internationalization, the firms' capability to utilize iterative learning, such as indicated in the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), was somewhat limited. For this reason, the firms acquired pre-existing knowledge through recruiting (Article III). Network relationships were seen as an important resource aiding the market entry process (Article IV). However, most of the entry barriers were firm-specific and dependent on the resources available for the market entry (Article IV). This is consistent with the findings of Bell (1997). This also gives support to the INV theory, which holds that entry barriers in foreign markets are related to a firm's capability to find resources to act in the market (Oviatt & McDougall, 1994, p. 55).

4.1.7 Success factors

Success factors for market operations were more related to firm and product specific factors than to iterative learning as suggested by the Uppsala model (Johanson & Vahlne, 1977). As noted above, this was due to the early and rapid internationalization where knowledge was acquired through networks (Article IV) and recruiting (Article III). This accord with the INV theory that conceptualizes success factors as being related to product and firm specific factors, such as innovative products, networks available, and experienced managers (Oviatt & McDougall, 1994, 1995). This is also rather consistent with the network model (Johanson & Mattsson, 1988) and with the upgraded version of the Uppsala model (Johanson & Vahlne, 2006), which conceptualize networks as a valuable resource for knowledge acquisition.

4.2 An integrative model of internationalization of small and medium-sized software firms

Although all the three theories discussed above have their own merits, none of them fully explains the internationalization process of software SMEs. This is mainly because each of the theories has its historical context and each has been developed to explain internationalization in somewhat different circumstances. However, integration of these models, to the appropriate extent, seems to yield a better explanation to the internationalization behavior of software SMEs than any of the individual theories alone.

Figure 2 presents an integrative model containing the appropriate key elements of the three theories that are needed to explain the findings in this

dissertation. In addition, the model bases on earlier empirical findings in the literature and on the guidelines for a theoretical model presented in the study of Whetten (1989). As it is evident, these firms can internationalize their operations in a number of ways; the model describes some general patterns and their relationships that can be commonly identified.

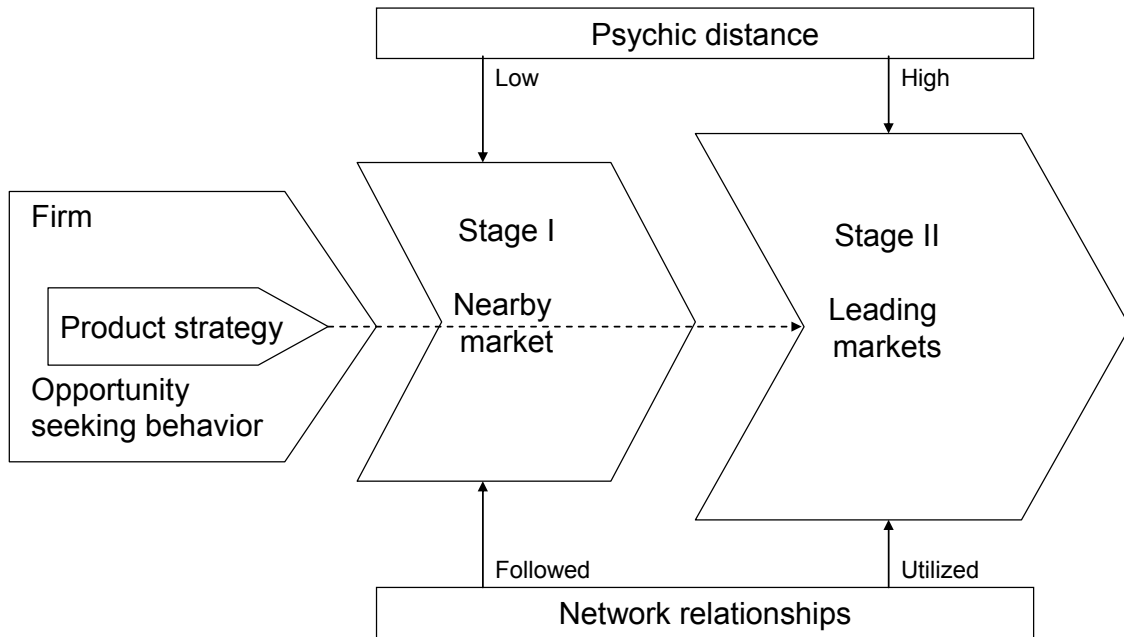


FIGURE 2 Integrative model of internationalization of small and medium-sized software firms

The model demonstrates that the software SMEs' internationalization behavior is opportunity seeking and driven by product strategy. Product strategy defines the target countries and the entry mode for those target countries (Articles III, IV, and V). Due to the opportunity seeking behavior (Oviatt & McDougall, 1994), the firms reach early on to the leading markets for their products (Bell et al., 2003). These markets offer a large customer base for their niche products. The entry mode choice for the target country is related to the selected product strategy and depends on customization and/or localization needs, on the requirements for cooperation with the customers in the sales process, and on the implementation of after-sales support (Articles III, V, and IV). The internationalization process consists of two stages (Article I). The first stage is the entry to nearby countries with a short geographical and/or psychic distance. This observation is also supported by earlier studies (Bell, 1995; Chetty & Campbell-Hunt, 2004; Coviello & Munro, 1997). The second stage is the entry for leading markets for the firms' product. These markets are located at a greater geographical and/or psychic distance, but they are large and have a high purchasing power for the firms' products and services (Article I). By first entering a nearby country the firms can develop their network relationships, resources, knowledge, competitive capabilities, etc. in preparation for their

entry to the leading markets at the second stage. Although the first stage can be omitted, software SMEs' generally seem to follow this two-stage approach. The model presented here is somewhat inline with the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), because in the model internationalization begins by entering a nearby country in a step-wise manner. However, the internationalization process can be regarded also as opportunity seeking, because the firms tend to enter the leading markets for their products very early on in their internationalization process. This observation gives support to the INV theory (Oviatt & McDougall, 1994, see also Bell et al., 2003).

In the model, the firms prefer countries with a low psychic distance in their initial market entry (stage I). This is supported by several empirical studies (Arenius, 2005; Bell, 1995; Crick & Spence, 2005; Coviello & Munro, 1997; Hashai & Almor, 2004; Lindqvist, 1988; Moen et al., 2004) investigating the initial market entries of knowledge-intensive SMEs. In stage II, the firms also have to enter countries which might be at a greater psychic distance (Article III). This indicates that the impact of psychic distance for market selection is higher in stage I where countries with a greater psychic distance are avoided. The impact of psychic distance for market entry decision is lower in stage II, although these countries might have a greater psychic distance. This is mainly due to opportunity seeking behavior, where the firms have made a strategic decision to enter the leading markets for their products. The entry is largely negotiated by acquiring relevant knowledge through recruiting cosmopolitan managers and local employees (Article III). Thus, the concept of psychic distance in the Uppsala model (Johanson & Wiedersheim-Paul, 1975) is valid, but the software SMEs' are forced to find ways to conduct business also in countries with a greater psychic distance (Article III). This is because they need to find customers for their niche products and because they need close cooperation with the customers through the sales process.

The firms, behaving in an opportunity seeking manner, actively develop network relationships to get into the leading markets for their products (Articles II and IV). As the model indicates, network relationships drive firms geographically and/or psychically nearby markets at stage I. This kind of behavior is documented in several studies (Coviello, 2006; Coviello & Munro, 1995, 1997; Moen et al., 2004; Zain & Ng, 2006) where firms select their initial markets by following formal or informal network relationships to nearby countries. However, the subsequent market entries are more a consequence of the firms' strategic decisions to enter the leading markets (stage II) with greater opportunities for their niche products. To enter the leading markets, a firm can utilize the already existing network relationships or start to actively develop new relationships which enable the market entry (Article IV). This kind of active network development to find new market opportunities in the leading markets is also reported in the study of Loane and Bell (2006, p. 477).

4.3 Managerial contributions

This dissertation carries several implications for the managers of software SMEs. These implications can be generalized to other knowledge-intensive SMEs, with some caution. Firstly, the managers prefer countries with large software markets and geographical proximity when choosing the first countries to enter. Operating initially in a nearby country helps in organizing critical customer support activities, such as requirement specification, installation, and after-sales support. The process of selling software products in a nearby country is easier due to lower operational cost and environmental familiarity. The manager can copy the same operation model cost-efficiently to more distant countries and customize it there later.

Secondly, because managers conceptualize psychic distance between countries from a personal viewpoint, depending on their earlier experiences, feelings, and awareness, a firm should recruit managers who are familiar with the target country, for their foreign operations. Familiarity with the environment of the target country helps the manager to implement right marketing practices and build networks with customers and other important actors in the market. In the recruitment process, the managers should value personal sales competence and recruit persons capable of selling their products in the target country. These persons should have a good technological knowledge of the firm's products, marketing skills, and knowledge of the local business practices. Because finding of employees with required skills can be difficult, the best way seems to be to recruit these employees from distributors, customers, or competitors. Usually these employees know the products and the business environment, and might already have some potential customers. On entering a psychically distant country, such as Japan, the managers should allocate enough financial resources for the operations in the market, because the first few years might prove unprofitable. This may be due to the fact that the development of trustful relationships with customers and distributors takes time. If a firm makes a decision to close their office or subsidiary, it will create a very negative image, especially in Japan, where customers appreciate commitment and long term business.

Thirdly, the findings imply that managers should take an active role when they develop their network relationships and focus their resources to enable market entry to the leading markets. If a firm takes a passive role in networking, it might lose the market opportunities available in the leading markets and end up in countries where the real market potential is low. For their market entry, the firms can use formal, informal, and mediated relationships. Mediated relationships with non-profit consulting firms are a valuable resource for the managers who do not have formal or informal networks available for the market entry.

Fourthly, in foreign operations, the managers of software SMEs should harmonize all the aspects of the product strategy. This means that the responsibility for the product strategy should not be scattered around the

organization causing possible communication problems and inconsistencies. For instance, in distant markets such as Japan, there should be a strong effort towards customization and localization of the products, which commonly requires moving a part of the product development from the home country to the target country. Although the core product can be developed in the home country, having customization and localization work done in a culturally dissimilar country is better, because the customers' needs for quality and functionality, and the customers' specific needs for products can then be better taken into account. For the case firms analyzed, customization and/or localization in the home country seems to create problems when communicating requirements from the customers to the unit in Japan or from the unit to the headquarters. The findings also suggest that the managers should actively search potential niches and develop and customize their products to meet the requirements of these niches. This might open up new market segments and help avoid competition with large software providers in markets.

Finally, because the firms' product strategy seems to be closely related to the entry mode choice in the target country, the managers should analyze what kind of entry mode suits best for their product offering in the market. In this dissertation, those firms whose product strategy led to a close cooperation with customers used representatives in the market, whereas the firms developing semi-standardized enterprise solutions preferred sales subsidiaries of their own. The firms that offered mass-market products to consumers used cooperative entry modes.

4.4 Limitations and further study

When evaluating the generalizability of the findings of this dissertation, certain constraints and limitations have to be taken into consideration. These limitations also offer insights for further research in this field. First of all, although the sample for the case studies covered almost all (Article VII covers all) Finnish small and medium-sized software firms having direct business operations in the Japanese market, the sample can be generalized only to some extent and further study is needed to validate these findings. The Japanese market differs remarkably from the other main markets (see e.g., Ronen & Shenkar, 1985), thus conducting a study that focuses on market entry to other major software markets could offer interesting comparisons to the findings in this dissertation. Secondly, the case studies focused only on firms that have units or representatives of their own in the target market. These case studies did not take into consideration firms that handle the market solely by exporting or by using distributors. Further research that would also include those firms could give a wider perspective to the phenomenon.

Thirdly, although the findings indicated that firms originating from Finland and the U.S. prefer countries with large software markets, the influence

of some of the variables used (such as geographical distance), might vary depending on the country of origin. Thus, more comparative studies are needed to verify the results with firms originating from other countries. Fourthly, the results are also limited by the fact that this dissertation is based solely on SMEs in the software industry. Although this made it possible to complement earlier case findings related to software firms, the results can be generalized to other industries only partially. Further research could contribute by revealing and comparing internationalization practices of knowledge-intensive young, old, and large firms. The product strategy of the software firms seems to be the main driver for internationalization to the leading markets. However, the impact of the product strategy might have a less important role in other knowledge-intensive sectors. Thus, further research is needed to test the generalizability of these findings in other sectors. In addition, the impact of vertical market size for the market selection requires further study in other industries. Finally, the framework to analyze the entry barriers, developed in Article VI, requires further validation and theoretical development.

The theoretical findings in the summary part of this dissertation are based on comparison and integration of three theories used in the field. Although these theories are commonly used to analyze internationalization of knowledge-intensive SMEs, further research could benefit from using the resource-based theory (McDougall et al., 1994), the knowledge-based theory, (Felin & Hesterly, 2007; Kuivalainen, 2003; Prashantham, 2005), the eclectic framework (Nakos & Brouthers, 2002), or the transaction cost perspective (Brouthers & Nakos, 2004) to refine and expand the model developed. In addition, the dimensions used to analyze the theories are not comprehensive and require further investigation. For instance, network relationships were analyzed with the help of the case study method; further study would benefit from quantitative research focusing on firms' activity to develop network relationships and the types of relationships used. The model developed in this dissertation is software industry specific and requires further refining for other knowledge-intensive sectors. However, it indicates that the internationalization behavior of knowledge-intensive firms is more complex and content specific than the investigated theories suggest. Therefore, the further theoretical development is needed to get a better understanding of the phenomenon.

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YHTEENVETO (SUMMARY IN FINNISH)

Pienet ja keskisuuret (pk) yritykset pyrkivät entistä useammin kansainvälisille markkinoille. Varsinkin tietointensiivisillä aloilla, kuten ohjelmistoala, useat pk-yritykset kansainvälistyvät huomattavan aikaisessa vaiheessa yrityksen elinkaarta. Tämä on ollut seurausta mm. yritysten kapeista tuotesegmenteistä, pienistä kotimaanmarkkinoista, lisääntyvästä kansainvälisestä kilpailusta ja kommunikaatioteknologioiden kehittymisestä. Tietointensiivisten pk-yritysten kansainvälistyminen on kuitenkin monimutkainen prosessi, ja se on tuonut monia haasteita sekä alan tutkijoille että yritysjohtajille. Monet alan tutkijat ovatkin esittäneet, että tietointensiivisten pk-yritysten kansainvälistymistä tulisi tutkia mahdollisimman kokonaisvaltaisesti, yhdistämällä alan teorioita.

Tässä väitöskirjatutkimuksessa selvitettiin, miten kansainvälisen liiketoiminnan kolmea eri teoriaa (Uppsala-malli, verkostomalli, ja INV-teoria) voidaan käyttää selittämään pk-sektorilla toimivien ohjelmistoyritysten kansainvälistymistä. Tarkastelussa keskityttiin seitsemään eri näkökulmaan, jotka ovat: kansainvälistymisprosessi, markkinavalinta, psyykkinen etäisyys, verkostosuhteet, tuote, markkinoille pyrkimisen esteet sekä menestystekijät kohdemaassa. Tutkimuksessa käytettiin sekä määrällistä että laadullista tutkimusotetta. Määrällisessä tutkimuksessa ilmenee että yleisesti tarkastellen pk-sektorilla toimivat ohjelmistoyritykset kansainvälistävät toimintojaan johtaville ohjelmistomarkkinoille jo hyvin aikaisessa vaiheessa. Japanin markkinat kuitenkin poikkeavat selkeästi tästä suuntauksesta. Tulokset osoittavat, että huolimatta Japanin suurista ohjelmistomarkkinoista, ohjelmistoyritykset eivät investoi Japanin markkinoille samassa määrin kuin mitä sen markkinakoko edellyttäisi. Tämän vuoksi tutkimuksen laadullisessa osassa selvitettiin suomalaisten pk-sektorilla toimivien ohjelmistoyritysten kansainvälistymistä Japaniin. Laadulliset tutkimustulokset osoittavat, että kohdeyritykset kansainvälistyivät Japanin markkinoille hyvin aikaisessa vaiheessa käyttäen suoria investointeja. Syynä tähän on lähinnä yritysten tuotestrategia. Se ajaa yrityksiä etsimään asiakkaita tuotteilleen juuri Japanista, jossa toimii monia suuria kohdeasiakkaita heidän ohjelmistotuotteilleen. Yritykset suosivat suoria investointeja Japaniin, koska heidän tarjoamiensa tuotteiden luonne vaati tiivistä yhteistyötä asiakkaan ja/tai jakelukanavan kanssa myyntiprosessin eri vaiheissa. Tutkitut yritykset käyttivät apunaan kansainvälistymisessä Japanin markkinoille kolmenlaisia verkostoja. Nämä verkostot koostuivat muodollisista verkostoista toisten yritysten kanssa, epämuodollisista verkostoista tuttavien ja sukulaisten kanssa, sekä välitetyistä verkostosuhteista ns. välittäjäorganisaatioiden kautta kuten esim. Finpro ja JETRO. Välitetyt verkostosuhteet olivat erittäin tärkeässä roolissa yrityksille, joilla ei ollut muita suhteita hyödynnettävissä kansainvälistymiseen Japanin markkinoille. Yritykset pyrkivät vähentämään psyykkisen etäisyyden vaikutusta Suomen ja Japanin välillä ensisijaisesti rekrytoimalla sellaisia länsimaalaisia henkilöitä, joilla oli aikaisempaa työkokemusta Japanista sekä palkkaamalla paikallisia työntekijöitä.

Kokonaisuudessa tutkimustulokset osoittavat, että tarkastelun kohteena olleet kolme kansainvälisen liiketoiminnan teoriaa eivät yksinään kykene selittämään pk-sektorilla toimivien ohjelmistoyritysten kansainvälistymistä. Tämän vuoksi väitöskirjassa esitetään ohjelmistoyritysten kansainvälistymisestä uudenlainen malli. Se perustuu tämän tutkimuksen empiirisiin tuloksiin, kolmeen tarkastelun kohteena olleeseen teoriaan sekä alan keskeiseen kirjallisuuteen. Malli osoittaa, että ohjelmistoyritysten tuotestrategialla on keskeinen rooli yrityksen kansainvälistymisessä.