

**EMBEDDEDNESS OF ENTERPRISES PRIOR TO AND
DURING EARLY INTERNATIONALIZATION**

MULTIPLE CASE STUDY OF FINNISH LIFE-SCIENCE COMPANIES

**Jyväskylä University
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ABSTRACT

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<p>Abstract</p> <p>The aim of this master's thesis was to understand the meaning of network structures and embeddedness of the Finnish SMEs when they begin the process of internationalization. All firms form network ties, but the depth and strength of the ties seem to vary significantly between companies. The theoretical understanding of embeddedness has remained rather incomplete and it seems that the research domain would benefit of a stronger emphasis on the first steps of the internationalization, the time frame of highest uncertainty. Additionally, more profound understanding of the strategies that Finnish SMEs follow during the early internationalization is needed.</p> <p>The study was carried out as a case-based research, and the empirical data was collected through narrative, non-directive interviews of six Finnish life-science SMEs. Interview data was analyzed by qualitative method, and timelines of each company were drawn in order to evaluate both international orientation of the case companies, and embeddedness of their networks.</p> <p>The findings suggest that Finnish life-science SMEs tend to start internationalizing with niche products, which do not possess big sales volumes in one country, and therefore they very soon need to find several export markets and several partners. The narratives reflected both proactive and reactive behavior in the process of internationalization, and even though the case companies were chosen from the same industry, the internationalization stories varied considerably. The timelines of the companies confirmed that often the decisions and operations of the firms reflect the company strategy as such.</p> <p>All of the case entrepreneurs were well aware about the importance of networks and embeddedness. Strong ties were seen essential, especially when aiming for long-term customer relationships, but they could also easily create undesired dependence between the partners. Most of the case companies had formed clear internationalization plans and strategic goals, but still they had been surprised by the significant role of socializing, dining and trust-building when creating their first international business relationships.</p>	
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TIIVISTELMÄ

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<p>Tiivistelmä</p> <p>Tämän tutkimuksen tarkoituksena oli lisätä ymmärrystä ja tietoa verkostojen rakenteiden ja uppoutuneisuuden merkityksestä suomalaisten pienten ja keskisuurien yritysten kansainvälistymisprosessin alkuvaiheessa. Kaikki yritykset muodostavat ympärilleen verkostoja, mutta suhteiden syvyys ja vahvuus näyttäisivät vaihtelevan merkittävästi yritysten välillä. Teoreettinen ymmärrys uppoutuneisuudesta on edelleen vajaata ja tutkimusala voisi hyötyä vahvemmassa painotuksesta kansainvälistymisen varhaisvaiheeseen, sillä tämä on ajanjakso, jolloin yrittäjä kokee suurinta epävarmuutta verkostojensa suhteen. Tämän lisäksi tarvitaan perusteellisempaa ymmärrystä niistä strategioista ja käyttäytymismalleista, joita suomalaiset pk-yritykset noudattavat kansainvälistymisen alkuaikoina.</p> <p>Käytettäväksi menetelmäksi valittiin tapaustutkimus, ja empiirinen data kerättiin narratiivisten, strukturoimattomien haastattelujen avulla kuudelta suomalaiselta bioteknologia-alan yritykseltä. Yritysten kansainvälistymisen vaiheista piirrettiin aikajanat, joiden avulla pyrittiin analysoimaan sekä yritysten kansainvälistymiskäyttäytymistä että niiden uppoutuneisuutta verkostojen suhteen.</p> <p>Tuloksien mukaan suomalaiset bioteknologia-alan pk-yritykset tyypillisesti aloittavat kansainvälistymisen harvinaisilla erityistuotteilla tai -palveluilla, joilla ei ole suurta markkinaa yhdessä maassa. Näin ollen yritysten täytyy nopeasti löytää useita vientimarkkinoita ja kumppaneita. Narratiiveissa oli nähtävissä sekä proaktiivisen että reaktiivisen käyttäytymisen piirteitä, ja vaikka yritykset oli valittu saman toimialan sisältä, niiden kansainvälistymistarinat vaihtelivat merkittävästi. Yritysten kansainvälistymisen vaiheista piirretyissä aikajanoissa näkyi selkeästi, kuinka yrittäjien kertomat kansainvälistymisstrategiat näkyvät yritysten päivittäisessä toiminnassa ja verkostojen luomisessa.</p> <p>Kaikki yrittäjät olivat tietoisia sosiaalisten verkostojen merkityksestä. Vahvat siteet nähtiin elintärkeinä pitkäkestoisen asiakassuhteen muodostamisen kannalta, mutta niiden varjolla saattoi myös muodostua epätoivottuja rippuvuussuhteita liikekumppaneiden välille. Suurimmalla osalla yrityksistä oli selkeä kansainvälistymissuunnitelma ja strategiset tavoitteet, mutta he olivat silti yllättyneitä siitä, kuinka suuri merkitys sosialisoitumisella, ruokailuilla ja luottamuksen rakentamisella oli ensimmäisiä kansainvälisiä asiakassuhteita muodostettaessa.</p>	
Asiasanat: Kansainvälinen yrittäjyys, kansainvälistymiskäyttäytyminen, verkostoituminen, uppoutuneisuus	
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1 INTRODUCTION

During the past few years, high-growth entrepreneurship has received much positive attention in Finland (Autio et al. 2014). There has been increase in the number of successful and rapid-growth start-ups; best of them have even generated international success stories and inspired other growth-seeking entrepreneurs (Lahtinen et al. 2016). Altogether it has been estimated that there are around 12 000 innovative new firms in Finland (i.e., firms that are under six years old and operate in technology sectors) (Autio et al. 2014). Approximately 4 000 - 5 000 start-ups are set up in Finland every year, and nearly three out of four aim at the growth of the company. And, positively, this growth is sought more frequently in the international markets.

However, it is known that even with financial resources available, effective new venture growth is challenging without existing contact networks (Maula et al. 2007, Lahtinen et al. 2016). Networks are found to be the main factor that's opening doors to growth opportunities. Yet, Finland still lags behind in international comparisons, when it comes to experience and contact networks necessary to effect rapid venture growth. After all, many of the skills and contacts (e.g. to financial resources) required for growth can only be acquired through experience and networks.

There are several programs in Finland (such as Nuoret Innovatiiviset Yritykset) that aim to accelerate the growth and internationalization of the most promising innovative new firms (Autio et al. 2014). This is mainly done through supporting the development of their business activities, and facilitating the creation of well-functioning networks. For these programs to succeed, more information is needed about the internationalization processes of Finnish SMEs, and especially about the meaning of networks during the early phases of internationalization. Much of the international entrepreneurship research is indeed motivated and financed by the belief that growth of small firms contributes significantly to the whole economy (Johansson 2004).

When studying international entrepreneurship, first thing is to distinguish it from standard international business of multinational corporations. International entrepreneurship does not mean simply selling your standard

goods overseas, but rather identification and exploitation of opportunities for international exchange, and creating markets where none previously existed (Ellis 2011). Majority of these international opportunities are characterized by discovery rather than active seeking, but entrepreneur and his networks have important role in promotion of international exchange.

Early internationalization of start-ups has been studied from a variety of perspectives (for review, see for example Bembom and Schwens 2018). In the 1990s research groups started reporting empirical studies on small and young firms that attempted to create business abroad from their inception (Oviatt and McDougall 1994, McDougall et al. 1994, Knight and Cavusgil 1996). These studies focused on presenting frameworks and theories to overcome process theory of internationalization (Johanson & Vahlne 1977, 1990). Also the direct effects of internationalization on new ventures' survival and growth prospects (Autio et al. 2000, Sapienza et al. 2006) and the importance of networks (Granovetter 1970, Ellis 2011) have been reported comprehensively.

One of the most important aspects of internationalization is the network of the firm (Coviello and Munro 1997). Networking has been studied since the 1980s (Johanson and Mattsson 1988), but most of the research that focuses internationalization from a network perspective has been about the inter-firm business networks. Only in past 10 years the focus has been moving towards the effects of social networks (Komulainen et al. 2006, Ellis 2011). What has received less attention is the commitment of entrepreneurs and their firms to these networks, especially in the beginning of the internationalization process (Leppäaho et al. 2017). Networking and forming ties is natural to all firms, but the depth and strength of the ties show clear variation between the companies.

Researchers also widely agree that internationalization is the expansion of the firm's operations to foreign markets (Johansson and Vahlne 1977, Coviello and Munro 1997, Autio et al. 2000, Mejri and Umemoto 2010). It doesn't necessarily mean that internationalization is a process; sometimes it can even be a result of independent action. Some entrepreneurs and firms internationalize very proactively and chase the opportunities with process-like mindset (Kontinen and Ojala 2011). Then again some firms seem to internationalize by accident, merely only by delivering orders when asked. One certain point is that internationalization has become faster and easier (OECD 2017). There are everyday more and more and companies competing in the international market, because of the high number of entrepreneurs and employees with a competence to communicate with, understand and operate in foreign cultures (Madsen and Servais 1997).

The research problem of my master's thesis focuses on the meaning of network structures and ties for the Finnish SMEs during their early internationalization. I aim to find out what kind of ties benefit Finnish SMEs most when they start to internationalize. Alongside with this I will study their internationalization strategy and behavior.

The research questions that were formed to find the answers to the research problem are the following:

1. What kinds of internationalization strategies do Finnish life-science SMEs follow?
2. How does entrepreneurial embeddedness affect the early internationalization of Finnish SMEs?

To find answers to my research questions I interviewed six expert-owned life-science SMEs from Finland, who all had succeeded in identifying and exploiting business opportunities outside their home country. I concentrated on the first steps of their internationalization process, the time frame when entrepreneurs face the biggest uncertainty. For example Engel et al. (2017) have created patterns to explain entrepreneurial behavior under uncertainty, and they especially emphasize the meaning of networking. My goal was to find out the meaning of early networks for the expert entrepreneur who is driving his firm towards international markets, and I focused especially on the depth and width of both business and social networks.

Life-science and biotech companies are well-suited for internationalization and network study, due to the high velocity environment where they operate (Leppäaho et al. 2017, Powell 1998). Strategic stakeholders and venture capitalists interact and embed intensely and even small firms tend to form ties in geographically dispersed countries. The main aim in this industry is to seek and create new knowledge and technology development, and thus entrepreneurs seek to improve their competencies by collaborating with others. I have also a personal interest in life-science companies like pharmaceuticals, biotech and diagnostics. I have M.Sc. (pharmacy) education myself and background in hospital pharmacy and pharmaceutical industry. I am especially curious about the entrepreneurs themselves; what their story is and how they have ended up becoming entrepreneurs after many years of being expert employees.

This Masters' thesis consists of two parts; in the theoretical part I introduce the main literature on international entrepreneurship, internationalization strategies, networks and embeddedness. In the research part I will present the six case companies and describe the methods used in the study. In order to visualize my findings, I draw timelines that characterize each company's first steps of internationalization and main points of their internationalization strategy. The study is finalized by discussion and conclusion chapters, which will link the findings and research questions together.

2 THEORETICAL FRAMEWORK

2.1 Internationalization of SMEs

Although there is a wide variation in the percentage of small and medium-sized enterprises (SMEs) trading in each country and region, in most economies approximately one in five SMEs reports international trading (OECD 2017). Small firms have been recognized to influence significantly to economic activity, employment, innovation and wealth creation (Bell et al. 2004). They can often attack world market with innovative strategies, and at faster pace than old models would assume. Public policies in many countries are aiming to support small business sector to improve the international contributions (OECD 2017).

Nevertheless, studies about internationalization of SMEs are relatively new compared to other economic theories (Mejri and Umemoto 2010). Trade between nations has been studied from the 16th century and internationalization of multinational companies (MNCs) from the 1970s. The internationalization theories that merged in the 1970s and 1980s focused on large MNCs and their step-by-step processes. The most dominant framework was the Process Theory of Internationalization (PTI) (Johanson and Vahlne 1990). PTI states that internationalization of the firm evolves gradually, and there are different stages that build linearly on each other.

According to PTI model firms start their internationalization from culturally and geographically close countries and by traditional exports. Then stepwise, and at relatively slow pace, internationalization evolves into culturally and geographically farther countries, and firms start using more intensive and demanding operation modes like subsidiaries. PTI explains how international actors learn and increase their foreign market knowledge and incrementally change their commitments to those markets. The main difference is that PTI sees internationalization more as time consuming organizational learning process, whereas more recent approaches to internationalization tend to analyze the process as an innovative course of action (Madsen and Servais

1997).

2.1.1 International entrepreneurship

International entrepreneurship (IE) research started when there was already growing number of firms that were internationalizing while still young and small (Keupp and Gassmann 2009, McDougall and Oviatt, 2000). The first mention of “international entrepreneurship” appeared in 1988 (Morrow) and it highlighted the rising cultural awareness combined to new technological advances. It was obvious that the postwar globalization, together with facile use of low-cost communication technology and transportation means had made it possible also for the smaller players to compete in the international markets (Oviatt and McDougall 1994). Some firms internationalized at very young age, while still maintaining their small size (Mathews and Zander, 2007). This pattern was different to earlier, where firms had to be large in size and well established in the market in order to considerate internationalization. Also the government's' protectionist policies such as barriers to inward and outward foreign direct investment (FDI) started to come down. The laws and business practices offered better protection to intellectual property rights, transaction costs decreased, IT-systems turned more sophisticated and the Internet opened whole new possibilities.

All these changes created the environment for new type of companies, which were called Born Globals (Knight and Cavusgil 1996), Global Start-ups (Oviatt and McDougall 1994) or International New Ventures (McDougall et al. 1994) depending on the researchers. In the 1990s research groups reported a number of empirical studies, which appeared to contradict the Process Theory of Internationalization. Especially Oviatt and McDougall (1994) criticized PTI for not being able to explain why some firms are internationalizing so quickly and expanding their activities abroad faster than expected. Most of the research focused on new small and young firms that attempted to create business abroad, or at least had the vision of it, from their inception. Later there have been several attempts to direct IE field independent of firm size and age (Keupp and Gassmann 2009) but the lack of shared view still defines the field, even in the recent years (Bembom and Schwens 2018, Reuber et al. 2018).

Traditional models of firm internationalization usually emphasize the perception of foreign market opportunities, which lead to expansion decisions. McDougall et al. 1994 found that in comparison with established firms, INV entrepreneurs trusted more on hybrid structures, like joint ventures or close personal relationships, for controlling the sales and marketing activities. Many had already obtained prior international skills like market knowledge, personal networking, or international contacts before the birth of their own firm (Madsen and Servais 1997). For this reason it may have looked like these firm bypass internationalization as a process, and instead they grab customers whichever country they find from the day one (Oviatt and McDougall 1994, Madsen and Servais 1997, Knight and Cavusgil 2004). And indeed, these were the companies

that changed the dynamics of international competition.

One of the most significant differences between international new ventures and traditional MNCs was the attitude of the management. The new firms often seemed to be managed by internationally experienced individuals with global outlook (Chetty and Campbell-Hunt 2004). In the old days companies had to be self-sufficient even to think about entering foreign markets. It was common to lack international experience, and even general information about IB environment, so steps were taken cautiously and operations evolved gradually (Johansson and Vahlne 1977, 1990).

In addition to these two extremes, Bell et al. 2003 have studied a pattern of behavior where firms suddenly internationalize after a long period of focusing on the domestic market. These firms are called 'born-again globals' and research suggests that their internationalization might be influenced by some critical events, like changes in the management, takeover by another company, or acquirement of another company. These events provide them with additional human or financial resources, or access to new networks that enable the sudden change of focus from domestic to an international orientation.

Today the main distinguishing point in the international entrepreneurship research compared to traditional MNC internationalization research is the strong emphasis that is given to the exploitation of opportunities (Ellis 2011). Internationalization of SMEs is indeed often characterized by international opportunity recognition in the entrepreneurial process. Especially it is seen that overcoming geographic and cultural barriers, and making market where none previously existed, requires an act of entrepreneurship. However, even after these attempts to position IE research closer to mainstream entrepreneurship research, majority of IE studies is still restricted to analyzing small or medium sized new ventures (Keupp and Gassmann 2009).

One main changing condition also in the in the 2010's is the increasing specialization and hence the development of niche markets (Madsen and Servais 1997). Firms are producing very specific parts and components, and therefore they have to sell in the international market. The domestic demand is too small, even in the large countries. On the other hand, industries are characterized by global sourcing activities and they seek networks across borders. Together increased global demand and new production process technology have made specialization, customization and niche production more economically sound alternative. The consequence is that the most innovative products can spread very quickly to global markets. In fact Born Globals do not always choose the lowest cost mode of operation for each activity of the firm, in competing internationally they rely heavily on strategic alliances (McDougall et al. 1994).

2.1.2 Entering new markets

According to the textbooks in the mid-1970s (e.g. Hood and Young 1979) firms should choose the optimal mode for entering the market after analyzing their

costs and risks based on their own resources and market characteristics. The most common entry modes are presented in Figure 1, organized based on whether they require firm equity or not.

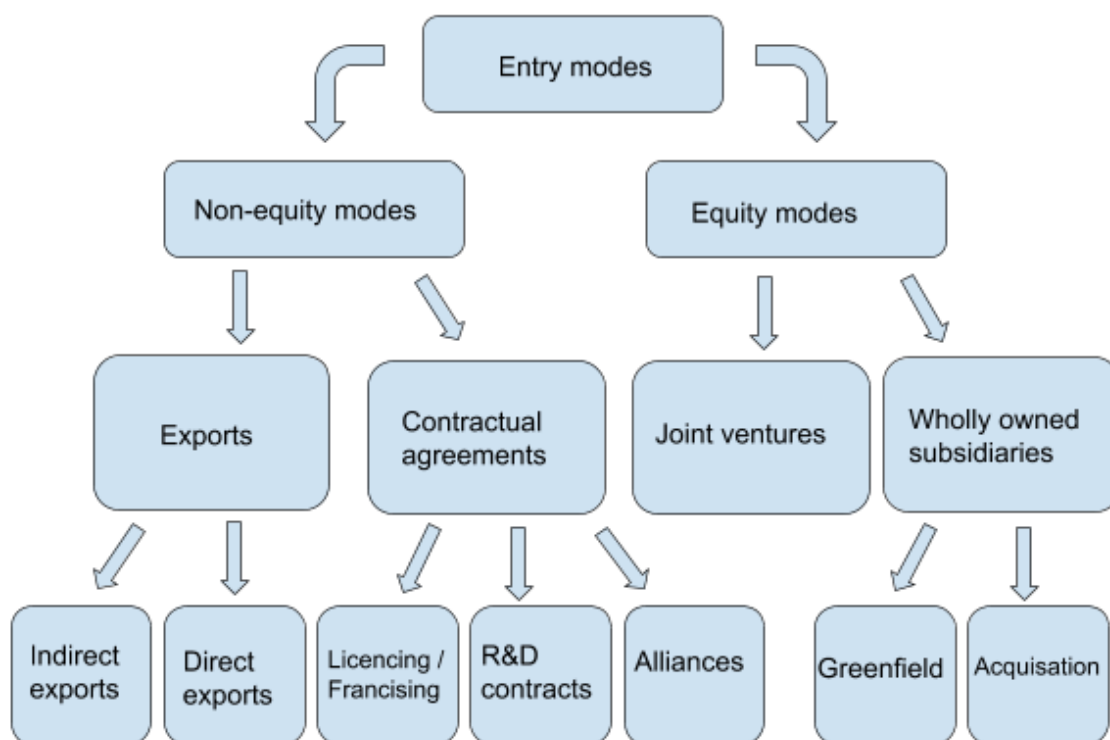


FIGURE 1 Modes of entry (modified from Pan and Tse 2000)

However, as PTI presented, the easiest way to start internationalization in the 1970s was export (Johanson and Vahlne 2009). It was even simpler if companies choose to make their first entry through deals with intermediaries, which presented the company in foreign markets. As networks and sales then grew, companies replaced the agents with their own sales organization, and later moved on to manufacturing in the foreign market to overcome trade barriers. For example Coviello and Munro (1997) studied small software firms and found that network relationships have impact on both foreign market selection and also mode of entry choice. INV theory presents several different possibilities for the mode of first entry, and as a result of increased networking, born globals are usually forming innovative agreements and R&D contracts at a very early phase (Leppäaho et al. 2017).

In the 21st century globalization has created many new kinds of emerging ventures, with huge possibilities of networking and expansion through partnerships, mergers and acquisitions (Mathews and Zander 2007). The internationalization processes are less planned and often entrepreneurial-like, including market entries and resource deployments when circumstances and opportunities present themselves. In his study (2011) Ellis found that

entrepreneurs usually start exporting to markets, where they already have found suitable exchange partner, rather than choosing the target market and then pursuing exchange partners in those markets. Indeed, insidership in relevant networks seems to be necessary for successful internationalization, whereas outsidership in relation to these networks is more significant root of uncertainty than the psychic distance (Johanson and Vahlne 2009). In some cases also 'client followership' was important factor in the initial market selection (Bell et al. 2004). Also decision maker's pre-existing contacts from a prior employment have led the new company to its first export order. Together with client followership, this shows strong evidence of the influence of networks connections on initial export decision and the internationalization process in total.

When companies enter their first foreign market, their primary tasks are to adapt their normal routines, but also to create some entirely new routines. These processes require investments, such as hiring new personnel, and establishing, and nurturing new relationships (Zott 2003). New firms also lack the positional advantages of older, already settled companies, which are socially well embedded in an industry (Hannan 1998, Stinchcombe and March 1965). Therefore entering first foreign market causes a shock to the organization, and the probability of survival is lowest at this time. The costs associated with creating new routines are likely to decrease with each new foreign market entry, since the organizations learn from experience and fewer resources have to be reallocated or acquired (Vermeulen and Barkema 2001, Sapienza et al. 2006). Companies often tend to leverage similar domain expertise across subsequent entries and hence mortality rates start to decrease as time passes from the first entry.

Although internationalization initially decreases firm survival prospects, it also gives the chance for growing and learning (Sapienza et al. 2006). Internationalization exposes firms to risks and uncertainty rising from new market conditions. This often forces the firms to adapt to the new environment through structural changes, reconfiguration of resources and generation of new capabilities, which then give the flexibility to pursue opportunities for future growth. The entry naturally also gives firsthand knowledge of the market, and connects the firm to possible customers, competitors, suppliers and innovation centers in a way that would never be possible when operating in the local market only). Some of the moderating effects for firm survival and growth after internationalization are discussed in the next chapter.

2.1.3 Capabilities needed for internationalization

The IE field has conflicting views on why some firms have the capabilities to internationalize earlier and faster than others (Keupp and Gassmann 2009). Particularly interesting is the question of resources needed for entrepreneurial activities. Sapienza et al. (2006) discussed whether firm capabilities enhance firm performance and if so, does this performance effect persist over time.

Capabilities mean the configurations of routines and resources that allow organization to achieve its goals and prosper, whereas dynamic capabilities are the strategic routines that managers use to direct resources where needed (Winter 2003). In other words, dynamic capabilities reflect a firm's capacity to adapt to its environment. It seems that early internationalization can benefit the firm, since early exposure to international environment develops adaptability to uncertainty and internal receptivity for continual change (Sapienza et al. 2006). When studying the different perspectives of internationalization, we must also take into account the fundamental goal for the firm (Sapienza et al. 2006). PTI assumes that survival is of central importance and NVI sees growth as the driver of internationalization. Figure 2 summarizes Sapienza's groups view on three capabilities (firm age, prior managerial experience with internationalization and resource fungibility) that affect both survival and growth of the company.

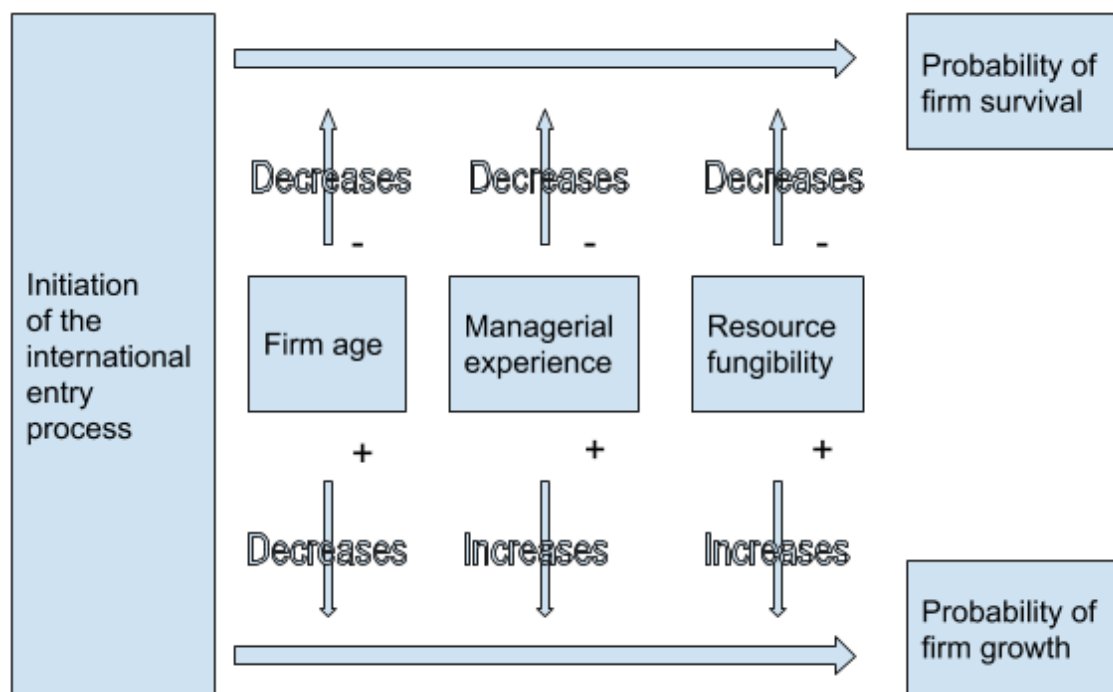


FIGURE 2 Model of Internationalization, Survival and Growth (modified from Sapienza et al. 2006)

The relationship between firm age and risk of mortality has been studied systematically by organizational theorists (Bruderl and Schussler 1990, Hannan 1998) and one of the most cited arguments in the field is Stinchcombe's (1965) liabilities of newness. This means that young firms face more difficulties in survival because "they have yet to develop the routines, relationships, and status necessary to efficiently engage the social and economic exchanges critical to their survival". Later literature on topic has revealed many different arguments; for example the age of the company doesn't necessarily have clear

linear relationship with survival, but rather with firm strategy (Hannan 1998). As the firms grow older, they face increasing difficulty of unlearning established routines and adopting new ones. Some managers positions may depend on their superior knowledge and contacts with regard to firms current market, and desire to pursue growth outside these home markets decrease (Autio et al. 2000).

When compared to older firms, younger firms may be more willing to develop dynamic capabilities necessary to compete and grow in foreign markets, but they may not be able to survive long enough to do so (Sapienza et al. 2006). This is shown in the Figure 2: The younger the firm at initiation of the internationalization process, the greater the negative effect on firm's survival and greater the positive effect on the probability of firm's growth.

Age of the firm is not the same thing as the experience of the firm and its management team. Managers' international experience in their previous employments partially compensates the lack of organizational experience in foreign markets (Henisz and Delios 2001). Even large multinational corporations are likely to undertake costly processes of new plant location or establishing buyer-supplier relationships if their managers have gained experience from similar entries beforehand. Thus, as seen in Figure 2, managers experience from their previous careers with internationalization can reduce both time and costs of internationalization and hence increase both firm survival and growth prospects (Hannan 1998, Sapienza et al. 2006).

When arguing with the liabilities of small size and newness, Sapienza et al. (2006) make a clear distinction between the quantity and the fungibility of a firm's resources. The concept of fungibility means "the extent to which resources may be deployed for alternative uses at low cost". The ability of organizations to shift resources to alternate uses allows managers to response better to environmental pressures and create new capabilities with existing resources (Hannan 1998). Sharing resources across multiple organizational functions lowers the costs of failed experiments and allows firms to leverage their limited resources across multiple capabilities. Therefore Figure 2 shows that firms with fungible resources have enhanced prospects for both survival and growth.

Another stream of researchers has found that even if firms lack the resources in their home country, they may be lured to internationalize by the availability of resources and opportunities in the international environment (Mathews and Zander 2007). This same stream also highlights the importance of social ties, which may actually replace the ownership of physical resources and facilitate firm entry in international markets. The importance of networks and social ties are further discussed in Chapter 2.2.

Early internationalization always includes also threats to survival. The most common example is aggressive pricing in the new market, but also failure to enact appropriate strategies to rapid industry expansion can be associated with decreased survival (Romanelli 1989). Even though industry growth usually led to greater organizational survival, Romanelli found that this

relationship was strongly affected by firm strategy. For example, specialization induced greater mortality in industries facing rapid growth and aggressive expansion was related to greater mortality in industries of slower growth.

2.1.4 Internationalization behavior

Much of the early literature has described small firm's internationalization as ad hoc and reactive rather than pursuing proactive strategies (Bilkey and Tesar 1997). Internationalization activities were mainly only export operations that answered to unsolicited orders or enquiries, and hence small firm internationalization was considered to be unplanned and opportunistic. Minzberg (1973) stated that strategic planning activities and especially top-down -process had the greatest influence in the continued success and expansion of small firms.

During the last decade several different patterns and processes of internationalization have been recognized between the firms. Differences seem to be especially clear when comparing small knowledge-intensive firms and traditional manufacturing firms (Bell et al. 2004). Many of the traditional firms, but also some of the knowledge-intensive firms had had the initial impulse to internationalization from receipt of an unsolicited enquiry, or order. In general the knowledge-intensive firms were more proactive in seeking out international opportunities, for example by employing formal screening processes or undertaking more systematic research. Bell's study (2004) also pointed that the market selection and entry strategies of knowledge-intensive firms were often influenced by relationships with customers and global trends in the industry, rather than geographic and physiological proximity.

An entrepreneurial strategy-making process is often said to exist in a firm that undertakes somewhat risky ventures and is first to come up with "proactive" innovations, beating competitors to the punch (Miller, 1983: 771).

This depiction from 1983 is still quite accurate and consistent with other entrepreneurial strategy-making processes described during the years (Dess et al. 1997). Other behaviors that characterize entrepreneurial firm are for example consent to innovate, adaptive and reactive modes, and risk tolerating attitude instead of strict need to protect previous gains. Differences between entrepreneurial (knowledge-intensive) firms and traditional firms are gathered in Table 1. Knowledge-intensity is not restricted to particular sectors or service-firms, and it can be argued that the degree to which firm possesses this feature represents a significant competitive advantage for the internationalization process (Bell et al. 2004).

TABLE 1 Internationalization strategies (modified from Bell et al. 2004)

	Entrepreneurial (knowledge-intensive) firms	Traditional firms
Behavior	Proactive <ul style="list-style-type: none"> - Strategic thinking and planning - Niche offerings / small home market - International from inception - Active search - Committed management 	Reactive <ul style="list-style-type: none"> - Adverse domestic market conditions - Unsolicited enquiries and orders - Reluctant management - Costs of new production processes force export initiation
Patterns	Concurrent <ul style="list-style-type: none"> - Near simultaneous domestic and export expansion - Lead markets - Strong evidence of networks 	Incremental <ul style="list-style-type: none"> - Domestic expansion first - Psychic proximity of markets - Limited evidence of networks
Pace	Rapid <ul style="list-style-type: none"> - Fast internationalization - Many markets at once - New product development of global offerings 	Gradual <ul style="list-style-type: none"> - Slow internationalization - Single market at time - Adaptation of existing offering
Modes of entry	Flexible <ul style="list-style-type: none"> - Use of agents or distributors - Integration of with client's channels - Use of licensing - Joint ventures - Overseas production 	Conventional <ul style="list-style-type: none"> - Use of agents, distributors or wholesalers - Direct to customers

In addition to reactive and proactive strategies, there are also other behavior patterns firms may follow when internationalizing. Saras Sarasvathy introduced the concepts of causation and effectuation in the beginning of this century, and she has been studying widely the behavior, characteristics and habits of entrepreneurs from different cultures. The most important difference between causal reasoning and effectuation is that an entrepreneur using causation has a given goal and searches for means to reach his goal. If the entrepreneur uses effectuation instead, he will start with the means he has and from this point he looks for possible goals (Sarasvathy 2001).

One of the most highlighted characteristics of entrepreneur is the ability to recognize opportunities, and naturally ability to recognize international opportunities creates a good foundation for international entrepreneurship (Ellis 2011). Ellis has studied the question "how" in terms of recognizing international opportunities, and it seems that opportunity recognition is often influenced by entrepreneur's participation in social and business networks (Johanson and Mattsson 1988; Coviello and Munro 1997).

2.2 Networks

Firms operate in networks of connected business relationships (Johanson and Vahlne 2009, Coviello 2006) and through these interconnected relationship networks firms are easily able to create new knowledge. Forming a working relationship takes years of time and managerial effort, and many attempts fail. Thus working relationships are result of considerable investment and form an important firm resource (Dyer and Singh 1998). Regardless of some formal aspects, developing a relationship is essentially an informal process, where intentions, expectations and interpretations are having important role. Johanson and Mattsson developed a network model of internationalization already in 1988, and their model especially highlighted the importance of network structures outside of the firm's own business network.

As networks are borderless, internationalization may often happen simultaneously when strengthening or protecting a firm's position in a network (Johanson and Vahlne 2009). Focal firms may also follow a partner abroad if the partner firm has valuable network position there, or they may link themselves to a middleman such as an agent or distributor. After establishing new relationships with customers, the internationalizing firm may bypass the middleman and establish its own subsidiary. There is no doubt that network relationships with partners offer useful insights, however, the cause and effect relationships are not yet totally clear. Some researchers have pointed that networks might provide mechanisms to overcome biggest deficiencies in resources rather than being the primary drivers of internationalization (Bell et al. 2004).

2.2.1 Social and business networks

It is profoundly important to distinguish social networks and business networks from another: a social network is the collection of relationships linking one person with other individuals, whereas a business network is a collection of relationships linking one firm with other firms (Johanson and Mattsson 1998). Entrepreneurs with limited networks are those who more likely identify international opportunities by participating trade fairs and using heavier advertising (Ellis 2011). Social networks also take time to develop, and it is often seen that network benefits and international experience develop hand in hand. Younger and smaller firms usually aim to become a part of established networks of other firms (Coviello and Munro 1997) or they may hire well-connected managers and rely on their social networks.

Social networks are indeed crucial pathways of information. Especially when it comes to subtle, nuanced and unverified information, many actors tend not to rely on impersonal sources, but only on the people they know. Yet, this is not the only way social structures affect economic outcomes. Granovetter (1985, 2005) has studied the core principles of social networks and economic outcomes

based on classic social psychology. His main perspectives include the strength of weak ties (1973). The greater the network density is, the stronger the ties and norms (shared ideas of proper way to behave) are. The information that flows to individuals through strong ties overlaps usually considerably with the information they already know. Instead, the weak ties with mere acquaintances allow actors to move in different circles and get connected to a wider world.

Although the benefits of social ties have been shown widely, Ellis (2011) also discusses the minimal attention given to the possible disadvantages associated with using networks, and the fact that there has been very little attempt to create rival (non-network) explanations for opportunity recognition. For example, many opportunities are identified after meetings with complete strangers at trade fairs, or following enquiries from non-network members. In addition, we know very little about the trade-offs that entrepreneurs must commit when they choose to rely on their networks when identifying international opportunities (Brass et al. 2004). Tie-based opportunities are often arising from trust between known partners and lead to a better match (Uzzi 1996), whereas impersonal, non-network opportunities must be judged only on their merits.

In his study, Ellis (2001) found that tie-based exchanges actually do create larger relative incomes than exchanges based on non-network methods of opportunity identification. Superior returns were mainly due to lower set-up, monitoring and enforcement costs. But tie-based opportunities come with boundaries. They are often constrained in terms of geographic, psychic and linguistic boundaries, and if entrepreneur relies totally on ties, he might miss many potential opportunities that wait beyond these boundaries.

2.2.2 Embeddedness

In life, economic and non-economic activities often become entangled, and non-economic activities tend to affect the costs and the available techniques for economic activity. Mark Granovetter introduced this phenomenon already in 1985 and he called it “social embeddedness” of the economy. Embeddedness means the extent to which economic actions depend on or are linked to non-economic actions or institutions (Granovetter 2005). It can also be explained as the “nature, depth and extent of an individual’s ties into the environment” (Jack and Anderson 2002).

Economic actions may be embedded in terms of content, goals or processes, or cost advantages in production of goods (Granovetter 2005). Embeddedness can also be closely linked to productivity of individuals and organizations, since embeddedness may enable or constrain entrepreneurial activity (McKeever et al. 2015). Embeddedness is a good way to describe how some changes are not driven by purely economic rationales, but also by changing social norms and values.

The simplest example of embeddedness is job-seeking. Both employer and employee are known to gain financial benefit when using their social networks

in recruitment processes (Granovetter 2005). Prospective employees prefer to learn about possible employers from trustworthy personal sources and vice versa. When these individuals take advantage of their social networks, maintained mainly for non-economic reasons, the job-hunting cost is minor compared to formal search intermediaries.

Embeddedness can also be seen in the networks between companies. The financial impact of knowing one's partner varies with the strength of the relationship, the cost of shifting to different partners, and overall market situation (Granovetter 2005). Non-economic buyer-seller relations may increase or decrease the prices, depending on how easy it is in general to access quality goods through impersonal standards. Prices of the goods purchased from known suppliers can exceed the market level if customers are happy to pay premiums in return for quality (Klein and Leffler 1981) or they can be lower when purchased from friends than from strangers, if there are some particular obligations that seller feels in the personal relationships (DiMaggio and Louch 1998).

Employees overall position in a social group and good non-economic relations with other employees can have important influence on productivity. Even if certain tasks could be performed without immediate co-operation with others, employees with low group status appear less skillful if they have not learned the vital subtleties of work practice through interaction (Granovetter 2005). In addition, employees who enter the company via their personal social contacts, tend to stay longer and perform better (Fernandez et al. 2000).

Innovations are one important outcome of social structures and networks; however, not all innovations rise from the social inner circle. Dense and cohesive networks of strong ties often create illusion of superior knowledge and high level of consensus in current practices (Granovetter 1973). The most broad-minded and radical innovations rise from atmosphere, where employees do not need to care about their champion in corporate hierarchy.

Jack and Anderson (2002) studied entrepreneurship as an embedded socio-economic process. They found that case entrepreneurs were embedded in the local area, and embeddedness played a key role in shaping and sustaining their business. Social embeddedness was found to be a process of becoming "part of the structure", and this process impacted on the entrepreneurs' activities and influenced the way in which their business were established and managed. Social embeddedness is relevant to entrepreneurship, because it helps the entrepreneur identify social resources, an essential step to founding organizations (Hansen 1995). Figure 3 describes embeddedness and environment around the concept.

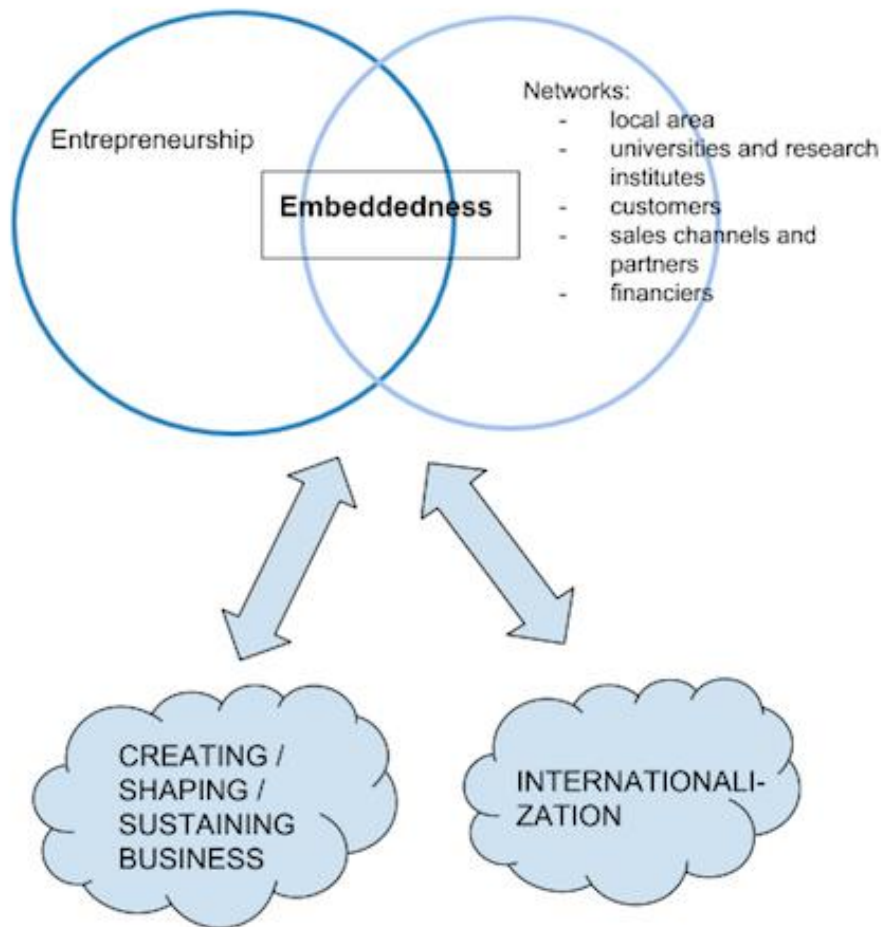


FIGURE 3 Concept of Embeddedness

Embeddedness plays important role also in the internationalization process of a firm. In the study of Leppäaho et al. (2017) all entrepreneurs were embedded in networks with universities and research institutes, customers, sales channels and partners, and financiers. However, the importance, strength and locality in relation to the networks showed both similarities and differences between the countries, as described in the next chapter.

2.2.3 Strength of ties

The strength of a network tie can be defined for example based on the level of closeness, trust, mutual respect and commitment of the parties (Söderqvist and Chetty 2013). According to Granovetter (1973) the strength of tie can be seen as a combination of three things; time, emotional intensity and intimacy, and reciprocal services that characterize the tie. As entrepreneurs become more embedded, and interact more closely with network partners, they start to be more aware of each other's capabilities and resources (Johanson and Vahlne 2009). This helps entrepreneurs to understand how they can use their networks to access new market knowledge or gain information about new opportunities

in foreign markets.

Leppäaho's group (2017) studied six biotech entrepreneurs from Canada, Finland and New Zealand and discovered that basically all the entrepreneurs were embedded in four similar types of networks, such as 1) universities and research institutes, 2) customers, 3) sales channels and partners, and 4) financiers. Some of these networks were domestic and some international, which was seen useful in the internationalization efforts of the firms. The most important finding was that the importance and strength of the networks varied significantly between the entrepreneurs operating in different cultures.

To begin with, the entrepreneurs were all embedded in networks with universities and research institutes as a means to set up R&D operations. Another strong network for all case companies were the financiers, but the structure of ownership defined how much financier's affected the everyday actions of the firms. The biggest differences between cultures were seen in relationships with customers. New Zealand and Canadian firms formed strongest and most important ties with their customers, as Finnish companies barely contacted them. Finnish entrepreneurs formed stronger ties with partner companies and sales channels, which handled all the orders and inquiries on their behalf.

The current understanding is that entrepreneurs usually take time and effort to form stronger ties with those who they see as their most important networks (Johanson and Vahlne 2009). But there are also some evidence that embedded ties are not always superior to "arm's length" impersonal ties. For example Uzzi (1996) found that relations of trust are not always the best choice; they have certain great advantages in stable economy, but in periods of change and uncertainty strong ties can prevent firms from adapting and pivoting as fast as would be necessary.

Weak ties are often used when finding a new job or obtaining a scarce service, but they have also larger implications in economy. As Granovetter (1985) explained, one actor and his close friends form a closely knit clique, but in order to connect to other cliques these persons rather use their weak ties than strong ones, and hence the weak ties are those that determine the diffusion of unique and often rare information in large-scale social structures.

In their case study Komulainen et al. (2006) found that firms identified opportunities of international exchange most often via links that connect researchers, innovators and managers interested in particular technology. This confirms the idea about the strength of weak ties; given that all actors in the same cluster (managers from company A) know what others in this cluster know, no new information rises. Instead, information about new opportunities spreads via those weak ties that connect people from separate clusters (part of the managers comes from company A, and part comes from companies B and C).

2.3 Summary

International entrepreneurship research is a young field; earliest articles identifying and explaining the phenomenon of “international new ventures” were published in early 1990s (Oviatt and McDougall 1994). Despite many influential papers since then, the international entrepreneurship literature still lacks systematic knowledge of early internationalizers’ networking in different phases of internationalization (Bembom and Schwens 2018, Reuber et al. 2018). Internationalization is an intense, dynamic process that requires substantial resources to initiate and extend (Autio 2005) and early internationalizers face particular challenges due to their liability of newness (Bembom and Schwens 2018). Compared to firms that internationalize later, INV’s are initially disadvantaged because of the limited availability of resources like financial capital, human resources and legitimacy (Knight and Gavusgil 2004). Early internationalizers generally face increased resource needs after new market entry, since they typically continue to seek for additional growth opportunities and penetrate markets abroad (Autio et al. 2000).

The existing literature shows that early internationalizers often resort to their networks, and thereby substitute their lack of own resources with others’ resources (Coviello 2006, Oviatt and McDougall 1994). For example, Coviello and Munro (1997) find that network contacts are most often those, who provide INV’s access to their first foreign markets and help them overcome resource deficits. Even though it is clear that network relationships are intangible resources salient to organizational growth, there is no pattern to explain the nature of ties in INV networks (Engel et al 2017). Ties can be either social or economic, and either strong or weak. For example, initial internationalization might have been the result of strong economic ties, but some social ties have been part of the network evolution. INVs often benefit from competitive capability and informational advantages generated by their network, and use them to gain international market advantage (Coviello and Munro, 1997).

The term of social embeddedness was introduced in 1985 (Granovetter) in order to study more detailed the role and importance of social networks for entrepreneurial action (Uzzi 1997; Jack and Anderson 2002). Thought embeddedness has provoked a number of interpretations, a key theme in them all is that embeddedness is identified as the nature, depth and extent of an individual’s ties into environment, community or society (McKeever et al. 2014; Uzzi 1997). Currently it is widely accepted that entrepreneurship is embedded in ongoing networks of personal relationships, and that goals related to social context are more or less entangled with the economic goals of the entrepreneur (Jack and Anderson 2002). Embeddedness has been seen both to enhance and to limit entrepreneurial activity, since decisions are not driven by rational individuals with stable financial goals, but instead by changing social norms and priorities (McKeever et al. 2015).

3 RESEARCH METHODOLOGY

3.1 Qualitative research

For this study I chose qualitative, case based research, conducted by narrative interviews. Qualitative research is the best way to study how people cope in their real world settings (Yin 2015). It also enables the writer to conduct in-depth studies about a broad array of topics, without being constrained by the limitations of establishing experimental conditions. In qualitative research social interactions will occur with minimal interference of artificial research processes, and people are allowed to say what they want, not only what prepared questionnaires suggest.

Case studies are usually rich, empirical descriptions of particular instances of a phenomenon, and typically based on a variety of data sources (Yin 1994, Eisenhardt and Graebner 2007). Methodologically, classic case studies are connected to the interpretative, ethnographic and field-research traditions (Eriksson and Kovalainen 2008). They are very different from the experimental, quantitative, and deductive research traditions in business research, which aim to produce statistical generalizations. Case study research is also capable of developing theory. However, the key interest is in the case itself, not in the pre-given theoretical propositions. Building a theory from case studies is a research strategy that involves using one or more of these cases to create theoretical constructs, propositions, and eventually theory from case-based, empirical evidence (Eisenhardt, 1989). Replication logic is one of the central concepts when discussing about theory building from cases. This means that each case stands as its own analytic unit, like a series of related laboratory experiments, and multiple cases serve as replications to emerging theory (Yin 1994).

Often the most challenging part with case studies is the case selection (Eisenhardt and Graebner 2007). Sometimes it is falsely assumed that the cases should be representative of some population, as data in large-scale hypothesis testing research. But it should be remembered that the purpose of the qualitative research is to gain new information (or develop a theory), not to test

it, and so theoretical sampling is appropriate. Theoretical sampling differs from random sampling in a way that cases are selected because they are particularly suitable for researcher's purposes; unusually revelatory, extreme exemplars, or opportunities for unusual research access (Yin, 1994). My inclusion criteria for the participant companies of this master's thesis are introduced in Chapter 3.3.

There is a long tradition of using real-life cases in business teaching (Eriksson and Kovalainen 2008). Also companies use case histories that address business problems, successes and failures for training purposes, and in general, exciting and educating 'real-life' cases from business world are easily available. The main aim of intensive case studies is not to produce knowledge, which could be generalized to other contexts in the conventional meaning, but the main focus lies in the working with the case itself (Eriksson and Kovalainen 2008). In my study I will not be presenting any statistical averages, like Finnish SME having average 19,45 employees, but instead I will treat each company as unique and individual case. My purpose is to present the views and perspectives of study participants and embrace the contextual conditions. Qualitative research is indeed driven by a desire to explain social behavior and thinking through existing or emerging concepts (Yin 2015).

But having only motivating interest is not enough to perform credible qualitative research; the work has to be done also. One of the most important parts of qualitative research is actually to collect the original field-based data, record the data and transit the data to a more formal set of notes (Yin 2015). Qualitative data in general is characterized by being more alphabetic than numeric, and it is often presented in variety of narrative formats, word tables, hierarchies, matrices or diagrams. And there is no best practice for reporting case study research (Eriksson and Kovalainen 2008). Methods books offer a variety of reporting practices, which vary according to the research traditions in different disciplinary fields. But in order to present credible results, the researcher has an obligation to explain how the excerpts of empirical material were selected for inclusion in the case report and how the evidence is interpreted. And naturally, during the interpretation of the findings, the researcher can challenge conventional generalizations and social stereotypes (Yin 2015).

3.2 Narratives

Narration is a common way of communication (Czarniawska 2004). People tell stories to entertain, to teach and to learn, to ask for an interpretation and to give one. 'Narratives' is a term that is used often as synonym for stories, for pieces of text that tell what happened and why, and narrative research can be seen as a loose frame that includes different methods for reading and analysis of data (Riessman 1993).

The narrative approach offers an alternative option for traditional

interviews, where the researcher asks questions which the respondent answers (Johansson 2004). Narrative approach means that the interview situation is regarded as a storytelling arena, and stories are seen as fundamental to knowing, and not as secondary information intended to give illustrations and to present the issue in its context. The identification of the role of storytelling enables a richer, fuller understanding of how entrepreneurs learn and gain experience.

The increased use of narratives also in entrepreneurship research rises partly from an acceptance of the way respondents spontaneously account for their experiences (Johansson 2004). Scholars using the traditional interview have found that telling stories is surprisingly common in everyday conversation. In many cases, answers given in an interview are spontaneously formed into narratives, if interviewees are given some room to speak (Czarniawska 2004). One important point is that the interviewees might choose diverse timeframes for their account; chronological, cyclical, or kairoitic, and it is important to let them choose the time frame themselves. Asking 'when did it all begin?' works well only if the interviewee has formed a chronological timeframe about the issue discussed.

I chose narrative interview method for my study because when narrating, the entrepreneurs are making sense of their past and creating a story, which has a plot and structure (Riessman 1993). This story can then be used to form a timeline of significant events during the history of the enterprise. I am aware that there are several challenges in narrative interviews and open questions, because the answers are stories, and they depend totally on the person and his mood on that particular day. For example, few companies in my study have multiple owners, and if I had interviewed another one of the owners, I would now have very different narrative about that company. But instead of pure facts, I now have this one person's values and opinions, rich descriptions of experiences and new perspectives to analyze.

The stories, which interviewees tell, illustrate how opportunities are recognized and realized through processes of thinking, reflection, exchange and interaction (Johansson 2004). Listening to and interpreting these encouraging life stories clearly promotes the understanding of entrepreneurial behavior. Narrative approach offers a good ground for understanding how individual entrepreneurs are motivated and how they have constructed their identities. In a wider context, this understanding is a one way to make contribution for small firms and promote their growth within society.

3.3 Data collection

The inclusion criteria for the participant companies were 1) Finnish SME, 2) at least some international business already 3) at least five employees or persons working for the company, 4) operates in life science business (for example

medical, biotech, pharmaceutical or diagnostics). The person I would interview needed to be the founder, owner or entrepreneur of the company. I asked around 15 companies to participate this research by phone and email. I knew each company by name beforehand, mostly I had heard about them in work-related situations during previous years. The most difficult thing was to get in connect with the right person; I didn't accept interviews from sales and marketing department or HR-department. Final number of interviewees was six, and in one case I wasn't able to get the interview from the founder or the owner, because this company was owned by a foundation. All interviews were conducted in September-October 2016, one via Skype and five face-to face.

My only prepared question for the interviews was "how did you become an international entrepreneur" and in the case of foundation-owned company "tell me about the first steps of the internationalization". I tried to listen carefully and ask more when needed, using only open questions. I also focused on tolerating the silent moments, because I have understood that these are the moments when the interviewee creates and processes his narrative. All the interviews went smoothly and conversation was very open. Some of the interviewees talked more spontaneously and some required that I asked some questions first and only after they started talking themselves.

The interviewees all agreed that I could use their personal and company names in this paper. Participants and specifications of the interviews are listed in Table 2. More information about each case company will follow in chapter 3.5.

TABLE 2 Interview participants and specifications

Company	Interviewee	Date	Duration	Transcribed text
Oy Reagena Ltd	Co-owner and one of the founders, CEO Markku Parviainen	23.9.2016	1h 4 min	15 pages
NewIcon Oy	Biggest owner and founder, CEO Ossi Parviainen	14.10.2016	58 min	15 pages
Biovian Oy	One of the five owners and founders. Director, Business Development and Projects Antti Nieminen	14.10.2016 (skype)	52 min	11 pages
Oy Woikoski Ab	100 % owner and CEO Clas Palmberg . Vice president, Head of marketing and development Sari Palmberg	17.10.2016	1h 28 min	24 pages
Suppilog Oy and Decem Pharma Oy	Biggest owner and founder, CEO Harri Eskelinen	25.10.2016	52 min	14 pages
Oy Medix Biochemica Ab	CEO Ismo Råman (Company is owned by Minerva foundation)	25.10.2016	1h 18 min	19 pages

3.4 Data analysis

After transcribing the interviews, I first started to draw the internationalization timelines for the companies. In some cases timelines presented the whole life-cycle of the company, and in some cases, when the company was already older, timelines focused on the time period of first international sales. Some timelines included specific years of different events, and some were more inaccurate about the timing of the milestones. This is due to the narrative nature of the interviews, some entrepreneurs focused more on timing of the events, and some emphasized the activities and decisions they had done during the years, not the timing of them.

Some of the entrepreneurs were also better storytellers than others, or seemed eager to tell their stories to me, so I had to choose which incidents were presented in the timelines and which were not. It was quite surprising how well the interviewees remembered things that had happened 5 - 15 years ago, and the persons involved in these situations. When I asked them to tell about the first steps of internationalization, they remembered the partners, workers and customers behind each deal unexpectedly well. The internationalization timelines of the companies are presented in Chapter 4.1.

The qualitative analysis of the interviews was conducted in three main sections: 1) International orientation and capabilities, 2) Internationalization strategy and behavior, and 3) Networks and embeddedness. In addition to my own analysis, there are several selected quotes from the narrative interviews. Quotes in Finnish are the actual words of the entrepreneurs, and they placed in the text alongside with my own English translation in order to retain the authenticity of the entrepreneurs' own narrative.

In the first section I searched for the attitudes and strategies related to internationalization in general. The interviewees told how they had made the choices to internationalize, and what the most difficult parts in the process were. I highlighted some themes, like how they organized the sales and marketing, and how they reduced the risk related to new market entries.

In the second section, I looked into the internationalization processes and behavior of the firms, trying to identify the internationalization strategy the entrepreneur was following. I also studied the international orientation and capabilities of the entrepreneurs, and sought similarities and differences between the case companies. I did this by comparing the narratives to internationalization strategies of Bell et al. 2004 (Table 1) where applicable. The purpose of this chapter was to answer my first research question: What kinds of internationalization strategies do Finnish life-science SMEs follow?

In the last section, I focused on networks and embeddedness. All of the interviewees brought out their most important networks without asking especially. The strength of the networks was little harder to evaluate, since all of the entrepreneurs did not particularly say which ties they felt were strong and which weak. Some of the networks were common to all case companies, but

some were also very unique and field-specific. Main point of this chapter was to answer my second research question: How does entrepreneurial embeddedness affect the early internationalization of Finnish SMEs?

3.5 Cases

As mentioned before, all the case companies needed to be Finnish SMEs with at least some international business already, and they needed to operate in life science business (for example medical, biotech, pharmaceutical or diagnostics). The first company, Reagena, is a traditional manufacturing and exporting company, which has just celebrated its 30th anniversary. The company is developing very specialized infectious disease diagnostic tests and exporting them to 20-30 countries. In addition, they are manufacturing solutions and reagents for life sciences business use. Majority of the Reagena products are used in hospitals, clinical laboratories and physician office laboratories. The second company, NewIcon, has roots in industrial automation, but today they have specialized in designing different pharmacy storage and retrieval robots for hospitals and private pharmacies. NewIcon has recently gained outside funding and is aiming to expand aggressively to foreign markets.

The third company, Biovian, is a contract manufacturing and development organization for biopharmaceuticals. Being a CMO means that they do not have any own products, but they are selling manufacturing services like cell line development, protein purification or viral vector production. Customers are often bigger pharmaceutical companies, who have developed a new drug and want to produce small amounts for clinical trials, for example. Woikoski, the fourth company, is the oldest of the case companies, founded already in 1882. Woikoski is a traditional family-owned gas producing company, but also a very quick and experimental producer of medical gases. They see international gas business more as an exciting hobby than future moneymaker, and they know that gases need to be something very special in order to make sense to ship them outside Finland.

The fifth case company is a combination of two separate firms, founded by the same person. Decem Pharma and Suppilog are living in symbiosis, where another one has the brand products and another one is the distribution channel. Surprisingly, it was the innovative web-based distribution platform Suppilog, which has arisen wide interest especially in Asia. The platform started as a distribution channel of dietary supplements to pharmacies, but very soon expanded to grocery stores, where the bigger markets are waiting.

Finally, there is Medic Biochemica, a manufacturer and exporter of very special diagnostic tests for hospital use and antibodies for industry use. On the contrast to other case companies, Medix Biochemica is not an entrepreneur-owned company, because it is owned by Minerva foundation. This company has professional CEO and very systematic approach to internationalization, and

it acts as a good reference, when comparing the internationalization behavior of all case companies. More information about the case companies (founding year, location, turnover and number of employees in 2016) is presented in Table 3.

TABLE 3 Case companies' specifications

Company name	Interviewee	Company established	Location	Turnover 2016	Personnel 2016	Operating field	Exports to	Export % of turnover
Oy Reagena Ltd	Co-owner and one of the founders, CEO Markku Parviainen	1987	Siilinjärvi	2,2 me	18	Infectious disease diagnostic tests for hospital use. Reagents for life-science business use.	20-30 countries	20 % (direct exports)
NewIcon Oy	Biggest owner and founder, CEO Ossi Parviainen	2006	Kuopio	5,4 me	50	Automation of storage and medication process for hospitals and pharmacies.	Europe, Middle-East, Asia	Not known
Biovian Oy	One of the five owners and founders, Director, Business Development and Projects Antti Nieminen	2003	Turku	10,2 me	35	Contract manufacturing and development of biopharmaceuticals.	Europe, USA	80-85 %
Oy Woikoski Ab	100 % owner and CEO Clas Palmberg, and Vice president, Head of marketing and development Sari Palmberg	1882	Voikoski, Järvenpää, Kokkola etc.	51,1 me	200, medical gases 20-30	Manufacturing of industrial and medical gases.	Europe, Russia	Not known
Suppilog Oy	Biggest owner and founder, CEO Harri Eskelinen	2012	Vantaa	0,3 me	3	Wholesale, marketing and logistics of healthcare and dairy products.	Asia, especially China	Not known
Decem Pharma Oy	Biggest owner and founder, CEO Harri Eskelinen	2006	Vantaa	2,5 me	7	Wholesale of pharmaceuticals and dietary supplements.	Vietnam, Iran, Bulgaria	Not known
Oy Medix Biochemica Ab	CEO Ismo Råman, company is owned by Minerva foundation	1985	Espoo, Joensuu and Shanghai	16,7 me	90	Antibodies and antigens for IVD industry. Diagnostic rapid tests for hospital use.	USA, Europe, Asia	87 %

4 RESEARCH FINDINGS

4.1 Timelines

The age of the case companies varied significantly. Youngest firm, Suppilog, was only four years old at the time of the interviews and the oldest, Woikoski, had already 134 years of business behind them. All the internationalization stories were naturally different and they are presented in individual timelines at the end of this chapter (Figures 4 - 9). Some interviewees told me widely about their own personal growth steps when becoming an entrepreneur, and some were more sensitive and spoke only about the enterprise and its growth. For example, Ossi Parvianen started the interview by telling memories from his student life, travelling around the world, and how one professor made all the students believe that they could do anything they wanted.

“Mutta tossa olin Lappeenrannassa, opiskelin korkeakoulussa, ja siellä oli itse asiassa semmone jännä proffa, se tuli teollisuudesta ja se pumppas uskoa, luuli kaverit enemmän itsestään kuin oikeasti olivatkaan, ja se oli ihan hyvä...”

“But there I was, in Lappeenranta, studied at the University, and there was this groovy professor, he had background in industry and he pumped the faith in us, guys thought more of themselves than they were, and it was pretty good...”

Ossi Parviainen, NewIcon Oy

The opposite was Antti Nieminen, who did not tell a word about his personal history. Antti's story starts precisely on the year when he and his four co-workers from Biotie Therapies established the company.

“Joo, itse asiassa meidän niinku stoori on ollu semmonen, et tota 2003, tai oikeestaan 2002, jo aikanaan, niin minä ja neljä muuta yhtiökumppania, jotka kaikki työskenneltiin Biotie Therapies yrityksessä...”

“Well yes, our story has been like that, around 2003, or actually 2002, already then, me and four co-owners who all worked in company called Biotie Therapies...”

Antti Nieminen, Biovian Oy

After the entrepreneurs had told about the birth of their firm, they usually moved on to the part where internationalization activities begin. Typically, the companies had started their internationalization by searching good distributors and sales agents. These partners were usually sought from trade shows or straight from Internet. Often the entrepreneurs said that domestic sales were done directly to customers, but foreign markets required local distributors. Some had tried different forms of business strategies during the years. For example, Markku Parviainen told that Reagena has their main focus in own brand products, but they have also started selling B-to-B contract manufacturing services to few industrial customers. These customers are then doing the export under their own brand name. Parviainen says that if contract manufacturing services are counted, the exports share of turnover increases from 20 % to 35 %.

Three of the case companies had done only exporting of their own products or services, but three had also subsidiaries abroad. Woikoski had established their affiliated company in Latvia 2011, NewIcon had set up subsidiaries in England and Denmark 2014, and Medix Biochemica had opened a sales unit in China 2016. Indeed, the case companies seemed to have very different target markets. Europe was typical market for most of the firms, but not always the most important one. The greatest efforts were often used to penetrate the markets that entrepreneurs saw they had the best changes. And the biggest market was not always seen as the best.

“... jonku verran jenkkeihinki projektia, mutta se ei oo koskaan ollu meille semmonen mikään pääkohde, vaikka kaikki niin vois luullakkin. Et siellähän nyt tietysti tän tyyppisiä projekteja ja teollisuutta on vaikka kuinka paljon, ja ois vetoa. Mut sit sielt tulee taas tiettyjä hankaluuksia että, mikä me nähään et on tämmösiens eurooppalaisten, noitten kumppaneittein kanssa on niinku niin helppo mennä, puhutaan samaa kieltä niin sanotusti. Kun jenkeissä sitä peliä pelataan ihan eri lailla ku täällä.”

“... some projects also to USA, but it has never been the main target for us, even though everybody could think like that. There are of course loads of this kind of projects and industry, and it would be attractive. But there are also certain difficulties, which we see that are easier to deal with European partners, because we speak the same language, so to speak. In USA they play that game in totally different way.”

Antti Nieminen, Biovian Oy

“Mun mielest suomalaisil on se etulyöntiasema, et suomalaiset on tälläsii rauhallisii selvittäjiä, nii me ollaan tosi vahvoilla. Et semmonen takki auki – jenkkityyli on... ei toimi Kiinassa. Sit taas suomalaisella tyylillä ei pärjää muissa maissa välttämättä, esim. Ranskassa saattaa olla et pitäis olla niinku ranskalaisten kanssa samalla aaltopituudella. Ja jenkeissä voi kans vähä jäädä jalkoihin, jos on liian eksoottinen selittäjä.”

“I think that Finns have this vantage that Finns are these kind of calm liquidators, we can succeed. That kind of arrogant Yankee style is... doesn't work in China. Then again, Finnish style doesn't necessarily work in other countries, like in France it might be that you should connect better with French people. And in USA you might get trampled too, if you are too exotic explainer.”

Harri Eskelinen, Suppilog Oy

The personal backgrounds of the entrepreneurs are not presented in the timelines in order to maintain the focus on the firm itself, and especially on the first steps of internationalization. However, it is interesting, that all of the interviewees had similar type of backgrounds and similar thoughts about the benefits that their education had brought them. All of the entrepreneurs had scientific or engineer background, and they felt it had served them well in the negotiations with customers. Commercial education was not seen as too important, and only few had ever studied economics. One of the entrepreneurs had MBA-examination, and one had started it, but suspended it later due to time pressure. The interviewees often mentioned that in the financial and commercial matters they were willing to rely on their chief financial officers and executive boards. Those were often the places, where commercial know-how was better available.

As explained in the Data Analysis (p. 31) I have drawn the timelines of the companies based on the interview data. The timelines do not follow any clear pattern due to the narrative nature of the interviews. Some entrepreneurs focused more on timing of the events and some told widely about the processes and strategies behind the events. Generally speaking, The Stars in the timelines specify the important milestones during the firms' journeys and The Arrows aim to point the actions behind these significant events.

Reagena

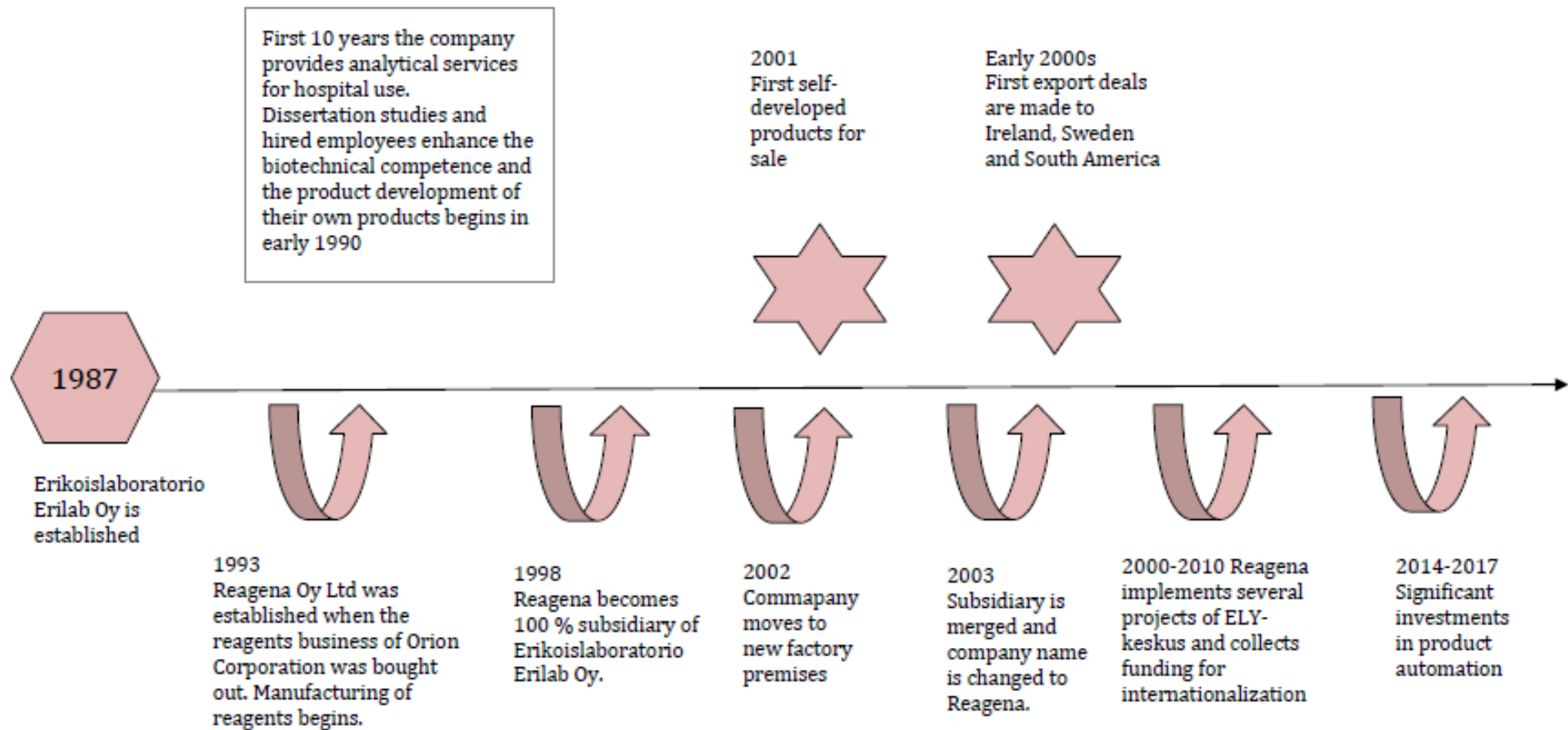


FIGURE 4 Timeline of Oy Reagena Ltd

NewIcon

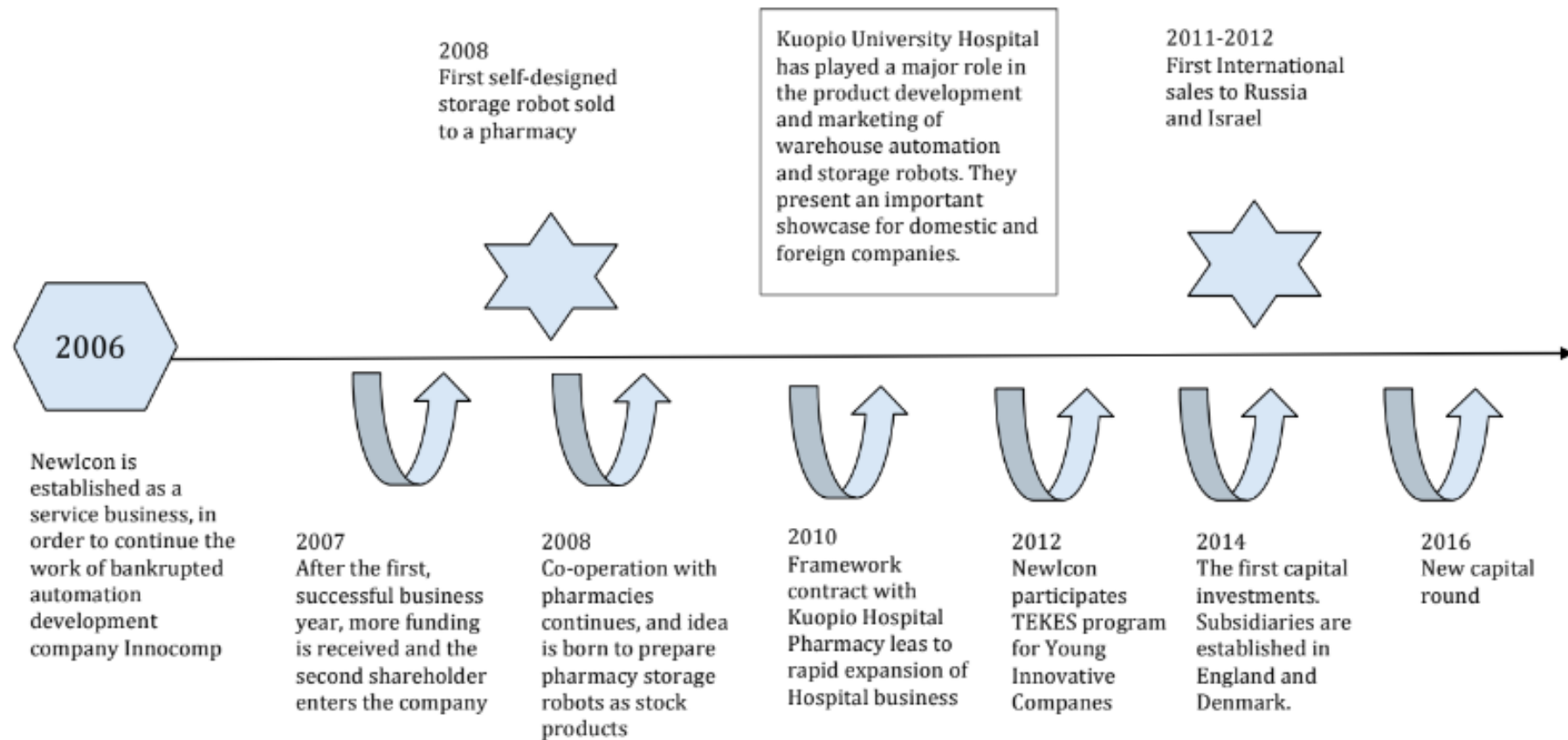


FIGURE 5 Timeline of NewIcon Oy

Biovian

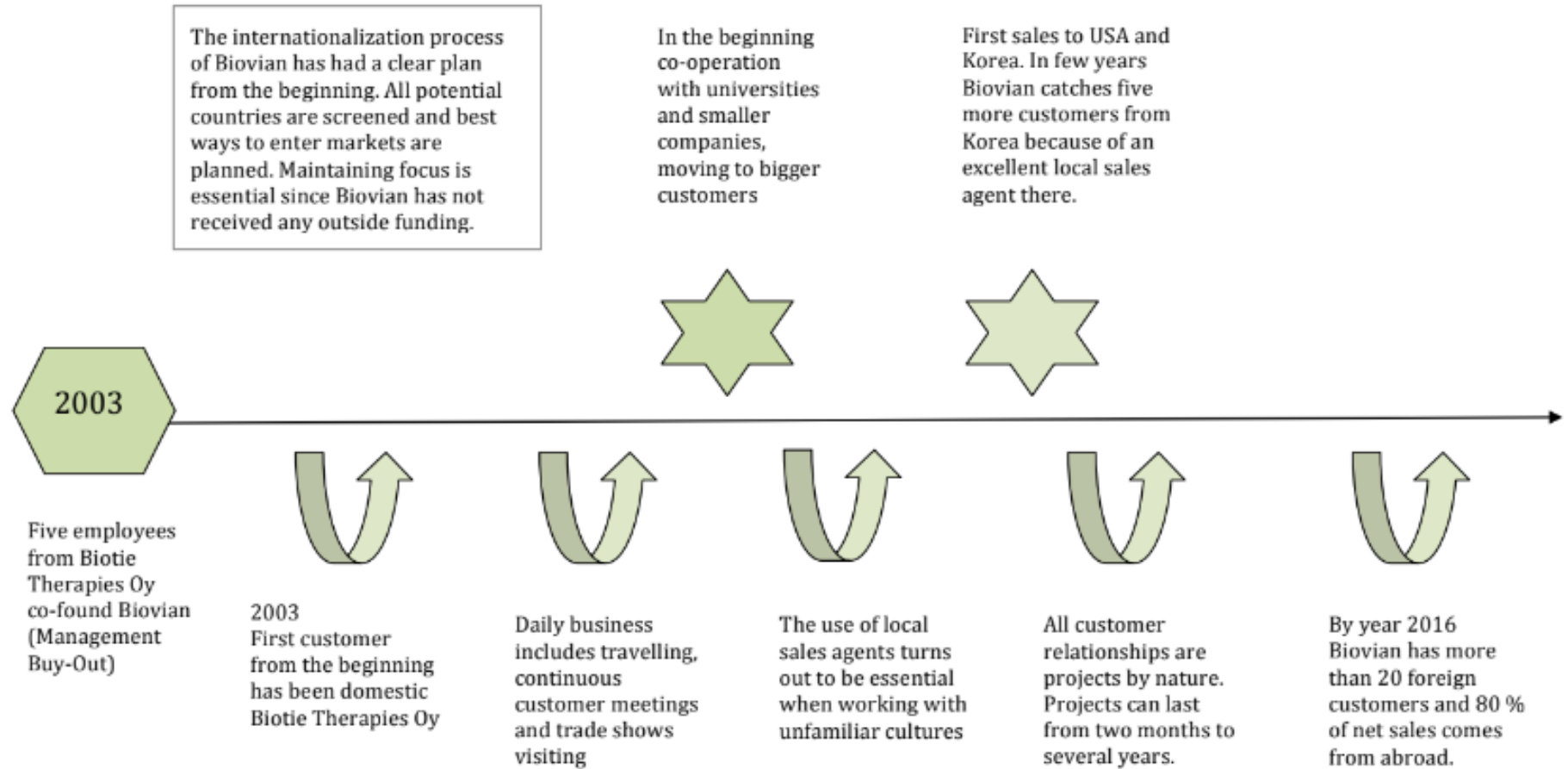


FIGURE 6 Timeline of Biovian Oy

Woikoski

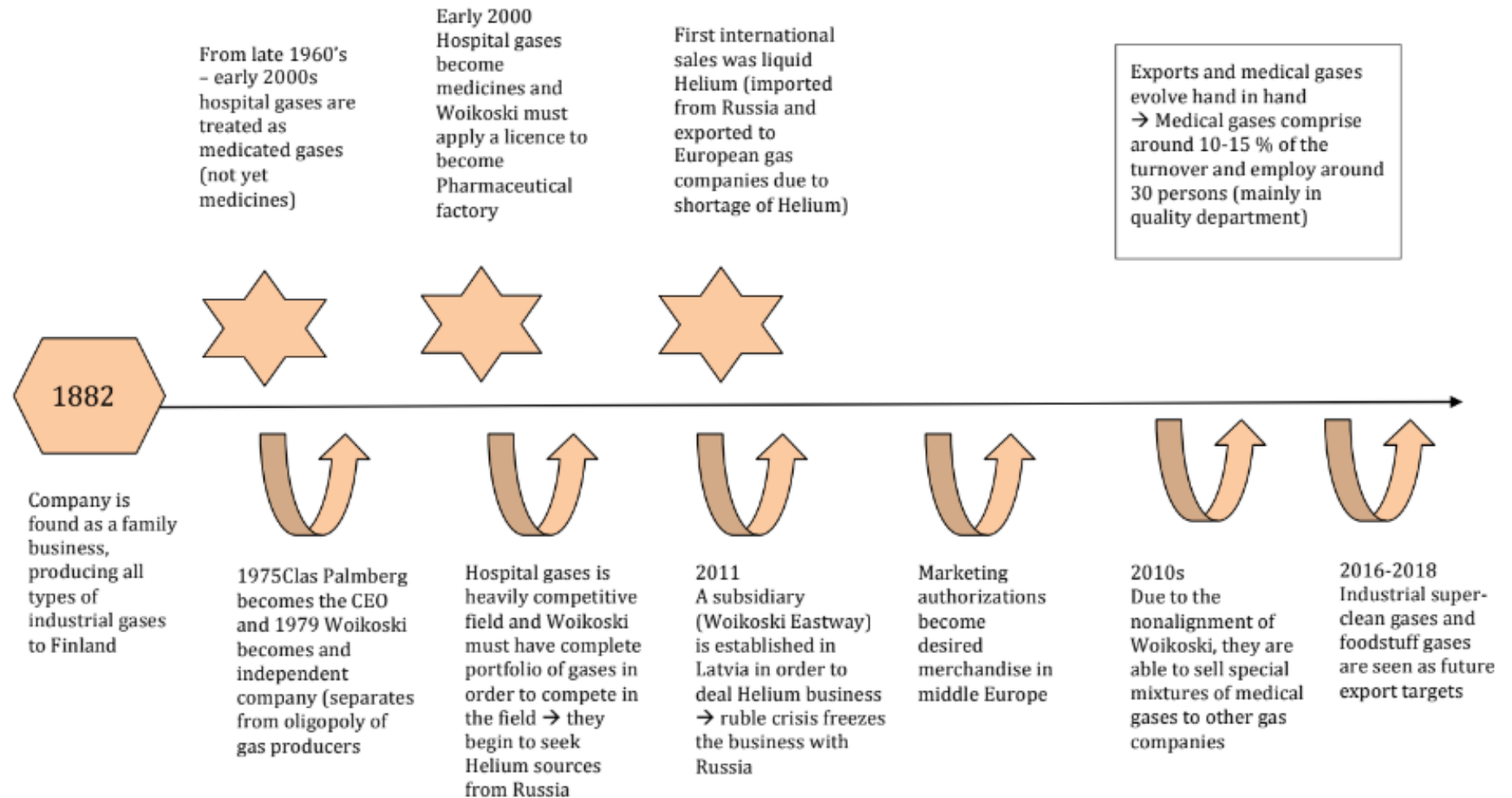


FIGURE 7 Timeline of Oy Woikoski Ab

Decem Pharma & Suppilog

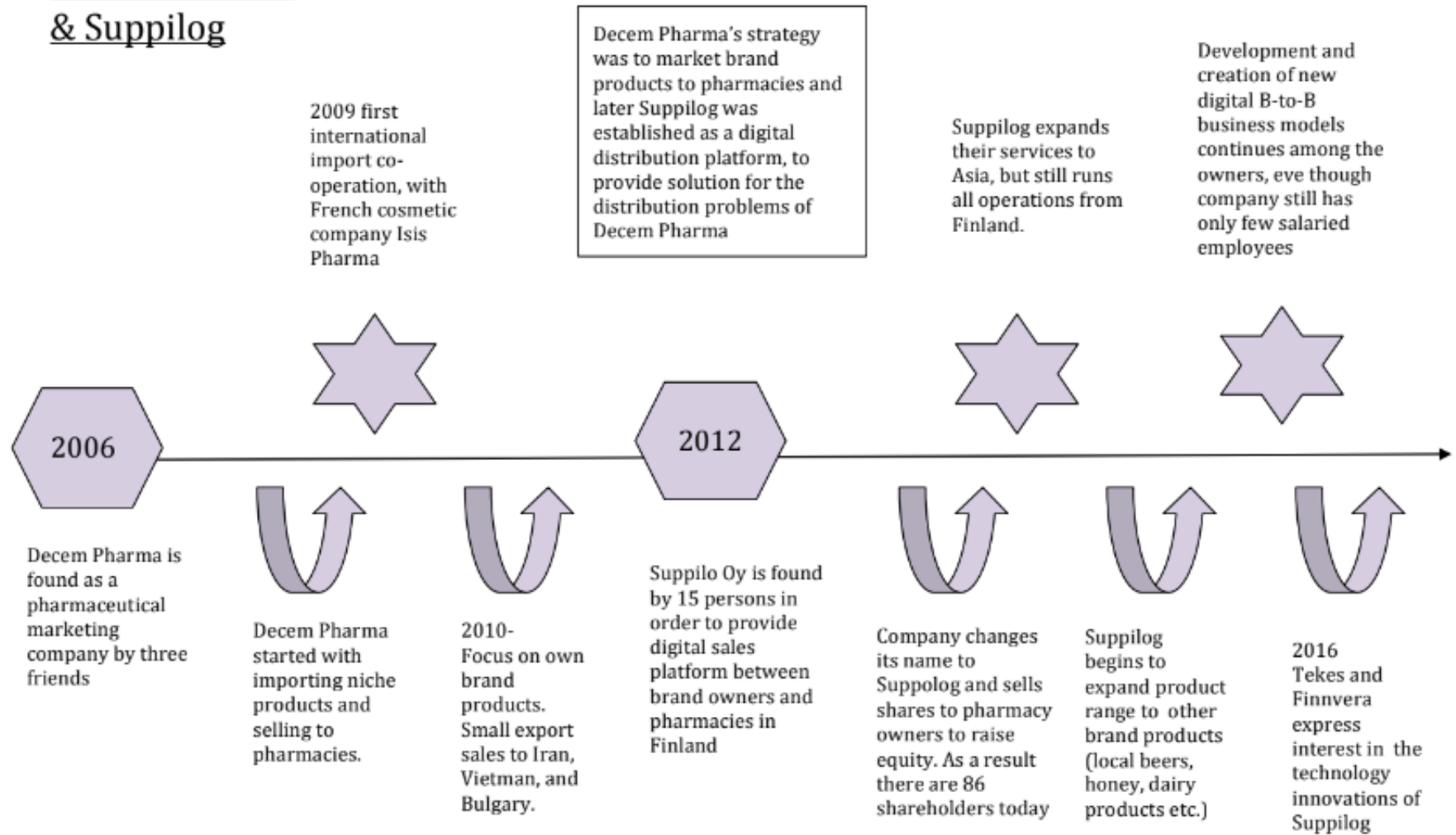


FIGURE 8 Timeline of Decem Pharma Oy and Suppilog Oy

Medix Biochemica

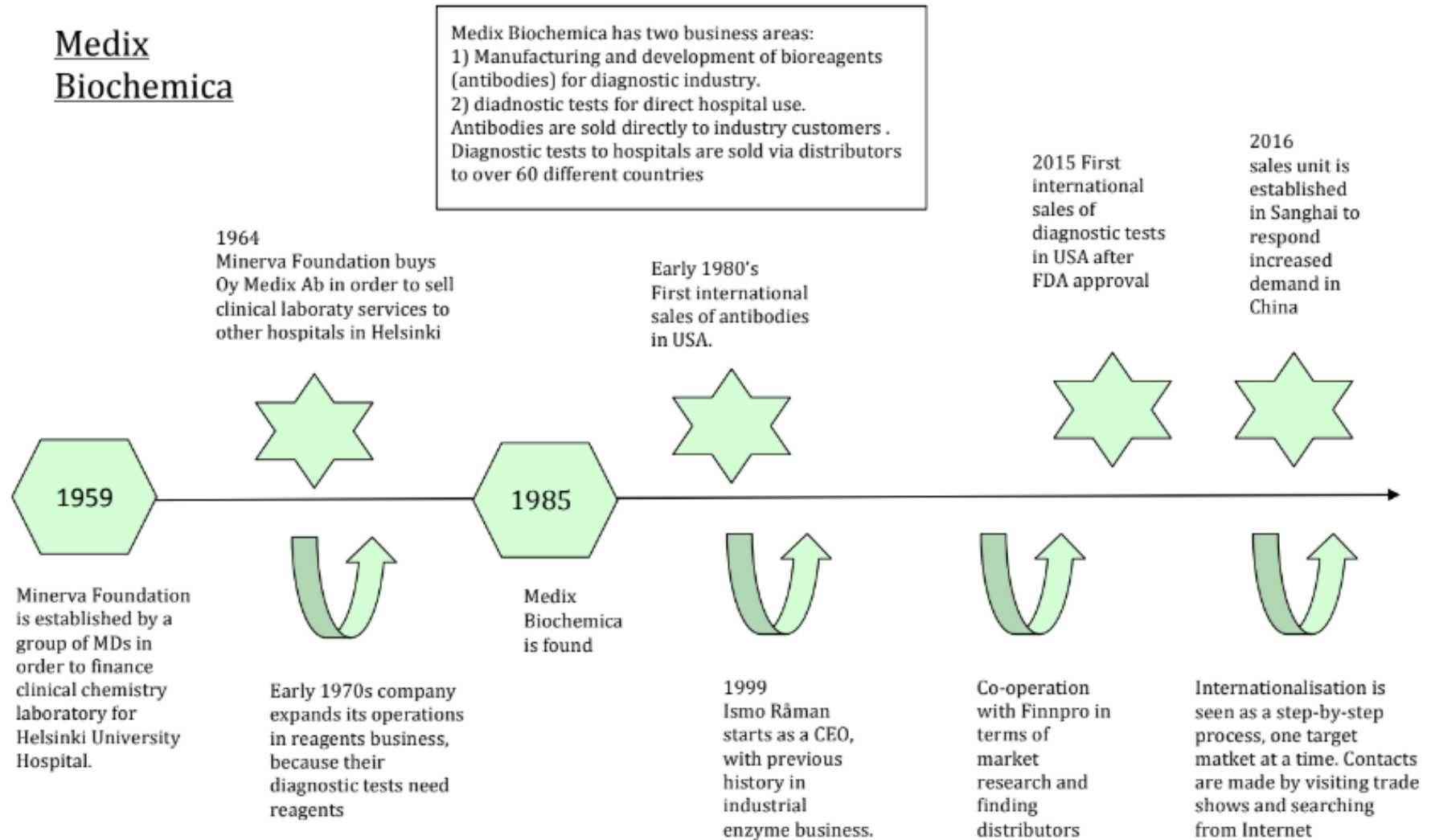


FIGURE 9 Timeline of Medic Biochemica

4.2 International orientation and capabilities

After drawing the timelines of the companies, I started to analyze the content of the interviews more. What surprised me, was the amount of reflection in the interviews. Many of the entrepreneurs had thought about the cause and effect – relationship in their stories. Some highlighted that only hard work had brought them so far and, some gave more credit to chance.

“Siitä lähti... ja siis se koko niinku tarina on vaan et tää Suppilogikin lähti niinku ihan silleen vahingossa, ikäänku eräänlainen tyrä tosta kyljestä (naurua)... mutta se on tota... aika paljon kaikki menee elämässä vähä niin että sattuma ohjaa. En mä olis itse edes lähtenyt proviisoriksi opiskeleen jos ei sattumoisin olis ollu sellanen ihmeellinen tilanne sillon...”

“That’s how it started... and the whole story is that this Suppilog was just ripped out accidentally, like some hernia on the flank (laughs)... but it is like that... pretty much everything in life happens as it happens. In fact, I wouldn’t have even started studying pharmacy without this funny situation back then...”

Harri Eskelinen, Suppilog Oy

Almost all of the entrepreneurs emphasized the importance of internationalization in their narratives. The case companies operated in very narrow business sectors, practically niche markets, and domestic sales were so small that it could not have possibly supported the company’s growth. Medix Biochemica and Biovian are two good examples of companies that aimed to grow internationally, and had worked systematically for it.

“Mut totanoin sitte jos aattelee, et minkäläistä kansainvälistymistä meidän yritys, niin jos lähtee ihan siitä meidän niinkun toimialasta, niin Suomi on aivan liian pieni maa... tälläsen yrityksen niinkun... se vaan ei ylläpidä näin pientä yritystä, kun puhutaan in vitro-diagnostiikan raaka-aineista, tai ihan lopputesteistä. Et-et sillä ei vaan tehtaita pyöritetä... et kotimaan markkina on liian pieni.”

“But then, if you think what kind of internationalization our company, well if you start by looking at our business field, Finland is way too small country... for this kind of company to... it just doesn’t feed this kind of small company, when we are talking about raw materials for in-vitro diagnostics, or even the final test products. It-it just doesn’t run the business... domestic market is too small.”

Ismo Råman, Oy Medix Biochemica Ab

“... mut sit alusta saakka nähtiin että mehän ei tietysti voida jäädä tänne Suomeen ja olla kansainvälistymättä, ja et meidän asiakkaat suurilta osalta on kuitenkin siellä ulkomailla sitten. Et se oli oikeestaan ihan selkeetä et sinne ulkomaille täytyy mennä heti. Ja saatto siinä olla taustalla jotain markkinointitutkimuksia, jotka totes että ei tän tyyppisellä jutulla oo minkään näköstä edellytystä (naurua)”.

“But then, from the beginning we saw that we obviously couldn’t stay here in Finland, and not to internationalize, and that most of our clients are there in foreign markets then. It was actually very clear that we have to go abroad immediately. And it might be that there were some kind of market research on

the background, which stated this kind of business has no chances in succeeding (laughs)".

Antti Nieminen, Biovian Oy

Woikoski makes an interesting exception to this mentality. As mentioned, the company is 134 years old family-business, focusing on gas products (industrial, food & beverage, and medical gases). For Woikoski, internationalization is merely an interesting hobby, and domestic sales is what keeps the business running. The reason is clear, gases are cheap to produce, but due to their heavy packing, transport costs are massive. Only some superclean gases and medical gases with marketing authorization are so expensive and rare that the customer is willing to pay the transport costs of gas bottles overseas. The export operation of these rare gases like hydrogen and helium has made Woikoski known all over the world, but it doesn't mean they would still earn money with it. Clas Palmberg says that the only way to get direct customers from foreign markets would be establishing own product facility in that country, and that is not part of the Woikoski strategy.

One of the case companies, NewIcon, has set fast international growth as their strategy, but unfortunately they are operating in a field, where nothing happens very fast. They are doing business with hospitals and public sector, and creating new ways to operate with automatisations and robotics. Sometimes they see that potential customers are very excited, but funding for these massive investments is hard to collect. Since NewIcon has to make the investments in production years before any expectable income, their growth is quite dependent on outside funding.

"Sä voit sanoa silleen, että ensimmäiseks meistä tiedetään, sit ne haluaa kokeilla. Sit kun ne tykkää kokeilusta, esimerkiks lääkekaapin kokeilu, että tämä onkin hyvä, ni sen jälkeen me voidaan järjestää semmonen pilotointi. Okei se on hyvä, ja sit haetaan rahaa budjettiin ja kun on saatu rahat, järjestetään kilpailutus ja siihe koko hankkeeseen menee helposti kolme vuotta. Ja se vaatii muskeleita ja kärsivällisyyttä."

"You can say that first they know about us, then they want to test. Then, when they like the testing, for example they test a smart medicine cabinet and see that it is fine, after that we can set up a pilot. Ok, piloting goes well, and then they apply for money in the budget. And once they have the money, they must set up the tendering, and this whole project easily takes three years. And it requires muscles and patience."

Ossi Parviainen, NewIcon Oy

Many interviewees also discussed about the importance of sales and marketing. In Finland it seems to be common to develop an innovative product or service, often with a help of Tekes, Finnvera or all kind of business incubators. Entrepreneurs use huge resources in the development, but they do not understand that they will need much more money in the marketing phase than in the development.

"Välillä tuntuu et Suomes ei sitä ihan niin helposti ymmärretä, et me ollaan

edelleen insinöörkansaa. Et me ollaan sitä mieltä, et ku me nyt ollaan kehitetty tää härpäke niin kyllä se ittensä myy. Mut ku ei se vaan myy.”

“Sometimes it feels that we don’t understand this in Finland, like we are still engineers by nature. We think that once we have developed this thingy, it will sell itself. But it just doesn’t.”

Ismo Råman, Oy Medix Biochemica Ab

The case companies had various ways of doing their marketing. Most had set up different strategies for different countries; direct exports, distributors, joint ventures or subsidiaries depending on the market. Some firms started with comprehensive market research, and some used their intuition more.

“Meillä on se päätös tehty että meillä mennään suoraan niin sanotusti Pohjoismaissa ja Englannissa. Englannissa voi olla mahdollista että tulee tämmöinen Joint Venture -yritysmalli, mut muualla on sit jälleenmyyjä ja ne pitää niinku maakohtaisesti punnita silleen, että millä tavalla kannattaa mennä. Ja esimerkiksi Gulfin alueelle, jos et oo lokaalitoimija nii ei tuu kauppaa.”

“We have made the decision that we sell directly in Nordic countries and in England. In England we might establish this kind of Joint Venture -model, but in other countries we have retailers, and it needs country-specific evaluation, which is the best way to proceed. And for example Gulf area, if you are not local operator, there’s no business for you there.”

Ossi Parviainen, NewIcon Oy

Woikoski, Medix Biochemica and Reagenia have started their business already before Internet era, and they could tell about the difference between marketing in the 1980s and marketing today.

“Ennen vanhaan saatto olla vielä tärkeämpääkin se, että ollaan-ollaan niinkun tien päällä ja tavataan ihmisiä, ja kyl se on edelleenkin. Että-että ehkä nykyaikana on helpompi sitten öö-netin kautta niinkun luoda sitä kontaktipintaa, et ihmiset niinku löytää. Mut kyl se lähtökohtahan on aina, että-että jalkatyötä joutuu tekeen, ja paljon. Että näyttelyissä käydään, otetaan kontakteja alan toimijoihin ja käydään tapaamassa ja luodaan sitä asiakassuhdetta.”

“In the old days it might have been even more important to be on the road and meet people, and it still is. Maybe today it is easier to create contacts via Internet, so that people can find you. But it is always the starting point that you have to do the footwork, and lot of it. You visit the trade shows, you contact the actors of the business area, and you visit them and you create the customer relationship.”

Ismo Råman, Oy Medix Biochemica Ab

“Mut siis oikeestaan se kaupankäynti, niin nykyään se on aina vaan helpompaa. Nyt voit niinku Google Translaterilla kääntää minkä tahansa hepreankielisen tekstin, tai mitä tahansa, ja sit tehä se kauppa siinä kasvottomasti jonku kans netissä”.

“But basically this trading, nowadays it gets easier all the time. You can like use Google Translator to translate any Hebrew text, or anything, and then you can do the business faceless with somebody in the internet.”

Harri Eskelinen, Suppilog Oy

Woikoski makes an exception again; they have not put any money in the international sales and marketing department. Sari and Clas Palmberg say that they get so many enquiries of rare gas mixtures that they cannot answer them all. Basically, all gas producers are self-contained and do not buy from others, but when there is some massive shortage of certain rare gas in Europe, the big European gas producers are indeed willing to pay the expensive cargo. In that situation scarce information e-mails are required to boost the international sales.

“Mut tää meidän vienti, jos mä nyt mietin sitä, niin mikä on ollu se perusta et meil niinkun on vientiä. Niin sehän oli helppo sillon, niin kauan kun oli heliumista pulaa ja meil oli mielin määrin heliumia, niin sehän synty ittestään, tarvinnu mitään tehdä. (--). Et me informoitiin, ku me suunnilleen tiedetään aktöörit Euroopassa, niin kyllä me informoitiin heitä. (--). Ja kun me sit tällä heliumilla laajennuttiin tonne Eurooppaan, niin me huomattiin että meillä on kyllä mahdollisuutta toimittaa sinne muitakin lääkkeellisiä kaasuja”

“But this export of ours, if I now think about it, what has been the foundation of us having export activity. Well it was easy at that time, as long as there was a shortage of helium, and we had it to our heart's content, it was born spontaneously, we didn't have to do anything. (--). Well we informed, because we roughly know the actors in Europe, so we informed them. (--). And after we had expanded our operations into European markets with this helium, we discovered that we have chances of providing them with other medical gases too.”

Clas Palmberg, Oy Woikoski Ab

4.3 Internationalization strategy and behavior

As said, the case companies had various ways of implementing their internationalization process. It was interesting to see that the actions of the companies had clear connections to the company strategy. For example, NewIcon had set doubling or tripling their international turnover as their strategy, and the timeline of the company shows that they have been collecting capital investments for that. They have internationalization schedule, and plans for entering different countries, but they are also open to unexpected markets and willing to invest significant amount of time in convincing potential new customers.

Another example is Biovian, their strategy is to grow steadily and secure their place in the international contract manufacturing market. Their timeline shows that they have not applied any outside funding, but their operation has been based on the cash flow from the beginning. They are not rushing into

many new markets at the same time, since they want to make sure that their reputation stays reliable.

Medix Biochemica has started their international sales already in 1980s, and their precise strategy is seen in their actions in many ways. When they had identified USA as a definite target market for the diagnostic tests, they put massive efforts in getting the FDA approval for their facilities and products. This was a costly process, but in accordance with their internationalization strategy. Medix Biochemica and Reagent were the two case companies who relied mostly on market research, and help of Finnpro and other consultants, when scanning the potential target markets. Buying the internationalization-related services from some other company seemed to be more natural for the older companies, they wanted to have clear data to support their decisions on new entries.

"No joo, kyllä siellä ne mitä aikaisemminkin oli esillä nämä selvittelyt. Käytetään myöskin ulkopuolisia konsultteja ja selvittäjiä, usein maakohtaisesti kammataan, että onko näille tuotteille, tietysti että tiedetäänkö niistä taudeista ensinnäkin, ja onko niitä diagnosoitu, tarvitaanko sitä diagnostiikkaa, ja sitten löytyykö kumppaniehdokkaita. Niin tällä lailla on nyt kammattu varsinkin tuota itäistä Keski-Eurooppaa viime vuosina."

"Well yes, there is this what we discussed earlier, these researches. We also use external consultants and investigators, often we comb country by country to see if these products, do people know about these diseases first of all, have they been diagnosing already, do they need the diagnostics, and are there potential distributor candidates available. This is the way we have been combing, especially that Eastern Middle-Europe in recent years.

Markku Parvianen, Oy Reagent Ltd

"Eli miten se käytännössä lähtee liikkeelle? Kyllähän se tietysti täytyy ensin kattoo se, tehdä se markkinaselvitys siitä maasta, kohdemaasta, ja siihenhän löytyy sit erilaisia apuja jos tarvii. Ja tota noin, arvioi sitte sitä kautta et-et missä ne asiakkaat on, ööm... ja-ja kuinka laaja, kuinka iso markkina se on... Sitte jos puhutaan totanoin näistä pikatesteistä, niin sit taas olennaista on se, että miten sä saat ne sun tuotteet sinne sen maan sairaaloihin. Eli sillan lähet jakelijoihin katsoon. Ja-ja-ja siinä voi taas tehdä tämmösen selvityksen. Ja sen jälkeen me ollaan otettu yhteyttä ja valittu niistä sitten paras, mikä on saatavilla."

"So basically, how does it start? Of course you have to first look at it, do the market research of the country, the target country, and there are different aids available, if you need. And based on that, you need to estimate where the customers are, and how broad, how big is the market. Then, if we talk about these diagnostic tests, it is essential to know how you will get the products into the hospitals of that country. So, then you start to look for distributors. And you can do some research again. And after that, we have contacted them, and then chosen the best available."

Ismo Råman, Oy Medix Biochemica Ab

Then again, some of the case companies like Suppilog seem to operate in a less organized way. Suppilog has unusual company structure as it is; they have only three salaried employees and no CEO. But then again, company has 15 founder-shareholders and this group of people comes from very different

backgrounds. Founders of Suppilog consist for example of software developers, advertising designers, copywriters, accountants, one jurisprudence professor, one doctor of economics and then naturally some engineers.

“Mut niin ehkä, sit jos niinku et miten näitä niinku strategisesti suunnitellaan niin ei paljon mitenkään. Että se on vähä, jos ihan alust lähtee niin ei koko Suppilogia ois syntyny ellen mä ois yhen Teemun kans funtsannu joskus et voitaiskohan me jotenki digitaloisoida tää tilauslomake.”

“But then maybe, if you think how this all is strategically planned, well it’s not. It’s like, if you think from the beginning, this whole Suppilog had not been born if I and this one Teemu hadn’t started thinking whether we could somehow digitalize this order form.”

Harri Eskelinen, Suppilog Oy

NewIcon has a strategy that seems to be a mixture of following the vision of Executive Board, but also bouncing from one arising opportunity to other. They have massive numbers of promising preliminary deals, but whether the deals ever realize or not, is unknown.

“Joo, niinku mejän hallituksen puheenjohtaja sano näin: Jos asiakas uhkaa tilauksella semmosesta maasta, mihin ei ole suunniteltu niin kyllähän se kannattaa se kauppa ottaa pois.”

“Well yes, like our chairman of the board said: If a customer is threatening with an order from a country that hasn’t been planned, then sure, we should close the deal.”

Ossi Parviainen, NewIcon Oy

Both reactive and proactive ways of internationalization were seen in the narratives. Markku Parviainen highlighted that it is not enough that you just show up in the trade shows, and collect business cards and start selling. Opening a new market requires work, more work and loads of patience. Antti Nieminen told that their best deals have been formed when they have worked with well-connected and experienced local distributors and agents. And this is the strategy they want to continue with.

“Että siinä mielessä, sieltä niitä kontakteja löytyy ja usein se jalostaminen sopimukseksi tai liikesuhteeksi kestää, saattaa olla parikin vuotta. Ja siinä välillä sitten tarvitaan kouluttamista ja myöskin heidän tuotteisiin paneutumista. Ja sitten myöskin niitä, että yhteistyössä tehdään vaikkapa käyntejä referenssiasiakkaille, ja siitä se lähtee liikkeelle. Slovenia ja Kroatia meillä nyt ihan viimeisimpiä, ja Tsekki, jossa on juuri tällä mekanismilla edetty.”

“In that sense that’s the place where the contacts are found, and often processing into a contract or business relationship takes time, might take couple of years even. And during that time you need training and entering into the products. And then of course these, like in co-operation you are visiting the reference customers for example, and that is how it starts. Slovenia and Croatia the latest, and Czech, where we have proceed with this specific mechanism.”

Markku Parviainen, Oy Reagena Ltd

“Ja sit me ollaan, ehkä ihan alusta saakka, niin me ollaan koitettu linkittäytyä semmosien... niinku jos me ollaan identifioitu joku kohdema, nyt vaikka sanotaanko Englanti tai joku noh, Etelä-Korea, niin me ollaan koitettu niinku löytää tavallaan tällöiset partnerit tai ihmisiä, ketkä on jo hyvin niinku maturoitunu alalla ja hyvät kontaktit ja linkit suuntaan ja toiseen.”

“And then we have, maybe from the very beginning, we have tried to link up with this kind of... if we have like identified a target country, let's say England or some, well South Korea, so we have tried to find these partners or people, who are well matured in the business field and have good contacts and links to all directions.”

Antti Nieminen, Biovian Oy

All of the case companies told that growth only comes with hard work, but sometimes the biggest growth might come through the growth of the client company.

“Öö... jos me aatellaan sitä kasvua, niin niin-niin kyl se meillä ainakin totanoinniin, kun meillä on kaks eri liiketoimintaa. Tai bioreagenssit, niin kyllä se on sieltä tullu. Tietysti meidän isojen asiakkaiden kasvun kautta. Et-et on saatu sinne enemmän myytävää, ja sitten ne on menestyny ja kasvanu.”

“Umm... if we think about the growth, well at least with us it is like, when we have these two separate businesses. Or bioreagents, that's where it has come from. Of course via the growth of our big clients. We have got more sales there and then they have succeeded and grown.”

Ismo Råman, Ab Medix Biochemica Oy

One important thing in the internationalization is to carefully consider the choice of the target countries. Entrepreneurs need to follow what is happening in the world around them, and be ready to adapt to changes if needed. All the news are easily available nowadays, and if your biggest customers are moving to China, you may need to consider moving to China yourself.

“Ja meki ollaan sitä ehkä tehty silleen, et meil on ollu tiettyjä tällöisiä niinku, vähän... mitenkä sitä vois nyt kuvailla, kampanjoita että okei, nyt me katotaan seuraavat 2-3 vuotta vaikka et mitä Venäjällä tapahtuu. No, sitte ku Venäjällä rupes tapahtuun jokunen vuosi sitte mitä tapahtu, niin silloin me tehtiin ihan selkee päätös että ei me sinne niinku lyödä sen kummemmin euroja enää siihen puolelle, et sit me keskitytään muihin juttuihin. Elikkä pidetään fokus kuitenkin niissä kohdemaissa mitä on tehty, mut sitte pitää pystyä myös luopumaan.”

“And we have been doing it like that, we've had these certain, like little... how could you describe, campaigns that ok, now we're looking next 2-3 years for example what happens in Russia. Well, as it happend what it happened in Russia, we made a clear call that we're not putting any euros there anymore, we'll focus on other things. So to speak, you keep the focus on the target countries you have chosen, but then you also have to be able to let go.”

Antti Nieminen, Biovian Oy

“Ja Kiina on nyt sit noussu viimesen kymmenen vuoden aikana ihan merkittäväks-merkittäväks tekijäks, että se on nyt 25% meidän liikevaihdosta tulee nyt Kiinasta tällä hetkellä eli-eli... Ja se miten nyt taas Kiinas on tapahtunu, niin on tapahtunu paljon myös sitä, että USA:laisia valmistajia on

siirtynyt Kiinaan tekee tuotteita. Et ku aikasemmin me lähetettiin tuotteita San Diegoon, niin nyt ne lähetetään Sanghaihin.”

”And China has now, during the last ten years, become quite significant player, 25% of our turnover is currently coming from China. And this, what has happened a lot in China, is that American manufacturers have moved to China to manufacture their products. So, when we earlier sent our products to San Diego, we are now sending them to Sanghai.”

Ismo Råman, Oy Medix Biochemica Ab

4.4 Networks and embeddedness

The first steps of internationalization have not been self-evident to any of the case companies. Most had discussed the strategy in the board, applied for funding from Tekes and EU, and contacted all available friends and acquaintances. And then they have started networking. Medix Biochemica and Reagena have preferred visiting B-to-B trade fairs and made co-operation with universities. NewIcon has developed their business with few bigger customers and increased their reputation gradually, and Suppilog has used the contacts of their 15 founders to find customers and partners.

”Mut tietysti kaiken A ja O on aktiivisuus ja-ja-ja totanoin... ja hyvä-hyvä lähtökohta on mennä johonki alan kansainvälisiin kongresseihin tai näyttelyihin vaan, pistää ständi sinne että täällä me ollaan ja tälläsi tuotteita meillä on. Kyl sieltä pikkuhiljaa kontakteja alkaa tulla.”

”But of course, everything is based on activity and well... a good way to start is to go to some international congresses or trade shows, just put a stand there and tell them that here we are, and this kind of products we have. Little by little you’ll start getting contacts.”

Ismo Råman, Oy Medix Biochemica Ab

”Me ollaan niinku mietitty sitäkin, että kumpaan panostetaan, lähetäänkö messuille tuonne noin. Meinaan sitä että mejän rahkeilla meillä on semmonen pikkunen nakkiputka siellä ku sitten näillä kilpailijoilla, miljardifirmoilla on semmoset tuhannen neliön osastot siellä. Ei ehkä oo mejän tapa mennä eteenpäin, mut paljon parempi on tämä että me etitään tämmösiä isoja asiakkuuksia ja ne isot asiakkuudet pyritään sitten pitämään kiinni sillä että me ei myydä sinne vaan yhtä tuotetta vaan me myydään se lääkehuollon prosessi, jossa me ollaan mukana.”

”We have been thinking this too, that which one we should invest in, should we go to the trade shows out there. I mean that with our capacity, we would end up in a small hot dog stand there, when our competitors, these MNCs have thousand square meters of departments. Maybe it is not our way to proceed. It’s much better to seek kind of grand customers, and these grand customers we aim to keep, so that we are not only selling them one product, but the whole medication process where we are involved.”

Ossi Parviainen, NewIcon Oy

”Toki sitten kehittämisessäkin on aikanaan ollut Tekes-hankkeita ja

yhteistyöprojekteja yliopistojen tutkimuslaitosten kanssa, ja niihin saatu sitten aikanaan Tekes-rahoitusta ja myöhemmin EU-rahoitusta ja sillä lailla sitten lavennettu tällaisen vaativan tuotekehittämisen riskiä, ja mahdollistettu että niitä tuotteita on tullut markkinoille ja myyntiin edelleenkin.”

“Surely, during the development there has been Tekes-projects and collaboration projects with research units from Universities, and in due time we have received funding from Tekes, and later from EU, and this is how we have been able to reduce the risk of demanding product development, and made it possible to these products to enter the market and on sale further.”

Markku Parviainen, Oy Reagena Ltd

“Mun mielestä kaikki kontaktit yleensä muodostuu kuitenkin kaikille niinku tekemisen kautta, joku tuntee aina jonkun, tää se malli on. Et mä tiedän että meil on Pekka, joka on käyny 70 kertaa Japanissa ja se laskee vaan yli viikon matkat. Sitte se on käyny saman verran varmaan Koreassa ja 60 kertaa Kiinassa ja 60 kertaa Intiassa. Sit oikeesti jos jotaan niihin markkinoihin liittyvii kysymysii tulee sun kannattaa helposti kysyy siltä, niin sitte se tietää.”

“I believe that all contacts are usually formed by doing things, everybody always knows somebody, that's the pattern. I know, we have this Pekka, who has visited Japan more than 70 times, and he only counts the visits that last more than a week. Then he has visited as many times in Korea, and 60 times in China and 60 times in India. Then if I really have some questions related to those markets, I can easily ask him, because he is the one who knows.”

Harri Eskelinen, Suppilog Oy

All four case companies who are using distributors in foreign markets, highlighted the importance of finding a good partner. Markku Parviainen emphasized the meaning of common goals, common view and in some cases also personal chemistry with the retailers. It is in no way obvious that the distributor would promote specifically your products, despite the great promises in the beginning.

“Löytää jälleenmyyjä, hyvä jälleenmyyjä, on kyllä äärettömän vaikeeta, ku siinä on sillee kaks puolta. Ku sulla on semmonen jälleenmyyjä joka panostaa sinun tuotteisiin ja keskittyy siihen, mutta niiden taloudelliset resurssit voi olla hyvin pienet. Tai sit voi olla tollanen iso millä on paljon näitä tuotteita, ja niillä on muskelit vahvat, ne voi mennä messuille ja näyttää niitä tuotteita, mutta sitten se, että käytännössä miten paljon ne panostaa juuri sinun tuotteeseen tai meijän tuotteeseen, niin se voi vaihdella hyvin paljon sitten.”

“ To find a distributor, a good distributor, it is infinitely difficult, because there are these two aspects. When you have a distributor that invests in your products and focuses on them, then they often have very scant financial resources. Or then you might have this kind of big one, with lots of products and huge muscles, they can go to trade shows ja show off the products, but how much are they actually focusing on your product or our products, this can vary significantly then.”

Ossi Parviainen, NewIcon Oy

Nytki meil on esimerkiks Korean pääs meil on semmonen, me ollaan tehty varmaan 6-7 vuotta hänen kaa hommia siellä, sellanen tyyppi joka tuntee tosi hyvin koko sen skenen sieltä ja on ite työskennelly eri yrityksis ja muuta ja tuntee nää tyyppit ja käy sit meijän, hän on niinku meijän liiketoiminnan

kehitysyksikkö siellä, yks ihminen, ja semmonen konsepti”.

At the moment we have, for example in Korea we have this, we have been working with him probably 6-7 years there, this kind of dude that knows the whole scene very well, he has worked in the companies himself and so on, and he knows these guys and he then goes in our, he's like our business development unit there, one man, and this kind of concept.”

Antti Nieminen, Biovian Oy

Other important networks that the case companies wanted to discuss, were the references and key opinion leaders in the field. The network of opinion leaders usually consists of valued professors and senior physicians, who represent Universities and research centers, and they have a strong impact on the decisions made in hospital sector. If you are able to tell the potential customers that this professor recommends, or that hospital uses also, it is remarkably easier to expand your sales.

”Että siellä on myöskin henkilöitä, jotka tekee julkaisuja ja vertailuja, ja ne on sitten myöskin meidän mainoslehtisiä kun tuloksia ilmestyy näistä meidän tuotteista, tai meidän tuotteilla tehdyistä tutkimuksista.”

”There are also persons, who write publications and comparisons, and they are also our advertising leaflets, when there are results related to our products, or the testing has been conducted with our products.”

Markku Parviainen, Oy Reagen Ltd

”Me myydään Suomessa hyvinkin paljon niitä, me myydään Norjassa paljon niitä, Ruotsissa ei myydä paljon yhtään. Et-et totanoin et-et me ei olla Ruotsissa saatu näitä ydinhenkilöitä niinku puolelle, et tää testaus olis niinkun... olis järkevää.”

”We are selling those a lot in Finland, we are selling a lot in Norway, but in Sweden we aren't selling almost anything. Because we haven't been able to convince the key persons that this testing would like... make sense.”

Ismo Råman, Oy Medix Biochemica Ab

Relationship with customers is the one thing that seemed to surprise Finnish entrepreneurs every time, because Finns do not quite understand why they want to act so intimately in different cultures. Ossi Parviainen explains it so that we have got used to efficient, precise and systematic decision-making, but wherever you go outside Finland, it will be more or less fussing.

”Esimerkiks tuolla arabikulttuurissa niin itteasiassa siellä on, siellä joutuu varautumaan siihen ku kauppaa tehään nii hirveesti pitää seurustella, siellä saattaa mennä päivä-pari siinä ku syödään, käydään illalla syömässä ja lounaalla syömässä ja sit käydään vähä kattomassa sairaalassa ja taas jotain tehään ja jutellaan, ja tämmöstä se on sitte se työnteko siellä... Sekä Iran että Kuwait niin ihan sama tyyli... Mut sit se kaikki perustuu siihen henkilökohtaseen luottamukseen, suhteeseen, jos sitä ei tässä oo niin ei tuu kauppaakaan.”

”For example there in the Arabic culture, in fact there is, there you have to be prepared to socialize vastly when doing business, it might take couple of days

just eating, you go and have dinner together, then you have lunch together, then you visit the hospital a little, then again do something else and keep talking, and this is how you are working there... Both Iran and Kuwait the same style... But it is all based on the personal trust, relationship, if you don't have it here, you won't do business either."

Ossi Parviainen, NewIcon Oy

"Elikkä ei oo vaan sillä lailla että, miten mä sitä kuvailisin, pelkästään että ois vaan strictly business kaikki, vaan et sä luot semmosii, vois melkeen sanoa että ystävyysuhteita näitten asiakkaitten, Key Accounttien kanssa, ja meillä on niinku tosi dedikoituneet projektipäälliköt ja tiimit projektien taustalla, jotka oikeesti aattelee sen asiakkaan parasta ja hyvää".

"So, it's not just like, how would I describe it, it's not all just strictly business, but you are creating these, you could almost say that friendships with these customers, Key Accounts, and we have totally dedicated project managers and teams behind the projects, who truly are thinking about what's best and good for the customer."

Antti Nieminen, Biovian Oy

Only two of the entrepreneurs pondered the strength of different ties within their networks. Ossi Parviainen emphasized the major role of Kuopio University Hospital in the early stages of product development, and also in the process of getting the reputation in the hospital sector.

"Ja tähän on niinku harvinaista että julkinen ja pienyritys pystyy tämmösiä tekemään, ku yleensä hankintalakikin on aika rajoittava siinä suhteessa, että mitä pystyy ja mitä ei pysty. Siellä nyt on aika paljon saatu tehtyä näitä, ja sitten taas tietysti KYS on toiminut hyvänä näyteikkunana, siellä on käyny aika monesta maasta porukka kattomassa meidän tuotteita, niinkun myös sitten ihan täältä Suomen sisältä eri sairaaloista."

"And this is like a rare situation that a public sector actor and SME can do these kind of projects together, when usually procurement law is quite restrictive in that respect, what you can do and can't do. We have now done quite a few of these there, and then again, Kuopio University Hospital has played a major role as our showcase, and people have come from many countries to see our products. Also within Finland, from different hospitals."

Ossi Parviainen, NewIcon Oy

Woikoski knew how important it would be to find a good helium source outside USA. They did massive hunt and finally found a connection from Russia. They had to use many middlemen in order to find this intermediary company, who finally found the gas agencies. And when that intermediary company got bankrupted, Woikoski hired the manager from there. She is a Finnish citizen today, but was born in Russia, a female engineer, who understood the Russian mentality. Little by little, Woikoski started buying all kinds of liquid gases from Russia, and in turn, they started to sell welding equipment there. And at some point Woikoski figured that even if they are importing the gases from Russia, they could easily export those same gases back there. But then, after 15 years of co-operation that worked like a Swiss clock, everything was gone one morning and Woikoski had to acquire their

helium sources from other countries.

”Lääkkellisten kaasujen lisäksi me vietiin mitä kummallisempia tuotteita, siis ihan tämmösiä pilipalituotteita mitä me ostettiin jostain ja vietiin sinne. Mutta tota se juju oli siinä se että ne halus vaan asioida meidän kanssa, vaikka ne olis saanu ne samat tuotteet niinku mistä tahansa suunnilleen Anttilasta, niin ne halus vaan ostaa meiltä.”

”In addition to medical gases we exported the strangest products there, like all kinds of piffles that we bought from somewhere and exported there. But the catch was that they simply wanted to do business with us only, even though they could have bought these same products from just about any Walmart, still they just wanted to buy from us.”

Clas Palmberg, Oy Woikoski Ab

In addition to the strong ties with Russia, the internationalization and overall survival of Woikoski has required them to have distant relationships enough with the other gas companies in Europe. The nonalignment of Woikoski has taken the firm so far that Clas Palmberg has been chosen as the vice-president, and will be in 2018 chosen as the president of IOMA (The International Oxygen Manufacturers Association). Palmberg said that this selection shows how much the IOMA organization appreciates Woikoski as a rare, completely independent company.

”Niillä oli, meillä oli... oli tota.. vielä kun tultiin 80-luvulle, niin meillä oli niin pahoja sitoumuksia, et se meinas meidät tappaa, ja siitä syystä me ei enää mennä siihen. Me ollaan läksymme opittu. Koska Woikoskihan on todellinen herkkupala näille monikansallisille, tai yleensä isoille kaasuyrityksille.”

”They had, we had... had these... Still when we came to the 80's, we had so heavy commitments that it almost killed us, and that's why we are never going back there again. We have learned our lesson. Because Woikoski is a true titbit for these multinationals, or bigger gas companies in general.”

Clas Palmberg, Oy Woikoski Ab

The contribution of chance is an aspect that Ossi Parviainen could have talked for hours. Their networks in Kuwait and Iran certainly have not originated from trade shows or market researches, but through coincidences where entrepreneur-minded people have started to discuss with other people.

”Tuolla Porissa on semmonen Egyptiläissyntyinen kaveri, joka tuli 20 vuotta sitten Suomeen, naisen perässä tietysti. Suomalainen vaimo, ja menestyksekkäs liikemies ja muuta. Hän innostui sitten, olikohan se silleen että hän on HopLop yrittäjä Porissa, ja meillä sitten meidän osakas on kanssa... Ja siellä sitten tapasi ja hän innostu meidän tuotteista ja näin se menee. Ja sitten taas okei, no se vaati että sovittiin ja käytiin Kuwaitissa...”

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Ja sitten meillä on nyt ensimmäinen varastoautomaatti asennettu Iraniin. Sekin taas tuli ihan sattuman kautta silleen, että mulla on kaverin siskon mies on Englantilainen ja hän oli sitten Cambridgessä tutustunu taas sitten tämmöiseen Iranilaisen kaveriin, joka on niin sanostusti tällasista hyvistä piireistä, koulutukset käyny siellä ja muuta, ja sitä kautta sitten synty tämä suhde sinne. Ja mä kävin Iranissa pari kertaa ja täällä kävi delegaatiota täällä, ja sitten oli sellainen, varaministereitä ja semmosia päättäjiä ihan ja sit se homma lähti

liikenteeseen, että aika nopeesti saatiin ensimmäiset kaupat siellä.”

“In Pori there is this guy with Egyptian background, he came to Finland 20 years ago, because of a woman, naturally. Finnish wife, successful businessman and stuff. He then got excited, was it so that he is a HopLop-entrepreneur and one of our partners is also... And there they met and he got excited about our products, and that's how it goes. And then again ok, well then it required that we settled things and visited Kuwait...

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And then we now have our first storage and retrieval robot installed in Iran. This too was pure coincident, in a way that I have a friend, who has a sister, whose husband is an Englishman and he had met this one guy from Iran in Cambridge. This guy was from a good family, so to say, educated there and all, and that's how this connection was born. And I visited Iran a couple of times, and some delegations visited here, and then was this, vice-ministers and this kind of policy-makers right, and that is how it started, pretty fast we got the first deals there.

Ossi Parviainen, NewIcon Oy

5 DISCUSSION

The findings suggest that international entrepreneurs were very well aware about the importance of networks and embeddedness, since networking and active seeking of partners were seen as the most important thing during the early internationalization. Even though the case companies were chosen from the same industry, there were no two internationalization stories alike. Firms could internationalize at very early phase, or after decades. Some were totally dependent on international sales, and some saw foreign markets as a path of significant growth. Sales and marketing were done either directly to customers, or with the help of distributors, and therefore key partners varied from resellers to end users. Strong ties with key opinion leaders were also valued, and the more comprehensive product the case company had, the more they valued their reference customers.

When I started this study, I had no clear or deep understanding on the firms' internationalization strategies. I assumed that they would be something between the two main frameworks, which have dominated the study of internationalization of young firms. The first is naturally the Process Theory of Internationalization (PTI) by Johansson and Vahlne (1977, 1990) and the second is the New Venture Internationalization Framework by Oviatt and McDougall (1994). In general, mainstream IB theories focus on linear, ordered and sequential, very process-like internationalization, whereas entrepreneurship theories emphasize more dynamic, often even chaotic phase of the early internationalization.

Since life-science industry is quite traditional business, I assumed that companies might follow PTI, at least to some extent. PTI stresses that young companies are behaviorally inertial and do not expand across borders until pushed by external circumstances or pulled by customer demands. This was only true with one company, *Woikoski*, who has 134 years of business history in Finland. Due to Finnish hospitals' demands, they had to obtain new and rare products like liquid helium to their portfolio, and when competitor gas companies suddenly were facing a shortage of helium, they all turned to *Woikoski*, asking them to export helium also to Europe.

Since I focused on entrepreneur-owned SMEs, not listed companies, I was expecting to see many of the main entrepreneurial aspects, like recognition and exploitation of opportunities, in the narratives. Two good example companies were Biovian and Reagena, who had taken the advantage of bigger companies outsourcing activities. Today many middle-sized or bigger companies are prioritizing their operating segments and there is a good chance that a smaller entrepreneur-owned company may succeed in operating one of these outsourced segments.

One of the most significant combining factors of the case-entrepreneurs was their international orientation. All of them already had gained some business abroad, but in very different styles. International orientation can be explained so that from the inception the firm doesn't see national borders as an obstacle, but rather sees international markets open and ready to be exploited. As Madsen and Servais already in 1997 wrote:

Factors like education, experience from living abroad, experience from other internationally oriented jobs etc. mould the mind of the founder and decrease the psychic distances to specific product markets significantly (Madsen and Servais, 1997).

The meaning of education was also brought out in the interviews. All of the entrepreneurs felt that their scientific know-how was the most important and created credibility to their products, when they could answer customers' questions during the negotiations. Some valued also travelling abroad at younger age and having set up previous firms before this one. The challenge in Finland was to find products or services that are valued in foreign markets despite the significant manufacturing costs in Finland. Therefore, companies have often chosen to concentrate on niche products. When company chooses to launch a product or service on niche markets, focusing only on domestic markets is not an option. Many of the case companies acknowledge this, but they have chosen to rather test and refine their products first in Finland. It is notably more expensive to fix things abroad, if the product is not working properly before expanding the markets.

Still in the mid-2000s it was common in the research papers to say that early internationalization can also kill the firm (Autio 2005, Sapienza et al. 2006), or that the empirical results regarding the success of early internationalization have been mixed (Zahra and George, 2002). As the risks of failure increase, so increase the opportunities of significant growth. For entrepreneurs, who seek to provide long-term self-employment, early internationalization is relatively risky choice, but none of my interviewees seemed to be intimidated by the risks of internationalization.

5.1 Internationalization strategies

The first research question I wanted to answer was “What kind of internationalization strategies do Finnish life-science SMEs follow?” One of the most obvious findings from the interview data was that interviewees had two different ways to deal with their internationalization process. Some entrepreneurs clearly followed causation logic and others behavior was strongly characterized by effectuation. Even though all the entrepreneurs had basic knowledge of international business and internationalization theories, some of them were still following their intuition and chance more than standardized processes.

The narratives reflected both proactive and reactive behavior in the process of internationalization. As the findings suggested, Finnish SMEs often start internationalizing with niche products, that do not possess big volumes in one country, and therefore they very soon need to find several export markets and several contacts. Case companies expressed also other features of entrepreneurial firms in addition to simultaneous domestic and export expansion (see Table 3; Bell et al. 2004). The interviewees highlighted the committed management, strategic thinking and planning, and active search of new markets. Woikoski was the only company, whose behavior was more reactive than proactive, and this was because exporting their basic products was financially unprofitable. Expansion to Europe would have required Woikoski to build their own production facilities there. Also the rapid pace of internationalization, heading to many markets at once, use of flexible modes of entry (use of agents or distributor or integration of with client’s channels) and strong evidence of networks were part of the entrepreneurial behavior.

The timelines drawn for this study revealed that the case companies actually reflected the company’s strategy in their everyday decisions. Firms that aimed to grow at more rapid pace were more willing to grab whichever internationalization possibilities arose. Then again, companies whose aim was more stable growth, had time to proceed slowly and focus on one market at a time. It was interesting to see a connection between the age that company had been international, and the strategy of the company, in terms of using and buying outside help. Those of the case companies that had internationalized in the 1980s or 1990s told that it was natural for them to use market research and pay for someone to do it.

There were also similarities with the case companies and the Model of Internationalization, Survival and Growth (Sapinza et al. 2006). Firm’s age did not affect the growth or survival aspects, but clear connection was seen between the growth prospects and firm’s managerial experience. Most of the entrepreneurs told that they had established a firm, or worked as a manager in another internationalizing firm before. The fungibility of resources was seen important when changing the focus of the production or in the project type of business that Biovian was doing.

As Henisz and Delios (2001) wrote, age of the firm is not the same thing as the experience of the firm and its management team. Firms that are older when they internationalize may be at learning disadvantage compared to younger competitors, but they have more secure economic basis. For example Woikoski has found ways to overcome the structural inertia and old routines that could have prevented them from reacting market changes. They emphasize that private ownership has been their greatest advantage, when MNCs have merely launched the process of change management in their executive team, Woikoski has already been working on with solution.

5.2 Networking and embeddedness under uncertainty

The second research question was about the entrepreneurial embeddedness and its effects to the early internationalization of Finnish SMEs. I wanted to find out how the case companies form their networks, when desired ties cannot be identified in advance, networking outcomes cannot be predicted, and ongoing social interactions shape the future continuously? It has been studied that under uncertainty, entrepreneurial networking is driven by an assessment of available means within the network as carried out through repeated interactions with both existing and new network ties. Under uncertainty, entrepreneurs' networking actions seem to be driven by both collective and self-interest, and restricted by a predetermined level of affordable loss (Engel et al 2017).

Uncertainty was seen for example in the attitudes towards industry specific trade fairs and exhibitions. Some of the case companies thought that those are the best way to start creating contacts, and some said that Internet searches and grapevine will guarantee better contacts than tiny stand in world-class fairs. Distributors appeared to be the most significant network group in the beginning of the internationalization, and many of the entrepreneurs highlighted the carefully made selection process.

Another group of networks that could mean the rise or the fall of firms was the key opinion leaders. One good article from the right professor could burst the sales of diagnostic tests more than any other sales and marketing mean. The role of financiers in both domestic and international contexts seemed to be in less important role. In fact, most of the enterprises had never received outside funding. Many of the companies were familiar with the services of Tekes and Finnvera. Some had found them a great help in the beginning, and some saw their incentives more as basic loans, and were not interested.

The embeddedness in relationships with customers was maybe the most interesting to study. Firms that were selling their services, or bigger entiresities than just one product, were intentionally forming stronger and deeper ties with the customers than those firms that mostly used distributors. In addition, the social aspect of forming business ties seemed to have surprised all of the entrepreneurs at some point. Even if it is a known fact that international

business is more about relationships and trust, than superior technical specifications, the amount of dining and socializing is still immense compared to Finland and other Nordic countries, where it is normal to go down to business quite fast.

The results strongly suggest that the locality and strength of ties will continue to vary across entrepreneurs and over time, and it is hard to classify any of them in any theoretical category.

Instead of portraying entrepreneurs as either completely passive actors or down-right calculative networkers, we suggest paying more attention to the notion of uncertainty and how it acts to both constrain and enable alternative forms of networking agency - the lifeblood of entrepreneurial creation (Engel et al. 2017).

6 CONCLUSIONS

Like mentioned in the beginning of this masters' thesis, international entrepreneurship research has needed a larger emphasis on the embeddedness of SMEs during the first steps of their internationalization. In general, the findings of this study suggest that many of the life-science entrepreneurs need to be ready to begin export activities almost immediately. The network strategies varied between the companies, but in general entrepreneurs must continuously seek new partners to enter and embed themselves in new networks. In many cases, entering new international networks can provide them a to chance build global reputation. If companies are intentionally avoiding trade fairs and expositions, building strong ties with existing customers becomes increasingly important in order to create valid references.

On the other hand, the second finding contributing to the international entrepreneurship research is the danger of strong ties; while tight relationships with right partners are likely to promote internationalization, they may also become a weakness, possibly creating obstacles to the firms growth. If entrepreneurs stay too long in harmful or latent relationships, exiting them can easily unbalance the firm.

6.1 Validity, reliability and limitations

Narratives were chosen as a methodological approach of this research for a reason. Narratives provide individual perspective into the events, which characterize the first steps of international entrepreneurship. The interviews are therefore portraying how the entrepreneurs themselves had experienced the different phases of their internationalization, and especially what they had felt was important, without overriding the personal aspects with a heavy organizational perspective.

It is important to understand that both internationalization and entrepreneurship can be seen as processes rather than static phenomenon. They

both are planned actions and behavior that interact with the environment. Therefore this kind of one-time interview, limited only to one place and time, cannot give the comprehensive picture of the phenomenon studied. As another limitation it must be said that this study cannot take into account the meaning of embeddedness in all arising opportunities that case companies have faced. Since this case study was conducted by narrative interview, I do not have access to all the opportunities companies have pursued.

Though narratives serve as a rich source for personal insights, it is notable that, for example, exact timings remain in the dark. Narratives in general are not meant to give factual recording of the past, as they are only one person's representations of memorable events and experiences (Riessman 1993). This is seen often in the case interviews of this study, generally the entrepreneurs seem to remember the biggest successes and biggest mistakes, and thus are making the story sound more interesting and more chaotic. This might be one reason why most of the companies seem to highlight non-planned activities; following the structured internationalization plan does not sound so exciting when you are telling a story.

6.2 Managerial implications and future research

As researchers also widely agree, the internationalization process in general has become faster and easier, and there are everyday more and more firms competing in the international market. Therefore it is essential that both governmental and private sector offer guidance, support and assistance for internationalizing new ventures. With more customized support for different types of international entrepreneurs, and less paperwork to be filled, we could achieve more efficient international venturing, and ensure this already eager generation of entrepreneurs about the necessity of internalization.

In my opinion, there are two main ways to extend this research into complementary areas of interest. First, future research should emphasize the individual level more, research settings should aim to explain how entrepreneurs use their previous managerial and international experience, reasoning, and logic in order to network effectively (McKeever et al. 2014). Secondly, this research setting could be taken in other geographical location, and study how European, Asian and American enterprises are forming network ties when penetrating to Nordic markets. It would be tempting to study embeddedness of foreign enterprises during their first entries to Finnish market.

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