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Author(s): Ojala, Arto; Tyrväinen, Pasi

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IMPACT OF PSYCHIC DISTANCE TO THE INTERNATIONALIZATION BEHAVIOR OF KNOWLEDGE-INTENSIVE SMEs

Arto Ojala and Pasi Tyrväinen
University of Jyväskylä

Purpose – The aim of this paper is to investigate the internationalization behavior of knowledge-intensive SMEs by using macro-level psychic distance indicators and managers' perceptions of psychic distance.

Design/methodology/approach – This study uses both quantitative and qualitative approaches. In the quantitative approach, the impact of psychic distance to the internationalization behavior is analyzed by using bivariate correlation analysis. The qualitative case study approach was employed to investigate managers' perceptions of psychic distance as regards market entries.

Findings – Findings of this study indicate that psychic distance has an impact on the market entry of knowledge-intensive SMEs. However, there are other factors, such as market size, opportunity seeking behavior, and actions taken by managers, which make the effect of psychic distance less visible in macro-level quantitative analyzes.

Research limitations/implications – This study is limited by small sample size in both quantitative and qualitative studies. However, the findings offer interesting insights for further studies related to this phenomenon.

Originality/value − This study compares macro-level and individual-level analyzes of psychic distance and indicates reasons why psychic distance should be analyzed with the help of individual-level perceptions of psychic distance.

Keywords – Psychic distance, knowledge intensive firms, SMEs, software firms, internationalization, Japan

Paper type – Research paper

INTRODUCTION

The concept of psychic distance has attracted increasing attention in international business and management literature since the study of Johanson and Wiedersheim-Paul (1975) popularized it. In their study (Johanson and Wiedersheim-Paul, 1975, p. 308), psychic distance refers to "…factors preventing or disturbing the flow of information between firm and market". However, the concept has been somewhat vague at least what comes to measurement of psychic distance. Some studies have tried to capture the impact of psychic distance by using macro-level indicators and statistical analyzes (Brewer, 2007; Dow and Karunaratna, 2006) whereas some other studies have proposed that psychic distance is more related to managers' personal experiences and skills rather than macro-level differences between countries (Child et al., 2002; Sousa and Bradley, 2006).

In addition, studies related to knowledge-intensive SMEs have commonly challenged the impact of psychic distance on the internationalization behavior of these firms although the findings in these studies are somewhat conflicting. For instance, several authors (Autio, 2005; Bell, 1995; Oviatt and McDougall, 1994, 1995) have argued that development of communication and transportation channels, homogenization of markets, and international

awareness have decreased psychic distance between countries. In addition, some studies (Bell, 1995; Coviello and Martin, 1999) have found that small software firms enter first to psychically close countries, but there are other factors explaining market entry decisions in addition to psychic distance. In contrast, some authors have found support for the impact of psychic distance in the internationalization process of knowledge-intensive SMEs (Chetty and Campbell-Hunt, 2004; Dow, 2005; Hashai and Almor, 2005). For instance, the study of Dow (2005) found that psychic distance impacted on the internationalization of born-global firms, although the impact was less significant compared to non-born global firms. However, because there have been lack of common instrument to measure psychic distance, several authors have employed their own country specific instrument, expert panels, or just evaluated psychic distance between countries by using roughly the concept of psychic distance described in the study of Johanson and Wiedersheim-Paul (1975).

Due to this vagueness, the aim of this paper is to investigate the impact of psychic distance on internationalization behavior of knowledge-intensive SMEs with the help of recently published psychic distance stimuli indicators of Dow and Karunaratna (2006). As highlighted in their study, managerial decisions are a consequence of both psychic distance stimuli (macro-level factors between countries) and decision-maker's sensitivity to psychic distance stimuli (micro-level factors such as perceptions of an individual). Based on the discussion above, the following two questions are investigated:

1. Are knowledge-intensive SMEs immune to the impact of psychic distance?
2. Should psychic distance be measured at macro-level or individual-level in the case of knowledge-intensive SMEs?

THE CONCEPT AND MEASUREMENT OF PSYCHIC DISTANCE

The concept of psychic distance was first introduced in the study of Beckerman (1956) related to trade-flows between European countries. However, the concept became well known after the studies by Johanson and Wiedersheim-Paul (1975) and Johanson and Vahlne (1977), known as the Uppsala internationalization model. These studies define psychic distance as factors which impact the information flow between the firm and the host market. The factors are related to differences in language, culture, political system, level of education, level of industrial development etc. (Johanson and Wiedersheim-Paul, 1975). Thus, according to the Uppsala model, firms tend to start their foreign operations in countries with a low psychic distance and thereafter subsequently enter into countries with greater psychic distance. In other words, firms favor countries that share a similar environment with their home country. These environment related factors described in the Uppsala model have been difficult to measure and authors have employed several approaches to estimate psychic distance between countries and its impacts to firms' international activities. Several studies have used Hofstede's (1980, 2001) cultural dimensions together with the composite index of Kogut and Singh (1988) when they measure psychic distance between countries (see Tihanyi et al., 2005). However, treatment of Hofstede's cultural dimensions as a single indicator of psychic distance might be misleading (Dow, 2000; Dow and Karunaratna, 2006; Evans and Mavondo, 2002; Tihanyi et al., 2005). Consequently, authors (Brewer, 2007; Dow and Karunaratna, 2006; Evans and Mavondo, 2002) have developed new indicators to evaluate psychic distance between counties.

In addition to macro-level indicators, impacts of individual-level factors have been indicated in several studies. Study of Dow and Karunaratna (2006), for instance, emphasizes the importance of education, international experience, and age impacting on a decision maker's sensitivity to psychic distance. Authors studying individual-level factors have used

expert panels and Likert scale ranging alone (Ellis, 2008; Nordström, 1991; Sousa and Bradley, 2005) or in addition to macro-level factors (Dow, 2000; Evans and Mavondo, 2002) to capture managers' perceived psychic distance. In their study, Sousa and Bradley (2006, 61) indicate that "psychic distance captures the manager's individual perception of the differences between the home and the host country and is a highly subjective interpretation of reality". Thus, psychic distance is subjective and its impact can vary among the employees within a firm (Sousa and Bradley, 2006). For this reason, some employees are more sensitive to differences between the home and the target country than others. In line with this, Petersen and Pedersen (1997) criticize empirical studies that try to observe psychic distance based on differences between countries. According to their findings, psychic distance should be estimated based on the perceived psychic distance of an individual firm or a decision-maker.

PSYCHIC DISTANCE AND INTERNATIONALIZATION OF KNOWLEDGE-INTENSIVE SMEs

Due to increasing participation of SMEs in the world markets, several studies have examined the appropriateness of the concept of psychic distance in the Uppsala model in explaining internationalization behavior of rapidly internationalizing SMEs. The studies of Oviatt and McDougall (1994, 1995) related to international new ventures suggested that developed communication and transportation channels, homogenization of markets, and international awareness have reduced the impact of psychic distance between countries (see also Autio, 2005). They argue that the concept of psychic distance in the Uppsala model is less significant at present, especially what comes to the rapidly internationalizing new ventures (Autio, 2005; Oviatt and McDougall 1994, 1995). However, Zahra (2005) argues that the studies of Oviatt and McDougall (1994, 1995) might give an impression that international new ventures can

easily reach opportunities in foreign countries. Learning about other cultures is, in many cases, a challenging and time-consuming process (Zahra, 2005).

Empirical studies (see, e.g., Bell, 1995; Coviello and Munro, 1997; Lindqvist, 1988) have found evidence that knowledge-intensive firms start their foreign operations by entering psychically close markets. However, they have proposed alternative factors which also impact on the market selection in addition to psychic distance between countries. These factors have been, to name a few, niche markets (Bell, 1995), network relationships (Coviello and Munro, 1997), cooperation requirements with foreign clients (Lindqvist, 1988), etc. The study of Crick and Jones (2000) argues that market selection of technologically oriented SMEs is more related to growth opportunities for their niche products rather than to psychic distance. In contrast, Chetty and Campbell-Hunt (2004) found that New Zealand's born-global firms followed the logic of psychic distance by first entering to psychically close countries and then subsequently to distant ones.

Findings related to the impact of psychic distance on the internationalization behavior of knowledge-intensive SMEs are twofold also in the studies applying quantitative research methods. In their studies, Hashai and Almor (2004) and Dow (2005) have found some evidence of the impact of psychic distance in the internationalization process of knowledge-intensive SMEs. The study of Dow (2005), statistically analyzed market entry choices of born-global and non-born global firms by using the same Likert scale ranging as the study of Dow (2000). He found that although the perception of psychic distance was higher within non-born global firms, internationalization of born-global firms was still somewhat related to psychic distance. Hashai and Almor (2004) investigated the internationalization process of knowledge-intensive born-global firms. In their analysis, they used country clustering to evaluate the impact of psychic distance. The findings in their study suggest that knowledge-intensive born-global firms enter first to the psychically close market in their

internationalization process. In contrast, Moen and Servais (2002) found no support for psychic distance or gradual internationalization process in their analysis of small and medium-sized firms' export behavior. The study classified markets by using a scale from one to four based on Hofstede's (1980) cultural dimensions.

Summarizing, as the literature review highlights, the impact of psychic distance to the internationalization of knowledge-intensive SMEs remains unsolved. In addition, authors have applied several approaches to measure the psychic distance. However, there seems to be a lack of studies that capture both macro-level and individual-level elements of psychic distance.

METHODOLOGY

Based on earlier studies, market entry decisions are a consequence of both macro-level and individual-level indicators. For this reason, we use quantitative and qualitative approaches to find out the impact of psychic distance to internationalization behavior of knowledge-intensive SMEs in the software industry. Quantitative analyzes are used to investigate macro-level psychic distance variables between countries, because these factors can be calculated by using statistical data available (Dow, 2008; Hofstede, 2001). However, decision-makers' perceptions about psychic distance are difficult to measure by using quantitative analyzes alone because it is related to individuals' awareness, perceptions, earlier experiences, and cause-effect relationships (Child et al., 2002; Dow and Karunaratna, 2006; Sousa and Bradley, 2006). For this reason, qualitative analyzes are applied to find about decision-makers' perception to psychic distance.

The target group of this study consists of small and medium-sized Finnish software firms with foreign operations. Software firms are commonly used as a sample to analyze internationalization of knowledge-intensive SMEs (Bell, 1995; Coviello and Munro, 1997;

Zahra and Bogner, 2000). These firms use unique know-how in their R&D activities, produce intangible products (Almor and Hashai, 2004), and use employees of high expertise as the main resource in their knowledge work (Prashantham and Berry, 2004). 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 and Brynjolfsson, 1999), specific localization needs (Collins, 2002), electronic distribution (Almor and Hashai, 2004), etc. However, although this study covers only single industry, some scholars have indicated that the software industry shares common characteristics with other knowledge-intensive industries (Spence, 2003) and the service sector (O'Farrell et al., 1997). Thus, the sample can be generalized, with some caution, to larger settings. Usage of one target industry answers also to Andersson's (2004) call for more research related to psychic distance in specific industries.

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 (Sapienza et al., 2006). Although the case firms selected for this study originate exclusively from Finland, the research results (Bell, 1995; Coviello and Munro, 1997; Loane and Bell, 2006) related to the internationalization of software SMEs originating from Australia, Finland, Ireland, New Zealand, and Norway imply that these firms commonly use similar internationalization strategies. Thus, the results can generalized to a larger setting with some caution. Furthermore, Finland is culturally a very homogeneous country, which helps us overcome the criticism of Shenkar (2001) related to 'the assumption of spatial homogeneity'.

Quantitative analyzes

The source data used in quantitative analyzes are based on secondary data acquired from the Finnish National Software Industry Survey. The source data was collected during 2003 by using a mail questionnaire sent to all Finnish software product firms known by the Software Business and Engineering Institute and the Institute of Strategy and International Business at Helsinki University of Technology. Altogether, 165 firms responded to this survey having a 17% response rate. It should be mentioned that all software firms with a reasonable amount of foreign income were systematically called through by phone to participate in the study. Thus, despite the low total response rate of the survey, the sample covers the target group of this study very well because the firms that responded generated over 80% of the total foreign income of the Finnish software industry. The original survey included a question related to the first three foreign countries that the firms had entered. Of these firms, 53 responded that question, and of them 51 satisfied the European Union's and Finnish government's definitions for SMEs (OECD, 2003) having 250 or less employees. Thus, the final sample of this study consists of 51 SMEs (with an average of 27 employees).

We used countries as a unit of analysis and analyzed the impact of psychic distance indicators on the number of entries to the countries. The three dependent variables First Target $Country_j$, Second Target $Country_j$, and Third Target $Country_j$ correspond to the number of firms entering to country (j) as the first, second, and third foreign market of the firm. Altogether, there were 26 countries, to which the 51 SMEs had entered as their first, second or third foreign market. Sweden was the most popular country as the first foreign market with 17 firms entering there.

The macro-level psychic distance stimuli indicators, developed by Dow and Karunaratna (2006), and validated in later studies by Dow and Ferencikova (2007) and Dow and Larimo

(2007), were used as independent variables. These indicators include the following variables: culture, language, education, industrial development, political systems, religion, and time zone. In accordance with the study of Dow and Karunaratna (2006), Hofstede's (2001) four cultural dimensions (Power Distance, Uncertainty Avoidance, Individualism, and Masculinity) were used to evaluate the impact of culture to psychic distance. Thus, we used Hofstede's four cultural dimensions as the first independent variable (Hindex). We calculated the cultural distance score of Finland (f) for each of Hofstede's (2001) four cultural dimensions (i), and thereafter calculated a composite score (Kogut and Singh, 1988) Cultural Distance (CD_j) for each country j as an average of the four factors. Each factor were normalized with the variance of the dimension i (V_i) with respect to distance to Finland. Algebraically:

$$[1] \qquad CD_j = \sum_{i=1}^{4} \frac{(I_{ij} - I_{if})^2}{4 * V_i}$$

The shortcomings of Hofstede's (2001) data concerning the 26 target countries was mitigated by using generic Arabic values for Arab Emirates and using the average of Poland, Russia, and Estonia for Latvia and Lithuania, based on the distribution of nationalities within the population (The World Factbook, 2007) of the latter two countries. Although Shenkar (2001) highlights the importance of using all five dimensions provided by Hofstede (2001), the fifth dimension 'Long Term Orientation' was not available to all countries entered by the firms in our sample.

We used the five-element composite form of Dow's psychic distance indicator as the second independent variable. The indicators for language, education, industrial development, political system, and religion used in the study of Dow and Karunaratna (2006) were gathered

from the website of Dow (2008). However, we were not able to use political ideology factor, included into the political system variable, due to the missing data for several countries in our sample. In accordance of Dow and Ferencikova (2007), we used the composite index of Kogut and Singh (1988) to convert these five variables into a single index (Dindex):

[2] $$Dindex_j = \sum_{i=1}^{5} \frac{(I_{ij} - I_{if})^2}{5 * V_i}$$

The third independent variable (PDindex) is a composite of all seven psychic distance stimuli indicators (culture, language, education, industrial development, political systems, religion, and time zone) proposed in the study of Dow and Karunaratna (2006). As mentioned above, indicator for the culture is developed by using the Hofstede's four cultural dimensions, and indicators for language, education, industrial development, political systems, and religion were gathered from the website of Dow (2008). The seventh dimension, time zones (TZ), for each target country was obtained from the World Factbook (2007). Finally, we combined all these seven psychic distance indicators to a single composite index (PDindex) according to Kogut and Singh (1988).

[3] $$PDindex_j = \frac{1}{7}(CD_j + 5 * Dindex_j + \frac{(TZ_j - TZ_f)^2}{V_{TZ}})$$

Case studies

To investigate individual-level perceptions of psychic distance, we selected four Finnish software SMEs with direct business operations in the Japanese market for in-depth case analyzes. The case study method enables, for instance, explaining the significance of earlier experiences and how these experiences impact on certain decisions and behavior (Yin, 1994).

That would not be possible by using quantitative research approaches. In this study, the case firms were selected based on the definition of SMEs having fewer than 250 employees at the time of their market entry to the Japanese market. Japan was selected as a target country because Japan can be conceptualized as a country relatively distant from Finland (Karppinen, 2006; Peltokorpi, 2007; Ronen and Shenkar, 1985) due to language and cultural differences. These two countries are also culturally very homogenous, and, accordingly, there are no large cultural differences within the countries. In addition, direct business operations require considerably higher amount of knowledge about the target country compared to indirect operations (see, e.g., Luostarinen and Welch, 1990). Thus, selecting a psychically distant country as a target market for the case studies helps us to analyze the impact of psychic distance at individual-level on the internationalization behavior of the case firms.

In the case research process, the guidelines suggested by Eisenhardt (1989) and Yin (1994) were followed. Semi-structured open-ended interviews were conducted with a total of eight managers who had in-depth knowledge of their firms' market entry and operations in the Japanese market. Interviews took approximately 60-90 minutes and were digitally recorded, carefully listened to, and transcribed verbatim with a word processor. The recorded data was listened to twice, to ensure a correspondence between the recorded and transcribed data. Thereafter, the transcribed case reports were sent back to the persons interviewed to ensure the validity and authenticity of the data. In addition, telephone and e-mail interviews were used to collect further data when needed. The collected data were also compared to the information in the websites of the case firms and to their annual reports. In the data analysis, guidelines proposed by Miles and Huberman (1994) and Yin (1994) were followed. First, all four individual cases were written out as standalone case histories. After that, the unique patterns in each case were identified and similar patterns were categorized under common themes. This helped to organize and summarize the collected data.

FINDINGS IN QUANTITATIVE ANALYZES

In the quantitative analysis, we analyzed the impact of psychic distance to market entry using bivariate correlation analysis. The aim was to observe the ability of single independent variables to explain variation in the dependent variables. Table 1 presents the three dependent variables in rows numbered 1 to 3 and the three independent variables in rows numbered 4 to 6. The columns represent mean (M), standard deviation (SD) as well as minimum (Min) and maximum values (Max) of each of the variables, followed by bivariate Pearson correlation values for all the variables. Statistically significant correlations at the level of $p<.01$ are marked with "**" and close to significant correlations with "*". In addition to bivariate correlations, we created linear multivariable regression models to explain target country selection (and used the Durbin-Watson test to ensure non-autocorrelation of residuals) but these did not provide much added value in disclosing any expected causal relationship between the chosen independent and dependent variables compared to the bivariate correlation data.

From Table 1 we can find statistically significant bivariate correlations between all dependent variables 1-3, with the exception that the number of first entries to countries does not correlate significantly with the number of third entries to the same countries (beta only .179). All the independent variables correlate with each other strongly, as can be expected, although the correlation between the Hofstede's index and the Dow's five-variable indicator is only close to significant. In addition, all the independent variables correlate negatively with all dependent variables, i.e., all high distance indicator values correlate with a low number of early market entries to the country. In general, the correlations between independent and dependent variables are at the level of close to significant (beta values from -.38 to -.5), but

there exists only weak correlations when the first country entered is considered (beta values from -.08 to -.31).

Table 1. Descriptive Statistics and Bivariate Correlation Matrix

Varable	M	SD	Min	Max	1	2	3	4	5
1. First Target Country	1.96	3.42	0	17					
2. Second Target Country	1.54	1.92	0	7	.514**				
3. Third Target Country	1.23	1.45	0	5	.179	.599**			
4. Hindex	1.49	.94	.04	3.38	-.313	-.465*	-.380		
5. Dindex	2.04	1.53	.77	6.64	-.079	-.413*	-.494*	.463*	
6. PD stimuli	1.81	1.22	0,56	5.61	-.140	-.442*	-.481*	.599**	.975**

Notes: N = 51

** statistically significant p <.01, * statistically close to significant p<.05 (2-tailed)

We also compared the average PD stimuli values of the first, second and third countries entered, which were 1.524, 1.162 and 1.145 respectively. These were all smaller than the average PD stimuli of the countries entered (M = 1.810, N = 26). On the contrary to the common expectation, this means that the average PD stimuli of the first countries entered was, on an average, higher than the average of second countries, which were also a bit higher than the average of the third countries entered. T-test for PD stimuli between first countries entered (M = 1.524, N = 51) and the second countries entered (M = 1.162, N = 40) show that the difference is close to significant (at the level of .0295). This shows that, in this sample, internationalization of knowledge-intensive SMEs does not proceed from a psychically nearby country to distant ones, at least when measured with a PD stimuli. Instead, it implies that some factors other than psychic or cultural distance have higher impact on the choice of the first target countries. To conclude, macro-level psychic distance stimuli indicators by Dow and Karunaratna (2006) do not trivially measure the impact of psychic distance to the

internationalization process of the firms investigated; use of individual-level qualitative analysis is necessary for finding the other influencing factors.

FINDINGS IN CASE STUDIES

Although the quantitative analyzes with the macro-level indicators do not give strong support to the impact of psychic distance, the case studies conducted revealed somewhat different viewpoint. These in-depth case interviews with managers of Finnish software SMEs operating in the Japanese market highlighted the importance of decision-makers' perception to psychic distance. In addition to the individual-level factors (education, international experience, and age) presented in the study of Dow and Karunaratna (2006), the case interviews also revealed the importance of language proficiency, international experience regarding the target country, and managers' motivations and interests toward the target country.

Japan was targeted by the case firms very early on in their direct business operations. For firms A and D, Japan was the second target country after the US and for Firm B the third one after its entries to Sweden and Hong-Kong. Firm C entered the Japanese market after its entries to Sweden, the US, Malaysia, German and the UK. All the case firms recognized Japan as a very interesting country for their products already before they had started to actively prepare their market entry to Japan. This was mainly related to the large market size and the sophisticated industry structure needed for the products of the firms. The domestic markets of the case firms were relatively small and saturated with their niche products. Thus, available opportunities motivated managers to enter the Japanese market despite that they were well aware of differences related to language, culture, business practices etc. between Finland and Japan. Therefore, market entry decisions were due to the attractiveness of the market and not directly impacted by the psychic distance although the case firms acknowledged that Japan was a very difficult and psychically distant market to enter. In

addition to factors related to psychic distance, managers also highlighted the impact of the geographical distance between Finland and Japan. Geographical distance was seen as a disadvantage against local competitors, because these were able to give face-to-face support for customers much faster. This increased the need for a local subsidiary that would enable better services for Japanese customers but, consequently, would require in-depth knowledge about the Japanese business environment, culture, and language.

All managers in the case firms understood that they do not have the required knowledge to handle business activities in the Japanese market. For this reason, the firms were forced to acquire the relevant knowledge by recruiting internationally experienced managers who were familiar with the Japanese market. It was also important that the selected manager was aware about business environment, culture, language, etc. in both countries, not only in the target country. This was seen as of primary importance, because in that way the recruited manager was able to act as a bridge between the Japanese culture and the Finnish culture. One informant at firm C highlighted their recruitment criterions for their manager recruited to manage their operations in Japan as follows:

> ”Our criterion was that we wanted to have a Finnish manager [to the subsidiary in Japan] because we liked to have a bridge between Finnish and Japanese culture. It would have been optimal to find a Japanese who had studied and/or worked in a Western country. Because in that case he/she would understand the Western business culture and speak fluent English, - would be the ideal candidate. But because we are a small firm, it is difficult to get that kinds of employees…it was too demanding for us…well, we figured that a Finnish person, experienced with Japan and understanding the local culture would do just as well.”

Firm B was also looking for a Japanese employee with experience from Western cultures to manage their operations in Japan. However, it was remarkably difficult to find Japanese whose English proficiency was at a required level to work within the firm where English was used as a common language. Firm D focused on mutual cultural understanding and language competence in the recruitment process of their manager for the subsidiary in Japan. One informant from Firm D commented on the selection of the manager in the following way:

> "He had 10 years working experience from Japanese information technology industry and especially from data security markets, good knowledge, and of course the knowledge of language [Japanese]. We did not select the Japanese, we selected a French person, as a third country national, the reason being that the cultural difference to Finland is lower when there is a person in between, who understands local culture as well as an European culture, and can act as a bridge between Japanese employees and employees of the headquarters in Finland"

All recruited managers for the Japanese operations were middle-aged, had a technical and/or an economic university degree. They all had international experience from two to twenty years and working experience from Japan from two to ten years at the time they joined the firms. Earlier working experience from Japan was also closely related to the same business area and mainly acquired by working at large multinationals as an expatriate. However, the manager of firm A's subsidiary had also some education from Japan and experience about Japanese firms. He explained this as follows:

> "I had my practical training here in Japan in the last year of my university studies. I really got excited about this country and after my master's studies I came to do my doctoral studies at Tokyo University. However, I quit my studies quite soon and went working with a Japanese software firm, where I worked as a

product developer. I stayed with them about one year. Then I came back to Finland where I worked about five years before moving back to Japan."

Motivation and interest about foreign cultures was also mentioned to be important. All managers recruited were interested about Japanese culture and language already before they had moved to Japan. This helped them adapt to the local practices and society. The manager of Firm B subsidiary explained this as follows:

> "I have always been interested about Japan…and when my earlier employer offered an opportunity to move to Japan, it was easy to accept. I was working at that firm about four years. I worked with local customers and with some Japanese colleagues, and of course I learnt how these things are done in Japan. I also studied the Japanese language and read literature related to Japan so I got an overall understanding about Japan and how to handle my daily things here"

CONCLUSIONS

The aim of this study was investigate impact of psychic distance to internationalization behavior of knowledge-intensive SMEs by using Dow's and Karunaratna's (2006) macro-level psychic distance stimuli indicators and individual-level perceptions by managers. For the first research question, the findings give a clear answer. Knowledge-intensive firms are not immune from the impact of psychic distance. Although the impact of psychic distance was not statistically significant in the selection of the first three target countries in the quantitative analyzes, the findings in the case studies revealed a somewhat different perspective. All the case firms announced that they actually faced several distance-creating factors in the market entry phase and perceived Japan as a psychically distant country. However, the large market size in Japan motivated the market entry and they all were able to tackle the impact of psychic distance by acquiring relevant knowledge through recruiting.

For the second research question, the findings propose that psychic distance should be measured at individual-level by using qualitative methods. This at least applies to the SMEs in knowledge-intensive sectors. In this study, the case findings indicate clearly that by recruiting managers with knowledge of the target country, firms were able to minimize or even remove the impact that psychic distance stimuli factors presented in the study of Dow and Karunaratna (2006). Use of qualitative methods helps to reveal new factors impacting directly or indirectly on perceptions of psychic distance, and consequently, on the market selection at the level of individual firms. This kind of complex interactions and cause-effect relationships cannot be captured by quantitative methods alone. In this study, weak correlation of psychic distance in the quantitative analysis might be due to a stronger impact of other factors recognized in the qualitative analysis, among them market size, opportunity seeking behavior, geographic distance, and actions taken by managers to decrease psychic distance, e.g., recruitment of knowledgeable employees. These factors might have a higher impact to the market selection than macro-level indicators of psychic or cultural distance.

Earlier studies have also recognized that opportunity seeking behavior (Oviatt and McDougall, 1994), large market size (Ellis, 2008; Ojala and Tyrväinen, 2007, 2008), geographical distance (Dow and Karunaratna, 2006; Ghemawat, 2001), and networks of the individual firms (Coviello and Martin, 1999) impact on market selection of firms. Ellis (2008) also noted that the impact of psychic distance is less visible in a context where market size dominates sellers' decision on target country selection compared to a situation of entering markets of the same size.

The individual-level analysis of this study confirmed that the impact of these additional factors interacts with macro-level psychic distance indicators (Dow and Karunaratna, 2006) making quantitative analyzes less useful in the case of knowledge-intensive SMEs. For this reason, macro-level analyzes (Dow and Karunaratna, 2006; Johanson and Vahlne, 1977;

Johanson and Wiedersheim-Paul, 1975) which are developed to capture gradual, stepwise internationalization process do not give adequate results of the impact of psychic distance in the case of knowledge-intensive SMEs. Linearly developing market selection can also be questioned, because nearby markets might be psychically distant as well (O'Grady and Lane, 1996; Shenkar, 2001).

For the managers, this suggests that if a firm's capabilities are insufficient to handle the market with the help of existing knowledge, they have to find a way to acquire relevant knowledge about a target country. In rapidly internationalizing industries, such as the software industry, this has to be accomplished through recruiting, because firms do not have time for cultural training or learning by doing. As it can be deduced, recruitment of capable employees requires enough financial resources; otherwise a firm might lose its market potential in an attractive but psychically distant country.

A limitation of this study is that it suffers from small samples used for quantitative and qualitative analyzes. However, it offers an interesting starting point for further studies related to psychic distance and knowledge-intensive SMEs. One further research direction would be investigating how well prepared these firms are for the impact of psychic distance in their market entry. In this study, the case firms were well prepared for the impact of psychic distance because the Japanese market is well known of its entry barriers and cultural differences (cf. Freeman and Reid, 2006). However, by analyzing entries to other major markets or nearby markets would give information of the impact of the so-called psychic distance paradox (O'Grady and Lane, 1996), different strategies applied, etc. Further studies using qualitative analyzes to recognize larger sets of individual-level factors are also needed. Recognizing these factors will be needed for further quantitative analyzes for the individual-level. Usage of quantitative factors provides reliable results only if they can be operationalized for the individual-level which is difficult without interviews and qualitative

studies. This study also gave some preliminary insights about a possible interactive role that psychic distant might have with other factors, such as market size, characteristics of an entrepreneur or a firm, geographic distance, etc. impacting on the market selection. Further study as regards the relative impact of these factors to the market selection is needed.

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