

# **Master's Thesis**

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Network effects on the internationalization process  
of Icelandic Software Firms

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# **Abstract**

## **Background**

Changes in the international market environment have allowed software firms from small economies to reach market niches across the globe. The use of network relationships can help firms to skip stages in the internationalization processes and link together resources or reach market niches that are not available domestically.

## **Problem**

Many studies have pointed out the influence of network relationships on the internationalization decisions of SMEs. The market for software in Iceland is limited which forces its software firms to search for clients in other markets so they can recoup their investments.

## **Purpose**

The purpose of this thesis is to examine how small to medium sized Icelandic software companies move to international markets and how network relationships affected their decisions.

## **Method**

This thesis uses a qualitative research design by applying a multiple case-study approach. Five internationalized Icelandic software SMEs were interviewed. Data were collected by a semi-structured interview guide supported with secondary data. Collected data were categorized with analysis of each case. A cross-case analysis was performed to find out differences or similarities between the case-firms.

## **Findings**

The case-firms focused on product strategy and went to markets where opportunities were to be found. The common theme was to enter first geographically close markets with psychic similarities and then gradually move to more distant ones. Network relationships were mainly used to support further expansion or gain the confidence of potential clients either within markets where there was already presence or in more distant ones.

## **Keywords**

Internationalization, networks, software firms, international new ventures, Uppsala model.

### **Declaration of Research Work Integrity**

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature of any degree. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

By signing the present document I confirm and agree that I have read RU's ethics code of conduct and fully understand the consequences of violating these rules in regards of my thesis.

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Signature

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# **1 Introduction**

## **1.1 Background**

Different business environments are all affected by the importance of a global market. International marketing depends on planning and conducting transactions across national borders that create exchanges with the aim of fulfilling the ambitions of individuals and organizations. Transaction across national borders underlines the difference between domestic and international marketing. Conflicts regarding different laws, cultures and societies are among subject that firms entering international markets need to manage (Czinkota & Ronkainen, 2007).

Internationalization is necessary for software companies that operate in small domestic markets so that they can reach limited market segments and achieve enough revenues to recoup investments (Bell, 1995). With ever-increasing competition and fast improvement of information and communication technologies, small and medium sized enterprises (SMEs) have moved to international markets with ever growing intensity (Oviatt & McDougall, 2005). This thesis uses a common definition of SMEs, which is the one used by the European Union and divides enterprises into three categories; micro, small and medium sized. “The category for micro, small and medium sized enterprises is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro” (European Commission, 2005).

A number of theories have been formulated to describe the internationalization process companies go through. This thesis uses three different theories to formulate a research that aims to comprehend the process Icelandic software firms go through when entering international markets, and how their network relationships affect their choices. These theories are the Uppsala model (Johanson & Vahlne, 1977), the network model of internationalization (Johanson & Mattsson, 1988) and the international new venture (INV) theory (Oviatt & McDougall, 1994). Each theory offers a different viewpoint to how firms move to international markets as they were formulated in different historical contexts (Ojala, 2008).

## **1.2 Problem discussion**

The foreign market selection and entry mode is an important procedure that is affected by a number of complex and incomplete bits of information (Canabal & White III, 2008; Knight &

Cavusgil, 2004; Root, 1998). The network influences within the software industry have been the subject of a number of previous studies. The same applies to the approach of small firms when it comes to selecting foreign markets and entry modes. (Bell, 1995; N. Coviello & Munro, 1997; Moen, Gavlen, & Endresen, 2004; Ojala, 2008, 2009). This thesis follows the path of these studies regarding the internationalization process and network influences, while it also attempts to compare the similarities and differences between the Icelandic software industry and the findings described by the authors listed. To the knowledge of this author, no studies have been made on how Icelandic software firms are affected by their network relationships in their choices of foreign markets and methods of entry.

### **1.3 Purpose**

The purpose of this thesis is to analyse how the internationalization process of small- and medium sized Icelandic software firms are affected by network relationships. Three leading theories on firms' internationalization are taken into account and used to get a perspective on the international process of the case-firms and how network relationships affect their decisions. Different types of networks will be identified and the interactions between them and the case-firms investigated.

### **1.4 Research questions**

The following research questions have been formed for the purpose of the thesis:

1. How does the internationalization process of Icelandic software firms reflect their choices of foreign markets and entry modes?
2. How are the choices of foreign markets and entry modes affected by network connections for Icelandic software firms?

### **1.5 Delimitations**

This study has been focused on small to medium sized Icelandic software firms with already established international operations. Representatives from five different software companies were questioned using a semi-structured interview method.

## 2 Literature review

### 2.1 The Icelandic Software industry sector

Statistics on the Icelandic software sector are somewhat scarce. The Central Bank of Iceland collected data on the software sector from 1990 up until 2007 regarding export earnings for computer software products and services. This included statistics regarding number of employees, annual income and exports (Pétursdóttir, 2008).

The Icelandic software sector started to generate serious growth in the early 1990's until 2001 when growth rates were significantly higher than in other industries. Between 2001 and 2007 growth rates stabilized and reached a growth rate similar to the national average. The total annual turnover of the industry increased by a factor of twenty between 1991 and 2007 in real terms reaching 35,3 billion ISK in 2006 and 37,8 billion ISK in 2007, or 7% increase between fiscal years. The number of employees grew from around 1300 in 1991 to more than 2700 in 2007. Other sectors doubled their turnover in real terms and increased employment by 28% during the same period. As a portion of the total work force in Iceland, the software sector grew from 0,9% in 1991 to 1,5% in 2007. Earnings from software exports grew from 31 million ISK in 1991 to 6,1 billion ISK in 2006 but dropped to 5,9 billion ISK in 2007. In 2001 and 2007 the Icelandic software sector experienced a drop in export earnings; otherwise it managed to grow annually between 1991 and 2007. Around 10% of the firms included in the 2007 survey generated 82% of total export earnings, which indicates the significance of larger firms in the sector (Pétursdóttir, 2008).

**Table 1 Division of export earnings for software and services in 2007**

| <b>Division of export earnings</b> | <b>Number of firms</b> | <b>Portion of total number</b> | <b>Export earnings (millions of ISK)</b> | <b>Portion of export earnings</b> |
|------------------------------------|------------------------|--------------------------------|--|-----------------------------------|
| <b>No exports</b>                  | 33                     | 33,1%                          | 0  | 0,0%                              |
| <b>Under 20 m. ISK</b>             | 46                     | 43,4%                          | 239                                      | 4,0%                              |
| <b>20-49,9 m. ISK</b>              | 10                     | 9,4%                           | 359                                      | 6,1%                              |
| <b>50-99,9 m. ISK</b>              | 6                      | 5,7%                           | 427                                      | 7,2%                              |
| <b>More than 100 m. ISK</b>        | 11                     | 10,4%                          | 4885                                     | 82,7%                             |
| <b>Total</b>                       | 106                    | 100%                           | 5909                                     | 100%                              |

The main export market in 2007 for Icelandic software firms was Europe which generated 60% market share, North-America came second with a 31% market share while Asia had a 3,5% market share. Annual turnover of the industry grew in 2007 although export earnings decreased (Pétursdóttir, 2008).

Unfortunately there are limited data on the software industry development since 2007 as the data collection was transferred to the government agency Statistics Iceland. Different definitions of industry sectors, using EBOPS standards (OECD, 2012), makes detailed statistics on the Icelandic software sector unattainable. Licence fees for software products are classified with *Other royalties and licence fees* which also includes royalties of the other leisure industries such as books and music. Other statistics regarding the software sector tend to be categorized within the IT and Communication technology sector, the Creative sector (which includes computer games) or the Technical Industry sector. This is largely due to the complexity of software products which tend to be integrated within various operations (Árnason, 2012). Although the data available are limited and do not extend to the present time, they give an indication on how fast the industry has grown in a short time period.

## **2.2 Internationalization research**

“Internationalization” tends to have a wide reference and lacks a clear definition. It is often used to describe the proceedings of an organization that is moving towards operations that exceed its domestic ventures. This process tends to include growth in both inward and outward actions of organizations that are linked with the international trade (Welch & Luostarinen, 1999). Although a clear definition of internationalization does not exist, it is generally regarded as a “...process in which the enterprise increases its international involvement” (Johanson & Vahlne, 1990).

According to Beamish (2003) by establishing and conducting transactions with companies from other countries a process is started which sets in motion the adaption of firms’ operations to international environments and raises awareness of the influence of international activities on their future. Bradley (2005) claims that internationalization differs from other types of strategy processes in two ways. First of all, it involves the transfer of services, products or resources across national borders, which entails the selection of the country or countries of transaction. Second of all, firms need to select the foreign market entry strategy. As a result, the choice of international markets and the selection of entry mode are key strategic decisions to internationalization.

Competitive advantages require firms to have unique resources that are not available to existing or potential competitors and protecting them must be done at low cost (Barney, 1991). Advantages of small software firms are more often than not through technological know-how whereas advantage over large firms material resources (financial or human resources) is difficult to reach (Crick, 2009). As more markets become international, new ventures are confronted with foreign competition and therefore need to adapt a multinational viewpoint. This puts them under pressure to develop their intangible assets in order to become competitive in different markets, exploit their production capacity and reach their profit-maximizing strategic path (Fan & Phan, 2007).

## **2.3 Theories on internationalization**

In internationalization literature on small high-tech companies, three theoretical approaches have been identified as principal ideas in describing the internationalization procedures of software companies. These theories are the stage model (mainly known as the Uppsala model) (Johanson & Vahlne, 1977), international new venture theory (Oviatt & McDougall, 1994) and the network model of internationalization (Johanson & Mattsson, 1988).

The Uppsala model (Johanson & Vahlne, 1977) is one of the most cited traditional theory in international business literature since it conceptualized much of the empirical studies on exporting and small firm internationalization that followed (Dimitratos & Plakoyiannaki, 2003). The research was an important contribution to studies on international operations as it considered the expansion activity of companies as an internationalization process. These findings advanced knowledge regarding the process of international operations. The Uppsala model identified patterns of firms' internationalization and a method for examining them, as well as outlining key dynamic factors which formed the basis of a forward progress (Welch & Luostarinen, 1999). In their later studies Johanson and Vahlne (2009) added the importance of business networks in the internationalization of firms to the Uppsala model. The revised model is built on the same assumptions as the one from 1977 but takes into account how exchanges in a network facilitate privileged knowledge about its business partners and more distant actors in the network.

The network model (Johanson & Mattsson, 1988) maintains that internationalization takes place when a firm starts to create relationships with another firm that is part of a network in other countries. According to the model, the network relationships of a firm is the main driving force behind internationalization, rather than specific market advantages (Johanson &

Mattsson, 1988). This is also reflected in the INV theory which emphasizes that firms which are born-global-types tend to take advantage of and share sources with their partners (Mudambi & Zahra, 2007). The main difference between the network model and the Uppsala model is that the network model does not attempt to explain which country is chosen to enter nor does it stress a gradual process in internationalization (Johanson & Vahlne, 2003).

The Uppsala model has been criticised for focusing mainly on large multinational corporations (MNCs). Therefore the development INV theories have been more frequently used to analyse the internationalization process of knowledge intensive SMEs (Kuivalainen, Saarenketo, & Puumalainen, 2012). The Uppsala model expects firms to go through a slow and incremental process during their internationalization while INV theories try to adjust explanations of internationalization process to new conditions. With more integration between markets, along with lower costs in international travel and communication, the capabilities for cross-border activities have been simplified. Stages of internationalization predicted by the Uppsala model can be skipped and the process of internationalization is much faster (Pla-Barber & Escribá-Esteve, 2006).

Research in international entrepreneurship has been criticised for being inconsistent and lacking unifying paradigms which has hindered the development of phenomenological basis (Jones, Coviello, & Tang, 2011; Keupp & Gassmann, 2009). The different approach used by each school of thought intersects over certain issues of the international process that SMEs in the software industry go through. Many studies have pointed out that none of these leading theories explain the phenomenon sufficiently by themselves and that the complexity of the internationalization process of knowledge-intensive SMEs needs a more holistic view (Chetty & Stangl, 2010; N. E. Coviello & McAuley, 1999; Crick, 2009; Johanson & Vahlne, 2003; Jones, 1999). Unifying the theoretical and methodological frameworks and approaches of these theories is therefore often a more suitable starting point for research on internationalization of SMEs in the software sector as each theory tends to emphasize particular dimensions and pay little attention to others (Ojala, 2008).

### **2.3.1 Incremental internationalization – the Uppsala model**

The Uppsala model (Johanson & Vahlne, 1977) originates in the stage model school of thought from the 1960's. It assumes that firms go through a gradual process when exporting to new markets. General growth theories had argued that the demand in domestic markets was the force that drove development of export products (Burenstam Linder, 1961). Penrose's

(1960) theories on behaviour approach saw managerial resources as the limit to a firm's almost indefinite growth possibilities, with an emphasis on the difference between objective knowledge that can be taught and knowledge that is acquired through personal experience. These theories were integrated into the stage model, most notably the establishment chain model (Johanson & Wiedersheim-Paul, 1975) which was a predecessor to the Uppsala model (Johanson & Vahlne, 1977) that has generated great interest and influence on research regarding firms' internationalization process.

The main theme of the model is the division of the internationalization process into two state parts; market knowledge and market commitment and two change parts; commitment decisions and current activities (Johanson & Vahlne, 1977, 2003).

The Uppsala model was formulated in the 1970s in order to rationalize the process organizations go through when expanding their operations to the international stage. Previous theories in international business had argued that firms should choose a market entry method by analysing the cost and risk based on market characteristics while considering their own resources (Hood & Young, 1979). Observations made at Uppsala University on number of Swedish companies operating in international markets, pointed to more of an *ad hoc* approach to internationalization. According to the Uppsala model, internationalization is an incrementally evolving process in which organizations go through several stages where increased knowledge leads to further market commitment through decisions and current activities (Johanson & Vahlne, 1977).

Johanson and Vahlne (1977) assume that firms start by developing in their domestic market and that internationalization is a consequence of many incremental decisions. What hinders internationalization is mainly the lack of knowledge and resources. Through incremental decision-making and greater knowledge about foreign markets these obstacles become less problematic. Due to the lack of knowledge about foreign countries and tendencies to avoid uncertainty, firms will start their foreign operations by exporting to neighbouring countries or those that have reasonably similar business procedures. As organizations increase their knowledge and experience to operate in foreign markets they tend to increase ventures in countries more psychically distant. Psychic distance refers to the similarities between countries that include language, culture, business practices, political system, industrial development, education etc. Firms are expected to first enter countries that are psychically close and are similar in a set of factors (Johanson & Wiedersheim-Paul, 1975).

The Uppsala model presumes that firms go through four gradual stages in their internationalization with each stage representing higher involvement in internationalization:

1) No regular export 2) Export via independent representative, 3) Sales subsidiaries 4) Foreign production/manufacturing. Organizations are expected to start their internationalization with an indirect market entry where great knowledge of the target market is not of essence. The firm can learn gradually about the foreign market and how it operates. As it becomes more accustomed to the foreign market, more direct operations are likely to be explored. Johanson and Vahlne (1977) argue that the present state of internationalization is a factor that can explain the course of following actions. As information on market behaviour and operations increases, firms become more committed and change the way decisions are made and how current activities are performed. This is in fact a two state aspect consisting of resources committed to foreign markets on the one hand and knowledge about foreign markets that the firm possesses at a given point in time on the other (Johanson & Vahlne, 1990).

Johanson and Vahlne (1977) define the market commitment concept into two factors. The first is the amount of resources committed and the second is the degree of commitment or the difficulty of finding alternative resources and the ability to use them. By locating resources in a particular market, firms can be regarded as committed to that market, although resources may also be sold where financial resources can be used for other objectives. As resources become more integrated with other parts of the firm, the degree of commitment becomes greater. Resources that are located in the home country and are used for developing products for distinct markets constitute further commitment to that market. The degree of commitment increases even further when resources become more specific to a particular market.

The Uppsala model claims that knowledge is of interest since decisions are built around many types of knowledge. Knowledge of opportunities is seen to initiate decisions where information of the market environment is used to evaluate alternatives. Distinguishing knowledge that is useful is based on how it is acquired. Objective knowledge can be taught but experiential knowledge has to be learned through personal experience. Knowledge based on experience is seen as critical in the context of the Uppsala model. This differentiates domestic operations, where organizations can rely on the lifelong experience of individuals, from foreign operations where experiential knowledge must be gained. Establishing operations and activities in a country requires general and market specific knowledge. While general knowledge can be transferred from country to country, market specific knowledge is mainly gained by experience. Experience builds increased market knowledge which in turn affects the level of commitment and subsequent activities (Johanson & Vahlne, 1977).



### **2.3.1.1 Criticism to the Uppsala model**

Many empirical studies have criticised the incremental process of internationalization presented by the Uppsala model. Jones (1999) highlights that although internationalization is a developing process, the number of variables in the decision making such as motives and diversity between firms makes each internationalization strategy unique. Therefore it is inappropriate to prescribe incremental steps to expanding firms. Andersen (1993) claims that the Uppsala model fails to take into account firm specific factors other than experience. He also stresses that the Uppsala model does not present any initial conditions on why firms internationalize in the first place, how the process starts nor the sequence of states or conditions. Since these concepts are not defined clearly, the Uppsala model lacks proper definitions that specify the conditions in the model and its causal linkages. As a result it becomes difficult to explain how firms move from one stage to the next and other critical events that affect the market expansion process are not given enough attention (Andersen, 1993). Other scholars have highlighted that many firms internationalize soon after their birth and that the process is more rapid than described in the Uppsala model (Oviatt & McDougall, 1994).

The Uppsala model has been questioned for its limitation when it comes to the field of entrepreneurship and knowledge-intensive SMEs. This is particularly evident when it comes to the software sector, which has attributes of both the high-technology sector and service-intensive sectors (Bell, 1995). High R&D costs and short product-life cycles lead to higher pace of internationalization for high-tech products. Bell (1995) points out that there is little support for the view that software companies take incremental steps towards internationalization. The activities of these firms are too complex and interactive to be explained by a linear model. Exchange relationships are dynamic and the process is not exclusively dependent on the focal firm. The progression of firms is more complicated and less structured than the Uppsala model suggests. This has led to the adaptation of network approaches to internationalization in the Uppsala model (Bell, 1995). When it comes to small software firms Bell (1995) concludes that they do not necessarily commit themselves to a psychically close market as the Uppsala model suggests but are more likely to follow their major clients to countries or markets which the clients are committed to or are establishing. This indicates that inter-firm relationships might be significant when it comes to market selection and market entry for small software firms (Moen et al., 2004).

### **2.3.1.2 The Uppsala model revisited**

Following discussion and criticism of the original Uppsala model of the internationalization process, Johanson and Vahlne (2009) altered their model to a more network oriented view of internationalization as well as developing the network model further. They concluded that the old models of the internationalization process were still applicable but as a number of studies had suggested there was a need for a newer network-based model of internationalization where the two approaches were integrated to give an extensive assessment of the important role of networks for learning and knowledge creation (Johanson & Vahlne, 2009).

The revised Uppsala model is largely based on the work of Coviello (2006) who developed a model of how networks evolve. It differs from Johanson and Mattson (1988) in the sense that their aim is to create a more general business network model of firm internationalization. Theories used for the original Uppsala model did not cover the importance of close business relationships between the focal firm and its counterparts. Firms need to be well established in one or more networks as all actions take place within the framework of a relationship where a well-established firm is an “insider”. A firm that lacks a network position will suffer from being viewed as an “outsider” which complicates business developments. Trust between business partners exists when they can predict each other’s behaviour and commit to the relationship, even if that means short-term sacrifices for long-term benefit. Commitment will only continue when partners believe they share a long-term interest in creating and exploiting joint opportunities. Identifying relevant market actors is done through the actions of the entering firm which needs to overcome the liability of foreignness and outsidership and be informed on market institutions such as language, laws and rules. Accordingly, internationalization should be studied as a position building process rather than a way of entry mode (Johanson & Vahlne, 2009).

Recognising opportunities is often a result of firm’s being alert and equipped to manage surprises. From a networking point of view firms may benefit from information through their relationship partners and their external resources through extended business networks. Business activities that are already in place may lead to recognition of new opportunities that add further to the firm’s knowledge. Identifying opportunities can often be a side effect of an ongoing business relationship where exploitation and exploration often overlap and reveal new information which general market research may overlook. Developing opportunities is a gradual and interactive progression where recognition and exploitation of an opportunity further increases trust building (Johanson & Vahlne, 2009).

### **2.3.2 Network model to internationalization**

The gradual process theory of internationalization presented in the Uppsala model (Johanson & Vahlne, 1977), where firms increased their international commitments as they gained experimental knowledge, dominated much of the research field up until the late 1980s. Changes in the business environment and in firms' international behaviour spurred on a new type of MNEs which triggered altered theoretical approaches to the internationalisation processes (Bell, 1995; Johanson & Vahlne, 2003). Several researchers had indicated that many firms used different forms of networks to simplify their internationalization progress. This gave the foundation to the network model of internationalization (Johanson & Mattsson, 1988).

The network model is largely based on the resource-dependence theory that originated in the 1970s but its focus is mainly on SME's. The model's main assumption is built on Reitz (1979) who claimed that firms are dependent on other companies for resources as they cannot build all of them by themselves. The network model considers the firm's resources to build relationships with other organizations to be more important to the internationalization than the firm-specific advantages (Johanson & Mattsson, 1988). The focus is put on the interaction of market elements instead of the firm's viewpoint as is done in the Uppsala model (Johanson & Vahlne, 1977). The network model does not present a gradual process to internationalization nor does it take psychic distance or countries the firm enters into its perspective. Instead, relationship building and network establishment are regarded as the core principles to a firm's internationalization (Johanson & Vahlne, 2003).

The engagement of production, distribution and use of goods and services is described as a system of network relationships between firms. Access to new markets is dependent on relationships between firms in different countries. The network model emphasizes that firms are dependent on the resources of other firms, through co-ordination of work division, which creates networks of relationships between firms. This co-ordination is not done by central planning, organizational planning, or price mechanism as in traditional market models. Instead, interactions between firms in the network decide the co-ordination with price being just one of several conditions. Firms need to establish and develop exchange relationships with other firms which requires time and effort to formulate (Johanson & Mattsson, 1988).

Networks tend to be both stable and changing with each transaction taking place within an established relationship. New relationships are created regularly with older ones being broken for numerous reasons. Through the exchange that takes place, bonds are created between firms that can vary from product adjustments, special credit agreements, long-term contracts,

or personal confidence and liking, to name a few. Exchange relationships cause firms to depend directly on other firm's resources and indirectly on other firms that operate in the network. Establishing exchange relationships enables firms to gain access to external resources. Developing these relationships is time consuming and limits firms' possibilities to change counterparts. The need to adjust quantity and quality of goods and services or timing of exchange requires co-ordination through joint planning or one party exercising power over the other. Every firm in the network has its own set of relationships with customers, distributors, suppliers, etc. as well as indirect relationships with these parties. By establishing relationships and developing positions within their networks, firms can get access to the anticipated resources. This helps firms to react to unpredictable environmental changes and strengthen their competence (Johanson & Mattsson, 1988).

The network model maintains that when firms internationalize they establish and develop positions in relation to their counterparts in foreign networks. This method is three-fold: 1) by establishing positions to counterparts in national nets that are new to the firm 2) by developing positions and increase resource commitments in nets where the firm already has established positions 3) by increasing coordination between positions in different national nets (Johanson & Mattsson, 1988).

Relationships are established, disrupted and changed through activities and transactions. Most exchanges take place within already established relationships which creates bonds between firms. This advances co-ordination of firms and is exemplified in product adjustments, knowledge about the counterpart, special credit agreements and long-term contracts. Firms that have direct exchanges develop specific inter-firm dependence relations which differ from general dependence relations to the market in the traditional process models. Firms that want to become established in a new market need to build relationships which are new to themselves and their counterparts, either by breaking existing relationships or adding to relationships that already exist (Johanson & Mattsson, 1988).

Relationships can be active or passive, where initiative can be taken by either the buyer or the seller. Active networking refers to the situation when the initiative for a new relationship is taken by the seller. Passive networking applies when the initiative is from an outside source like importers, intermediaries or clients of some sort. In this way, markets can be described as networks of relationships between firms that are both stable and changing. Firms are interdependent on other firms in the network and therefor their positions in the network are only partially controlled. Development of positions leads to access to external resources,

affects opportunities and constraints regarding firms future strategic planning (Johanson & Mattsson, 1988).

The network model (Johanson & Mattsson, 1988) distinguishes relationships between firms in to two types; *exchange processes* and *adaptation processes*. Exchange processes between firms are the initiative for relationship evolvement. Offering an incentive that is beneficial to both parties' interests can set in motion a long lasting relationship. Bonds are usually built through gradual processes that begin with single exchanges where the risk factor is low and little trust is needed. As firms learn more about how they fit together, they adapt as well as influence one another. The adaptation process can have various features. This includes technical process by adapting and modifying products, logistically with development of delivery systems, administratively through planning systems or by means of knowledge in technical development. As the exchange process between firms is more intense the pressure to adaption grows even further. Bonds between firms become stronger and conflicts need to be resolved as terminating the relationship may not be feasible. Adaptions indicate that there is room for changes although each counterpart must keep its independence and identity. The interaction process between firms encourages standardization of procedures and products along with ethical standpoints or relations with other firms (Johanson & Mattsson, 1988).

### **2.3.3 International new venture theory**

The INV theory presented by Oviatt and McDougall (1994) drew attention to the increased importance of young firms in global markets. In the study, important characteristics of smaller and younger firms were highlighted and what drives them to internationalize quickly. The internationalization behaviour of an INV is defined as "... a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries" (Oviatt & McDougall, 1994). INVs are known throughout the "developed" world, in small and large open economies. In spite of a general connection with high-technology, INVs are not limited to a specific industry (Meckl & Schramm, 2005).

Due to the economic significance of MNEs many studies have focused on large corporations which have matured in their domestic markets before expanding abroad. Unlike MNEs the INVs have an international strategy put in place from their beginning and actions taken are not in line with the incremental concepts of the Uppsala model (Johanson & Vahlne, 1977) but are based on available opportunities. Although the INV theory is critical of the Uppsala

model it is still recognised as an important component to explain firms' internationalization process. Therefore the two theories should be viewed as complementary to one another (Autio, 2004).

The study of Oviatt and McDougall (1994) highlights the importance of age. It is often difficult to clarify at which point a new venture starts to exist as an organization and its development is usually spread over a certain progressive phase. The exact starting time of a new venture can be imprecise as many organizations go through long periods of gestation before being officially launched. Firms do not need to be international at inception but to have observable foreign commitments within the first two years of business. Age often affects the resources available to newly established firms as well as their strategic choices. Some ventures are formed because entrepreneurs with previous international experience can link resources and meet the markets' demand (Oviatt & McDougall, 1994).

Other INVs are created by existing companies in the sense that they can benefit from resources and financial support from parent companies. Such factors can influence the competitive advantage associated with internationalization (Zahra, 2005). The pre-organizational history of a firm is often inter-connected with the founders' personal careers, their industry knowledge or experience from raising awareness of new technology. Founding managers are often alert and/or exposed to international opportunities before the official inception of a company (Oviatt & McDougall, 1994).

Changes in the international business environment when it comes to economic, technological and social conditions in addition to the homogenisation of many markets and industries have enabled smaller organisations to take advantage of access to global resources. As a result the internationalisation has been simplified, opening up international business opportunities for new ventures with limited resources. From foundation these firms are committed to valuable resources in more than one country, look for growth opportunities in foreign markets early on and even have international activities on their scope before their establishment. This is particularly common in advanced technology industries, where start-ups sell products on several continents with other competitors already global (Oviatt & McDougall, 1994). Knight and Cavusgil (2004) point out that the ability to internationalize early is an internal function that can serve as a unique asset of the firm and enables start-up companies to overcome initial disadvantages with respect to established local competitors.

The incremental international theories predict expansion to foreign markets once firms have gained domestic experience and the home market has reached the point of saturation (Johanson & Vahlne, 1990). Oviatt and McDougall (1994) challenge this view and claim that

it only applies to three types of stages; a) for firms with large resources that take big steps in their internationalization process, b) when foreign markets are consistent which makes learning about them easy, c) and when firms have experience from home markets that are similar to the foreign one's being targeted. None of these conditions apply to INVs as they tend to have constrained resources, most of their markets are volatile and by definition they have limited or no market experience. Unlike the Uppsala model, INV theories emphasize that firms can skip, or even eliminate stages to gain competitive advantage in multinational business activities and enter markets where its product is most needed (Oviatt & McDougall, 1994).

### **2.3.3.1 Importance of networks for INVs**

In their later work Oviatt and McDougall (2005) discussed the importance of networks for INVs. They suggested that depending on entrepreneurs' existing knowledge of the international market's networks can assist in identifying global opportunities and prove their credibility. This often leads to strategic alliances or other cooperative strategies. Once new opportunities are discovered, established network links can be used to explore them further.

Cross-national networks can also moderate the speed of how international opportunities are exploited. This is determined by three key aspects which are; the strength of the network ties, the size of the network, and its overall density. Firstly, a selection of many weak network ties is deemed to be more important than few strong ties as they require less investment, can grow relatively quickly and are often vital sources of information. Ties with brokers are often loose but especially important as they can connect INVs with actors where there are no formal connections and thus speed up the internationalization. Secondly, as the number of available direct or indirect ties builds up, the potential of internationalization and its increased speed is more probable. Thirdly, while sparse networks are important for gathering new information, dense networks are useful when trust and exchange are essential. Successful international business procedures depend on reliable interaction between associates in multiple countries. Firms that have established dense networks can accordingly internationalize more rapidly (Oviatt & McDougall, 2005).

## **2.4 International market process**

International entry mode is a topic that has attracted great attention from researchers. The foreign market selection and method of entry mode are the core components of the internationalization concept and as a result are the main focus in research on firms' internationalization process (Andersen, 1997).

The choice of foreign market selection and entry mode is an important decision-making procedure that is affected by number of complex and incomplete information (Canabal & White III, 2008; Knight & Cavusgil, 2004; Root, 1998). Relevant analysis affects the strategies and actions firms take in foreign markets. These decisions can shape the growth and survival of companies' international business operations where correct entry mode is essential for international marketing (Koch, 2001a). International operations must take into account exposure to fluctuations in exchange rate and product demand, as well as competitive uncertainties. New innovations change conventional consumer behaviour, which affects directly the market positions between rivals. This is especially noticeable in technology-intensive industries (Rivera-Santos & Rufín, 2010).

Koch (2001b) proposes that the decision of choosing a target market and the entry mode used to penetrate the market of choice is not based on two separate decisions but is in fact two aspects of one decision process that uses relevant analysis. Foreign market expansion is based on the recognition of the need to expand to international markets. The decision to expand to certain markets differs from case to case in terms of motives and incentives. Estimation of market opportunities is based on the screening of number of elements that are part of the context of exploiting market openings. This includes potential business forms and ideas which takes in foreign market entry, areas and countries, goods and services as well as barriers (Koch, 2001b).

Kumar and Subramanian (1997) discuss the theoretical tradition that exists in international business that explains the choice of market entry mode. When a firm decides to move to international markets it needs to choose the foreign market it wants to operate in based on the best country market to enter and the strategic needs and orientation of the firm. How to conduct business in a foreign country is a decision which takes into account various issues where time and resource limits are major factors and each decision strategy has its own merits and disadvantages.

Once the firm has decided to expand operations abroad and a market has been chosen the nature of operations in the foreign market have to be determined. The choice of entry mode



controls the nature of the firm's operations in the selected market. Limited resources can constrain firms from performing a feasible market study. Instead of following a formal method of analysis, decision makers may end up choosing a market and entry method based on coincident rather than strategic information (Kumar & Subramanian, 1997).

Wild (2012) defines entry mode as the firms' procedure of transferring its products, human resources, technologies and other resources to a new market. Further classification for the types of entry strategy that firms use is found in the work of Root (1998) who suggests a division of entry modes into categories of export (direct and indirect), joint ventures, licensing and wholly owned subsidiaries. The choice of market entry method is expected to be a rational strategy, where future decisions and operations in a selected market are affected. It depends on managers screening an extended amount of information where all possible entry modes are considered for the target market and compared to the company's own resources (e.g. financial, experience and skills). Decisions should be built on the analytical results and the rank of feasible entry modes. Market entry strategies depend on decisions that include; choice of a target product/market, objectives and goals in the target market, choice of entry to penetrate the target market, marketing plan, and system to monitor the performance in the target market. Each mode of entry is connected to a certain level of resource commitment which can be difficult to rearrange from one entry mode to another considering both time and expenses (Root, 1998). Other scholars have challenged the traditional view of market entry strategy and pointed out that they do not consider what leads entrepreneurial firms to recognize and exploit new opportunities. Consequently the traditional view fails to explain "how" these firms enter new markets (Ellis, 2010).

#### **2.4.1 Network influences for entering international markets**

In the network model of Johanson and Mattsson (1988) internationalization starts when firms begin to create relationships with firms that are part of a network in another country. The network model does not rate the geographical distance as a factor or how the choice of entry mode is affected by network relationships, while other studies have suggested that networks have a strong influence on these aspects. Networking is mainly a mutual positioning of two firms that interact with each other and expect certain actions from one another (Johanson & Vahlne, 2003).

New relationships help firms to overcome a shortage of resources and market power. By providing access to external capital, country-specific knowledge, equipment or other assets,

the resource limitations new ventures face can be significantly reduced. Internationalization becomes instant if a firm's partners are located in foreign countries. This helps new ventures to reduce uncertainty that follows early internationalization (Oviatt & McDougall, 2005). Inter-firm relationships can add value to participating firms through cost reduction and development of knowledge. They can also assist with building bridges to other firms, form an alliance towards third parties or grant access to new markets (N. Coviello & Munro, 1997).

As an outcome of exchanges through interconnected relationships, the focal firm can apply new knowledge to its market familiarity. Interaction contributes to the international relationship development and how partners can increase relationship knowledge and coordinate sets of relationships. Exchange within the network can help a firm obtain new knowledge regarding its business partners and reach more remote associates (Johanson & Vahlne, 2003).

Generating working relationships is a long term process which involves considerable investment. This may take many attempts to establish but can become an important resource to firms. As the geographical distance is larger the more difficult it is to generate new relationships. Various sets of relationships with different actors exist within a firm's network. This is reflected in associations with customers, distributors, competitors, public administrators, and so forth. Since these firms are in turn participating in a number of other business relationships, networks of connected business relationships are formed, where exchange in one relationship is linked to exchange in another (Anderson, Hakansson, & Johanson, 1994)

#### **2.4.1.1 Active – passive relationship development**

According to Johanson and Mattson (1988) relationships between firms can be active or passive, depending on the initiator. Many studies have coincided on the importance of active approaches for SMEs that have limited resources and need to acquire new knowledge for further market expansion (Loane & Bell, 2006; Ojala, 2009; Provan, Fish, & Sydow, 2007). Albaum (2004) discusses more thoroughly how the initiative of a relationship can manipulate the control of the marketing mix the firm applies. Expanding operations to new markets is a strategic decision where firms decide the procedures of screening potential markets, determining the number of markets to operate in and their preferred characteristics.

The passive approach applies to companies that start their internationalization through responses to unsolicited orders from foreign customers. This is reflected in an informal,

unsystematic and purchase-oriented market selection where foreign markets are indirectly selected for companies by their clients. The active approach is characterised by the seller initiating the selection of foreign markets, customer segmentation and singling out potential partners. Active market selection is usually systematic and formalized which requires personnel with international experience and access to international market information. Systematic market research is a formal process that may involve visits abroad to reach potential markets. This can often turn out to be expensive for SMEs with limited financial or human resources. An informal approach is thus often rather chosen, where executives select foreign markets based on discussions within their existing networks with those who have experience in a particular market. It should be noted that the division between the active and the passive approach is not always clear cut, as initiatives are not always distinct and decision makers are often affected by factors in their market choices such as primary markets or recommendations from business associates (Albaum, 2004).

#### **2.4.1.2 Types of network relationships**

Networks can serve as the central factor behind foreign market selection and method of entry where relationships through contacts and social interaction can have a great influence on developing international market opportunities (N. E. Coviello, 2006; Sasi & Arenius, 2008). The different types of network relationships for entering foreign markets are often regarded as being formal, informal or intermediated (N. Coviello & Munro, 1997; Ellis, 2010; Oviatt & McDougall, 2005). Although the literature on the issue is somewhat confusing (Ojala, 2009), formal relationships are generally associated with business activities between actors in a network whereas informal relationships are linked with personal relationships with friends and family members. (N. Coviello & Munro, 1997; Ojala, 2009). Intermediated relationships are established by a third party when no prior links exist between the buyer and the seller (Ellis, 2010).

#### **2.4.1.3 Focal network relationship effects on market selection and entry mode**

The network perspective is that the interaction between business participants will affect strategic decisions and exchange between different associates. The actions of network members are expected to be in accordance to the value the relationships offers. Network relationships may offer opportunities as well as threats to international activities. They may even constrain the firm's international marketing strategies which influence how markets are

chosen and entered (Johanson & Vahlne, 2009). Studies on knowledge-intensive companies suggest that their initial market entry tends to be passive because they are often led to foreign markets through existing networks, also known as client followership (Bell, 1995; N. Coviello & Munro, 1997; Moen et al., 2004).

Small firms that pursue niche strategies in small domestic markets are often dependent on international operations. Firms that operate in competitive and volatile markets may require the skills and resources of other firms to meet increased requirements from high-tech demanding customers. The activities of small firms that position themselves in international markets are consequently influenced by larger firms in their network and the relationships they manage to develop. The network may also impact the approach small firms use for entering foreign markets and the entry mode selected (Moen et al., 2004).

The study of Coviello and Munro (1997) of software firms located in New Zealand indicated that their internationalization process was rapid and used diverse methods to enter several markets within three years of foundation. The speedy and successful growth of the case firms appeared to be closely connected to the international network involvement with larger partners that often lead the foreign market selection and provided the methods of market entry. Small software firms that were presented with market opportunities through partnership with established organisations boosted and outlined their internationalization process. They were clearly influenced in the foreign market choice and entry mode by their partners and network relationships. A side effect to the networking partnership was that market access and international reputation was strongly associated with their larger partners. This dependence on a major partner limited the firms' options in long term planning and development of products outside their partner's area of expertise (N. Coviello & Munro, 1997).

#### **2.4.2 Foreign market selection and market entry methods of software firms**

The high-technology, knowledge based, and service intensive sector of small software firms offers a contrast to the internationalization literature that puts emphasis on manufacturing organisations (Kuivalainen, Saarenketo, & Puumalainen, 2012). The incremental approach to internationalization predicts the number of stages that firms go through which increases their knowledge and commitment to markets over time with gradual movement to more distant markets (Johanson & Vahlne, 2006). In their studies on high technology industries Lindqvist (1991) and Bell (1995) suggested that small firms are influenced by the relationships they develop with customers and that inter-firm relationships are influential in market selection

and mode of entry. Both agree that although the literature on incremental internationalization is relevant to managerial learning and market entry methods, it does not fully describe software firms' internationalization process.

The main difference between the internationalization process of small knowledge-based software firms compared with other MNEs that are generally reviewed in internationalization literature is three fold. 1) The process tends to be rapid with firms becoming established and committed to internationalisation within three years of operation. 2) As firms go through the internationalization process their characteristics have a habit of changing. 3) The initial markets that small software firms aim for tend to have a small geographical distance. Although this can often be explained by the expectation of improved client followership and contacts with foreign customers, the choice of entry mode for software firms is more linked to the complexity of software products. The internationalization process is manipulated by network relationships but the choice of entry is aimed at market circumstances and the client at hand (Bell, 1995).

Moen et al. (2004) stress that the classification of general entry forms of software firms are not clear cut compared to many other industries that produce physical products. Because of the complexity of distribution channels and business solutions that applies to software, firms are rather inclined to refer to their partners as agents or distributors, as a clear distinction is, in many cases, hard to draw. The concern is frequently more associated with the ability to generate sales than a particular mode of entry. Software firms that Moen et al. (2004) examined showed limited signs of going through the gradual process of learning or market commitment and were more willing to use different entry forms depending on available options in their network relationships. Also, the highly volatile software markets put pressure on firms to commercialise rapidly before the technology becomes redundant (Moen et al., 2004).

The combination of market, technology and psychic distance factors creates a complicated relationship. Communication technology and networks can reduce the psychic distance with most software firms servicing niche markets that require a high technological level. Technological competency is somewhat independent of cultural differences but then again technological levels between countries can differ greatly. Moen et al. (2004) support the notion of Coviello and Munro (1997) that the first steps towards internationalization are usually taken along with a network partner to a psychically close market. As experience is gained psychic distance becomes less of an obstacle. Communication technology contributes by increasing the growth pace of the network and offering new market opportunities.

### **2.4.3 Networks influences on foreign market selection by software firms**

Software firms that enter foreign markets through their network relationships are more often than not influenced in their choice of foreign markets and the mode of entry (Bell, 1995; N. Coviello & Munro, 1997; Moen et al., 2004; Ojala, 2009). The success of small service and/or knowledge-based firms that work in small domestic markets often depends on how effective they are in taking the necessary steps towards an international level of operations. To meet the needs of increasing demands and competitive markets, firms may have to pull the skills and resources of other organizations where the smaller firms are often influenced by the larger ones in their network (Chetty & Stangl, 2010). This affects the approach to internationalization of the small firm when it comes to selecting foreign markets and entry modes. The network model gives little support to the concept of the Uppsala model where firms make small incremental progress from exporting to other market entry modes, although many firms increase their commitment to exporting by networking. For small software firms, relationships with clients appear to be influential both when selecting a market and the mode of entry (Bell, 1995).

Bell (1995) explored the export behaviour of small computer software firms in Finland, Ireland and Norway. The decision of market selection suggested that many software firms entered foreign markets as a result of client followership. This occurred through their domestic clients' international strategies that offered openings to new markets and was a crucial factor in the initial decision of exporting and the choice of foreign market. Partnering with a larger firm both set in motion international activities and influenced the market entry mode. Other examples of passive networking included reaction to unsolicited orders from abroad that opened access to new markets. A similar pattern is shown in the research of Moen et al. (2004) who found that small software firms normally do not enter foreign markets nor make serious commitments to them without prior market relationships. Coviello and Munro (1997) suggested that network relations shape the decision of software firms on which foreign market entry method is applied and to a degree which market to enter. Finding the right partners to collaborate with was the essential factor while the entry form was less important.

Bell (1995) also highlights sectorial targeting where software firms enter markets based on growth in specialised niches. In those cases, firms went after markets that were experiencing major increase in growth rate which indicated that the geographical distance was not viewed as a limitation to new markets. The choice of nearby markets was also often determined by

sectorial reasons. Although geographic proximity was an advantage it was viewed as of secondary importance to the market selection decision.

### **3 Conceptual framework**

The Uppsala model requires that the internationalization process is dependent on certain stages where increased market knowledge leads to increased market commitment. Lack of knowledge and resources creates uncertainty which firms will try to avoid. Firms are expected to start their foreign operations in nearby markets and move to more psychically distant markets as knowledge increases (Johanson & Vahlne, 1977). In their revised version of the Uppsala model, Johanson and Vahlne (2009) put greater emphasis on the importance of networking with trust building and knowledge gathered through relationships, and regarded these as the major pillars for the internationalization process.

The INV theory puts its emphasis on how firms are able to internationalize from their inception and thus largely disregards or rejects the stage model theories. Unlike the Uppsala model the INV theory maintains that firms' internationalization process is much faster and gradual stages can be left out. Lower transportation and communications cost in addition to an increased number of managers with international experience has enabled SMEs with limited resources to internationalize much faster and in larger numbers. This is especially applicable for start-ups working in high-tech industries like the software sector. The INV theory does not specify which markets are entered first nor the entry method used as these firms tend to be opportunity seeking and follow market niches (Oviatt & McDougall, 1994).

The network model views the internationalization process as being dependent on the relationships available to the firm which lead to entries in foreign markets. Relationships between firms expand the resources available and facilitate the market selection and entry method. Smaller firms entering new markets may often rely on the skills and resources that larger firms can offer which in turn often affects the small firms' selection of markets and entry methods. In the network model firms are not expected to go through a gradual process of internationalization as the Uppsala model suggests. Instead they establish positions within networks to create exchange opportunities with business partners which can open up access to new markets (Johanson & Mattsson, 1988). This has been challenged by Coviello and Munro (1997) who recognise certain stages in the internationalization process of knowledge intensive SMEs but note that the process is faster and has fewer stages than the Uppsala model suggests.

Different types of models that describe the growth patterns and internationalization process of firms are a useful structure for further analysis. Each of the theories discussed in the literature review has a different perspective on how firms move to international markets and take into



account the importance of networking, although the authors of the INV theory and the Uppsala model recognise its importance much later (Oviatt & McDougall, 2005; Johanson & Vahlne, 2009).

Comparing the theories more closely gives an idea of what sets them apart from one another. The Uppsala model gives a good framework to the internationalization process on how firms learn gradually which helps them to advance further. The INV theory explains the new trend of companies that move faster and globalise from their establishment while network relationships are viewed to have a major influence on internationalization strategies.

To advance understanding these theories will be examined from two aspects on how they apply to internationalizing software firms. Firstly, the internationalization process will be viewed with regards to how markets are selected and entered. Secondly, the influence of network relationships on market selection and entry mode is explored. The internationalization process of firms is viewed from a different standpoint by each theory while network relationships play a large role in every one of them. As a result this paper will answer the following research questions:

1. How does the internationalization process of Icelandic software firms reflect their choices of foreign markets and entry modes?
2. How are the choices of foreign markets and entry modes affected by network connections for Icelandic software firms?

## **4 Methodology**

This chapter explains the methodology used to construct the research. It describes the purpose of the thesis, the research approach, selection criteria, data collection including the interview guide and data analysis. To close, issues of validity and reliability are discussed.

### **4.1 Purpose**

The purpose of the study can be differentiated between descriptive and causal. A study is descriptive when the aim is to find out; who, what, where, when or how much. If the concern is to discover how one variable produces changes in another it is considered causal (Blumberg et al., 2011). Here the purpose is to describe what has happened and the nature of the process not to test if there are any factors behind past events.

The aim of this research is to explore how networks affect the choices made by Icelandic small to medium sized software firms in their foreign market selection and method of entry. Assessing and comparing the factors that influence the process these firms go through when entering international markets will hopefully give additional information about the subject. This will be reviewed in the light of the internationalization theories discussed in the literature review which was used to construct the research questions of the study.

The research method of the thesis is qualitative, using a multiple case-study. As the research questions of the study are exploratory the multiple case-study method presents the option of searching for common characteristics in the internationalization process within the cases of the study. Semi-structured interviews were performed for the data collection. The research process is explained in the following sub-sections.

### **4.2 Paradigm**

The paradigm provides the basis of understanding and interpretation of social reality. It affects the perception and explanation building of the research and reflects the author's viewpoint. Researchers are influenced by several factors such as environment, personal experiences and beliefs. This is reflected in the ideas, writings, choice of research methods, and data analysis which produce the world view researchers hold. Using a qualitative research approach involves certain philosophical assumptions by the researcher. The purpose is to design the approach of the research and how solutions will be framed. The research paradigm is clarified through the perspective taken on ontological, epistemological and methodological

angles. Researchers take positions on each of these assumptions which influences the design and handling of the study (Creswell, 2007; Saunders, 2009).

### **4.3 Research approach**

Whether a study is viewed as exploratory or formal depends on the degree of structure and the direct objective of it. Exploratory studies lean towards loose structure with the aim of finding future research assignments. Formal studies start with describing the current situation which is then followed with hypotheses or research question as well as precise procedures and data source specifications. Exploratory studies can be especially useful when potential problems of the study are unclear. It also serves a purpose when the area of investigation is new or vague so that exploration is needed to learn more about the dilemma (Blumberg et al., 2011). The present study aims to be exploratory as it seeks to develop concepts more clearly and estimate what determines the market selection and the mode of entry, how networks are used when software firms internationalize their operations.

Two types of research approaches were considered for this study; the deductive approach and inductive approach. The deductive research approach is used when developing a theory and hypotheses. It involves a designed research strategy that is used to test the hypotheses from the theory. This includes expressing the hypothesis, defining operational terms on how concepts or variables are measured, and the relationship between them, testing the operational hypothesis, examining specific outcomes of the analysis, and modifying the theory depending on the findings. A revised theory is then verified by going back through the whole cycle (Saunders, 2009).

The inductive approach is of use when data are collected and the theory is developed as a result of the data analysis. Data can be collected by exploring the field, for example through interviewing a typical sample from a cluster. The purpose is to get a feel of what is going on so that the nature of a subject/problem can be understood better by analysing the collected data. The result of the analysis is then used to formulate a theory (Saunders, 2009). The inductive method is mainly used throughout the present study although part of it uses the deductive approach. Earlier studies are used for concepts and theory building which guide the research questions and is therefore of deductive nature. The inductive part of the study is found in the data collection from managers and company founders, where the analytical part of the study explores numerous factors that affect internationalization process and use of networking which are not found in the literature.

#### **4.3.1 Qualitative or quantitative approach**

A scientific study may be conveniently divided into a qualitative and a quantitative study. Quantitative studies are based on quantitative information such as numbers and figures while qualitative studies rely on qualitative information like words, sentences and narratives. The qualitative method is more likely to reveal unexpected information as the approach of the research is not as restricted as quantitative studies (Blumberg et al., 2011).

A qualitative data collection approach was selected for the present study as the interest of the research is to get an understanding of the case firms' process in their international and networking activities. This method offers greater flexibility than quantitative methods do for analysing the processes involved. Qualitative methods offer a broader approach the research problem with the option of knowledge creation and insight that might not be obvious in advance (Saunders, 2009).

#### **4.3.2 Case study method**

Case studies put emphasis on contextual analysis of the interplay between few events or situations. Hypotheses are regularly used but as case studies are often based on qualitative data, support or rejection of hypotheses become problematic (Blumberg et al., 2011). A multiple-case design has the advantage over single-case design to offer a more compelling and sound overall study. A single-case design is vulnerable to over emphasis of a specific situation which limits its analytical benefits. The reasoning for a multiple case study rather than single-case study is to enable comparisons between subjects and a deeper understanding of different practices. A research method that pursues a deep investigation of a real life contemporary phenomenon in its natural context is considered to be a case study. Compared to other research methods of social science, three conditions are ideal for conducting a case study: 1) The research questions are in the form of *why* and *how*. 2) No control of the behaviour of the subject/events being studied is required. 3) The study focuses on present-day events (Yin, 2009). These conditions match the purpose of the present thesis and have also been practiced by preceding studies on the internationalization of software firms (N. Coviello & Munro, 1997; Moen et al., 2004; Ojala, 2009).

## 4.4 Data collection method

Data collection provides the empirical input of evidence needed to answer the research question. It is commonly divided into primary data and secondary data depending on the origin. Primary data refers to data that is collected specifically for the research project being undertaken. The researcher collects the data directly from the source to research the subject at hand. Secondary data are data of various forms that have been used for a research project and were originally collected for some other purpose (Saunders, 2009). For the present study, the primary data collected are from digitally recorded interviews with managers and company founders who have been involved in the internationalization process of their firms. For secondary data, publicly available archival sources were explored to review literature on similar studies, conduct the theoretical research of the literature review and retrieve background information about the organizations that were interviewed.

A complete list of generally used data collection methods is quite extensive but the most common sources for case studies are; documentation, archival records, interviews, direct observations, participant observation and physical artefacts (Yin, 2009). Primary data for the present study were collected through case study interviews. Yin (2009) suggests that managers prefer being interviewed than answering survey questions. The interview method was chosen so that important and detailed information could be gathered where respondents had the chance to elaborate their answers.

A background study of secondary data for the case firms was conducted before each interview in order to build general knowledge of the firms and to have some familiarity with their business. This was done by examining the companies' websites and results from a web engine search.

The method of data collection consisted of monitoring and interrogation/communication processes as well as archival sources. Monitoring was based on interrogation/communication study responses which were collected through interview processes by the researcher (Blumberg et al., 2011). For the primary data collection of this study the interrogation/communication process of in-depth interviews was chosen as it offers the interviewee a wide perspective and is considered to be one of the most effective method for a case study (Yin, 2009).

The ability to control the variables of the study depends on whether the research is designed to be experimental or *ex-post facto*. When conducting an experiment the researcher tries to

manipulate variables that are being studied. The object is to discover if certain variables influence other variables (Blumberg et al., 2011).

Researchers that run ex-post facto studies do not have the option to control the variables being measured without risking the chance of biased results. The aim of this thesis is to report what has happened or is happening. Researchers must select subjects according to strict sampling procedures to keep factors constant (Blumberg et al., 2011). As the present study aims to describe the internationalization process of software firms that has already taken place the ex-post facto design was utilised.

The time dimension of a research is two-fold. Firstly, there are cross-sectional researches which are carried out once, where the results represent a snapshot of one point in time. Secondly there are longitudinal researches which are repeated over an extended period. Longitudinal studies track changes in variables over time and are more useful when testing causality (Blumberg et al., 2011). The present research only used one interview with each participating firm with the option of further clarification if needed. Therefore it may be regarded as a cross-sectional study.

#### **4.4.1 Semi-structured interviews**

Interview principles can be divided into three types; structured, semi-structured and unstructured. The interview structure that researchers select directs the findings and the following conclusions of the research (Creswell, 2007). The primary data collection for this thesis followed suggestions of Yin (2009) on semi-structured interviews. These consist of a structured list of questions but remain flexible so that interviewers can adjust the line of questions, their order, and add follow-up questions regarding unexpected matters that surface during the interview (Creswell, 2007). For the present work, an interview guide was prepared with a list of questions related to the issues that were to be covered. The list of questions was kept as structured as possible for pattern matching between cases and to avoid bias. The option of rearranging the order of questions when applicable and asking further about certain issues was also kept open (Yin, 2009).

#### **4.4.2 Design of the interview guide**

The design of the interview questions for the semi-structured interviews was established on the guidelines of Yin (2009). Semi-structured interviews allow asking the main questions and then adding more detailed ones where wording is kept as non-leading as possible. The

interview guide was based on the research problem and the research question developed from the theoretical framework. The theoretical framework of this study was based on three theories that describe the internationalization process of companies from different perspectives and emphasize the role of network relationships.

The first questions were closed questions regarding the interviewee and the focal firm. Each respondent (all males) was asked closed general background questions regarding himself, his position in the company and international experience, and then a description of his company's history and its main products and/or services.

The significant themes from the Uppsala model, network model and INV theory discussed in the literature review chapter were used for the interview guide that included a series of sub-questions for more in-depth information. The sub-questions were divided into themes grounded on the main research questions where the respondents were asked to give their explanations of the company's internationalization process and the influence of network connections on their decisions. The sub-questions included foreign markets entered, and mode of entry, the importance of establishing the firm in the domestic market, or whether international markets were entered immediately after establishment. Culture- specific or geographical challenges were considered and how new market knowledge has affected market commitments. The international market approach was looked at, and the question asked whether the firm had been actively searching for new markets or if it had reacted to outside demand, and if the market entry decision was based on product strategy or network relationships. Influences of different types of relationships were examined with special attention to the firm's focal partnership.

The final questions of the interview provided the respondents with an opportunity to give additional information, either if they had learned anything specific from their internationalization process and network building, or if they wanted to raise any other issues they felt were missing from the interview. The interview guide was written in Icelandic and then translated into English.

## **4.5 Sampling**

### **4.5.1 Sampling method**

The logic on which the selection strategy is based depends on the research question and objectives. A purposeful sample was used to choose cases according to pre-determined

reasons. The purposive or judgemental sampling was used to choose specifically information-rich cases based on how they matched the criteria of the research question and the aim of the thesis (Blumberg et al., 2011). The purposive or judgemental sampling form is often used when working with small samples as in case study research and when the intention is to select cases that are particularly informative (Saunders, 2009).

#### **4.5.2 Selection criteria**

Concentrating on a single sector is useful to theory development and to define industry specific variables (Yin, 2009). The software industry has been selected as it is a common sector for analysing the internationalization of knowledge-intensive companies in various high-technology industries (Bell, 1995; N. E. Coviello, 2006; Jones, 1999; Moen et al., 2004; Ojala & Tyrväinen, 2007; Zahra, 2005). Software firms that start off in a small domestic market tend to look abroad to increase their ability to generate higher profits and increase their potential of long term survival (Sapienza, Autio, George, & Zahra, 2006). It was assumed that Icelandic software companies face similar challenges as other software companies that come from small economies.

#### **4.5.3 Selection of case firms**

According to Yin (2009) each case of the multiple case study must be carefully selected so that it either predicts similar results or predicts contrasting results for predictable reasons. Conducting six to ten case studies effectively is equivalent to conducting six to ten experiments on related topics. Two to three cases may lead to literal replications while four to six can be beneficial to pursuing two different patterns of theoretical replications.

The selection of case companies requires certain criteria so that suitable companies are found for the research (Yin, 2009). A pre-requisite for the interviewees was that they were their companies founders, CEOs, marketing directors or from a senior management level that had been involved in the internationalization process of the firm. The target group of this study were software firms that fulfilled the following conditions: 1) Had their headquarters in Iceland. 2) Qualified as being an SME according to EU standards (European Commission, 2005). 3) Belonged to different software firm categories. 4) Offered their services to different types of customers. 5) Had entered into international operations within the first six years of business or were in the process of expanding their markets. 6) Were at different levels in their



internationalization process. 7) Developed their own software that produces software products. 8) Sold their software solutions to other businesses. 9) Were independently owned when established, to avoid influences from parent companies.

Screening candidate cases can easily become an extensive procedure that turns out as a “mini” case study of every candidate case (Yin, 2009). The identification process was kept fairly simple as potential companies were mainly screened by using the website section for IT companies within the Federation of Icelandic Industries (“Fyrirtæki í Upplýsingatækni (Companies in Information Technology),” 2013) and the *Start-up issue* of the Icelandic business magazine *Frjáls verslun* (Jonsson, 2013). Feasible companies were identified, and then further examined through internet research both by visiting their web pages and using general web engine searches to understand if they matched the predefined case criteria.

## 4.6 Data gathering

Contact was made by the use of a standardized e-mail with eight companies that had been identified through the selection criteria. The e-mail included an introduction to the author, the thesis project and nature of the investigation. The receivers were requested to grant an interview with a senior figure that had been involved in the firm’s internationalization process. A meeting time was decided commonly with the companies that responded positively.

One company declined an interview, one did not respond to the request and one withdrew after initial consent. Five interviews were held in total. The interviews were conducted in December 2013 in the greater Reykjavik area. The five interviews were made by the author. They lasted from about 20 to 55 minutes. Four of the interviews had one respondent and one interview had two respondents. Four interviews took place in meeting rooms at the companies’ headquarters while one had to be moved to a nearby restaurant, due to lack of private facilities. Four of the interviews were in Icelandic and one in English as the respondent was from Denmark. Interviews were digitally voice-recorded on two devices in case of a malfunction. Permission for the recordings was obtained from each interviewee.

The interview guide was practiced before each meeting both to estimate the time length and practice language fluency as one of the interviews was done in English. Pilot tests were conducted with three individuals both in Icelandic and English to clarify concepts and what was implied. The subjects used for the pilot tests had a diverse background and an appropriate

level of English language skills. Their responses were used to adjust wording and evaluate if the concepts were understandable.

Field notes were taken during interviews when applicable, although only to a limited degree as the interview conductor was more attentive to following the line of inquiry and asking additional questions to the semi-structured interview guide. Participants were informed in the original e-mail and again before the interview that they would be asked about the internationalization process of their company. It was also noted that they could decline answering any questions they wanted. To avoid response bias the wording of questions was more designed to be a guided conversation rather than structured queries. This led to an open dialogue that was more fluid than rigid. Respondents were not presented with the interview guide nor informed of the research questions until the formal interview had ended.

#### **4.6.1 Data management**

Data collected in qualitative research are primarily text-based and need to be managed by data storage, transcription of audio sources and data cleaning (Saunders, 2009). The interview data were recorded on two devices in case of a technical failure. The recorded files were uploaded to an online file hosting service on the day of recording to secure the data. Transcripts were also written on the day of recording to ensure that any obscure recordings could be clarified. Transcripts were written verbatim from the voice recordings into a word processor with the aid of audio editor software to slow down the audio speed. Recordings were replayed and compared to the written transcript at a normal speed to confirm that they had been documented correctly.

#### **4.7 Data analysis**

Data analysis refers to preparing, organising and drawing conclusions from raw data that can come from multiple methods that are applied sequentially. The data are reduced into themes through coding, summarizing of the codes and then presented through figures, tables or discussion. Qualitative data analysis consists of breaking down, classifying and reassembling data to form significant findings. This process is guided by the research question and requires interpretation of empirical data through content analysis. Qualitative content analysis strives to identify patterns and themes from the textual data (Creswell, 2007).

A coding method was used here to label data for content analysis. Each category of code represents a core topic of data and is usually applied on three levels: open coding, axial coding and selective coding. Open coding is done by breaking down the text and sorting out different themes and concepts. Axial coding is the step when the data are categorised based on relevant content. Finally, selective coding is conducted by making logical connections between categories (Creswell, 2007).

No theoretical propositions were stated for this thesis for specific testing. Instead it was the conceptual framework developed in the literature review that guided the organisation of data. The interview guide was based on the research questions and the theoretical framework which positioned the questions into conceptual categories that were practical for the data analysis. The categories served as codes to manage the data into groups. The data was labelled in the transcript, duplicated and then placed in fitting categories for further practical processing. This organized the vast quantity of data into a more manageable form.

The categorisation was based on themes in the theories from the literature review. Data were identified in accordance to how they related to the established categories.

## **4.8 Design of data categories**

### **4.8.1 Background**

This part includes general information on the case firms regarding products and services, year of establishment, number of employees, countries of direct operations and personal background of the interviewee.

### **4.8.2 International market activities**

#### **4.8.2.1 Foreign market entries – mode of entry**

This section gives an overview of the internationalization process the case firms have undertaken. The focus is on the major foreign market entries the case firms have taken part in and the method of entry mode used.

#### **4.8.2.2 Internationalization process**

This section explores the internationalization process of the case firms. The Uppsala model (Johanson & Vahlne, 1977) predicts that firms go through incremental stages towards international markets, by establishing themselves in the domestic market first and then move

gradually to other countries. The network model (Johanson & Mattsson, 1988) claims that internationalization is done through available networks that lead firms to new markets. The INV theory (Oviatt & McDougall, 1994) suggests that many firms skip the stages and engage in international activities from their establishment.

#### **4.8.2.3 Market knowledge and increased commitment**

The Uppsala model (Johanson & Vahlne, 1977) predicts that firms increase their commitment to foreign markets through experiential knowledge. This section examines whether the case firms increase their commitments and move from direct exporting and agents (low commitment) and move to sales and manufacturing subsidiaries (high commitment) as they gain experience and knowledge.

#### **4.8.2.4 Geographical and psychic influences**

Important components to the Uppsala model (Johanson & Vahlne, 1977) are geographical and psychic distance factors that firms are expected to be influenced by. The Uppsala model expects that firms avoid uncertainty by starting their foreign operations in geographically close markets, or in markets with similar business environments (psychically close). Psychic factors include issues such as language, culture, business practices, political system, and industrial development, to name a few. These issues predict that firms will start their internationalization in markets with similar cultural characteristics but as experience increases they are expected to move to more distant markets. The network model (Johanson & Mattsson, 1988) does not consider these factors to have a particular impact. The INV theory (Oviatt & McDougall, 1994) emphasis that changes in international markets, technology and travel costs enable firms to take advantage of more distant opportunities and resources, which reduces psychic factors. The impact of the geographic and psychic factors was evaluated and characterised as none, slight, moderate or strong.

#### **4.8.3 Network influences on international development**

Many studies have challenged the Uppsala model (Johanson & Vahlne, 1977) and championed the network model (Johanson & Mattsson, 1988) as a better explanation for firms' internationalization activities especially when it comes to knowledge intensive firms (N. Coviello & Munro, 1997; Moen et al., 2004; Ojala, 2009). Network relationships have an important role within each one of the Uppsala model, network model and INV theory, although the authors of both the INV theory (Oviatt & McDougall, 1994, 2005) and the

Uppsala model (Johanson & Vahlne, 2009, 1977) took the network impact into account in their later studies.

#### **4.8.3.1 Strategy or network influence**

According to the INV theory (Oviatt & McDougall, 1994) firms will go to markets based on the market niche for their product and orientation of the firm. The network model (Johanson & Mattsson, 1988) suggests that choice is not so rational and that development of network positions leads to access to external markets. In the following account we look for indications of whether the case firms had entered new markets where there was a market niche for their products and services, or if they were going to markets because of influences from network associates.

#### **4.8.3.2 Active – passive market selection**

According to the network model (Johanson & Mattsson, 1988) generating relationships in new markets can be done by either active networking or passive networking. Active networking refers to seeking new clients or relationships where the seller takes the initiative. Passive networking refers to a response to unsolicited requests from clients outside the firm's network. Albaum (2004) points out that the initiation of a relationship can decide the marketing mix the firm applies.

#### **4.8.3.3 Influence of network relationships**

Network relationships can have a significant influence on how firms select new markets and the method of entry used. These relationships can be formal, informal, or mediated (N. Coviello & Munro, 1997; Ellis, 2010; Oviatt & McDougall, 2005). The influence on the market selection and entry mode from each type of relationship was evaluated as having a direct, indirect or no influence on market selection.

#### **4.8.3.4 Influences of focal relationship**

The influence of the focal network relationship of the case firms was given a specific interest as other studies on the internationalization of software firms have indicated the importance of these relationships (Bell, 1995; N. Coviello & Munro, 1997; Moen et al., 2004). These relationships were evaluated as a source of influence on market selection and method of entry, regularity of communications between the firms, influence on decision making and an estimate made of whether the power balance had changed during the partnership.

#### **4.8.3.5 Network density**

According to the INV theory networks can be useful to identify global opportunities and accelerate the internationalization of the firm (Oviatt & McDougall, 2005). The density of a firm's network is determined by; the strength of network ties, the size of the network and overall density. A number of weak ties offers more possibilities than few selected ties, which are often expensive to generate and maintain.

### **4.9 Validity and reliability**

The validity of research depends on the relationship between the study conclusion and reality. No method can completely insure that this has been captured. As a consequence, validity is better described as a goal rather than a product as it cannot be proven or taken for granted. Validity needs to be assessed in relationship to the purposes and circumstances of the research, not a context-independent property of methods or conclusion (Maxwell, 2005).

Yin (2009) divides the validity criteria into four types of tests. 1) *Construct validity* which reflects whether correct operational measures for the concepts being studied are used. This is done through the use of multiple resources of evidence (including in-depth interviewing, websites, news articles or other publicly available sources), and having key informants reviewing a draft case study of the report and establishing a chain of evidence. 2) *Internal validity* which tests causal relationships where certain conditions lead to other conditions, and are differentiated from false relationships. This is warranted by pattern matching, explanation-building, addressing rival explanations and using logic models. 3) *External validity* relates to establishing the domain of which a study can be generalized using replication logic in multiple case studies and tests whether the findings can be generalized beyond their immediate case study to a larger universe. Unlike survey research that relies on statistical generalization, case studies rely on analytical generalization where the investigator tries to move a set of results to a broader theory. A theory must be tested by replicating findings in a second or even third sample to provide strong support for it. 4) Finally *reliability* demonstrates that operations of the study can be repeated by other investigators with the same results. The aim of reliability is to minimize the errors and biases in a study. Documentation of procedures enables repetition of earlier research. However, repetitions of case studies are limited as the entire nature of the case study can change whether relating to the researchers, the respondents or the phenomenon of study (Yin, 2009).

#### **4.9.1 Ethical consideration**

The primary data set of this study was based on personal interviews with senior figures within each company. The results of those interviews were compared for further analysis. In order to maintain the integrity of the study, a deontological view was taken of the research. The philosophical perspective of deontology is that the ends never justify the use of ethically questionable means. It is essential to inform respondents about the purpose and procedures of the study even if that is likely to affect the response behaviour or limit the information they are willing to share (Blumberg et al., 2011). In this study, the respondents received an explanation on the importance of the study as well as their rights and protection. An informed consent was obtained before each interview.

#### **4.9.2 Bias**

Case-study interviews require abilities to obtain a great volume of new information. It is important not have a preconceived position that may overshadow the purpose of the case study. Case-study investigators are prone to adapt an opinion as they study the issues before proceeding with interviews, or advocate certain beliefs originating from theory. The key to avoid such mistakes is tolerance to contrary findings, making sure that the case study conclusions reflect the data, and maintaining flexibility to unexpected leads. The purpose of the research should be to create an informative dialogue that gathers new information, be it expected or not (Yin, 2009). Interview questions may turn out to be poorly constructed and not capture the essence of the research question. From the perspective of the interviewees, there is potential bias when asking decision makers to reflect on events in retrospect.

## **5 Empirical findings**

The empirical chapter of this thesis reveals the findings of the five interviews undertaken with the case-firms. The aim of the interviews was to collect data on how these firms moved to international markets and how their network relationships affected the decision. Firstly, the background of each company is viewed including a short introduction to its representative(s). Secondly, the internationalization activities of each firm are reviewed. Thirdly, the influences of the network relationships on the international market entry decision are studied.

### **5.1 Betware**

The information in the following chapter is based a semi-structured interview with Stefán Hrafnkelsson and Árni S. Pétursson (Hrafnkelsson & Pétursson, 2013).

#### **5.1.1 Background**

The representatives from Betware were the company's CEO Stefán Hrafnkelsson and CMO Árni S. Pétursson. Hrafnkelsson is one of Betware's founders and has been the prominent figure in their international market movements while Pétursson has been with Betware since 2009 and has previous experience in the international environment.

Betware was established in 1998 in the form it exists now. Its predecessor was the multimedia company Margmiðlun that was founded in 1993 with the ambition to succeed in e-commerce. Market conditions evolved differently from the founders' expectations which directed the company to the internet service sector. In spite of an enormous company growth rate in internet services, the e-commerce dream was always kept alive. In 1998 Betware landed its first project with sports betting solutions for the Icelandic lottery company Íslensk Getspá and the first international project with the Danish lottery company Danske Spil came in 2001.

Betware's products and services consist of interactive gaming solutions predominantly for lotteries. In the past 15 years the company had focused on developing software solutions while current strategies are moving more towards a sales and market oriented emphasis.

Betware has direct operations in four countries; Iceland, Denmark, Spain and Serbia with around 130 employees in total. The company was recently bought by the Austrian firm Novomatic AG and is now a member of the Novomatic Group.



## 5.1.2 International market activities

### 5.1.2.1 Market selection – mode of entry

Most lottery companies have long sales procedures. In the past the lottery companies wanted complete solutions for their internet gaming but now most of them do contracting through open tenders. This means that Betware does not necessarily select markets by a country strategy but by reacting to available opportunities. The method of entry Betware has used has been through direct sales. On average Betware has gained one new client every three years and while each one brings a great deal of value, the firm has aspired to further growth. Betware hopes that with the new investors it can start competing with even larger firms and that the rate of new clients can be enhanced up to one to three per year.

**Table 2 Betware's foreign market selection and entry methods**

| Year | Foreign country entered | Method of market entry |
|------|-------------------------|------------------------|
| 2001 | Denmark                 | Indirect export        |
| 2007 | Spain                   | Indirect export        |
| 2011 | Canada                  | Indirect export        |

### 5.1.2.2 Internationalization process

Betware's entry to international markets can be described as incremental. The first solution Betware created was a betting pool for the Icelandic lottery company. It was realised early on that the Icelandic market was a useful test market, so reaching a contract with the Icelandic Lottery was considered the firm's first milestone. The limited market Iceland has to offer and the experience Betware gained from the project encouraged the company to broaden its horizon. Betware moved gradually from the Icelandic environment and went on to actively seek new clients, starting with the lottery companies in other Nordic countries. The company was determined to use Iceland as a test market for their products and then target other markets.

The next milestone was reached in 2001 when Danske Spil bought Betware's internet gaming solutions for sports betting and later solutions for lotteries, bingo and horse racing. Betware offered solutions in specific gaming units which made it possible for Danske Spil to attain other games (for example online poker) from different sources.

Betware moved their search for clients incrementally to other European countries. The company made attempts to establish clients across northern and western Europe and then in

English speaking countries outside Europe, namely Canada and Australia. It has been successful in attracting major clients in Denmark, Spain, and Canada.

#### **5.1.2.3 Market knowledge and increased commitment**

Throughout the years Betware has been building up industry specific knowledge and learned how the betting industry is an exceptionally conservative business. Gaining trust with lottery companies is a long term procedure and legislation can be somewhat hindering. The company has gradually reached more geographically distant countries and built up relationships by visiting potential clients across Europe, Canada and Australia. It has moved from the use of exporting and agents to more committed resources by establishing subsidiaries with direct operations in three countries outside of Iceland.

#### **5.1.2.4 Geographic and psychic influences**

The geographical location of Betware has been restrictive when the firm has had to react quickly to new business opportunities. Sending representatives from Iceland to a meeting in Europe at a short notice can be demanding for a company with limited resources. Relocating the company's sales office to a more central European environment is being considered but moving the whole firm is not seen as optional, even with the new investors.

No negative reactions based on the company's nationality have affected the market selection or mode of entry. Certain clients have doubted Betware's capabilities in handling system failures due to the limited size of the firm rather than its nationality.

### **5.1.3 Network influences on international development**

#### **5.1.3.1 Strategy or network influence**

Betware has chosen its markets and method of entry on the basis of the market niche for their products. So far, Betware has not entered new markets by following particular partnerships. The new ownership of the company may change this to a more network oriented approach.

#### **5.1.3.2 Active – passive market approach**

Betware has mainly been active in their search for clients. The company has approached numerous lottery companies offering them solutions, participated in tenders and attended several trade shows.

Betware has experimented with contacting clients where it had no previous relations with but the method is seen as having limited effect. Establishing prior business relationships is

thought to be more likely to generate further talks or establish meetings with potentially new clients.

### **5.1.3.3 Influences of network relationships**

Betware has mainly used its formal business relationships in foreign market entries for recommendations when reaching out to potentially new clients. They have not followed clients specifically to different markets as most of them have operations limited to a single country due to laws and regulations in the lottery gaming industry. No new clients have been gained as a direct result of other clients' assistance although references have indirectly assisted with closing contracts.

Betware has not used any types of informal relationships through friends or family members to generate new business clients or selecting new markets.

Mediated relationships have been attempted, such as using consultants, sales agents and intermediary organizations that have had the option of receiving sales fees if any connections are created through them. This has only been done on a limited scale, however, and has not created significant revenue.

Betware has only had limited contact with governmental agencies to assist with their international market promotion. The company soon realized that creating knowledge within the company was worth more than seeking outside assistance. Representatives from Betware have met with Promote Iceland, embassy delegates and received governmental grants. These meetings have not been particularly fruitful as the network connections of governmental agencies are often on a more diplomatic level, while Betware is searching for more industry specific links. No new clients have come as a direct or indirect result of governmental or non-governmental agency assistance.

### **5.1.3.4 Influences of focal network relationship**

Danske Spil has been the major partner for Betware since 2001. The relationship could be described as long term and stable with regular communications between the two. The initial approach was made by Betware which Dansk Spil declined because they doubted the capabilities of a company of Betware's size. A subsequent failure of delivery from a competitor re-opened the doors for Betware's solution at Danske Spil.

Since the start of Betware's collaboration with Danske Spil, the Danish firm has been the main provider of its income. Their relationship has slightly changed throughout the years, where the Danish company has moved their contracting to open tender. This means that

Betware needs to prove that they can offer a better solution than others although the previous work for Danske Spil gives them a solid reputation.

Danske Spil had a great influence on decision making within Betware when it was the only international client. As Betware has grown and gained more clients the influence of Danske Spil has declined accordingly. Communications between the two partners occur on average a few times per month.

#### **5.1.3.5 Network density**

Betware has realised the importance of attending the industry leading conferences and trade shows for attracting further clients. Having a booth is not considered a necessity for every major trade fair but an active presence is critical to establish a minimum level of relationships and/or maintaining previous connections. Having already established contracts with large partners has helped the firm to gain access to various other actors in the industry such as agents, consultants and other companies that offer gaming solutions. The network density of Betware is a combination of few strong ties with specific firms and many loose ties throughout the industry.

## **5.2 GreenQloud**

The information in the following chapter is based a semi-structured interview with Tryggvi Lárusson (Lárusson, 2013).

### **5.2.1 Background**

The representative from GreenQloud was Tryggvi Lárusson, the company's co-founder and current chief technical officer (CTO). Lárusson has been involved in decision making at all levels of the firm's internationalization process, including business travels, negotiations with foreign clients and attending conventions on the behalf of GreenQloud. He has prior experience of international projects from entrepreneurial work as well as working and studying software engineering in Stockholm.

GreenQloud was officially established in 2010, although the idea for the company first surfaced in 2008. The company offers cloud computing services, mainly web hosting and data centers. The green energy that the company uses has given it great amount of free publicity and a unique status in a highly competitive environment that includes a vast number of small companies offering a similar product. More firms are becoming concerned about their carbon emissions as the IT industry exceeds 2% of the world's greenhouse gas emissions.

GreenQloud has direct operations in Iceland, the Netherlands, and Brazil with approximately 30 people employed. The Netherlands office consists of two sales representatives while the office in Brazil consists of a development team that conducts specific technical operations and is not focused on sales. Part of the company's data-centers is located in Seattle, USA but no GreenQloud employees are positioned there.

## 5.2.2 International market activities

### 5.2.2.1 Market selection – mode of entry

GreenQloud's principal markets are the Netherlands and areas on the east coast of the US. Since 2010 GreenQloud has worked with Dutch company *Surfnet* where it has set up services in a joint venture partnership. GreenQloud has also set up a sales office in Amsterdam for further services to Dutch clients.

GreenQloud's market entry to the US is based on data storage services to a number of separate clients. These sales have been established by e-commerce, advertisements and promotions mainly through online media along with attending industry trade shows.

**Table 3 GreenQloud's foreign market selection and entry methods**

| Year | Foreign country entry | Method of market entry |
|------|-----------------------|------------------------|
| 2010 | Netherlands           | Strategic Alliance     |
| 2010 | USA                   | Direct export          |

### 5.2.2.2 Internationalization process

Since their inception in 2010 GreenQloud's strategic plan has been focused on selling their products and services to international markets. GreenQloud has made several sales to Icelandic companies but they are not seen as highly important for the company's growth. The company's view of the domestic market is that it can be useful as a test market for new products and gaining general business experience. Certain projects are easy to initiate start off in the Icelandic market to test their quality, and user feedback on new products is straightforward. Access to customers in Iceland is easy and direct communication simple but these conveniences do not make up for the limited size of the domestic market.

### **5.2.2.3 Market knowledge and increased commitment**

GreenQloud's market knowledge has increased greatly in the short space of time it has been operating, both regarding emerging markets and product improvement. Customer feedback has had significant influences for the firm's learning and product development. User issues that were not foreseen in the beginning have now been clarified. GreenQloud has increased its commitment to the Dutch market by setting up a sales office in Amsterdam. The company is on a gradual move from low-commitment to high-commitment.

### **5.2.2.4 Geographical or psychic influences**

The initial markets GreenQloud considered entering were geographically close. The targeted markets included the Nordic countries, Germany, the UK, the Netherlands and the east coast area of the US. This was mainly due to the market niche for their product in these regions. The geographical closeness of these markets was conveniently coincidental rather than strategic as they were identified as being most likely to have potential clients. GreenQloud has not experienced any negative reactions due to the nationality of the company nor have any issues related to psychic difficulties been realised.

## **5.2.3 Network influences on international development**

### **5.2.3.1 Strategy or network influence**

The entry to the US market was a strategic move on GreenQloud's behalf. The potential client base in the US is enormous, so concentrating on particular market areas is seen as the logical step given the company's current resources.

### **5.2.3.2 Active – passive market selection**

GreenQloud has been both active and passive in its search for foreign market entries. Their entry to the Netherlands was a passive one as the relationship initiative came from Surfnnet. In its entry to the US market GreenQloud was actively searching for new clients and business opportunities. The market strategy in the US has been through trade fairs and building up reputation and network connections.

### **5.2.3.3 Influences of network relationships**

All of the foreign market entries GreenQloud has accomplished have been facilitated through formal relationships. The company has built relationships with firms in the IT sector both in Iceland and abroad that are interested in distributing its product under different brand names.

These formal relationships are still being developed and are likely to have greater importance in future expansion of GreenQloud.

GreenQloud has not used any informal relationships with friends or family members to create new business opportunities. GreenQloud has an office in Brazil which was established due to the family connections of Lárusson's co-founder. The Brazilian hub handles software development projects and is not used for business purposes.

No intermediaries, NGOs or governmental agencies have played a part in promoting GreenQloud or establishing new business relationships. Lárusson's co-founder attended a foreign market sales seminar provided by Promote Iceland but it has not had any major significance for the company's internationalization. GreenQloud has applied for grants provided by governmental agencies and received funding for development projects. The company has taken advantage of a tax rebate for development costs which turned out to be crucial during the firm's start-up stages.

Participating in conventions has been an essential factor for building up connections in the US market. GreenQloud has established bonds to other companies in the same sector, with new clients, and with members of the press.

#### **5.2.3.4 Influences of focal network relationship**

GreenQloud's major client relationship is with the Dutch company Surfnets, which operates the national research and education computer networks for the Netherlands. Surfnets has had a significant influence throughout GreenQloud's entry into the Dutch market and help with the entry method. The relationship has not promoted GreenQloud to other markets than the Dutch one, neither directly or indirectly.

The initial interest came from Surfnets which showed interest in GreenQloud's products and the two have since moved into further co-operation. Following discussions between the two companies, GreenQloud was invited to carry out a trial assignment. This evolved into other projects related to Surfnets and their partner companies, mainly universities and hospitals across the Netherlands.

Surfnets has promoted GreenQloud's services to a network of universities in the Netherlands which has facilitated further sales for GreenQloud. The focus of Surfnets is not selling GreenQloud's service but it has assisted with the distribution to new buyers in the Netherlands. A large portion of GreenQloud's work is exclusively for Surfnets and since Surfnets is GreenQloud's most important client its requests usually take priority over other projects. This implies that Surfnets has great influence on decision making within GreenQloud.

Regular communications tend to be on weekly basis while specific projects normally result in daily interactions.

The relationship has changed somewhat since it started. Surfnet has realised that GreenQloud is capable of implementing the tasks they have been given and GreenQloud knows that they fulfil their contracts, which has built mutual trust. In the beginning of the partnership, GreenQloud was more willing to undertake additional work without payment or at a reduced price to strengthen the relationship with Surfnet. Now GreenQloud is able to charge full value for its products and services so in that sense GreenQloud has gained more weight in the relationship.

#### **5.2.3.5 Network density**

GreenQloud has a wide network of loose relationships mainly through the company's CEO Bala Kamallakharan who possesses vast international business experience and is also the founder of the *Startup Iceland* conference. His network has helped significantly in promoting the company.

### **5.3 Kvikna**

The information in the following chapter is based on a semi-structured interview with Garðar Þorvarðsson (Thorvardsson, 2013).

#### **5.3.1 Background**

The representative from Kvikna was Garðar Þorvarðsson, the company's CEO and co-founder. Þorvarðsson has a vast experience of working in an international environment as all the companies he has been involved with have had international engagements. Þorvarðsson previous employment includes; Taugagreining hf (Nervus Ltd) and the American company Vicer Healthcare (that had similar products to Kvikna), as well as international investment analysis for Askar Capital.

Kvikna was established at the end of the year 2008 after a short gestation. It specializes in three types of operations. One is the advanced software development services for clients which include implementing complicated algorithms, storing information and presenting the software in a user centered interface. A second is a product Kvikna has developed that offers medical and technical solutions in neurological examinations. A third is software development for 3d image processing. Kvikna is involved in two main partnerships; with the



Norwegian company Norbit Group and the American company LifeLines Neurodiagnostic Systems Inc (LLNSI). Kvikna develops software for hardware which Norbit Group manufactures while LLNSI acts as an agent in the USA for Kvikna's product.

Kvikna has all of its direct operations located in Iceland, as are the company's 14 employees.

## **5.3.2 International market activities**

### **5.3.2.1 Market selection – mode of entry**

Kvikna started its international operations by entering the Norwegian market through indirect exporting. The Norwegian market was especially attractive because of the strong and stable currency and economic environment not to mention the high demand for the software services Kvikna was able to offer.

The software Kvikna develops for neurological examination has been used by a firm in the USA that concentrates on research in epilepsy. Kvikna has recently acquired an operational license from the US Food and Drug Administration for their neurological project that enables greater product distribution across the US market. The method of entry has been through indirect sales as the US firm handles all further independent marketing and distribution.

**Table 4 Kvikna's foreign market selection and entry methods**

| <b>Year</b> | <b>Foreign country entry</b> | <b>Method of market entry</b> |
|-------------|------------------------------|-------------------------------|
| <b>2010</b> | Norway                       | Indirect export               |
| <b>2011</b> | USA                          | Agent                         |

### **5.3.2.2 Internationalization process**

When Kvikna started its operations the specific aim was to target the Norwegian market for their software development projects through the company's network connections. Reaching international markets has been the company's target since it began. The Icelandic market is considered of little importance and has never been specifically targeted. Kvikna sold its services to number of firms domestically but Iceland has not been viewed as a feasible test market for products and services, or building up business experience. Domestic sales and services constitute around 5% of the total annual earnings.

### **5.3.2.3 Market knowledge and increased commitment**

The company has not gained considerable new knowledge from their international trade in addition to what was already acquired from previous experience. The selection of Norway as a market to enter was not the result of market analysis but was built on already established knowledge the company's founders had gained from prior work experience. The company's client search and market commitment has been fairly stable since the early connections were made which indicates low commitment to international markets. Currently Kvikna is building up its marketing and sales infrastructure in order to accelerate its growth rate. The plan is to expand through indirect exporting and the use of agents with marketing targets set on USA, UK and other Nordic countries.

### **5.3.2.4 Geographical or psychic influences**

The only cultural difference Kvikna has noticed was that the Norwegian clients had a higher level of confidence in their solutions initially, while the American clients were more doubtful that a small company from Iceland could offer a suitable solution. This was seen only as a short term problem though and otherwise Kvikna has not experienced any significant impact of psychic differences in their international projects. Geographical issues have not had any effects on decisions.

## **5.3.3 Network influences on international development**

### **5.3.3.1 Strategy or network influence**

Both the entry to Norway and the US are considered to be strategic where the company went to the markets in the light of market niches for its products and services. The method of entry has been adapted to the needs of their partnerships.

### **5.3.3.2 Active – passive market selection**

When Kvikna started it had a more active approach to finding clients. As the first clients were secured the approach has changed to more of a passive conduct. Their market entries to Norway and the US were a result of an active search for clients. The partnerships provide the company with most of its revenues and has stretched its abilities to add another major client. Instead Kvikna has moved to a passive market approach where the company tries to choose particular projects. Potential clients are now being searched for and the firm expects to start actively establishing new relationships in the Nordic market in 2014.

### **5.3.3.3 Influences of network relationships**

Kvikna has entered foreign markets mainly through existing business relationships from previous work experiences of its founders. Most of the new foreign projects are the result of reacting to requirements from other businesses. Kvikna has participated in several trade shows although these have not led directly to new business opportunities. However, the company does see a value in these fairs as a means of interacting with people within the same trade.

Kvikna has not used any types of informal relationships through friends or family members to generate new business clients or selecting new markets.

No governmental or non-governmental agencies or agents have had direct involvement in setting up new business clients for Kvikna or their selection of new markets. The company has had modest support from Promote Iceland by gaining access to databases as well as receiving grants for project developments and government tax refunds.

### **5.3.3.4 Influences of focal network relationship**

Kvikna has two major partnerships with Norbit Group and LLNSI. These relationships have not gone through any drastic changes and are considered to be stable. Both of these companies have a strong influence on decision making within Kvikna as well as on product development. Contact between Kvikna and these partners tend to be on a daily basis. Norbit Group has had a direct influence on finding Kvikna other clients in Norway. Kvikna exports indirectly to LLNSI which is responsible for further distributions to the US market.

### **5.3.3.5 Network density**

The network density of Kvikna can be described as limited to few strong ties. The company has good connections with firms in the neurological industry but aside from that it has not placed a specific emphasis on building up its network associations.

## **5.4 MainManager**

The information in the following chapter is based on a semi-structured interview with Peter Munk Schade (Schade, 2013)

### **5.4.1 Background**

The representative from MainManager was Peter Munk Schade the company's CMO. Schade works from MainManager's office in Denmark and has been employed by MainManager for

five years. Previously he worked for a consultant company of which MainManager was one of the clients, as well as marketing work in retail.

MainManager, formerly known as ICEconsult, was established in 1994 by Gunnlaugur B. Hjartarson who had previously worked in Scandinavia on solutions for developing electricity maintenance systems. He used his experience to create a more complete software solution that has now reached volume 11,1.

MainManager's product is a Computer Aided Facilities Management software (CAFM) used for optimising operations and maintenance in building complexes. The software is useful beneficial for large organizations to reduce operational costs and increase efficiency of working practices, for example by improving cost awareness between departments in energy consumption or managing building maintenance and work orders. Each client needs a high level of customisation so the company can only perform a limited number of services at a time.

MainManager has operations in Iceland, Denmark and Norway with around 40 employees working directly under the company. Their client base is a compound of both international and domestic municipalities, building associations and other large organizations that need to manage a wide range of facilities.

## 5.4.2 International market activities

### 5.4.2.1 Market selection – mode of entry

In 1999 the first major foreign contract was settled when the Danish postal services, *Post Danmark*, bought MainManager's solutions. Entering the Norwegian market came as a result of a tender MainManager took part in. The entries to the UK and Australia were based on the use of agents.

**Table 5 MainManager market selection and entry methods**

| Year | Foreign country entered | Method of market entry |
|------|-------------------------|------------------------|
| 1999 | Denmark                 | Export                 |
| 2007 | UK                      | Agent                  |
| 2012 | Norway                  | Export                 |
| 2013 | Australia               | Agent                  |

#### **5.4.2.2 Internationalization process**

MainManager's marketing operations were mainly focused on the Icelandic market during the first five years of operations. During this period the company built up broad experience in the field of facility management. At the time the company felt confidence in its product and that it had gained enough experience domestically to take on such a challenge. When MainManager started its operations the market was still coming to terms with facility management as a discipline. Entering new countries with the product was a limited option as the market was still in its developing stages. Increased recognition for facility management as an exclusive profession has made organizations more aware and as a result opened up new markets.

#### **5.4.2.3 Market knowledge and increased commitment**

The company has reached a certain stability and has to some degree changed its marketing behaviour during its nearly 20 years of operation. Gaining new clients in this market is a slow and incremental process where industry recognition is highly dependent on reputation for previous project deliveries. In the past the domestic market was the main focus where MainManager had to push its solutions to its target segments. Now the firm can act more patiently as it has better knowledge of where to search for clients. The company's success has enabled it to move to high-commitment to its markets by having a subsidiary in Denmark and a full time employee in Norway.

#### **5.4.2.4 Geographical or psychic influences**

MainManager has mostly targeted markets in Scandinavia and the UK. The company's recent project in Australia was doubted at first due to the long distance and difficulties in providing necessary services. This uncertainty has been mostly eliminated and MainManager has gained encouragement to start searching for clients in the South-East Asia region as well.

MainManager's geographical location is not considered to be an obstacle although the board has considered moving its headquarters to a more central European location. The idea is to get closer to the potential markets but this is still a debatable issue within the company. Apart from fixed expenses MainManager's single biggest cost lies in participating and preparing for project tenders which makes travel costs less of an issue. The location of the firm does not have much effect on winning these tenders. Psychic influences have not been detected as the company has mainly operated in markets it is familiar with.

### **5.4.3 Network influences on international development**

#### **5.4.3.1 Strategy or network influence**

MainManager has both new country markets for strategic reasons where there is demand for its product and through network connections. Entries to Norway and Denmark have been made for done by strategic reasons while the UK market and forthcoming entry to Australia have been accelerated by network influences.

#### **5.4.3.2 Active – passive market selection**

MainManager has had a mixture of active and passive market selection or more or less “grabbed opportunities” when they are available. The company has actively sought out the most important trade shows in its business sector, approached numerous companies both in Iceland and other Nordic countries to offer their solutions, and participated in open tenders. MainManager has also been passive in its market entries. Many clients have solicited MainManager’s products (like the recent example from Australia indicates) and the company has received invitations to participate in closed tenders.

#### **5.4.3.3 Influences of network relationships**

Formal relationships have had an indirect effect on MainManager entering new markets. The company has gained new clients through current ones within the same country and elsewhere, but it has not followed clients across borders.

MainManager has not used any informal relationships with friends or family members to create new business opportunities. It is not considered a feasible option to go through such connections.

MainManager has used various types of mediated relationships in its search for new clients. The company has paid commissions to independent agents and independent organizations for client references and match making. Trade shows have also been useful for getting indirect suggestions for potential clients for MainManager’s product.

The governmental assistance MainManager has received is mainly through the Icelandic embassy support for setting up operations in Australia and the South-East Asia region where the company has an interest in establishing itself. MainManager has also had representatives at “speed-dating” conferences provided by Promote Iceland where companies look for potential “pairings” to implement further growth. MainManager has received research grants from the public sector both through Icelandic and Nordic funding. The company has also benefited from tax subsidies from the Icelandic government.

#### **5.4.3.4 Influences of focal network relationship**

Previously Danske Post (The Danish Postal Service) was MainManager's chief client but that partnership is no longer operating. Due to the association with Danske Post, MainManager managed to gain a foothold in the Danish market and create new client relationships. The initiation came from Danske Post's facility manager at the time who later became MainManager's agent in Denmark and is now a full time employee with MainManager's Danish subsidiary. During the partnership Danske Post had a strong influence on decision making within MainManager and assisted with developing the software solution further.

MainManager has recently established a relationship with Norwegian organization Statsbygg which is the key advisor to the Norwegian government's construction and property affairs.

The partnership with Statsbygg is viewed as the key for further company growth.

Statsbygg is the biggest facility management organization in Norway. It runs over 2000 buildings and has distributed MainManager's solution to over 70 municipalities across Norway. The relationship is still developing. If MainManager's solutions turn out to be successful it is felt that the company should be able to attract more clients of a similar stature.

MainManager has a full time employee working specifically within Statsbygg headquarters in Norway. Communications are accordingly on a daily basis. Statsbygg does not have a significant influence on decision making within MainManager as the firm has reached a level of stability.

#### **5.4.3.5 Network density**

MainManager's network can be described as a set of many loose ties across the industry. The network relations have offered the company information on where to find new markets improve its product, and directed it to new clients. For example, the connection with Statsbygg came through a notification from a partner company in France that Statsbygg was looking for a new facility management program. This prompted MainManager to initiate contact with Statsbygg which is now the company's chief client.

### **5.5 Odin Software**

The following chapter is based on information conducted in a semi-structured interview with Ásgeir Bjarnason (Bjarnason, 2013).

### **5.5.1 Background**

The representative from Odin Software was Ásgeir Bjarnason the company's CEO. His work experience in the IT sector reaches back to 1986 and includes domestic work and ownership and work. He was involved in international marketing and managing projects for Oracle in Europe, United States, and Iceland for over 10 years. Bjarnason has been with Odin Software since early 2009.

Odin Software is built on a solution that was created in 2002 by founder and CEO Árni Gunnar Ragnarsson. In late 2008 fundamental changes were made as Ragnarsson stopped selling the product exclusively to Ferðaskrifstofa Íslands (Iceland Tourist Bureau) (FI) and Odin Software Ltd was established.

The first edition of the software was designed specifically for travel agencies that sold low cost trips online. A merger of three local travel agencies into FI saw Odin Software redevelop its product into a solution for bookings and backend processes. The 2.0 version of the software offered the possibility to book the services of a number of tourism companies such as flights, car rentals, and hotels within one system. The software offered reseller travel agencies and vendors a simple platform to offer all products and services in a central application. In addition to the software package the company offers web design and advisory services.

Odin Software works solely with companies in the tourism industry and regards itself as part of that industry and not the software industry. Bjarnason feels that this approach gives the firm a level of acceptance within in the tourism industry. It is not seen as an outsider and is, for example, a participant of trade shows in the tourism industry rather than the software industry. The company only has direct operations in Iceland with five full time employees.

### **5.5.2 International market activities**

#### **5.5.2.1 Market entries – mode of entry**

Odin Software has succeeded in selling its product to Portugal, Denmark, UK, and USA but only acquired single sales in each country. Odin Software experimented with using a distribution agent in the UK but aside from that, markets have been entered by selling directly to clients. Most of the sales have been coincidental, by references from their major partnership with FI travel agency. The only sale Odin Software made through an agent was in the UK.



**Table 6 Odin Software's market selection and entry methods**

| Year | Foreign country entered | Method of market entry |
|------|-------------------------|------------------------|
| 2010 | Portugal                | Direct export          |
| 2010 | Denmark                 | Direct export          |
| 2010 | UK                      | Agent                  |
| 2011 | USA                     | Direct export          |

### **5.5.2.2 Internationalization process**

Odin Software started as a conventional INV as it targeted international markets right from its establishment. The Icelandic market was seen as not having a sufficient number of potential clients with regard to the size of its software product. Hence the whole marketing work was focused on foreign clients by having all promotional material, such as the company's website, and software platform, in English.

Despite the great effort put into growing internationally Odin Software only made limited progress. The company has realised that the international marketing investments have not yielded a sufficient return. The financial capabilities have become strained and the company is accordingly withdrawing its international expansion efforts and putting more effort in building up its customer base domestically. It is Bjarnason's opinion that the company was over-enthusiastic about moving the product to foreign markets. At the same time it neglected the needs of the domestic clients that had provided the main source of income. A shortage of new investors has also redirected the attention to the domestic market and resulted in a more incremental marketing strategy. As a consequence, Odin Software has been transformed from a type of INV into a company that follows the incremental process.

### **5.5.2.3 Market knowledge and increased commitment**

Odin Software started its foreign market expansion by using an agent for the UK market and exporting directly to other clients. The company has subsequently turned its commitments inwards with increased market knowledge, and decreased their foreign market commitment as it has gained experience. The company still maintains determination of re-entering the international market arena once established domestically. After the lack of success in the initial foreign market movements the company has shifted its client search to the domestic market.. Even though the company was not successful at the first international attempt it is still determined to expand abroad. The next attempt for entering foreign markets is expected

to be more concentrated with aim of targeting specific markets through the company's partnerships.

#### **5.5.2.4 Geographical and psychic influences**

Odin Software has received several requests from companies in geographically and psychically distant areas such as the Balkan countries, Russia, and the Caribbean. The company has been reluctant in committing to these areas, not because of psychic influences but more due to high start-up costs with travelling and consequently limited prospects of financial returns.

It is not felt that the nationality of the company has had any positive or negative influences on its international success. Bjarnason claims that he has experienced more cultural differences among the software industry and travelling industry than any country-specific contrasts.

### **5.5.3 Network influences on international development**

#### **5.5.3.1 Strategy or network influence**

Despite being motivated to sell the product to international markets, the company has not performed a market analysis strategy to seek out where the product's market niche is to be found. Connecting with buyers that are willing to pay the asking price has been the company's main concern, not entering specifically decided markets. New clients have mainly been gained through network influences by references from current clients. Odin Software has since 2008 worked closely with the FI travel agency which has also referred clients to them. This indicates that the firm has entered new markets based on networks rather than market niche.

#### **5.5.3.2 Active – passive market selection**

The company has made several efforts to attain new clients abroad but with limited result. New foreign client relationships have almost entirely been coincidental where Odin Software has reacted to outside demand. This has directed Odin Software to markets where they had no direct previous connections.

#### **5.5.3.3 Influences of network relationships**

Most of Odin Software's international clients have merged through formal business relationships. The clients in the UK came through a former agent that worked for the

company and their client relationships in Denmark, Portugal and Sweden went through references from their focal client, FI.

Odin Software has not used any types of informal relationships through friends or family members to generate new business clients or selecting new markets.

No governmental or non-governmental organizational intermediaries have had direct involvement in setting up new business clients for Odin Software or their selection of new markets. The company has attended trade shows in the travel industry that were provided by Promote Iceland. This has helped them to establish a network position within the domestic travel industry but has not had a direct influence on establishing new clients abroad. The company has applied for several governmental grants without success.

#### **5.5.3.4 Influences of focal network relationship**

Odin Software has had its major partnership with FI for the past five years. Their relationship with FI can be described as a formal one that has reached stability with regular contact between the two. FI has had a strong influence on decision making within Odin Software, especially during its first year of operation when FI was the chief client. The relationship has developed now that FI is no longer the sole client of Odin Software and the software itself no longer going through the initial development stages.

Several new clients have been referred to Odin Software by FI. When closing new contracts Odin Software has pointed clients to FI for further recommendations. FI has not had direct influences on the foreign market selection or market entry methods of Odin Software but they have lent a helping hand in mediating new business relations with their own clients.

The low cost airline Wow air is now part of the Odin Software's clientele. It is hoped that this relationship will produce future opportunities particularly in the Canadian market.

#### **5.5.3.5 Network density**

The Odin Software network is a combination of a few strong ties with important clients and many loose ties throughout the Icelandic tourism industry that the company has managed to institute. These loose ties tend to be shallow with limited chances of creating new business opportunities, and information sharing is not as general as required. The stronger relationships are more prolific and have delivered a number of new clients, as previously mentioned.

## 6 Cross case analysis and discussion of findings

### 6.1 Background

Table 7 Overview of case-firm background information

| Company                   | Betware               | GreenQloud      | Kvikna            | MainManager         | Odin Software    |
|---------------------------|-----------------------|-----------------|-------------------|---------------------|------------------|
| Established               | 1998                  | 2008            | 2008              | 1994                | 2008             |
| Year of Int. market entry | 2001                  | 2009            | 2009              | 1999                | 2009             |
| Number of employees       | 140                   | 30              | 14                | 40                  | 5                |
| Interviewee position      | CEO & CMO             | CTO             | CEO               | CMO                 | CEO              |
| Software sector           | Online lottery gaming | Cloud computing | Neurology devices | Facility management | Tourism industry |

The case-firms of the research were selected according to the criteria explained in chapter 4.5.3. They were established between 1994 and 2008, employed between 5 and 140 employees, and belonged to different software sectors. The respondents all came from top management positions in each company and had been directly involved in the internationalization process of each firm.

### 6.2 International market activities

#### 6.2.1 Foreign market entries

As noted in chapter **Error! Reference source not found.** in the literature review, the target market and entry mode tend to be two aspects of the same decision (Koch, 2001b), and software firms are more focused on generating sales than the specific methods of entry (Moen et al., 2004). Bell (1995) pointed out that software firms have a habit of changing their methods throughout their internationalization process and the method tended to be linked with the software product. Respondents were presented with a list of entry methods and asked to identify which one was applied in each market entry. The responses tended to be uncertain, the selection was inconsistent with the explanations of their actual methods, or the definitions did not seem to be relevant to software firms. The method of entry is therefore given less weight in the case-study analysis than intended in the research questions.

**Table 8 Market presence of the case-firms**

| Company                     | Betware     | GreenCloud  | Kvikna      | MainManager | Odin Software |
|-----------------------------|-------------|-------------|-------------|-------------|---------------|
| <b>Int. market presence</b> | 3 countries | 2 countries | 2 countries | 3 countries | 4 countries   |

The market selection was mainly opportunistic although components of the Uppsala model and the network model also came into play. The case-firms were more likely to have entered geographically close markets, including the Nordic countries, the UK and the Netherlands. Interestingly enough, the case-firms only went for markets like the US or Germany in limited force. This contradicts the INV theory that predicts firms to enter leading markets where their demand for their products is significant. Relationships also had a great influence on market selection, with the case-firms using their connections as an important resource for further advancement.

Market entry methods were primarily based on contract agreements where the case-firms have usually established a product development arrangement with foreign partner companies. These arrangements offered the case-firms financial backing for further product and company development which set up unrestrictive conditions for them to seek further market opportunities. This agrees with the results from the research of Coviello and Munro (1997) where software firms used “loose piggy-backing” arrangements to enter new markets.

## 6.2.2 Internationalization process

**Table 9 Internationalization process of the case-firms**

| Company                           | Betware     | GreenCloud | Kvikna | MainManager | Odin Software |
|-----------------------------------|-------------|------------|--------|-------------|---------------|
| <b>Incremental process or INV</b> | Incremental | INV        | INV    | Incremental | INV           |

The Uppsala model predicts that companies start establishing themselves domestically and then move to nearby markets (Johanson & Vahlne, 1977). Both Betware and MainManager had a clear notion of following the incremental pattern of the Uppsala model, by gaining experience through clients in the Icelandic market and then taking on international assignments in Denmark. The more recently established case-firms (GreenCloud, Kvikna and Odin Software) went after international markets right from their beginning with only a limited interest in the domestic market. This pattern supports the INV theory (Oviatt & McDougall,

1994). GreenQloud established a partnership with a Dutch company, and Kvikna went for the high purchasing power in Norway. Odin Software offered an interesting angle, as the company rushed to international markets but had to retreat to the domestic market and has now shifted its marketing plans towards a pattern that resembles an incremental process.

Jones (1999) states that the many variables affecting the internationalization process makes each case a unique story. The same could be argued for the case-firms at hand who all entered foreign markets for different reasons. Betware and MainManager both have components from the Uppsala model (Johanson & Vahlne, 1977) in their internationalization process but changes in markets and available resources have enabled more newly established ventures to internationalize with more pace than was the optional during the formative years of those two firms (Oviatt & McDougall, 1994).

Oviatt and McDougall (1994) remarked that new ventures are often formed because entrepreneurs with previous international experience can link resources and meet the markets' demand. This was precisely what happened in the case of Kvikna. The company's founders had previous experience from working in the neurological technology sector and the financial sector. As a result Kvikna was formed. The company took advantage of shifts in the ISK exchange rate in 2008 and headed straight to the Norwegian market through the founders' network connections.

### 6.2.3 Market knowledge and increased commitment

Table 10 Market knowledge and further commitment

| Company           | Betware         | GreenQloud      | Kvikna         | MainManager     | Odin Software  |
|-------------------|-----------------|-----------------|----------------|-----------------|----------------|
| Market commitment | High-commitment | High-commitment | Low-commitment | High-commitment | Low-commitment |

Another component of the Uppsala model (Johanson & Vahlne, 1977) is the prediction that increased experiential knowledge leads to further market commitment. Firms are expected to move from low-commitment through exporting and agents to high-commitment using subsidiaries and local manufacturing. This was contradicted by Bell (1995) and Lindqvist (1991) who concluded that software firms were more influenced by client relationships than market commitments. Moen et al. (2004) maintained that software firms used available options rather than going through gradual learning stages and Andersen (1993) argues that the Uppsala model focuses only on experience.

Three of the case-firms, Betware, GreenQloud, and MainManager, have established subsidiaries abroad to have a closer presence with their clients, and Betware and GreenQloud perform part of their programming work in their foreign hubs. Betware and MainManager have vast experience in international trade but GreenQloud has had to react to instant success in the Netherlands. Because of inadequate success Odin Software has retreated from foreign market commitments and is now focusing on the domestic market, while Kvikna has showed contentment with its commitments after the initial foreign market entries. Greater market knowledge along with success factors has consequently led to further market commitments.

## 6.2.4 Geographical and psychic influences

Table 11 Geographical, psychic and nationality influences on foreign market selection

| Company                        | Betware  | GreenQloud | Kvikna | MainManager | Odin Software |
|--------------------------------|----------|------------|--------|-------------|---------------|
| <b>Geographical influences</b> | Moderate | Slight     | None   | Slight      | Strong        |
| <b>Psychic influences</b>      | Slight   | None       | None   | None        | None          |
| <b>Nationality influences</b>  | None     | None       | Slight | None        | None          |

The Uppsala model (Johanson & Vahlne, 1977) predicts that firms are influenced by geographical and psychic influences that lead them to markets that are distantly close and/or have similar business procedures. The network model (Johanson & Mattsson, 1988) does not consider these factors to have an important significance as it advocates that firms enter markets based on their relationships. The INV theory (Oviatt & McDougall, 1994) points out that the homogenisation of markets, and cheaper communication technology and transportation have enabled smaller organisations to take advantage of access to global resources

Most of the respondents would not admit to being particularly influenced by geographical or psychic factors. All showed an indication that they were willing to go to markets where there was a genuine likelihood of reaching profits. For instance both MainManager and Betware, the more established case-firms, had made attempts to access the geographically distant Australian market. Odin Software has declined offers from geographically and psychically distant markets due to a lack of foreseeable profits.

Betware and MainManager have contemplated moving their sales offices to a central European location, so they could be more responsive to client needs and GreenQloud has an office in Amsterdam that serves their Dutch customers.

None of the case-firms had made an active attempt at entering psychically distant markets and almost all of their markets can be considered both geographically and psychically close. The exception is MainManager that has responded to an inquiry from Australia and is now starting to search for clients in the South-East Asia region. GreenQloud has a program development office in Brazil, yet it does not utilize it for business opportunities.

However, other factors might be of more influence. Bell (1995) noted that software firms search for markets based on sectorial reasons rather than geographical limitations. GreenQloud mentioned that the US market is where the growth opportunities are in its sector. Betware's concern is with gambling regulations which are often more restrictive in many "none-westernized" cultures. This suggests that the correct circumstances where companies can develop are the case-firms' main concern and that they are willing to go where there is market potential.

Four of the case-firms all started by entering close or a fairly close markets which supports the notion of the Uppsala model (Johanson & Vahlne, 1977) that firms will start expansion to a psychically close market.. Betware and MainManager started in Denmark, Kvikna went to Norway, and GreenQloud to the Netherlands. Odin Software first foreign sale was to Portugal which was issued through an external inquiry.

As the study focuses on Icelandic software firms the issue of nationality was tested. None of the case-firms had noticed any special positive or negative influences due to their country origin. Both Betware and Kvikna had experienced slight doubts over their capabilities but nothing of any major significance.

## 6.3 Network influences on international activity

### 6.3.1 Strategy or network influence

**Table 12 Influence of network relationships on market selection**

| Company                     | Betware   | GreenQloud | Kvikna    | MainManager | Odin Software |
|-----------------------------|-----------|------------|-----------|-------------|---------------|
| <b>Strategic or network</b> | Strategic | Both       | Strategic | Strategic   | Network       |



Four out of the five case-firms have gone to international markets because of a market niche for their products and/or services. Only Odin Software has not entered a market for a strategic reason but through network relationships, and GreenQloud has entered its markets based on both factors. This supports the view of the INV theory (Oviatt & McDougall, 1994) that firms go to markets where there is niche for their products, rather than the idea of the network model (Johanson & Mattsson, 1988) which suggests that markets are chosen based on existing relationships.

### 6.3.2 Active – passive market selection

Johanson and Mattson (1988) claim that firms start their internationalization by creating relationships with firms that belong to networks in other countries. Albaum (2004) points out that the relationship initiative is not always definite. Sometimes new relationships go through a period of speculation before they evolve into business transactions.

**Table 13 Active or passive market approach**

| Company         | Betware | GreenQloud | Kvikna | MainManager | Odin Software |
|-----------------|---------|------------|--------|-------------|---------------|
| Active –passive | Active  | Both       | Both   | Both        | Both          |

All of the case-firms have at some point actively searched for new clients abroad. Three of the case-firms began their internationalization process by actively seeking out new clients while both MainManager and GreenQloud were approached for their initial expansions. Despite the lack of success, Odin Software has made the effort of actively seeking clients. One respondent described his company’s approach as; “more or less grabbing opportunities whenever they are available”<sup>1</sup>. Not only does this indicate an active search for clients, but also that software firms will take opportunities as they come along. Consequently, the market entries become a combination of both active and passive approaches. Unlike the studies of Bell (1995), Moen et al. (2004), or Coviello and Munro (1997), which indicate that software firms are likely to passively follow their relationships, the case-firms in this study have taken the initiative themselves to pursue clients in new markets.

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<sup>1</sup> Identity withheld.

### 6.3.3 Influence of different network relationships

Table 14 Influence of different relationships on foreign market selection

| Company                       | Betware  | GreenQloud | Kvikna | MainManager | Odin Software |
|-------------------------------|----------|------------|--------|-------------|---------------|
| <b>Formal relationships</b>   | Indirect | Direct     | Direct | Indirect    | Direct        |
| <b>Informal relationships</b> | None     | None       | None   | None        | None          |
| <b>Mediated relationships</b> | Indirect | None       | None   | Direct      | None          |

The influences of different types of relationships on the foreign market entries were divided into formal, informal and intermediated relationships. Their influence on the case-firms' foreign market selection was assessed as being; none, direct, indirect, or both.

Formal relationships have had a predominant influence on the foreign market entries of all the five case-firms. Four of the case firms used existing business relationships for references or referrals to new clients while Kvikna's founders used business relationships from a previous profession. These relationships were not always grounded on previous exchanges but had an element of business activities between actors. The case-firms had either realised a market opportunity and then used their formal network connections to assist with following through agreements, or been referred to potential clients by current ones.

Although all of the case-firms acknowledged that networking was important for their international success, none of them admitted to using their personal relationships with friends or family for entering new markets. GreenQloud has started a project development office in Brazil through family connections but it is not used for gaining new clients.

The case-firms used intermediated relationships only to a limited volume. Betware had experimented with using independent agents without much result while MainManager had gained clients directly through the use of independent organizations that acted as mediators for new client relations. The support of governmental agencies such as Promote Iceland or embassy assistance was used to some degree by all of the case-firms. However, interactions with these agencies had not had a decisive influence on the case-firms' market choices or international progress.

### 6.3.4 Influences of focal relationship

Table 15 Comparison on influences of focal partnership

| Company                             | Betware          | GreenQloud       | Kvikna                                 | MainManager                              | Odin Software      |
|-------------------------------------|------------------|------------------|--|--|--------------------|
| <b>Focal partner</b>                | Danske Spil      | Surfnet          | Norbit Group /<br>LLNSI                | Statsbygg /<br>Danske Post               | FI travel          |
| <b>Type of relationship</b>         | Formal           | Formal           | Formal                                 | Formal                                   | Formal             |
| <b>Communication frequency</b>      | Weekly           | Daily            | Daily / Daily                          | Daily /n/a <sup>2</sup>                  | Weekly             |
| <b>Relationship development</b>     | Developed        | Developed        | Stable/Stable                          | Developing /<br>n/a <sup>3</sup>         | Developed          |
| <b>Influence on decision making</b> | Slight influence | Strong influence | Strong influence /<br>strong influence | Moderate influence /<br>strong influence | Moderate influence |

The level of influence the focal relationships had on the case-firms was estimated as being; no influence, slight influence, moderate influence, or strong influence. Relationship development was evaluated as developing, stable, or developed, depending on the stability of the partnership. All of the relationships with the case-firms' focal partners were assessed as being formal. The case-firms had a different strength of relationships with their focal partners, often depending on how long-going the affiliation was.

Betware has worked with Danske Spil since 2001 and their relations have matured to a stable condition, where both parties know what to expect from one another. Most of the work GreenQloud and Kvikna perform is exclusively for their focal partners which can explain the strong influences they have within these firms. MainManager has only recently acquired partnership with Statsbygg which sets their relationship in the developing phase. As MainManager has reached clear company stability it is not as dependent on the partnership as the more recently established firms are and so Statsbygg influence on decision making was estimated as moderate. MainManager's former relationship with Danske Post was more influential since the Icelandic company was in a different phase in both positioning in foreign markets and product development. Odin Software evolved from within its focal partner predecessor. The formation of software was based on the needs of FI. Since further development of the software has resulted in the setup of an independent company the influence of FI has dampened to some extent.

<sup>2</sup> MainManager no longer has contact with Danske Post. The answers were not attained.

<sup>3</sup> Same as previous.

The level of control in the relationships between the case-firms and their focal partners revealed that the larger partner firm usually had more control in the early stages of the affiliation. The results of Coviello and Munro (1997) showed that firms which gained market success desired more control in their network relationships. This research indicates a similar process where the case-firms that had a long history of a company relationship reached a level of acknowledgement from their partner firms and accordingly increased their control.

**Table 16 Focal relationship influences**

| Company                                 | Betware     | GreenQloud | Kvikna                  | MainManager                | Odin Software    |
|---|-------------|------------|-------------------------|----------------------------|------------------|
| <b>Focal partner</b>                    | Danske Spil | Surfnet    | Norbit Group /<br>LLNSI | Statsbygg /<br>Danske Post | FI travel        |
| <b>Active- passive</b>                  | Active      | Passive    | Active/Active           | Active / Passive           | n/a <sup>4</sup> |
| <b>Foreign<br/>market<br/>selection</b> | Indirect    | Direct     | Direct / None           | Indirect / Direct          | Direct           |

For their focal partnerships the case-firms had a higher tendency to an active approach. As Albaum (2004) mentions, the active market selection is systematic and requires knowledge on international market information. The case-firms of this study offer software products and/or services that are linked with the products or other essentials of different firms. This often means that potential client market is limited and the product/service can only be offered to a number of companies. Software firms that have a comprehensive knowledge of their industry sector can often single out attractive foreign markets and customers within them that are suitable for their solutions. As a result, concentrating on an active market search can be more direct and effective.

None of the case-firms has followed their clients from country to country but only completed solutions for their focal clients within a single market. This can be explained by the fact that the case-firms' clients themselves were not operating in multiple markets. The suggestions of Bell (1995) that software firms often started their international movement by following their focal network relationship to new markets (client followership) did consequently not apply to any of the case firms. Only Odin Software comes close to that pattern as most of its clients have come through FI's references. Recent cooperation with Wow Air in Canada might lead to client followership, depending on Wow Air's progress.

<sup>4</sup> N/A Odin Software offers a solution that was developed within FI travel's predecessor. The active-passive approach is consequently difficult to apply.

Moen et al. (2004) stated that small firms that are moving to international markets rely on larger firms in their network when developing relationships. The case-firms all depended on references from their focal partnerships when attaining new business relationships. One of the respondents said that when negotiating with potential clients; “...we always tell them to contact them [insertion: their focal partners] and that they will give an honest opinion”.<sup>5</sup> Another respondent said that the focal partnership meant that “...other companies in the market will bother to listen to you because *these guys* are your clients”.<sup>6</sup>

As stated in the revised Uppsala model (Johanson & Vahlne, 2009), a firm that lacks a network position will suffer from being viewed as an “outsider”. When companies are entering another market they need to establish positions in a new network. Creating relationships requires a level of trust between firms where possessing a portfolio of reliable partnerships can assist with setting up new connections. The case-firms indicated that they bank on their focal partnerships for recommendations and indirect assistance. Creating new relationships in different markets can accordingly be facilitated by the existing ones. The results here are in line with the ones of Coviello and Munro (1997) who noted that market access and international reputation can be associated with the firm’s larger partner. Gaining the market’s attention and credibility is difficult in the early stages of most companies but the case firms all benefitted from the reputation of their focal relationships when approaching new clients.

### 6.3.5 Network density

This part was used to give an indication to the overall network connections of the case firms. Their networks were viewed as being constructed of a few strong relationships, dense with loose ties between actors, or a combination of loose and tied network relationships.

**Table 17 Overall network density**

| Company                | Betware     | GreenQloud | Kvikna      | MainManager | Odin Software |
|------------------------|-------------|------------|-------------|-------------|---------------|
| <b>Network density</b> | Combination | Loose ties | Strong ties | Loose ties  | Combination   |

<sup>5</sup> Identity withheld.

<sup>6</sup> Identity withheld.

Betware and Odin Software described their relationships as being a combination of the two forms. Both stated that they had special relationships with only a handful of companies that were considered to be trusted partners. In addition there was an abundance of shallow connections with various companies related to their respective industry sectors. These ties were not seen as especially useful. GreenCloud and MainManager described their network as a set of many loose ties throughout their industry sectors. Both companies had gained new clients as a result of their loose network ties and used them to gather new industry information. Kvikna was the odd one out with only few connections that supplied the company with an adequate number of assignments. This has put Kvikna in positioned where its slowed down its search for new clients and is instead focused on its existing relationships.

## 7 Conclusions

This thesis set out to research the “Network effects on the internationalization process of Icelandic Software Firms”. The research theme was framed into two research questions:

1. How does the internationalization process of Icelandic software firms reflect their choices of foreign markets and entry modes?
2. How are the choices of foreign markets and entry modes affected by network connections for Icelandic software firms?

To answer the research questions a qualitative study was designed where five Icelandic software SMEs were interviewed and their internationalization process measured in relations to their use of network relationships and how they influenced their choice of markets and methods of entry. The three theories of focus in this thesis were the Uppsala model (Johanson & Vahlne, 1977), the network model (Johanson & Mattsson, 1988) and the INV-theory (Oviatt & McDougall, 1994). Each one of them offers interesting viewpoints on firms’ internationalization process but none explain the progression of firms unaccompanied. Every single case-firm had its unique process of entering international markets which would have been difficult to define exclusively through one theory. Distinctive elements of all of the three theories were noticeable both between cases as well as within them.

Regarding the first research question, the case-firms internationalization process was examined in terms of foreign markets entered and methods of entry, the time from establishment until foreign markets were entered, the influence of how increased experience and knowledge about markets had on the market commitments, and how geographical and psychic factors affected the process.

The market selection of the case-firms was a combination entering psychically close markets as predicted by the Uppsala model (Johanson & Vahlne, 1977) and the use of network connections. Nevertheless, suggestions of the INV theory (Oviatt & McDougall, 1994) that pointed to an opportunistic behaviour also emerged. Method of entry mode was predominantly based on product development agreements.

The timespan between the case-firms establishment and their engagement with international markets differed depending on when they were formed. The two case-firms formed in the 1990’s started with a domestic focus and gradually moved to neighbouring markets while the case-firms formed in the late 2000’s targeted international markets from their foundation. As

remarked in the INV theory (Oviatt & McDougall, 1994) the changes in transport and communication technology have offered more newly established firms resources that were not available previously, which may explain the difference in the accelerated internationalization. Increased market knowledge within the case-firms changed the international approach in four out of five cases. One firm maintained its level of international operations, one decreased its commitments, while three followed and committed further to their markets as they added experience. This is in line with the pattern suggested by Johanson and Vahlne (1977) that firms will increase their foreign market commitments depending on experience and success.

The case-firms' respondents did not view geographical, psychical, or country specific factors as having a significant influence on their decision making. This suggests that the case-firms are open minded about going where market opportunities are to be found, as suggested in the INV theory (Oviatt & McDougall, 1994). However, their market selection pointed to features of the Uppsala model (Johanson & Vahlne, 1977) where firms move gradually to geographically and psychically close markets before advancing to more distant ones.

Regarding the second research question, the case-firms' market selections were evaluated in terms of; selection of markets as a strategy or network relationships, whether firms had actively searched for new relationships or passively seized opportunities, the influences of different types of relationships with specific emphasis on the case-firms' focal relationships, as well as the overall density of their respective networks.

Three of the case-firms entered new markets because they found a market niche for their products, one case-firm through its network relations, and another had a mixture of both strategic and networking elements. This is comparable to the results of Ojala (2009) where six out of eight case firms entered the Japanese market based on a strategic decision. The outcome indicates that network relationships only had a limited effect on the choice of new markets and that software firms are more likely to enter markets as a result of product strategy.

Four out of five case-firms used both active and passive methods to generate new relationships. Using both active and passive networking supports both the observations of Oviatt and McDougall (1994) that INVs will take advantage of available opportunities, and the remarks of Moen et al. (2004) that software markets can be unpredictable which puts pressure on companies to recoup investments rapidly before the technology is imitated or outdated.

All five cases approached their international activities through network connections to some degree. Formal network relationships influenced the choice of foreign markets but were not a



decisive factor behind the choice. Informal relationship seemed to have no influence on the case-firms choices of markets to enter. One explanation of the absence of informal relationships could be that friendships with colleagues were still regarded as having a level of formality. Mediated relationships through independent agencies or governmental agencies were used to a limited degree and had no direct influence on market selection. The focal relationship of the case-firms was given special attention as its influences are highlighted in a number of other studies related to software firms (Bell, 1995; N. Coviello & Munro, 1997; Moen et al., 2004; Ojala, 2009).

The case-firms all described the relationships with their focal partners as formal. They went through developing stages where the case-firms gained more influence in decision making as the partnership advanced. The partnerships were predominantly initiated by the case-firms which was in line with the opportunistic actions that Oviatt and McDougall (1994) described. Other studies of software firms (Bell, 1995; N. E. Coviello, 2006; N. Coviello & Munro, 1997; Moen et al., 2004) have highlighted the influence that current network relationships have on the choice of markets and entry methods. These studies put a special emphasis on how software firms often follow their focal partnership to new markets. The present study found that the case-firms did not follow their partners from one country market to another but did, nevertheless, use their focal partnerships as a support pillar for finding new clients or for recommendations when finalizing new contracts. In that manner the case-firms benefitted indirectly from their larger partners' reputation.

Four out of five case firms claimed that they had a wide range of loose network ties, although two of them had a combination of strong ties as well. Only one of the case firms had not systematically attempted to widen its set of network relations while all the other cases saw networking as an important source for their internationalization process.

The internationalization process of the case-firms was first and foremost focused on product strategy as they showed motivation to go to markets where opportunities were to be found. The common theme was to enter first geographically close markets with psychic similarities and then gradually move to more distant ones that offered greater client potential. The case-firms' initial foreign market entries were based on product agreements with foreign companies. Network relationships were mainly used to support further expansion or gain the confidence of potential clients either within markets where there was already presence or in more distant ones.

## **7.1 Limitations and further study**

Using the case study method limits the option of making generalizations from the results. The five case-firms used for the research were all software producers and/or service providers that had entered more than the domestic market in Iceland.

This study has its attention on Icelandic software firms. The focus is thus on a single sector in a single country which gives generalizations from the findings a limited value. Certain factors such as geographical location and cultural influences may yield different results in a similar study in a different country and/or in a different industry sector. Companies in different cultures might for example use different types of relationships or be more dependent on their focal partnership for new market entries than the case-firms of this study.

The software sector has many attributes that other industries do not have. The cost of product transportation or duplication is almost none while high R&D costs and short product-life cycles put pressure on companies to generate profits in a short space of time. The result of this study may therefore not reflect the patterns of other industries in a comparable situation. Only a single interview with each firm was conducted. Two of the interviews had to be completed within a limited time frame, by request of the interviewees. Although the time was sufficient to gather answers based on the interview guide it limited the number of follow-up questions. The low number of case-firms and just the single interview with each one of them may be seen as a limitation to generalizability.

This study aims to understand the influence of different types of network relationships that affect the market selection of the case-firms. These relationships were divided into formal, informal and intermediated relationships with special attention given to the focal relationships of the case-firms and how they influenced their choices. Other types of relationships that were not covered by the research might be influential. Rival explanations were considered but emphasis on the network relationships may overshadow alternative factors behind the case-firms' internationalization process.

A similar study in other Icelandic industries could be of interest. The software sector has many unique features that are dynamic and offer great challenges. Another sector that could offer exciting outcomes are the arts- and design industries, that have characteristics of skilled workers, small-scale enterprises, are highly competitive and the right network connections can produce great opportunities.

The answers of questions regarding the psychic and geographical distance were contradicting in terms of managers' beliefs and then their actual procedures. Almost all the interviewees did

not think that cultural difference, geographical distance, or the company's nationality were a form of obstacle. Yet most of the firms' operations were in countries geographically close and of similar cultural background. It is also surprising, given Iceland's small population, that the case-firms did not experience more scepticism due to their nationality. A more in-depth study focusing on these factors amongst Icelandic software firms could produce interesting results.

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## **9 Appendices**

### **9.1 Interview guide A**

#### **1. Background questions**

##### **1.1. Interviewee**

- 1.1.1. Name of respondent
- 1.1.2. Position in the firm
- 1.1.3. International working experience

##### **1.2. Company background**

- Number of employees
- Year of establishment
- Company description
- On what do you base your competitive advantage?
- Types of international activities
- Target industry segment
- Countries with direct operations

#### **2. International market development**

- 2.1. Could you go through the company's internationalization in chronological order;
  - 2.1.1. Main reasons for international activities
  - 2.1.2. Which year did you enter foreign markets
  - 2.1.3. Which markets were entered
  - 2.1.4. What type of entry methods were used - See list
- 2.2. Why was this country/market chosen? (strategic / networks / leading market etc.)
- 2.3. In general, has your company been the initiator in your market selection or reacted to external demand?

#### **3. Uppsala model related questions**

- 3.1. Did you by start operations in the Icelandic market before moving abroad?
- 3.2. After the firm's inception, when did it start to have international markets on its horizon? (INV)
- 3.3. In the beginning of your internationalization, did you enter a market with similar characteristics to the Icelandic market? (Culture, physically, psychic)
- 3.4. Did the geographical distance between Iceland and your target market affect your decision?
- 3.5. How has your market commitment changed/developed?  
(Furthered or reduced market commitment, financial and human resources)
- 3.6. Has greater market knowledge on these markets changed in the company's strategy?
- 3.7. (Have you moved from the original market entry to a more committed form?)

#### **4. Network model related questions**

- 4.1. Have you selected a market to enter where you had no prior relationships in?
- 4.2. In general, have you actively pursued new network relationships for entering new markets, or have you been responsive to outside demand?
- 4.3. Have important events or actors outside the firm affected your foreign market expansion?
  - 4.3.1. Business associates (formal),
  - 4.3.2. Friends and family (informal),
  - 4.3.3. Governmental/none Governmental organisations,
  - 4.3.4. Trade shows
  - 4.3.5. Intermediated
- 4.4. Focal relationship
  - 4.4.1. How would you describe your relationship with this actor?
  - 4.4.2. Has this actor influenced decision making within your company?  
(foreign market entry / method of market entry)
  - 4.4.3. How often are you in contact with this actor?
  - 4.4.4. How far back does your relationship reach? Has it changed/developed?
  - 4.4.5. Has your firm benefitted from this relationship or has it hindered your progress in any way?
  - 4.4.6. Have you become more independent in your foreign market operations or do you rely more on other actors.
- 4.5. How would you describe your network relationships?
  - 4.5.1. What is the size of the network?
  - 4.5.2. Is it a wide range of weak ties or a few strong ties
  - 4.5.3. Is it used for gathering information or general exchange?
- 4.6. Active – passive relationships
- 4.7. Formal – informal – intermediated
- 4.8. Influence of network partners
- 4.9. Exchange process vs adaptation process
- 4.10. Strategic decision or networks

## 9.2 Interview guide B

### 1. Bakgrunnsspurningar

- 1.1. **Viðmælandi**
  - 1.1.1. Nafn viðmælanda
  - 1.1.2. Staða innan fyrirtækis
  - 1.1.3. Reynsla af alþjóðlegri starfsemi
- 1.2. **Fyrirtæki**
  - 1.2.1. Fjöldi starfsmanna
  - 1.2.2. Stofnár
  - 1.2.3. Lýsing á fyrirtæki.
  - 1.2.4. Hvar liggur samkeppnisforskot ykkar.
  - 1.2.5. Tegundir á alþjóðlegri starfsemi
  - 1.2.6. Target industry segment
  - 1.2.7. Lönd sem þið eruð með beina starfsemi í

### 2. Alþjóðavæðing fyrirtækisins – Val á mörkuðum og inngönguleiðir

- 2.1. Gætirðu farið yfir alþjóðlega starfsemi fyrirtækisins í tímaröð og þá;
  - 2.1.1. Helstu ástæður fyrir að fara á erlenda markaði
  - 2.1.2. Hvaða ár var farið á erlenda markaði
  - 2.1.3. Hvaða land eða markað var farið á
  - 2.1.4. Hvaða inngöngu aðferðir voru notaðar.
- 2.2. Af hverju var farið var á þennan markað? (strategic / networks)
- 2.3. Almennt séð, hefur fyrirtækið haft frumkvæði að því að fara inn á erlenda markaði eða hafið þið brugðist við utanaðkomandi eftirspurn

### 3. Uppsala model related questions

- 3.1. Byrjuðuð þið á starfsemi á heimamarkaði áður en þið fóruð á erlenda markaði?
- 3.2. Hvenær byrjið þið að skoða að fara inn á erlenda markaði eftir að fyrirtækið er stofnað? (INV)
- 3.3. Byrjuðuð þið á erlendum markaði sem var með svipuð einkenni og sá íslenski?
- 3.4. Hafði fjarlægð á milli Íslands og erlenda markaðarins áhrif á ákvörðunina?
- 3.5. Hvernig hefur skuldbinding ykkar við erlenda markaði breyst? (í t.d. starfskröftum og fjármagni gagnvart þeim)
- 3.6. Hefur aukin þekking á markaðnum breytt stefnu fyrirtækisins?
- 3.7. Hafið þið breytt frá upphaflegu inngönguaðferðinni í aukna skuldbindingu?

### 4. Network model related questions

- 4.1. Hafið þið valið markað að fara á án þess hafa nein fyrri sambönd þar?

- 4.2. Almennt séð, hafið þið haft frumkvæði við að leita að tækifærum á nýjum mörkuðum eða er algengara að þið bregðist við utanaðkomandi eftirspurn?
- 4.3. Hafa mikilvægir atburðir eða aðilar utan fyrirtækisins haft áhrif á val ykkar á erlendum mörkuðum?
  - 4.3.1. Viðskiptavinir, Samkeppnisaðilar, Samstarfsfyrirtæki (formlegir),
  - 4.3.2. Persónulegir vinir eða fjölskylda(óformlegir),
  - 4.3.3. Opinberir aðilar, Félagasamtök, Ráðstefnur/vörusýningar (miðlarar)
- 4.4. Leiðandi samband/samstarfsaðili – Sem opnaði aðgang að markaði
  - 4.4.1. Hvernig myndir þú lýsa sambandi ykkar? (Formlegt, óformlegt, miðlari)
  - 4.4.2. Hefur þessi aðili haft áhrif á ákvarðantöku innan ykkar fyrirtækis?
  - 4.4.3. Hversu oft eigið þið í samskiptum?
  - 4.4.4. Hversu langt til baka nær samband ykkar? Hefur það tekið breytingum með tímanum?
  - 4.4.5. Hafið þið haft gagn af þessu sambandi eða hefur það hindrað frekari framþróun?
- 4.5. Hvernig myndir þú lýsa tengslanetinu ykkar?
  - 4.5.1. Hversu stórt er það?
  - 4.5.2. Eru þetta fá sterk sambönd eða mörg lausleg?
  - 4.5.3. Nýtist það til upplýsingargjafar eða almennra viðskipta?
- 4.6. Er eitthvað ákveðið sem þið hafi lært við að byggja upp ykkar tengslanet?
- 4.7. Strength of network ties: wide range of weak ties rather than few strong ties
- 4.8. Size of network: Having more options builds potential for speedy internationalization
- 4.9. Overall density: sparse networks can gather information, dense when trust and exchange are essential.

### 9.3 Letter of interview request A

Kæri viðtakandi

Ég er að vinna meistararitgerð í alþjóðaviðskiptum við Háskólann í Reykjavík sem fjallar um útrás íslenskra hugbúnaðarfyrirtækja í samanburði við leiðandi kenningar um alþjóðavæðingu fyrirtækja.

Áherslan í ritgerðinni er lögð á lítil- og meðalstór fyrirtæki sem selja vöru eða þjónustu á hugbúnaði utan Íslands.

Ég er að leita að viðmælendum sem geta miðlað af ítarlegri reynslu við að sækja á erlendan markað.

Því vildi ég kanna hvort ég gæti hitt einhvern frá ykkur með sérþekkingu á þessu efni? Ætlunin er að fá opin svör við spurningum til að kortleggja ákveðið þema.

Með kveðju,

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## 9.4 Letter of interview request B

Dear receiver

I am working on a master's thesis in the International Business Program at Reykjavik University.

The study aims to investigate the internationalization process of Icelandic small to medium sized software firms in comparison with leading theories on the subject.

I am looking for interviewees who can share their in-depth knowledge on the firms' foreign market entry and operations.

Would it be possible to meet you or a representative of your firm for an interview? The questions are open ended with the intention of mapping a certain pattern.

Kind regards,

Tryggvi Jónsson

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## **9.5 Abbreviations**

**INV – International new venture**

**ISK – Icelandic Krona**

**MNE – Multinational Enterprise**

**SME – Small and Medium sized Enterprise**