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Internationalization Of Life Science SME's In Finland: Challenges,
Opportunities And Possible Future

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INTERNATIONALIZATION OF LIFE SCIENCE SME'S IN FINLAND: CHALLENGES, OPPORTUNITIES AND POSSIBLE FUTURE

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The life science industry is a specialized field where the common principles of retail products do not fully apply. Some life science companies have seen turbulent times in the recent past while some have grown.

The aim of this study was to analyse the logic of internationalization of the companies in this specialized industry sector. The study will highlight the challenges and opportunities that these companies face during the internalization activity. It also aims to identify possible opportunities for international business consultants like that of our company.

Qualitative research methods will be the forefront of the research activity for this thesis. This is because this study aims at recognising the current landscape of the life science industry in Finland, recognising the challenges that companies face during internalization and identifying opportunities that our company can capitalise upon. A semi-structured interview was conducted. About ten top managers in the life science industry in Finland were interviewed to understand their perceptions of growth and internalisation.

Finnish life science SMEs almost immediately after establishment decide to venture in to the international markets. Initially, it is mostly restricted to the EU market and then subsequently they have the desire to venture to far off markets such as that of the US. This is in line with the Internationalisation models discussed in this thesis.

The Life science SMEs were confident of the landscape of the industry and clearly see growth opportunities. A major hurdle for growth opportunities is the availability of skilled man power. Even if the company successfully finds a right candidate finance becomes a major hurdle.

The SMEs largely feels that they need support for the sales activities to increase their reach and bring clients. Government support for sales activity is minimal and mostly limited for market research.

Companies do see a significant value in international business consultants, provided that they are appropriately equipped with the skills and knowledge of the company's offerings.

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1 INTRODUCTION

This thesis investigates the problems and challenges that arise in pursuit of international business for Finnish life science small and medium size entrepreneurs (SME's), and opportunities that international business consultants have in this market. Internationalization of SME's have been studied widely but the ground reality that the life science SME's face in the Finnish market needs more investigation. Identifying the needs that these SME's have and the gaps that can be full-filled by international business consultants lies in the scope of this thesis.

International business has been practiced for several thousands of years. But the form, method and importance of these activities are in constant phase of evolution. The Phoenicians, Mesopotamians and Greeks were the pioneers of this trade. The industrial revolution further encouraged the growth of business internationally (Ajami 2006, 5).

Internationalization of a company's business is particularly important when the market in which it operates is comparatively small. Sales in these markets can be limited especially for knowledge intensive and specialised products. Such as those products offered by the life science industry.

The SMEs play a critical role in international business. Data from sources such as the Economic Corporation and development (OECD) have shown that SMEs contribute to a significant proportion of exports from most industrialized nations (Knight 2001, 155).

In addition to the export volume, the SMEs play an important role in the economic growth of most nations and thus have gained itself as a vital element in national economic policy decisions (Hoffman et al. 1998, 39).

SMEs must be competitive for sustained growth and to be competitive they must inculcate an outward-looking business attitude and be aggressive in pursuing international opportunities (Labbe 1994, 22).

Finland is a prosperous country and is strategically located in the Eurozone. It has strategic and economic partnership with the Nordic countries and the countries within the European economic area (EEA). The population currently stands at 5.42 million residences with a population density of 16 people per sq Km (official population register website (“Kuntien Asukasluvut Aakkosjärjestyksessä,”)).

The country is highly industrialised and has contributed to several novel innovation in various sectors that have had global impact. The most famous of which are the innovations produced by Nokia Corporation. Because of this innovative and highly industrialised market characteristic, the country has had a GDP of \$250.126 billion in 2012. Finnish market has a strong economy with per capita output similar to other major European countries such as France, Germany and UK.

Being positioned in the Euro zone it has accepted the common currency, the Euro €, through which it does most of its financial transactions. Finland is one of the economically strongest and stable countries in the Euro zone. The Eurozone common market has brought in greater possibilities for enterprises to venture in to new market areas.

Companies most often ponder on the question as to when to go international. Though going international may seem attractive the maturity and timing of this venture should be thought out well. Delaying internalization will allow the company to gather necessary resources and at the same time gain experience about the performance of their product in the current market. The three major considerations for venturing in an international market are the maturity of the company, the experience of the managers in the company and the flexibility of the resource (Sapienza et al. 2006, 914).

The company I work for has its core business in assisting life science companies develop its business internationally. This consultancy company has been operating in Finland for the past 10 years and has been partnering with other consultancy firms to increase its range and network. All off-shoring activities including partner search, distributor search, key account management, sales development, due diligence and

similar other activities are provided as a service to client companies. The main office is located in Paris, France where the CEO is located.

A new partnership with another consultancy company in Finland was initiated a year ago. In association with the partner company an office was set up Helsinki where I work as the international business consultant. Our company provides the partner company with an expertise in the life science industry. This new arm of the partner company is expected to cover the life science industry which until now was a neglected area because of its specialised nature.

This recent new venture in Finland brings in new challenges and demands a better understanding of the life science business. Therefore, before the company dwells in to complete commitment it needs to understand the market landscape. The company needs to recognize the strengths and weakness of the market and subsequently identify opportunities that can be capitalized upon. The term “capitalized upon” should be translated by potential client companies as “meeting their needs”.

2 THE AIM OF THE STUDY

The purpose of this study is to identify problems and challenges that life science companies face while venturing into new international market.

Secondly, this thesis attempts to identify opportunities for international business consultants in the Finnish life science market.

This thesis will contemplate upon certain questions to identify vital clues that can bring a better understanding of the issues currently prevailing in this industry.

- ❖ Does the company in question see growth possibilities through internationalization of its products/services?
- ❖ What are the bottle necks that can impair the internalization process of the company
- ❖ What are the concerns that the company have while internationalizing?
- ❖ Is there an immediate solution to any problems, if there is any?
- ❖ What are the company's challenges during the internalisation process?
- ❖ Does internationalization benefit the company significantly?
- ❖ What are the strategies that companies general adopt for their internalization process?
- ❖ Do international business consultants bring value to the internationalization venture of the company?

The scope of this study is restricted to international business and attempts to avoid the issues in the local market. Subsequently, the discussion of this thesis will be limited to the above topic and the value of international business consultants. The main focus areas in this study will be towards, the Biotech, diagnostic and pharma service provider companies.

3 THEORETICAL BACKGROUND OF THE STUDY

3.1 Definition And Essential Concepts

3.1.1 Life Science

The usage of the word “Life Science” has brought in a slight relief to group the ever expanding field of “biotechnology” and increasingly related areas. The usability of the word Life sciences has allowed investors and readers to visualize fields such as Bioengineering, biochemistry, clinical medicine, molecular biology, pharmacology, pharmaco-vigilance, diagnostic and the list goes on. The field of biotechnology has penetrated various sectors such as Pharmaceuticals, medical diagnostics and in drug development and even enzyme production for various industries such as food and detergent industry. Therefore, the growth in this sector has several implications across other sectors.

3.1.2 Growth

Growth is perceived in an economic as well as non-economic sense. In an economic sense- the definition found in the oxford dictionary defines growth as “the increase in economic activity or value”. While in a non-economic sense, the definition provided by the same dictionary states that growth is “the process of increasing in amount, value or importance”.

The growth of particularly small companies can be summarised in five stages. These stages are of existence, where the company strives for develop its customer base, build references and implement assignments to the best of the company’s ability. The second stage is that of survival where small companies execute its day-to-day activity, building upon a workable environment. It strives to break even with its finance to stay in business. The third stage is that of success, where the company tries to gain on its accomplishments and expand. The fourth stage is that of take-off

where small company's strives to rapidly grow with respect to its finances and resources. And the final stage is that of resource maturity, where the company has already by now gained a formidable force in the market by virtue of its size, financial resources and managerial skills (Lewis and Churchill 1983, 1-3).

Studies have observed that small companies that have the strategic business orientation are in constant mode of innovation and are proactive not only to grow faster but also to perform well. Aiming for growing market niches is an important consideration for further gaining market shares or negating the risk of competitors (Wiklund 1998, 1-3).

Innovation ambidexterity is a valuable asset for growth particularly for SME's. It is debated that the SME's must rely of time tested ambidextrous initiatives by large companies. This mode of innovation can have its implication on the performance of the structural, contextual and the leadership aspects of the company. The study by Change and Huges show that SMEs can succeed by achieving a balance of explorative and exploitative innovation by developing a right international company structure and leadership style (Chang and Hughes 2012, 1-3).

Rosenbusch *et al* found through empirical research that the relationship between innovation and performance is context dependent. Factors such as the age of the company, type of the innovation and the cultural aspects influence the innovation on the performance of the company to a significant level (Rosenbusch et al. 2011, 441).

The word challenges and problems used in this study, though may sound similar have subtle differences in their meaning. The answer to this difference can be found in the Encarta college dictionary. A problem is a difficult situation with regards to matter or person. On the other hand, challenge is an incitement to a contest. These two aspects are nevertheless related to the growth of the individual companies.

3.1.3 International New Venture

International business is the business activities that cross national boundaries (Ajami, 2006, 4). For Finnish life science companies it means the borders of Finland. Companies find it lucrative to expand their operations to international market. The reason for this lies in fact that every market has its own market characteristics. The imperfections that is inherent in each market can result from various sources such as the value of the product, differential international taxations and imperfection in the financial markets (Errunza and Senbet 1981, 401).

Ripolles *et al* suggests that the choice of the mode of entry in the international market is essentially an important strategic decision with significant consequence for success in the international new venture. The SMEs that are most often resource restricted venture with “low-resource commitment entry modes” to the foreign markets. However, new market entry with higher resource is a competitive advantage for companies that are supplied with it.

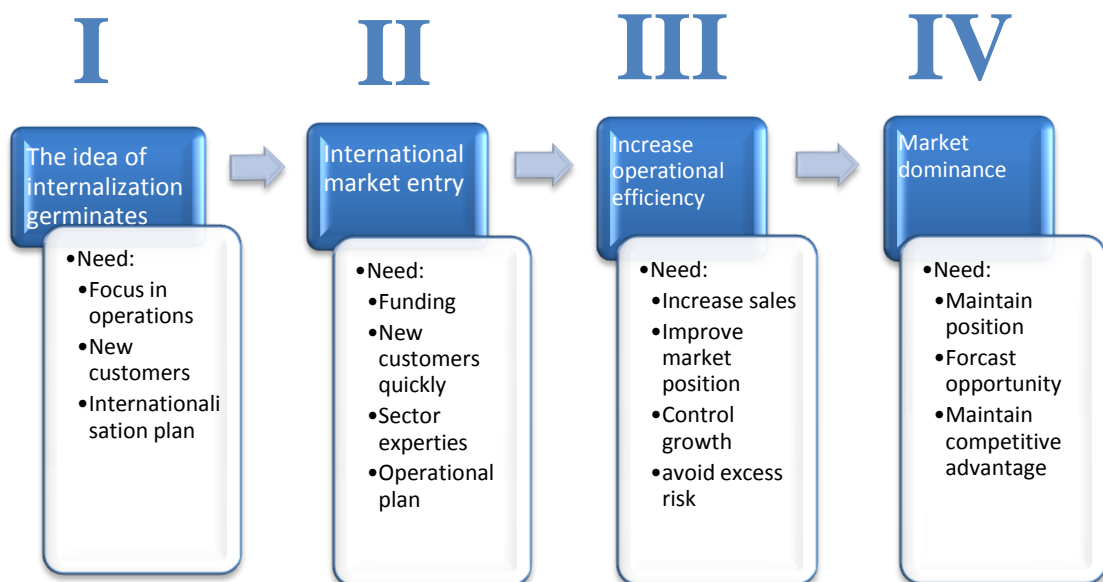


Figure 1: The general stages for the internalisation process (Ripollés et al. 2012, 648-666)

The same article Ripolles *et al* also discusses that the entrepreneurial orientation and the timing of entering the international market are important considerations for the international new market venture.

The author suggests that the learning effort of the activities in the new ventures has a direct and positive relation to the resource that these companies commit to their foreign markets. This is because the company must be confident before indulging in to a higher resource commitment as a mode of new international market entry (Ripollés et al. 2012, 648). This was positively identified in two of the companies that were interviewed in this thesis. The CEOs of these companies had planned to stay-put in the international new market and gain experience firsthand. Only then depending upon the requirements the amount of resource would be committed.

Interestingly, Schwens and Kanst demonstrated based on an empirical study that direct experience relates negatively to early internationalization while on the other hand learning from others and learning from paradigms of interpretations have a positive impact on early internationalisation. The same publication also suggests that early internationalisation pursuit prefers a cooperative mode of market penetration compared to late internationalises and show a higher level of stability in the same country (Schwens and Kabst 2009, 509).

The aspects that determine the speed of market activity are those of risk of perception, tolerance for ambiguity and international orientation. The swiftness of internationalisation is a result of rapid market entry which differentiates firms in to three categories: the international new ventures, the traditional exporters and the domestic firms. Acedo and Jones argue that these groups of companies must essentially be proactive and is the basic “premise for risk perception”. This in-turn determines the speed of internationalisation (Acedo and Jones 2007, 236).

There are several studies in the literature that has been studies with an academic as well as “in-practice” interest. Few have attempted to make sense of this huge cache of information. Chandra and Coviello have recently integrated the theories of international business, entrepreneurship, innovation, marketing and network economics to classify the consumers as international entrepreneurs. Thus, broadening

the concept of international new venture and its entrepreneurs (Chandra and Coviello 2010, 228).

Jones showed through empirical data that for initial market entry the mode of activity devised by companies is most often that of importing and exporting. A detailed examination revealed that about half of the companies include a value chain activity or other trade in their first steps of internalisation (Jones 2001, 191).

For successfully entering the global market these companies need partners. But, this brings in new challenges. An example of such a challenge is that of the disclosure of critical knowledge. Therefore, Blomqvist et al argues that the “born global” are in the risk of losing their potential competitive advantage. This is because of the limited control over the critical knowledge. On the other hand market entry without partners may end up being more time consuming and the risk associated may be comparatively high. Therefore, the role of trust and contracts is significant and closely intertwined (Blomqvist et al. 2008, 123).

3.1.4 International Business Consultation

International business consultation is the service provided by service companies that have local presence and claim to know the target international market well. For example, Finpro in Finland provides such services to Finnish companies that intend to venture in to new markets.

Established in 1919, Finpro has its origin in Finland and now has its presence in 50 other countries with 69 offices. It is well know as a national trade, internalization and investment development organisation.

There exist several competitors to Finpro that are mostly focussed on a single or few market areas. These companies support SMEs in Finland to venture into the international market at the right time. The most important asset of these consultation companies is the network it has with the right people.

Majority of the companies that are not “born global” experience serious difficulties in market entry and in handling international operation. Born global companies are those companies that mostly originate in an international location. These firms at the very beginning have a global focus and commit their resources to international ventures. One interesting characteristic of these companies is that they rely on export as a method for foreign market entry. True born Finnish global companies have better export performance compared to other companies (Kuivalainen et al. 2007, 253).

What about the rest that apparently are the majority? Do these companies venture in to the international market all by themselves or do they make use of consultants? And, does international business consultation bring in value to these companies. This thesis will also explore these aspects and the outcome of this research will be delivered in section 7.

Sleuwaegen and Onkelinx have shown that global start-ups have high and rising export commitments and are more likely to continue exporting when compared to geographically bound start-ups and traditional exporters. On the other hand it was also observed that global start-ups have a higher failure rate. The failure is a result of the liability and not from the complexity associated with the swift and broad possibility of the internationalisation activity (Sleuwaegen and Onkelinx 2013, in press).

3.2 Previous Studies

The industrialised countries are in a transition phase of moving towards knowledge-based economy from a resource based economy. These countries must dwell into a more “new knowledge and technological innovation” as the basis of establishing new industries. For such an orientation, knowledge and competence are regarded as the most critical resource for firms and economies.

The reason why some countries develop faster than others is a matter of debate but it is for sure that Finland's competitiveness depends on the development of knowledge-intensive industries and its export to international markets (Tulkki et al. 2001, 7).

There have been several studies that have previously discussed various aspects that are of significance in international business ventures. Some of the key concepts will be discussed in this thesis.

Experts have claimed that the most important asset of the company seeking international growth is the previous international experience of the company's managers that is frequently "nurtured" in an international oriented firms (Zucchella et al. 2007, 281).

3.3 Development Of Life Science SME In Finland

The pharmaceutical and life science industry has undergone a paradigm shift during the recent past. Biotechnology, which was once a field of its own, has now been inculcated actively in to the pharmaceutical and various other industries thereby bridging gaps and merging boundaries.

The Finnish Bioindustries (www.finbio.net) has listed more than 130 companies that are operational and active in Finland.

Table1: The sectors and the number of registered companies in Finland (www.finbio.net)

Sectors	Number of companies
Drug discovery and Development	14
Diagnostics and Bio analytics	19
Biomaterials	5
Functional Foods	4
Bioinformatics and other IT service	8
Industrial Biotech	3
Environmental Biotech	1

Preclinical CRO	9
Clinical CRO	12
Contract Manufacturing (CMO)	8
Pharmaceutical	4
Business development, IPR and legal services	33
Suppliers, distributors and other organisation	20
Medical devices	10
Science park and other public support organisation	12

The primary strength of the industry clearly lies in the technology and scientific expertise and own know-how. In addition, the strength between the collaboration of the university and the industry can be constantly capitalized upon. Lack of adequate funding when needed is a weakness in this industry. The constant advancement in the global biotechnology firms brings in opportunities for Finnish SMEs.

Internalisation is an important consideration to the Finnish companies based on the domestic market size and also inherent opportunities such as open EU borders. Basically, the threats comes mainly from the international competition, lack of skilled personnel, decrease in funding and uncertainty in legislative and governmental actions (Brännback et al. 2001, 3).

Optimism about the growth of biotechnology in Finland is very high (Gaskell et al., 2010). But, one of the major disadvantages is the smallness of the Finnish market. Therefore, the companies in Finland have to be globally oriented already from the beginning. But, this brings in management constrains as they may not have the knowledge or the expertise necessary for that international market. The European regulatory framework is also, according to Tulkki *et al*, a reason for the decrease in competitiveness of the firms in the EU (Tulkki et al. 2001, 9).

A Finnish study by Soininen *et al* showed that the entrepreneurial orientation affects the firm's growth directly. The article also mentions as a review of previous publications that during the economic downturn the role of the entrepreneurs and the

SMEs becomes more significant for the national economy to grow (Soininen et al. 2012, 614).

3.4 Commercial Aspects In Life Science Technology Transfer

The life science industry is peculiar for several reasons, mainly stemming out of its nature of being innovative. Small businesses that involve the university staffs and facility has more commercialization success (Striker 1995, 660).

To manage the innovations coming out of the university, now-a-days many of the popular universities has a separate department called as the technology transfer office (TTO). These TTOs are instrumental in facilitating commercial knowledge transfer from academicians to the industry or the practitioners (Siegel et al. 2004, 115).

But, this too does not come without challenges and reluctance. Debackere and Veugelers analysed the creation of a balance between centralisation and decentralisation within academia, designing of an appropriate incentive structure for academic research groups and a model for constant monitor and control within the TTO is needed (Debackere and Veugelers 2005, 321). These are important as they may give rise to several issues related to the sharing of interests between the parties involved.

The evolution of university based technology incubators is a creative and excellent initiative opted by universities across most developed nations. The purpose of this initiative is to facilitate the flow of knowledge from university to the incubator firms. The absorptive capacity of these incubators is an essential factor while transferring the knowledge generated in the university to the companies that are located in these the bio-incubators (Rothaermel and Thursby 2005, 305).

Bjerregaard showed that in these places there exists a shared common cultural place for knowledge sharing and communication in joint projects between the university and the industry permitting a platform for exchange of communication and knowledge (Bjerregaard 2010, 100).

Life science business consultants can play a role in bridging the relationship between the various companies that seek innovation and development, and the university research groups.

4 MANAGING INTERNATIONAL BUSINESS

During the period of early internationalization the knowledge about the foreign market tends to be gained from pioneering and proactive pursuit of opportunities in the foreign market, rather than from the accumulation of experience from the same market (Zhou 2007, 281). This viewpoint has been evident in this study in the outcome section.

Proactiveness, discussed in the last paragraph, is the action of actively seeking opportunity with a perspective of looking ahead. It is characterised by being ahead of competition while offering services or a new product in a new market. This is also at times referred to as strategic agility. It involves the dynamic capability to identify weak signals (Soininen et al. 2012, 615).

Knowledge of especially the manager is argued as the most valuable asset of most companies that have decided to operate in an international market. This can be either the knowledge of the language and the knowledge of the market which will contribute towards the success of the company (Tayauova 2012, 3395).

There have been several literature in which the authors have argued and demonstrated that learning and knowledge is an important component which practically determines the outcome of the early internalization activity of the company (De Clercq et al. 2012, 143).

4.1 SME Development Phases

During the start-up phase the Finnish life science SME's need a bio-incubator where they can germinate their growth. Basic need for survival such as capital tends to emerge. Skills in management, understanding of the market and skilled personnel are necessary. The company also requires sufficient resources and proper infrastructure to begin growing their company.

During the Growth phase, the company sees gaining international and national permits for their products. Technical assistance and tax deductions are acquired. The SME at this stage gains more knowledge of the market.

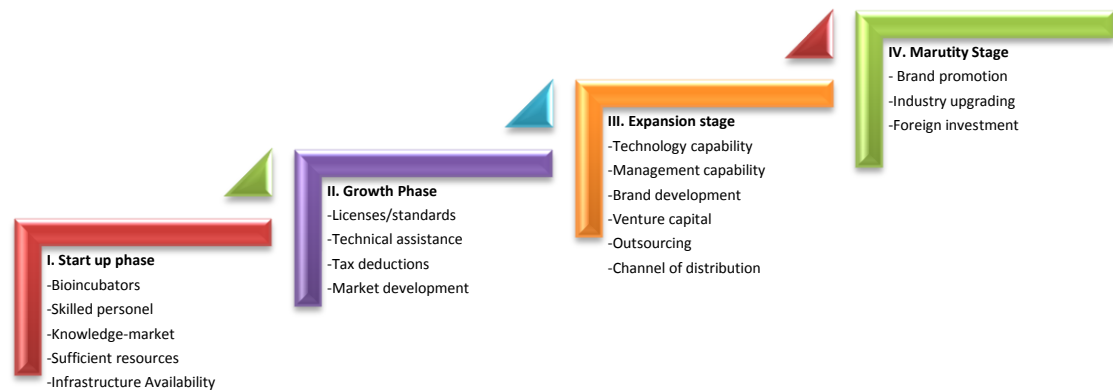


Figure 2: Typical phases of development of SMEs (Zhou 2007, 218)

Through the Expansion stage the capacity of the company is improved in terms of technology and management. Brand development efforts are more in focus. During this stage the venture capital, outsourcing and channels of distribution are evaluated by the SME.

The maturity stage then arrives with successful completion of the previous phases. The SMEs tries to consolidate their position and maintain global brand image as a source of competitive advantage.

4.2 Value Co-Creation In Research Intensive Projects

The era of globalisation has brought in a new set of opportunities and challenges. It has affected the way businesses operate and undertake innovation. Technology has recently seen itself being developed through co-development by activities such as outsourcing and forming strategic international alliances.

The current demand for multi-technological advancement in a single product has an ever increasing need for networking, which few decades earlier was just a competitive advantage. This contemporary re-structuring of the dependency of business is a source of opportunities and threat for the SMEs. At the same time it is also worthwhile mentioning that the large companies established connections with the SMEs that have a resource of external networks. This network brings in a level of flexibility and also brings in an ability to respond rapidly to external signals (Narula 2004, 153).

Identification of a strategic partner is an important determinant of the success of the international project. This opens a wide academic interest in understanding the aspects of strategic partnership. This aspect is reviewed in the article by Geum *et al* (Geum et al. 2013, 211).

4.3 Incremental Internationalisation Models

Prior to the mid-20th century, international marketing was limited to foreign trade of final products. We now see internationalisation of functional activities within the company such as manufacturing at various locations, global supplier search, distributors and service business identification amongst other business functions (Okpara 2008, 111).

But, to succeed in the international market companies must have a strategy and a guideline that has been gained through experience blended with scientific basis. There are several theories on business internationalisation. The most popular of which is the incremental internationalisation model.

The incremental internationalisation model originates from the economic, organisation and marketing theory (Johanson and Vahlne 1990, 11-24). This model supports the idea that the company establishes itself in a new market through gradual development and in distinct stages.

This idea was first discussed in Penrose (1959). The resource-based theory states that “internalisation is a gradual involvement process and the expansion of the firm’s activities to new lines of business and new markets. It is usually not a continuous unidirectional process.” (Penrose and Pitelis 2002, 127-146).

The two major models that represent the incremental internationalisation perspective are the Uppsala (Johanson and Vahlne 1977, 23)(Johanson and Vahlne 1990, 12) and the Innovation-related Internalisation model (Bilkey and Tesar 1977, 93)(Li and Cavusgil 1995, 251). Even though these two models come from two separate continents, Sweden and USA, they share the same ideology (Hammoudi 2005, 1).

4.3.1 Uppsala Model

The Uppsala model is the most famous and popular model in international business development. As mentioned earlier the model was created by Johanson and Vahlne (Johanson and Vahlne, 1977, 23-32). Since then it has undergone further development (Johanson and Vahlne, 1990, 11-32).

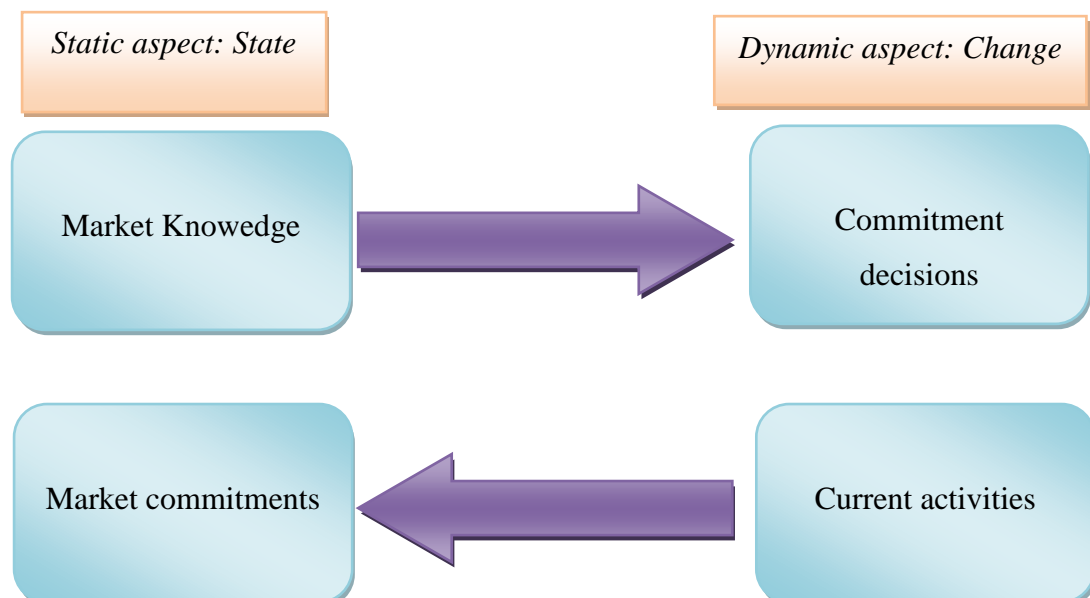


Figure 3: The Uppsala internationalisation model (Johanson and Vahlne, 1990, 11-32)

This model plots the international process in four stages. Firstly, the export activities are not regular. At the second stage, the exports are through independent representatives/agents. The third stage is to establish an overall sales subsidiary and finally the fourth stage is when the company initiates a production in the international location.

The first observation of the Swedish researchers is that the companies they studied had begun to operate in a nearby international market where the cultural differences and political understanding is not very different from their own market. They then initiate projects to penetrated markets that are located far away.

The companies tend to internationalise in markets where they perceive the uncertainties to be low. They tend to initiate their international operations by exports rather than sales or manufacturing subsidiaries of their own.

The model is engaged by a “state” and a “change” aspect with four core conceptions: the market knowledge, market commitment, current activities and commitment decisions.

The models adopt a gradual internalisation method and it is due to the uncertainty factor that rises in deciding to internalise the operations. This uncertainty is due to the lack of knowledge, facts and adequate experience about the new market. The model shows that the current state of the internalisation guides the further course of the internalisation process.

The initial entry that the company makes is by using a low risk and low commitment strategy. The mode for this is direct export. The company then surges into a strategy of high risk and high commitment. This could be by manufacturing and sales in the international market.

Companies that are large in size and have the adequate market knowledge can dwell in to a high commitment entry strategy by bypassing the earlier stages. This is known as “leapfrogging”.

4.3.2 Innovation-Related Internalisation Models

The innovation-related internalisation model is similar to the Uppsala model (Andersen 1993, 209). This model proposes a learning sequence with subsequent adoption of the internalisation activity. There are different views suggesting that the internalization venture is influenced by either a “push” or “pull” force.

The innovation-related internalisation model demonstrates the process of internalisation, the role that the decision makers play and the factors that influence the decision (Collinson and Houlden 2005, 413).

The four stages that can be generalised in this model are those of:

Pre-export stage: The company focuses on the local market. The company seeks information and prepares for export activity. Meanwhile, limited exports in carried out.

Export path stage: The Company’s international market exports is on an occasional basis

Advanced export stage: The Company now begins to export regularly with greater experience in the international market and considers other forms of commitments to the international market.

Based on this model, the experience and knowledge of the management can assist the company to advance steps ahead in the internalisation new venture. The involvement in the international market and the activities such as exports are considered as the innovation within the company.

The international commitment will increase with time and will differ from company to company. Some companies proceed through the steps quickly while others hold their position step by step, with an intention of not being dependent on the international market. Companies export increasingly more in the early stages and

therefore the internationalisation process can be seen during the time of establishment or at the beginning of the creation of the company.

4.3.3 International Issues And Challenges

It is common for SMEs to face issues and challenges during the international venture. The reason for this stems from resource restrictions that typically SMEs are fenced with. Few of the examples of the type of resource restrictions are financial, technological, skilled labour, access to market and information.

During the initial phases the economy of scale is not significant and the transaction costs are high and if the product is for the retail market, the competition is high (Harvie 2008, 1). Ray and Neck proposes that most SMEs face the challenge when it come to decision making and financial management (Graham and Philip 2007, 71).

5 METHODOLOGY USED IN THE STUDY

5.1 Qualitative Research

Qualitative research method has been used in this thesis. This is because the objective of this study is to understand the ground level problems and challenges that the Finnish life science companies faces during internationalisation.

Improved strategies gained through others experiences and case study can help companies make better strategic choices while internationalizing their business. Therefore, this study employs a qualitative study and case study by interviewing and assessing the top management involved. This gave not only a significant insight to the current market problems and but also provided essential information for further development that is needed in the market.

Qualitative research is crudely defined as a collection of interpretive research. It attempts to understand the meaning that the people in the field have constructed (Merriam 2009, 11-42). This research method utilises methods such as observation and case studies the results of which are in the form of text, image, voice recording and its description of the subject interviewed (Parkinson and Drislane, 2011). This thesis will predominantly utilise narrative analysis and case study as an approach to recognise problems and challenges that companies face during internationalization process.

Because of the approach that the qualitative research adopts, it is considered as a methodology that does not employ direct experiments. In contrast to qualitative research, quantitative research deals mainly with numerical data.

It is favoured to choose one main methodology for the study according to the aim of this thesis. This could be either qualitative or quantitative method. The advantage of qualitative research is that it has the characteristics of being subjective in nature,

offer flexibility to the research, logical and can be compared to similar subjects in the group.

The data collection process will involve the in-depth interview and will be controlled by using a focussed approach. The data will be captured by observation, embedded in writing and if possible voice recorded.

The research design for this thesis is based on first recognising the primary purpose of the study by first gaining a general perspective of the real-world problem which then is built upon the theory. The critical aspects will then be problem to evaluate its significance in the subject's international business.

The four stages through which the methodology is implemented in this study are by identifying, exploring, describing and assessing the company's international business problem and challenges.

Although there would be considerable overlaps in each of the four stages, elusive difference exists. Therefore, this study employs a method of semi-structured, open ended interview, based on which the subject would be probed to unearth vital data.

The advantage of utilising this qualitative approach results in an outcome which captures various dimensions associated with each barriers that the subject faces in international business. Qualitative approach is efficient in identifying issues that are not easily visible and cannot be contained with numbers. Open-ended and inductive style of questioning is a hallmark of qualitative research and is very efficient in capturing complex matters (Merriam 2009, 11-42).

Typically, qualitative analysis requires a few knowledgeable individuals or a larger sample population. Nevertheless, the final outcome will be a good understanding of the problems in question.

Qualitative research can be instrumental in recognising approaches, morals and insights that form the basis of the decision makers in international business. The outcome of the research will help in developing hypotheses for future evaluation.

Companies often use qualitative research to identify the needs of the clients, explore the market, and raise data to decide on the product positioning and appropriate marketing strategy for the product. It is also used to evaluate brand value and product acceptance. In marketing it is also use to investigate market reaction to advertising or other marketing communications (“Qualitative Research Consultants Association,” 2013).

Qualitative research is applicable when the study seeks to identify detailed, the true understanding of particular occurrences. This is particularly relevant when one wants to understand the ground reality but cannot be performed in the form of an experiment. Qualitative research studies are relevant in this study because of its nature to understand subjects as a whole and the main purpose being to uncover facts rather than to verify arguments (“Qualitative Research Consultants Association,” 2013).

The purpose of qualitative research is to pronounce real life situations and ground level understanding by interviewing the right people with the right kind of questions with a purpose of gathering information.

In this type of research the researcher often aims to understand the manners of speech, identifying consistencies, recognising the implication of transcript and reflections (Glenn 2010, 20-83).

5.2 Data Collection

The following sub-chapters describe the methodologies and the logic used in this thesis for collection and pooling of the data gathered through interviewing the top managers of various companies in Finland.

5.2.1 Case Study As A Data Collecting Strategy

A case study is “an in-depth description and analysis of a single bounded system” (Merriam 2009, 11-42). It is a practical hands-on approach to collecting valuable data. The purpose of case study in this thesis is to understand a particular case or event, analyse it and present it in a way that is educative and sheds light on the topic of focus.

A typical case study collects a comprehensive cache of facts. These facts can be disorganised as probing questions can be scattered throughout the process of the interview. The case study facilitates in taking a broad view and providing a holistic view. It helps in sustenance of testing assumptions by producing data in a descriptive form. The data obtained can be interpreted by the researcher or with several people reviewing it independently (Merriam 2009, 11-42).

Another significant advantage of a case study is that it often initiates an active thought process in the mind of the interviewee. The outcome of intense questioning can be made use of in practise. The data obtained is so broad that it provides a reference for future studies (Merriam 2009, 11-42).

Qualitative research methods and particularly case studies is time demanding. It is important to understand what can be generalised and what cannot be generalised in a case study (Glenn 2010, 20-83).

The aim of this study is to understand and probe in to the problems that Finnish life science SMEs face, the challenges they have to overcome and the opportunities that lie ahead for these companies along with the opportunities for international business consultants. To achieve the objective, interview was performed with detailed and open probing question to collect data for the case.

The case study is limited only to one organization and on a focussed area for example in this case internationalization activities. The case company in this thesis has one organisation but two different companies registered within the same

organisation. The top managers of both the company are essentially the same but the services provided by both the companies are a bit different from each other. One of the challenges of such study is to recognise any bias about the issue and its influence to the overall study.

5.2.2 Data Collection Methods: Interview And Observation

The data from the semi-structured in-depth interview were collected from ten life science companies in Finland. The persons interviewed were from top management of which eight of them were CEO's of the company, two business development directors.

The qualitative research methodology in this thesis was based on the most common methodology of collecting data by performing interviews, observation, and information from several sources. Commonly, these methods are not exclusive of each other. They can be used alone, in parallel or in combination with the other methods. Of course this depends upon the research problem in question (Glenn 2010, 20-83).

The aim of qualitative research is to gather information which also includes probing in to several key questions and identifying unseen problems, and discrepancies. The interview questions are designed in advance. The advantage of having a face-to-face interview whenever possible or via tele-conference is that it is a two-way interaction. Concerns and probing questions can be immediately put forward. The entire period is guided by the researcher to keep the topic on focus. The researcher often finds it necessary to encourage the interviewee. Most often the interviewee expects the data to be handled with confidentiality (Merriam 2009, 11-42).

Interviewing the selected candidate is a proper data collecting technique for example when probing in to the concerned matter is necessary. A single structured questionnaire is often not completely relevant, for example in this thesis, the top managers SMEs interviewed had their own perspectives, other than many overlaps in

problems and new ones emerged. It is up to the interviewer to be open and flexible to suit the environment dominated during the interview. The interviewer must then interpret the data either by himself or an independent person. It is necessary to simplify the answers into comprehensible bits (Glenn 2010, 20-83).

There are different techniques in performing interviews. Some of the examples are in-depth probes, structured interviews and semi-structured also known as focused interviews. These interviews can be performed with one person with an entire group. (Barnett 2002, 32-64). An in-depth interview paves the path to a deep understanding of the issue. An in-depth interview takes up the tone of a normal conversation. The aim of the research is to understand the candidate's thoughts, plans, beliefs, feelings and assumptions. The motifs will change during the interview depending upon the path it takes and the areas that need to be probed. Since an in-depth interview needs the interviewer to be alert and catch signals it is recommended that a worthy interview should have a constant, measured and liberal flow. Therefore, it can at times be lengthy (Marvasti 2010, 424).

As a rule the semi-structured interview is structured and is concentrated on a particular focus area. The order and form of the questions is not as stringent as in the case of the structured interview (Glenn 2010, 20-83).

As mentioned previously the questionnaire designed in this thesis was semi-structured and flexible to adapt to the interviewee and the company in question. Because of this intense analysis and the mode of analysis, this method is time consuming. Therefore, time constraints along with the mode of analysis restricts the sample size of this type of research.

In this study the CEOs and top managers were interviewed. The semi-structured questionnaire provided a framework for the interview and enabled a methodical flow. It also provided the opportunity to probe into further clarifications.

The structure for the questions was similar at the beginning for all candidates. The areas of interest were probed using the same format which facilitated ease of response analysis. The time constraints and limited resources of this study prevented

an expansive study. Nevertheless, this study provides a solid guideline for further research.

The reason for interviewing CEOs and top management is that they were the most suited candidates to provide a holistic view of the company and its problems. Any other lower management wouldn't be able to provide the kind of in-depth insight as these candidates.

The in-depth interview was interpreted by a single person and therefore there is a consistency in the interpretation and results. During the interview quick request for clarification was asked for. This flexibility was the greatest advantage of this method.

Nevertheless, the most important target of this study was to unearth as much information as possible while the interview is being performed. The candidates interviewed were provided with the interview question before hand.

Observation as a data collecting method was implemented in this thesis. During implementation field notes were taken. Observations are generally very time-demanding.

For this study, observation was partially used in addition to the semi-structured interview. Observation served as a complimentary method to the data collected in this study. The observation was done simultaneously and with previous meetings with the case company. The observation was done from an outsider's perspective and gave a spectators understanding of the issues that were probed.

5.2.3 Data Collection In This Thesis

The data was collected by first phone calling the CEOs and top managers of the several life science SMEs. Interview date and time was agreed on the phone. If it was

possible to meet them in person, face-to-face interview was carried out. Otherwise, interview by TC was preferred.

In order to ensure that the topic of the interview was clear, the questionnaire was sent via emailed at least two days prior to the interview.

In this study, ten candidates include CEOs and top managers from several life science SMEs in Finland were interviewed. The request for the interview was originally conveyed to twenty top managers and CEOs, but only ten agreed for the interview. From the rest, some of them declined and others were busy or on long summer holidays.

The interviewees were introduced to the thesis topic beforehand. The reason for choosing the topic too was explained. On an average an hour was requested for the interview from each respondent.

The research data collected is handled with confidentially as per the agreement. The responses of other candidates were not shared with the others. During the research the interviewer were asked if any of the questions needed more clarity. If any of the questions were found to be uncomfortable the candidate was provided the liberty to skip the question entirely. A constant attempt was done to keep the interviewer in his comfort zon

5.3 Analysing The Data

The interview were performed either face-to-face or via teleconference (Skype). The interviews were recorded and at the same time notes were taken. All the interviews were conducted in English. And because this thesis is in English language any chance of miscommunication during translations is avoided.

Qualitative data analysis which is used in this thesis consists of evaluating the notes and voice recording taken during the interview. The contents in this thesis were

analysed by systematically going through the data collected. The bits and pieces of the information were pooled to extract meaningful data to be presented in this thesis.

The stages in analysing the data include firstly, deciding which of those data are relevant. Secondly, flag relevant contents in the data those are of importance for this thesis. Thirdly, pooling the information to make sensible generalised outcome. Fourthly, classifying and categorising the data and finally summarising the data (Glenn 2010, 20-83).

There are two phases in this qualitative research. The first phase is to simplify the data collected and deciphering the problem. During the second phase the elucidation of the data is kept in focus to the objective of the study. The outcomes in the data are then linked through mutual attributes to results in a generalised conclusion.

5.4 Reliability And Validity Of The Study

Patton (2002) proposes that validity and reliability are two elements that qualitative researcher must be alarmed about while planning a study, analysing results and arbitrating the worth of the study.

Qualitative research is a naturalistic approach which strives to understand the phenomenon in “real life setting” (Patton and Patton 2002, 14). A typical characteristic of qualitative research is that it produces findings that are arrived by “findings from real-world settings where the phenomenon of interest unfolds naturally”. Qualitative research seeks illumination, understanding and exploration of similar settings (Golafshani 2003, 597).

Qualitative analysis has the advantage of providing the rewards of both numbers and words. Depending upon how the instrument is constructed the reliability of the research is proportional. Scholars claim that instrument for analysis here is the researcher (Patton and Patton 2002, 30).

Thus when a researcher state the reliability and validity of the of the results of the qualitative study, they refer to a research work that is credible while the credibility of the study depends directly upon the ability and commitment of the researcher (Golafshani 2003, 597).

Reliability assesses the extent to which the objectives of the study are met. Validity, on the other hand, estimates the reproducibility of the results. The use of these evaluation criteria is argued to be of less relevance in qualitative studies and more so a characteristic of quantitative methodology. But, it is still used as criteria of evaluation for this thesis.

To ensure the reliability of especially qualitative study trustworthiness is an important parameter. It is able to differentiate between the good and the not so good quality research.

The researcher should invest adequate time for the study. The consistency of the study is an internal check to evaluate the study. There are few aspects of the study that taken in to considerations while evaluating the study. These are questions related to the aim and the object of the research. The other factor is the investigators own dedication. The methodology implemented by the investigator to pool the data, and from whom the data has been collected. The relationship between the investigator and the subject is in some studies important, but is not relevant for this study.

The research work for this thesis was systematically designed. Enough time was reserved for the interviews. Whenever possible the researcher went to the interviewee's office to have a face-to-face interview otherwise a teleconference via Skype or phone was preferred. In this study 5 face-to-face meetings were held. Four interviews were held over Skype and one interview was performed over phone. Each of the interview lasted anywhere between 55 minutes to 2 hours with an average of 1.5 hours. The interview was recorded using a voice recorder for the purpose of preparing a transcript and proof of actual interview.

The names of the company and the interviewee are kept confidential to protect the interest of the interviewees. But the figures and quotes mentioned in this thesis are actual discussions that arose from the interview.

The researcher is experienced in the field of life science industry and has an understanding of the dynamics of this industry. Moreover, the interviewees contacted for this study were all CEO's of the company. So the quality and depth of information gathered from them were of great value. The researcher maintained neutrality and did not propose any opinion or thought throughout the interviews.

The questionnaire was tested by sending it prior to the interview to make sure that the interviewees understood the questions well. They could also prepare the real life examples to narrate during the research.

The companies that were interviewed were SME that are growing. Further investigations from different perspectives are necessary to further study these companies. But, for this study the aim and objectives have been fulfilled. Any further study with the same perspective used in this study will only compliment this study and add in more views of and recommendations from the top managers of the life science SMEs in Finland.

6 CONCEPTUAL FRAME OF REFERENCE

This chapter will attempt to combine the theoretical and the empirical part of this thesis. The outcome of this study shows a relatively large coherence with the theory. The coherence is in most part complimentary to each other bearing novel propositions.

The incremental internalisation model as discussed previously is a mode that most small entrepreneurs take during their venture of internalisation. There are several versions of the theory, the most popular of which is the Uppsala model.

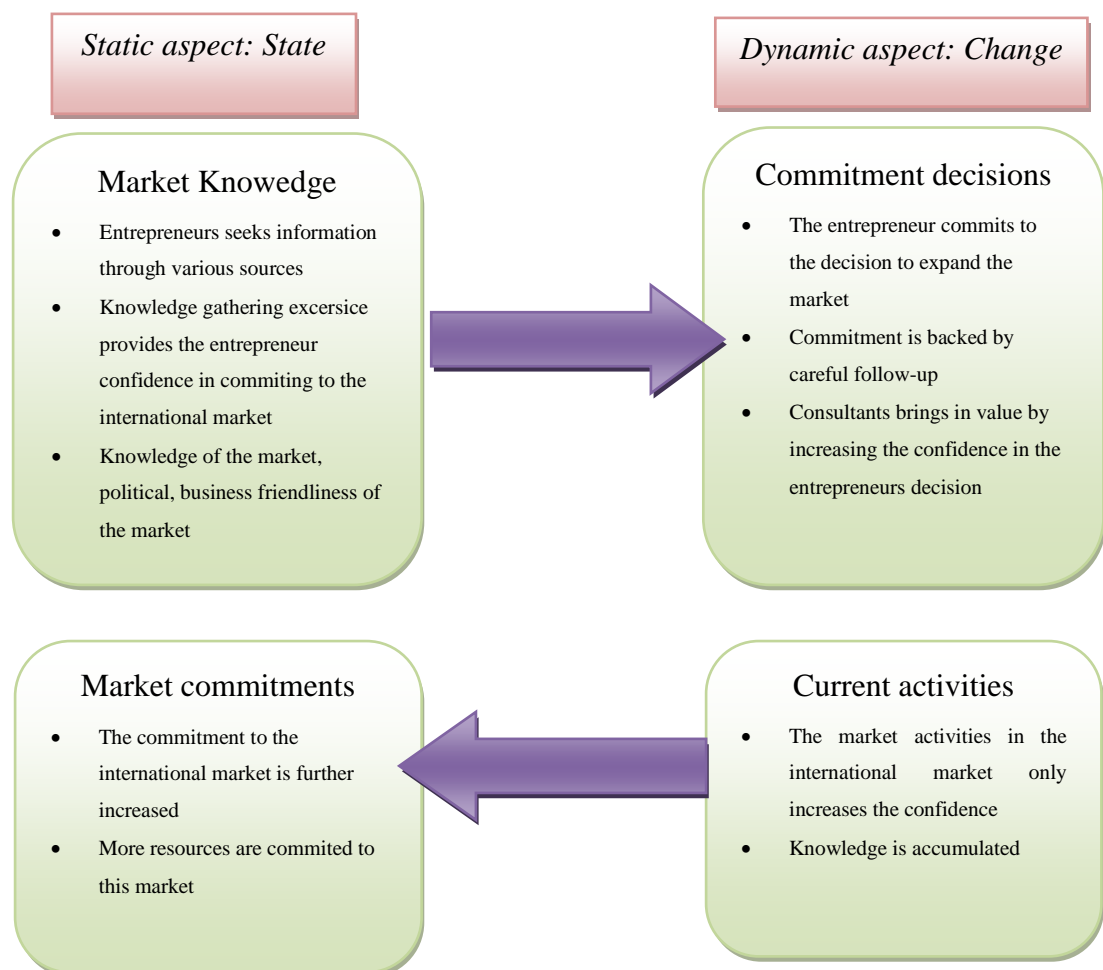


Figure 4: Modified Uppsala model: The conceptual frame of reference combining the theory and the outcome in general

Initially, the static force is necessary to drive the commitment decision. But, later on the marketing activity which is the dynamic forces supplements the decision enabling the entrepreneur to further invest more resources in the international market.

One of the notable outcomes which did not follow the incremental internalisation model is that the life science entrepreneurs did not commit to the nearest market first but ventured in to relatively nearby market that presented better opportunity.

Companies found business development consultants very useful in building relation and the entrepreneurs found comfort in leveraging their marketing efforts using the consultant's networks.

Moreover, the business consultant brought in an added comfort in better understanding and resolving the political and market friendliness to foreign businesses. This was generally found to be a prime concern amongst the SME's.

Presentation of better market opportunities at international hotspots compared to low opportunity in the home market, forces SME's to consider early internalisation. This is a unique finding peculiar to the life science SME's studied in this thesis.

The outcome of this thesis is detailed in the subsequent chapter and will give an overview of the industry landscape prevailing in the SME domain, the growth possibilities, the bottle necks and the benefits along with the challenges and the value of business consultants.

7 OUTCOME OF THE STUDY

The outcome of this study has brought light to various interesting aspects of the life science SMEs in Finland. The direct quotes from interviews are demarcated by double quotes.

7.1 Landscape Of The Industry From The Candidate's Point-Of-View

Internationalizing the products and the services of the company is imperative for most of the life science companies studied in Finland. The respondents felt that this is because of the overall Finnish market size and the opportunities available in the Finnish market. Companies feel that it is a “necessity rather than a need” for companies to survive and subsequently grow sustainably.

All the top managers were confident of the overall life science market. They were particularly interested in the life science market in the EU and US. The reasons for choosing these two developed markets is because of the close proximity and ease of business in the former and the market size of the leading developed market in the world. This falls in line with the Uppsala model of internalisation which was used as a theoretical model for this thesis.

Sales or clients in the US can bring in advantages in terms of building up a brand and credibility among the people involved with the company and its future clients. Some companies have had intermittent clients from the US but the other was “happy” to have customers from the US. Branding and differentiation of the company's products or services is becoming even necessary because of fierce competition from eastern European countries and from developing countries in Asia-India and China.

Eastern European countries are a serious competition to companies in Finland because of the low cost of labour and close proximity to all major European

countries. Countries such as Poland and Czech are performing well in and rapidly growing in the life science product and service sector.

The life science companies in general felt that it necessary to expand their international operations in the German speaking countries and further to the UK and Ireland. This is because the life science industry is concentrated in these regions. Unlike companies in other sectors such as machineries, retail goods and high capital equipment, where the natural first country of expansion mostly is in the neighbouring Swedish market (data from my own separate observation not shown in this thesis), life science company does not generally begin expanding in the Swedish market.

This is especially the case of life science service providers. The reason for this is that large pharma such as Astrazeneca is decreasing it's operation's in Sweden ("Downturn in Swedish life science patents - Nordic Life Science," 2013). Similarly, other large companies are facing slow growth in this market area. But, this is only the case with R&D intensive companies. For, other companies producing functional foods for example, the market hasn't changed much.

7.2 Growth Possibilities Of Life Science Industry In Finland

As mentioned in the previous sub chapter (section 7.1), the Finnish life science companies are positive about their growth possibilities "else we wouldn't be in this business".

One common characteristic of these companies were that they were confident of their products and services. They were proud of the quality and deliverables that they owe the customers. Therefore, they believe that finding repeat customers shouldn't be a major problem. But, the first thing is "to get a good hold of the market".

These companies also find their strength in the skilled human resource and design of their product and service. Most of them claim to be unique in their product or deliverables that is a selling point for the customers.

Nevertheless, when asked if they had to “push or pull” their offerings to the market the general reply were “push”. The reason for this is that, the life science industry is a specialised field and most often the person they are “selling their products or idea’s” has either not scientific background or does not understand how the company’s offering can be useful to them. This background training and then convincing the need for the product takes time and therefore is a unique hurdle to the growth of the company.

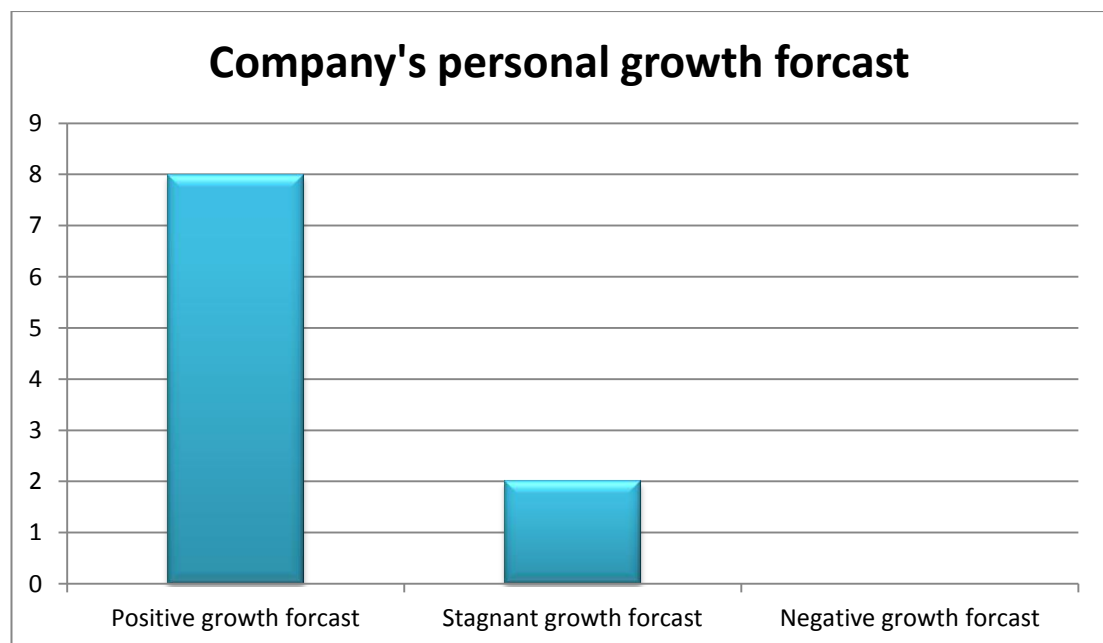


Figure 5: The general forecast of for SMEs growth potential

Many of the Finnish life science SMEs were not directly affected the current economic down turn. But few of them are feeling the “spill over effect” as their forecasted turn over hasn’t been reached as expected.

The life science SMEs interviewed had a number of employees ranging from 3-12. The skilled human resources and financial constrains were hampering the growth of the company. These aspects will be discussed in the next section (Bottleneck identification).

All of the companies interviewed forecasted a growth from 20-50%. Seven of them were confident of achieving the target but 3 weren't sure "how things will turn out". But, a growth in the positive zone is expected for sure.

Some of the companies found it too early to start a subsidiary in another country. They lack the appropriate understanding of the market, the cultural barrier and the way of business in especially far off markets. "Nearby markets, such as Germany and France, are interesting markets but is a challenge to penetrate."

Six of these companies preferred to have partners in the interventional market but the others felt that they have to have more control and therefore the partners may not be of choice. "Choosing a partner from far away developing countries like India and China should be done with great care and advice from a local consultant". "The trust is the key entity to get before starting a relationship".

7.3 Bottleneck Identification

The key bottle necks all of the companies agreed were that of skilled human resource. When asked about the solution to this problem the simple answer is to hunt for them but here is the catch "financial resources are also most often limited". "Finland is an high labour cost country where even though a staff has a fixed salary, the employer must pay wages that are way higher than what the employee sees and gets in hand" "this hidden or lost money goes to the government in the form of tax". Some companies find it had to overcome this problem. Hiring staffs from a remote location, for example, low cost country to form a virtual team is a viable solution for the IT industry but rarely relevant for the life science companies.

Financial constrains is yet another common problem for SMEs. Their growth is limited in all dimensions. One of the companies interviewed mentioned that he is unable to full fill customer inquiries and had to let the customer down because he did not have enough financial and human resource to cater an additional customer. Also, some times the needs of the existing customers sometimes are a challenge to fulfil with the available resource at hand.

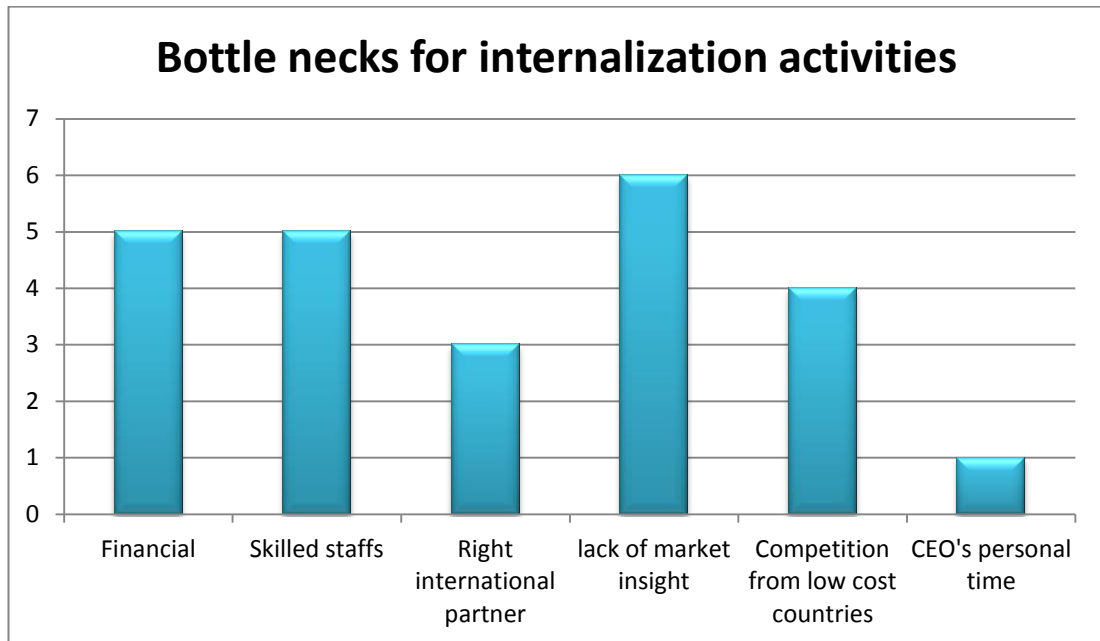


Figure 6: The bottle necks that Finnish life science companies face during internationalization.

“Lack of appropriate knowledge of the far away market is surely a problem”. But, most of the SMEs were confident that they can handle the nearby markets within the EU comfortably. Gaps in knowledge about the market can be fulfilled by the international business consultants provided that the consultants have the necessary knowledge about the product and the “personal chemistry between the client and the consultant matches well”.

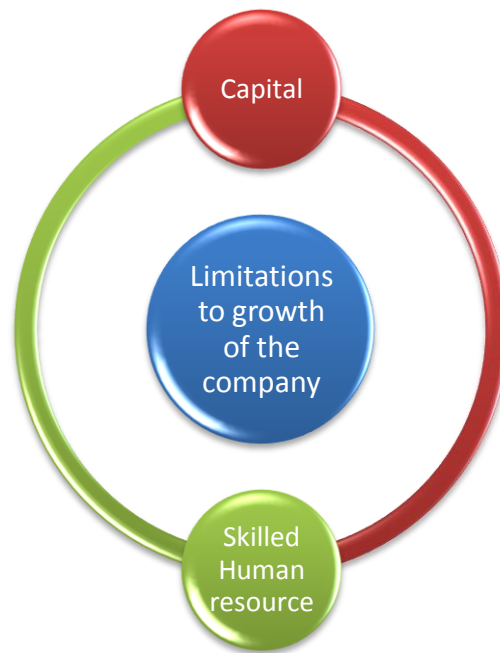


Figure 7: The common challenge faced by life science SMEs, limiting its growth

Currently, most top managers are involved in sales and market development. This brings in the issue of time. “In how many places can I be at the same time?” They feel the need for more skilled sales staff to take over at least the initial sales and market development tasks. But this again runs in to the vicious circle of “finance and human resource”

7.4 Benefit Of Internationalisation

The Finnish life science market is small and “so is the customer base”. Therefore, it is imperative for these SMEs to scout for new markets. This is not for “need” but for “survival” of the company.

Two of the interviewers argued that Finland has a unique disadvantage of being cut off from the main European markets where most of the life science activities are going on. These are the German speaking countries, France and the UK.

The investors do not push the company to be more active in international markets. Most part of the reason is that they are already in an “internalisation mode when dealing with life science companies”.

Life science companies in Finland that are typically CRO’s (contract research organisations) face the challenge of low patient population in specific diseases. This is largely due to the total market population and not a reason of incompliance by patients or doctors. Therefore, the logical way most companies see forward is to internationalise their operations.

The companies realise that it is important to have a firsthand experience of the market that they are working. They feel that this is the best way to know their customers, relate to them, and understand their needs and to tailor their products for the market. One of the CEO of the company interviewed in this study went to Ireland to understand the market and develop the product with the customers. After a stay of four months the entrepreneur came back to Finland to further develop his products and prepare a marketing strategy for Ireland.

7.5 Internalisation Activity And Challenges

The life science companies have several methods to choose from to assist in gain customers from international markets. This includes meeting leads at exhibitions, conferences and seminars. They may have a stall at the exhibition centre and arrange meetings with leads prior or during the conference.

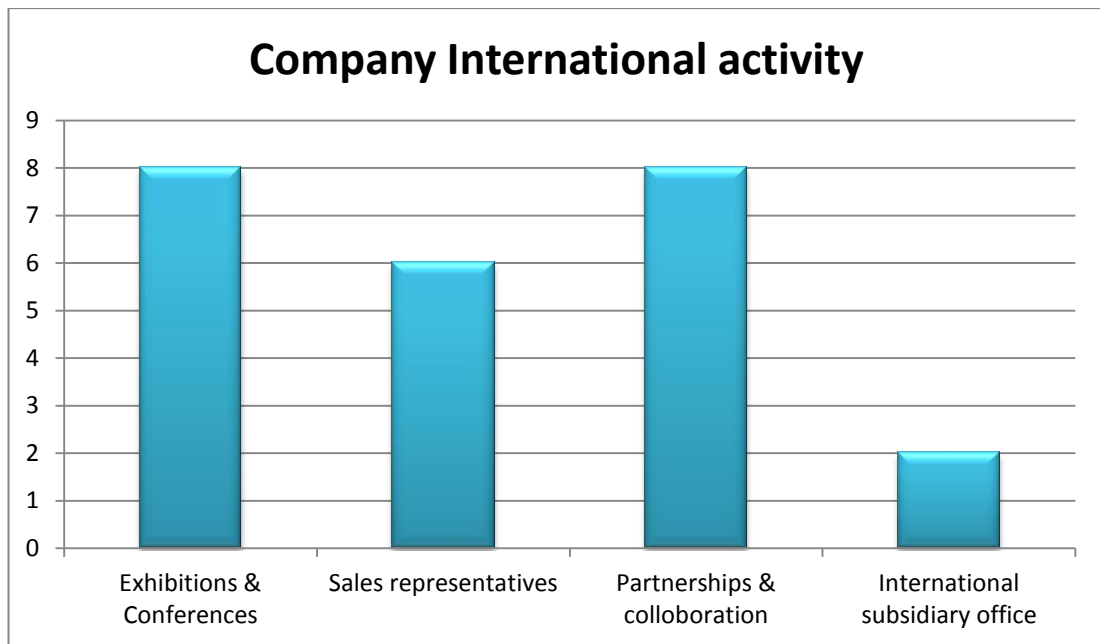


Figure 8: Internationalization activity of the companies studied.

Sales representatives is a more efficient way to reach customers but can be resource demanding. While partnerships and collaborations are cost effective solutions they can bring in challenges with regards to ownerships and confidentiality agreements.

Opening an office at the international market is comparatively highly resource demanding and therefore only those companies that can see clear market advantage and have the necessary resource will avail this possibility.

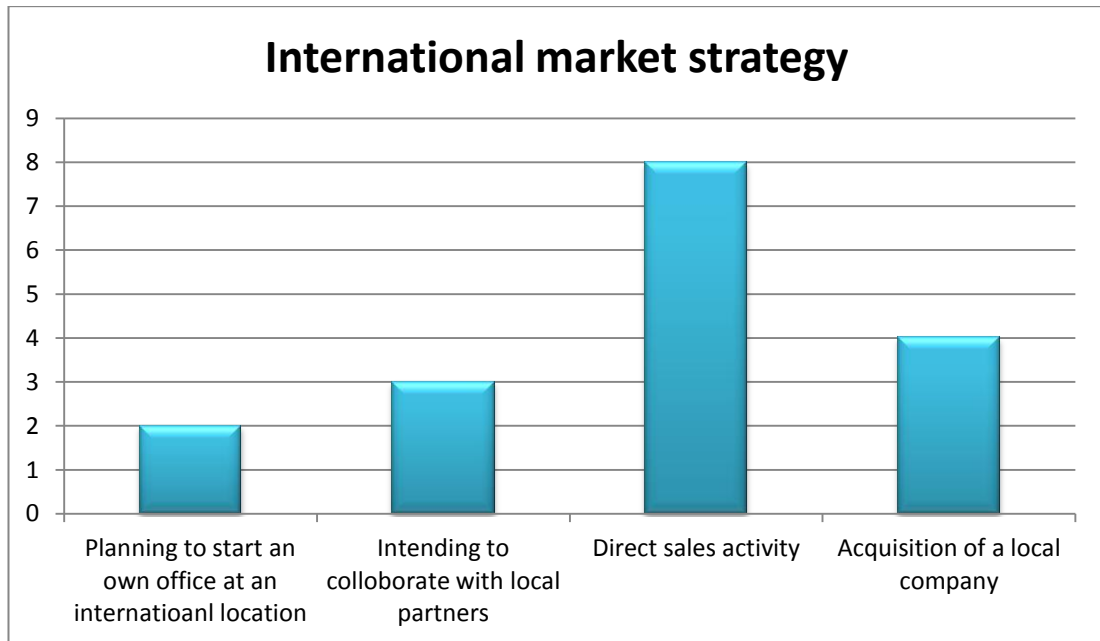


Figure 9: Intentions or current mode of international sales to foreign market.

The publication by Zohu in 2007 (Discussed in section 3) reasoned that the knowledge of the foreign market arise from proactive efforts and innovative pursuits (Zhou 2007, 281). This was evident in one of the company studied in this thesis. The CEO of one of the start-up company interviewed was asked as to why he prefers to personally go to international target market and understand his end users. The company is currently trying to develop and market the product for the UK and Ireland. He felt that it is important for young start up and young entrepreneurs like him to live locally in the market and work with the end customers. This will help the company to quickly catch signals, quickly respond to the needs of the market and moreover provide him with a good understanding of the opportunities that exist in the market. He felt that it could be easy for him to just hire international business consultants and order a market research but that will be according to him a waste of time as the final understanding of the market will be superficial. But, as the company progresses and they decide to expand to more than one international market area then the use of consultants can be complimented with personal visits and market understanding of the target market.

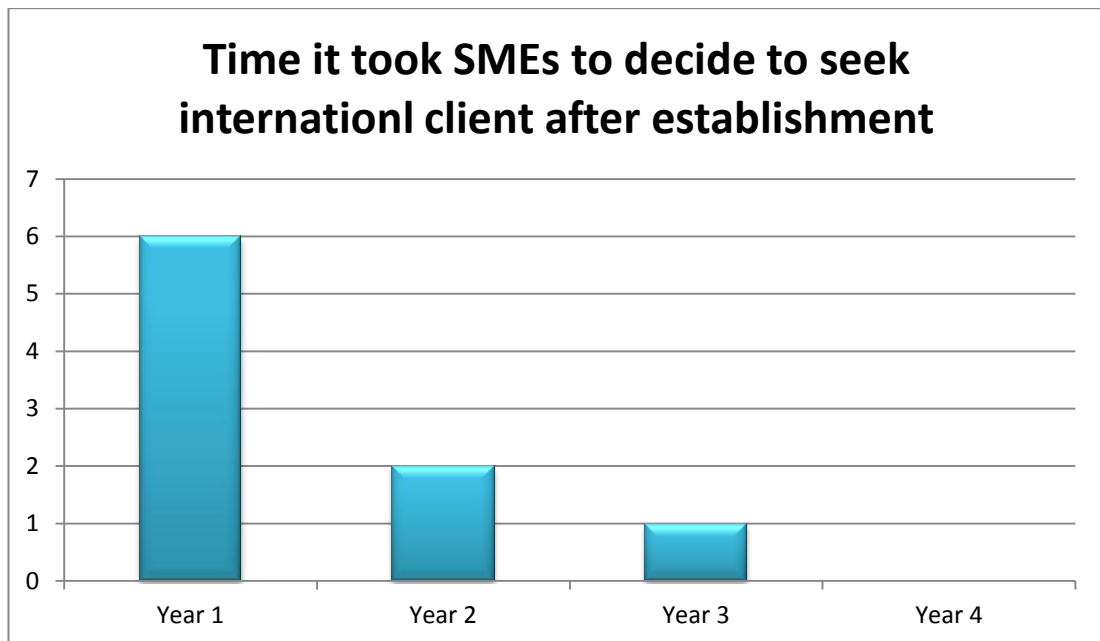


Figure 10: Time taken by the company to decide to internationalise their offerings

Most companies decided to internationalise their operations almost immediately after conceptions. This partly contradicts the incremental internationalisation model, described in this thesis, where the company decide to start international operations in a stepwise fashion.

There reason for this contradiction is because these SMEs have very limited clients in Finland and therefore they are in an internationalisation mode immediately after establishment of the company. They test their product in a limited setup with a limited client base and skip the initial steps in the model.

7.6 Value Of Internalisation Consultants

Most of the companies found it difficult to break the barrier in an international market without the appropriate local assistance. This local resource can assist the company in breaking the initial cultural and language barrier. Further, this local resource can assist the company in identifying and arranging meetings with local clients.

Most companies definitely see great value with this type of service. But, it is necessary for the company to make sure that the consultancy company to have previous experience with marketing a similar product or at least knowledge of the specialised field.

Inter personal relationship between the client and the consultant must be at good level to be able to continue working together.

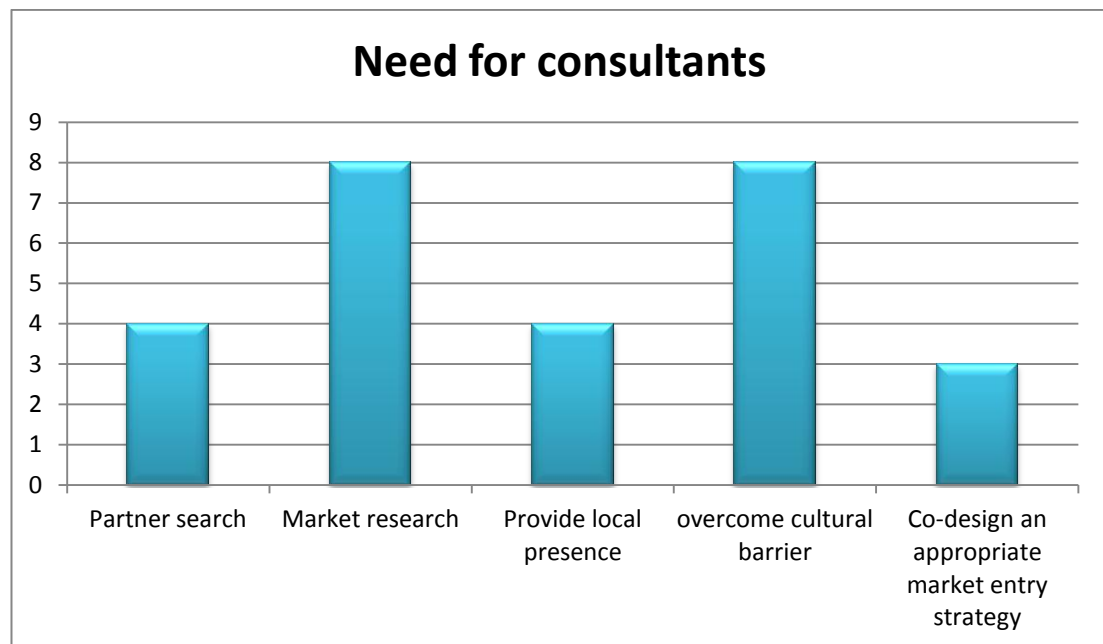


Figure 11: The need for consultants in several functions of the company's international process.

The bar chart shows larger readings than the total number of companies studied in this thesis. This is because each company answered positively to more than one choice.

8 CASE STUDY

The names of the company described in this case study have been changed to maintain the interest of the company. But the events issues and concerns are realistic and factual.

Stastical Services Ltd has its clients across the Pharma, Biotech, Diagnostic and food sectors. The company helps client companies to perform clinical studies in several countries. For example, for a pharma company that has a new treatment which is in the development process, Stastical Service Ltd helps by planning and providing data management service of the clinical studies. This service can range from the phase I until phase IV.

Epidemiology Ltd on the other hand is a spin-off from the parent company Stastical services Ltd. This spin-off came into existence in 2010. The company narrows its focus on pharmaco-epidemiology and basically the focus here are the studies that has been mandated by European Medicines Agency (EMA) or Food and Drug Administration (FDA) to the pharma companies. For instance, a study was performed for the Finnish pharmaceutical giant Orion pharma, where they had a requirement from the FDA to investigate whether their drug had an increased risk of prostate cancer. Epimediology Ltd worked with Orion to disapprove the possibility of prostate cancer and submit the report to FDA. The protocol for this study can be now found in www.encepp.eu (network of research centres established by EMA). The company is a part of ENCEPP network which includes many institutes and universities across Europe.

Statistical services Ltd has 15 employees and Epidemiology Ltd has 7 employees. 85% of the project portfolios are international projects.

Essentially, for most purposes the company can be considered as the same but differences arise when it comes to deciding upon certain aspects of international strategy. This case study will assume the two companies as a single company unless there is a difference which will be highlighted.

The company decided to enter the international market because the Finnish market is small and not enough to sustain their business even though they are working across diverse sectors. The company has its clients within the EU and the US. Especially, the US companies that want to market their product in the EU, have to fulfil certain requirements with regards to safety of the drugs. Such companies are potential clients for the case company.

A recent assessment by the case company showed that out of the top ten pharmaceutical companies in the world, the company has had seven of them as clients. The company is proud of this achievement and from the top 20 companies in the world the case company has had 13 clients.

The protocols that the company produces are entered in the ENCEPP register and are available publically for international client to view. There are similar other databases in available worldwide, for example in the Nordic countries the cancer register provides all relevant information and link that information to use of medications based on the prescription database. This kind of data is used for research purpose on a patient level. Eventually large datasets can be attained. This is the core competency of Epidemiology Ltd.

These kinds of studies are often required when evaluating for example a cancer event that is rare. So, there is a need to accumulate as many patient events in the study as possible.

Epidemiology Ltd is therefore historically a younger company and is actively building an active international approach with an appropriate strategy. The company was about to do this the last year but unexpectedly the company lost some of the business cases the company had in its portfolio. This was due to multiple reasons. But, largely the client just decided to not invest cash on certain cases. And as a repercussion of this loss, the interviewer who as mentioned is the CEO of Epidemiology Ltd, had to take drastic decisions related to stalling recruitments that were in plan.

But this year seems promising with several big international cases in their portfolio. Some of those studies are already registered in ENCEPP. The potential to have more client companies is also forecasted to be high.

The current on-going projects the company works with are related to cancer, diabetes (insulin and hypoglycemic agents), multiple sclerosis and pregnancy outcomes, type-II diabetes and the clinical guidelines realised in practice. Another project nearing completion is that of chronic obstructive pulmonary disorder (COPD) and lung cancer. This indicates that the company is flexible to work on a variety of therapeutic area, depending upon the data that has been gathered in Finland, Sweden, Denmark, Norway and some other countries within the EU such as Netherlands, UK and France.

The international strategic decisions that the company had taken was that to partner and network with various countries and also within Finland. This strategic approach benefits in various ways. The main advantage of which being the ability to use certain specialised skills that the company does not have intrinsically. The network has been the building block of the company.

The company manager who was interviewed is the CEO of the company and also holds a chief scientific officer position in a sister company. His background is in statistics. He first began his career after graduation working with Orion Pharma for four year. He then joined the national public health institute working in a big randomised cohort study. The study was biggest in the world at that time. He completed his PhD in compliance issues in clinical trials.

Stastical Services Ltd was established in 2005. It was initially just the CEO and after two years of starting the business the first recruitment was made. At the end of 2007 the company already had 5 employees. It was then that the CEO decided to go international because of the huge potential in the foreign market contained.

The current CEO then took over the company. He had a background in Novartis in Basil and this opened the doors of the company bring in international clients. It was during this time that the company was also actively trying to thrust its R&D activities

to improve its processes and routine work that could be supplied without increasing the head count.

In 2008 the company started a TEKES funded R&D project. During this project the company was able to make its first prototype of the product that is basically automated reporting of certain type of clinical data. The pharmacokinetic study was aimed at investigating the bioequivalence of the products.

This R&D project ended in early 2010. At this time the company applied for the young innovative enterprise (Nuorten innovatiivisten kasvuyritysten rahoitus) funds. The company was confident of the product and thought that it is perfect and ready for internationalization. The company was successful with the application in the summer of 2011. This was surprising because in spite of the disapproval of TEKES external panel, TEKES overruled their decision to provide the company with the grant.

This program consisted of first stages of internalisation which the company eventually succeeded. So, the company received a second stage of funding. Because of this grant the company was able to make new recruitments, new international partners and collaborators, pay for consultants, international marketing, and international travel. This fund therefore was flexible and helpful.

The company was not free from challenges though and had to face few issues during the second stage of implementation. The sales target that the company had set was unrealistically high and also the recent recession had impacted the company's revenue. The other challenges that the company faced is that some of the recruitments did not succeed. The interviewer felt that the small companies like that of his must invest considerable time in the recruitment process to identify the right and the fit candidates for the projects.

The specialized nature of this business makes it knowledge intensive and therefore identifying a right candidate is difficult. This is particularly true not only for implementation of project but also for sales. The sales team has to meet up with clients quickly identify their needs during discussions and then propose solutions that could solve the client's problem.

For the sales agent to be able to propose a solution requires a deep understanding of the field of biostatistics, epidemiology and clinical research. The interviewer uses the sentence “building up the case with the client”. The sales agent must at the same time be convincing and at least experienced.

This issue of finding a candidate with a good “blend of attributes” has been a hurdle for the company. The sales recruitments are also expected to learn quickly and understand how to make the products of the company sellable.

The company has previously tried to overcome this problem by trying to hire consultants. But, the experience in the past has been mixed. Some of the experiences were good but the others were not so good. The good consultants can probably select what they want to do and what can be done.

Getting long term projects has been difficult. Typically, the company Epidemiology Ltd and Stastical services Ltd has been receiving projects that are short term. Long term projects are ideal as they bring in constant revenue. But, both the companies have found it difficult to acquire long term projects.

Another problem with short term projects is that of resourcing. Usually the clients have deadlines and they are fixed. Negotiations take a long time to reach a deal. But, since the deadline remains the same time constrain begin to become prominent during the remaining time of implementation. The “lost time” cannot be recovered.

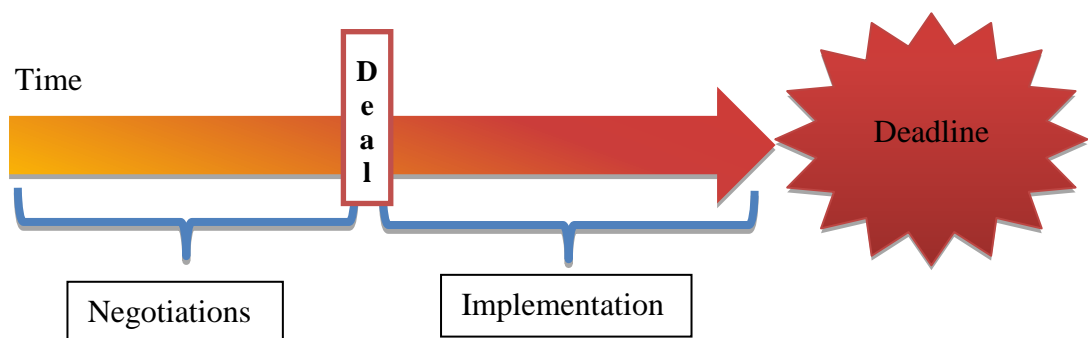


Figure 12: showing the time main reason for time constrains that the case company face typically in an international project.

With big Pharma companies the negotiations are typically long. And the “lost time” is therefore greater. The challenge that the company now faces is to optimise the resources during this “waiting time”. The company has to decide whether to keep their human resources waiting for the contract to be signed (deal) or make them available at the required time period. Making them available when required has its own challenges and it not always a practical solution.

At the stage of implementation the financial constraints are not so critical but the financial burden is felt when the human resources are kept waiting for the implementation to begin once the deal has been signed.

Another critical situation the company faces is when the company has parallel projects on going with similar deadline. During this situation optimal utilization of the resources becomes important. To overcome this typical problem the company has been evaluating different solutions. The interviewer calls it as the “everlasting problem”.

The key raw material of the company is the access to the various databases from the different countries. The mode of acquiring this key material for the company is by following the standard procedure of supplying the research plan and then applying for permission from the “data holders”. But, the easier method would be by having networking partners from reputed universities or companies within that country.

Post marketing requirements are increasing and this means that there will be a need for more and more studies and the need for access to database and link the different data sources within the population. It is difficult to estimate how much projects will be there in the future, but could be at least every year and increasing in the year ahead.

The company’s business sales were low in the first year and last year it was slightly more than 300,000€ and is increasing rapidly. The visibility of the company in the international market is good but certainly it needs to do more. If the company had unlimited resources, probably the company would have already established affiliates

in other countries. For example, in the Nordic countries and within the EU close to the big Pharma and at some point go aggressively to the US.

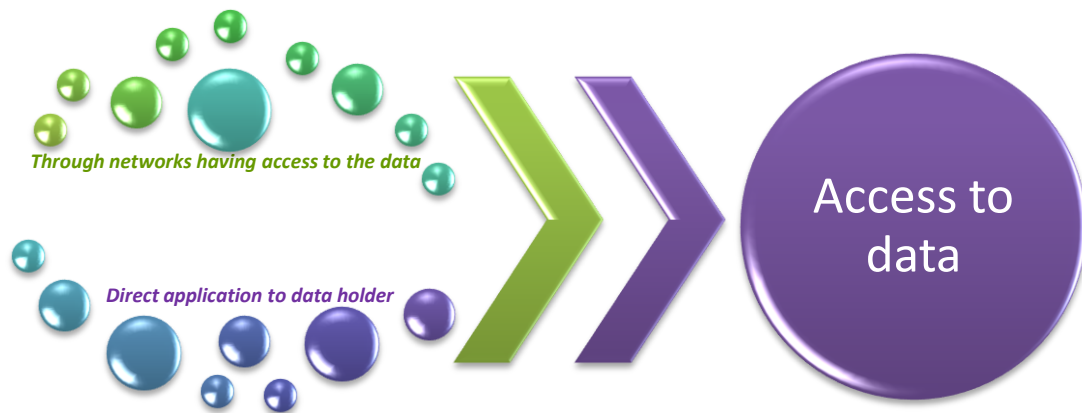


Figure 13: Showing the mode of access to data at international markets by the case company.

Having a networking partner and thereby access to the national database is also a key resource to build a large multinational/multi-centric study. There are many ways companies try to achieve this.

The company has its collaborator in all the countries where they have their operations with an exception of Norway where the company is still in a process of building a networking partner.

Generally, the company hasn't faced much problem, hurdles or bottle neck with the collaborator or the government authority but there have been occasions where the company has had to face problems. For example, Denmark was once a problem to the company. The Danish authority was receptive to provide access to the national health data to anyone outside its borders. Such a problem would never occur in Finland.

Data protection issues differ in significance in different countries, especially when it comes at the patient level. The key skill required to overcome this problem is

convincing ability. And therefore skilled staffs who have good convincing capabilities and be able to put the case forward showing the significance of the results is an important asset to the company's success.



Figure 14: Bottle necks that the company faces during its international

The company's strategy to operate in international market using networking partners or collaborators not only saves resources but also helps ease out few requirements that the individual countries have. The company is currently considering a strategic a model of opening up an own office in these countries. This will enable the company to be more visible to the clients in that region and also follow-up the client using a local contact point.

The company's main resource is the specialised and skilled staffs. Currently, the company has been able to find one employee that has a PhD in epidemiology. Similar people are difficult to find.

The skill of the recruitments should be in depth but at the same time broad in the field of medicine and statistics. Larger companies can afford to have experts in a particular field but small companies need a candidate who is an expert in all fields. Therefore this becomes a bottle neck in small to medium size companies.

The CEO of Epidemiology Ltd finds his personal time as a bottle neck in the company's growth. Due to the specialized nature of the tasks, it is also often difficult

to delegate the tasks to someone else. Also, finding someone to do the international sales would be essential to the company and is a “limiting factor”.

Mix of solutions is necessary to solve the bottle necks. For example hire interns and outsource routine work. At some point someone in the company pay roll must take up the responsibility to take care of product sales. “Responsibility is difficult to outsource”.

For Statistical Services Ltd the main bottle neck is the competition. It is quite difficult to differentiate the offerings from those of the competitors.

The company finances itself through its sales and therefore the number of projects in its pipeline is important. There are no investors outside the board. Epidemiology Ltd has received grants from Ely keskus and the company is now planning how to grow further with its finances, because the company is moving well.

Last year negotiations with Finnvera ended up being unsuccessful because at the last period few major clients withdrew. This made Finnvera reconsider their decision of providing funds to the company and finally rejected the application.

The big CRO's are working in this area and is either collaborating with academics or through companies like that of the case company. This is the only company in Finland doing Pharmaco-epidemiology and health economics as a service to companies. The company is collaborating with a partner for the health economics studies.

Within the Nordic countries there has been other company with which the case company is collaborating. The competitions can also arise from some academic institutes. But, this competition may not be relevant as academics can easily diverge their focus and the interests are academically motivated unlike an enterprise service provider.

When the company decided to go international it started from Switzerland. This is in line with the incremental internationalisation model, Uppsala model. The mode of

entry was initially participating in conferences and make the presence felt and at the same time networking with relevant people in the area. The company then decided to expand to the German speaking country in Europe by using specific consultancy companies that could speak the local language, arrange meeting with international clients, “road trips” to meet clients.

So, the company representatives had to just fly in and then meet the clients and fly back. The reason for beginning with this international market is because of the concentration of pharmaceutical companies in EU.

Success in the UK market was not as prominent as was in the EU. The interviewee felt that this is because the companies in UK seek for local partners and do not entertain companies that do not have a presence in the UK. Face-to-face meetings are more appreciated. This is yet another important finding in this study.

The natural instinct of most Finnish enterprise in other industrial sectors is to enter the international market by starting to test its success in the neighbouring country, for example Sweden. This is because of similarities in culture and understanding of the neighbouring country well. But, this case company and the results from other companies analysed in this thesis indicate a difference. Finnish life science companies are different in this respect by entering the German speaking countries first. In fact the case company’s presence in Sweden is almost none.

The case company cannot compete on cost leadership in the international market because they see the competitors from Asia and other low cost countries to be a serious threat. Therefore, they try to differentiate by focussing on a narrower base of client and provide them good service to them. This approach can invite repeat customers and occasionally bring in new customers.

The company has specialised products and claim to provide a full report within one day with receipt of data. This selling point attracts clients. This is a main selling point in the company’s marketing strategy.

There are basically three ways that the company utilizes to enter the new international market. The first being the uses of consultants in the new markets once the goals are defined. The consultants can assist in preparing a market research and organise meeting. The other method is to participate in key conferences where the chances of meeting clients that would be potentially interested in the services that the company offers.

This approach is in all the market that the company operates, that is the EU and the US market. The third approach is by B2B phone calling and fixing meetings. Upon confirmation of a meeting the CEO of the case company flies to the international client's office and presents the company.

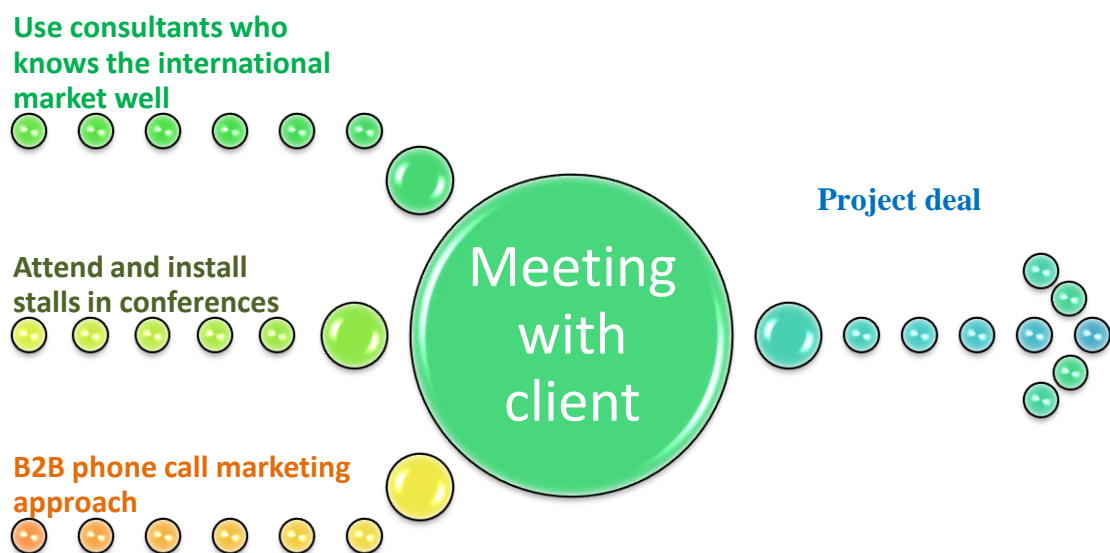


Figure 15: The three different method the case company employees to ensure the first client meeting. The project deal is reached upon successfully gaining client interest.

The first appoint generally do not end up in a deal. Continuous follow-up can lead to a successful deal. It is a lengthy process and may take easily a year from the first contact to obtaining an offer. This effort consumes resources and the “someone” has

to bare it. Therefore, it can be more practical to use consultants for this purpose, especially if it is a new market.

The use of consultants is a “cost-efficient way” to enter a new market. But, of course at some time the company needs to have a sales person concentrating on the specific market. But, the amount of information shared with this person should be limited. If the person is hired only for sales then it would be a good plan forward.

During the early days the company sort all opportunities that were available to them with no focus on any market. But now, the company concentrates on certain international market areas and certain client groups rather than an unfocussed approach.

The company’s strategy is to expand the business towards diagnostics and food industry. The best approach there is to use one client in that sector and use it as a reference for marketing to other companies in that sector. For example, Statistical service Ltd had approached the food industry and developed a product. So, the company was able to develop a similar tool for automated reporting tool for the glycemic index.

The company uses “Ebest report” is used as the “marketing arrowhead” while presenting the company to the client. And subsequently enter in to a discussion to understand the client’s needs. After understanding the needs an appropriate solution is provided to the client’s problem.

The case company is trying to diversify its products to suite several sectors. This bring in an advantage that if a particular sector undergoes a dull period the other sectors can still bring in projects.

For the clinical studies, data management would tend to have longer term projects, which in turn will be good for the cash flow. The company is investing now a lot on data management for international clients. This data management will not only provide statistics but also data flow from the first patient-in to the last patient-out and doing the reporting.

The food industry is also facing increasing requirements to do clinical studies but, these projects will be of shorter term. Demand for the company's services from the diagnostics industry is expanding. There are a lot of emerging companies and they at some point need to do clinical research. The services of the case company fit the design for these emerging companies.

The case company tries to make a product out of a requirement by a previous client so that the process could just be repeated for another client with similar requirement.

Statistical Services Ltd finds its strength in its employees. They have very good skill sets. People across other companies do not normally have the statistical thinking combined with the statistical programming skills.

Essential qualities that the international clients admire are efficiency and transparency within the processes. "Good luck also plays an important role in gaining projects".

The legal consultant in Finland takes care of the international legal issues in those countries. The company hasn't faced any such issues at international location in its history and therefore hasn't thought of having a legal person at the international location yet. International tax issues were also not a problem for the company as they primarily works with-in the EU.

The benefit of internationalising the company's products is to seek more clients and the only forward. There are some needs in the local market. For example, pharmaceutical companies need data to justify the price of the product and for this it needs local data.

Sales are some of the functions of the company that could be outsourced. In addition, off shoring some of the routines to a low cost country are a serious consideration for the company. For example, statistical computation can be done where the cost of the human resource are low. This could be either through partnership or establishing activities in those countries.

Another strategy that the company is considering is to open internships for candidates from different countries. Then after the internship the interns could go back to their respective countries and open up the company's office and work remotely, either with a contract with the case company or through a company establishing itself.

The processes related to data permits and accesses to the data are the core secrets that the company will share but keep it in its control. The quality of the data protocols are functions that will be kept under constant monitor and control of the company.

The company has been using consultants for market entry in the German speaking area, the US and France. Utilising the services of an international business consultant for sales is very helpful to open up new doors.

The best experience with a consultant was in the German speaking region. The person was good and knew the area. Even though she did not know pharmaco-epidemiology she knew the environment and knew the contacts already there. The consultant was also flexible and this was because the company was small and therefore they could focus on the client company's needs. The personal chemistry between the consultant and the client is important.

The case company ideally wanted to work with consultants on a success fee basis where in for example they would be willing to pay up to 10% of the total value of the deal.

Reliability on the person in the consultancy company is the most important consideration while choosing the consultant. The other factors in choosing an international business consultant are that the agent needs to prove his ability previously.

Customers prefer to negotiate with the client remunerations based on work success fees but not solely only retainer fees. This model brings challenges to the consultant but generally a mix of both, the retainer and the success fees is generally achieved.

The case company feels that the first meeting has to be done locally at least in case of statistical Services Ltd where the competition is high. The follow-up can be then done remotely via teleconferencing or by phone. The case is a bit different for Epidemiology Ltd because of less competition; even a teleconference for a first meeting is good enough. Depending upon the clients interest the sales person from Epidemiology can then travel to the client's location.

9 CONCLUSION

Finnish companies in general have an image of high quality and honesty in business. This is also reflected in the life science companies. They are generally small due to domestic market reasons but are self-sufficient. None of the companies interviewed faced bankruptcy or are intending to shut down operations. On the contrary they were seeking opportunities to grow their company internationally.

One of the main features of the life science SMEs in Finland is that they almost immediately after establishment of the companies orient themselves to the international market. First to the market within the EU and then to the markets further away. All of the life science SMEs found the US market (among the far away markets) to be a desirable choice of new venture.

Based on the model of incremental internationalisation, the companies first test their product in the domestic market and upon achieving knowledge and experience they tend to venture in to nearby market. Subsequently, with the knowledge and experience the company commits itself to markets that are farther away. But, these companies start within the EU and then intend to develop within the US market and other far away markets.

Finland has a unique disadvantage of being cut off by land from the other life science intensive markets within the EU. As one interviewee said that “one has to reach here either by air or sea and it takes an entire day of travel as affordable direct flights are most often not a possibility”.

But, strong governmental support and the positive attitude towards innovative and entrepreneurship has enabled Finland to contribute to global innovation in various sectors. The top pharmaceutical company ‘Orion Pharma’ is the largest pharmaceutical company in Finland.

The life science SMEs in Finland find that the domestic market is “very small”, but the possibility to grow within the EU is extremely high. The right market capturing

technique is needed and financial support from the government that they could use for not only R&D but for sales is needed.

Companies feel that the major bottle neck that is a hurdle to their growth is the skilled manpower and the financial constrains. Financial constrains is a typical problem for most SMEs throughout the world. Life science SMEs being a specialised sector face the challenge of identifying and hiring skilled staffs. Even if a skilled person is identified the finances necessary to pay their remunerations is a limiting factor. This vicious cycle of staff and finance forms a barrier to growth to the life science SMEs.

All of the companied interviewed clearly saw a possibility of growth in the near and long term future. The benefit of internalisation is “not a matter of choice but a matter of survival”. Even though the German and the French market are within the EU, cultural and language barriers can be a major challenge.

Thus, companies do see a value for international business consultants provided that the consultant possess adequate knowledge to be able to assist the client company to be able to penetrate the market by breaking the language and cultural barriers. Also, the interpersonal relationship between the client and the consultant is an important determinant in deciding whether to work with the consultant or contrary.

Companies that venture in to the international market promote their company and its products/service by meeting potential clients in seminars and conferences or by hiring sales representatives or by indulging in to partnerships or if finances are adequate, open a subsidiary office in the international location.

All of the company interviewed in this thesis has direct sales with the clients in an international location. Some of them also have sales via partners or agents. The companies need consultants most often for assisting the company in partner search, market research, providing a local presence, overcoming cultural barrier.

The study identifies certain characteristics of the life science companies in Finland and provides an insight for life science consultancies to better position their business strategy in capitalising this fertile market.

10 RECOMENDATIONS

This thesis accomplished its goals that it had set out to achieve. The results and observations can be found in the outcome section. Additionally, it also provided insights to the various other issues that an average entrepreneur in the life science sector would typically encounter. The case study gave an in-depth 360 degree view of landscape that an aspiring entrepreneur can expect.

Therefore, the recommendations are not limited to only those mentioned in this chapter. Each aspiring entrepreneur that will read this thesis can identify recommendations and take-home messages that is relevant and unique to his/her situation. Thus, this chapter will provide general recommendations that will assist the entrepreneurs in taking better decisions during the process of internationalisation.

Incremental internalisation is a logical choice for most aspiring SME's with limited resources and market knowledge. The Uppsala models highlight the path that SME's typically take for internalization of its business. SME's generally expand to nearby markets that are politically and socially similar with similar market ethics. But, in the case of life science companies, the logical choice of market expansion is the German and English speaking countries within the EU. This is solely because of the presence of opportunity in this specialised market. Since, most of the life science companies are service oriented their customers are not spread but localised in certain regions.

Another deviation from the Uppsala models is the fact that the Finnish life science SME's must orient themselves towards the international market (early internalisation) as soon as its establishment.

These companies must establish a better brand image early and quickly or else competition from low cost countries within the European Union can be significant. Apart from brand image, quick capture of the market share is also important.

It is also recommended that these companies must not lose on market opportunities because of lack of preparedness and slow reaction time. Consultants can be used if

these companies are unable to capitalise the opportunity themselves. This can mean cost in the short term but can mean high profits and value in the long run.

Consultants must be chosen wisely and by a case-by-case basis. To qualify the consultant for one's business, his/her experience in the product, personality, approachability and commitment must be thoroughly analysed. The cheapest consultant is necessarily not the best consultant.

A good consultant can bring in great value to the SME's international business by providing support, building network within the market and bridging the socio-cultural barrier. Continuous follow-up and repeat visits to the international market is important. Mistakes by entrepreneurs are done when they take for granted that visits are not necessary, it's the duty of the consultant to bring in business and that is why they are paid for it.

More funding and support is necessary by the government for sales efforts. Currently, a large part of the funding is allocated for R&D. Sales are important to this industry and without it the company will struggle to bring in new customers and consequently grow.

Companies must focus on repeat customers as they bring in constant income and can be more reliable to be loyal to the company's services. Skilled human resources, right international partners, finances, lack of market insight and time are some of the common problems facing life science SME's. A business consultant can clearly see the opportunities to assist these companies.

SME's that are not resource restricted can also consider leapfrogging. To complement this decision adequate market knowledge, experience and confidence in the market is necessary. Companies can directly acquire a local company in the international market or open an own office. But, caution must always be considered.

Exhibition and conferences are good places to meet new potential clients. International partnership and network can only boost the company's presence in the market. International sales representatives and subsidiary offices can be considered if

market confidence and knowledge is high. The international business consultants can provide support in partner search, networking, market research, providing local presence. Also, importantly they can also assist in overcoming the cultural barrier and co-design an appropriate marketing strategy.

All-in-all a business consultant is a useful resource to develop one's business internationally but must be appointed out with care.

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APPENDIX 1

SEMI-STRUCTURED INTERVIEW

Title: Internationalization of life science SME's in Finland: challenges and opportunities

Background information

Respondent

Managerial Position:

Specific area of function:

Industry area: Pharma/Diagnostics/Service

An overview of the company's and its growth through internalization.

1. How many employees are working in your company?
2. How many of them are in international projects?
3. If your product is in the market what is your current sales turnover?
4. How much revenue did you generate in the past year from investors or public funds for your R&D?
5. Are your investors insistent to explore international market?
6. How much do you expect to generate in the following year in sales and investment?
7. How confident about the internationalization possibility of your product and your company?
8. What are your main concerns with your company going international?
9. Which are your main strengths in your business operations?
10. Which asset do you mostly rely upon for the sustainability of your company's growth?
11. How long did it take your company to go international?
12. And what was the motivation behind it? Case study (story)

13. Has the international economic climate since 2008 affected your company growth?

Identification of challenges

11. What is your current impression, about the international possibilities in the life science industry?
12. What are the bottlenecks that you often come across, that at times inhibit the smooth flow of the functioning of your company?
13. Do you hire staffs through local business development firms in the international market? Or your own staff travel to manage duties?
14. What are key performance indicators that relates to the growth of your company?
15. How easy/difficult has it been to find funding/financial support for your product development?
16. Who are your investors? Private investors, banks...

Internationalization activity and opportunity identification

18. Do you operate only in the Finnish market? If yes, why?
19. What kind of benefits do you see in internationalising your project?
20. Which international markets do you see possibility for growth of your product?
21. And why? Which internationalization activities/operations should you keep under your own control/ownership? Why?
22. What internationalisation functions would you preferably outsource?
23. Who are your domestic and international partners? Universities, companies...?
24. Describe your co-operation and collaboration with them?
25. What kind of bottlenecks are there in your internationalization activities?
26. Are identified bottlenecks related mainly to your own operations or to partners'/collaborators operations? 'why?
27. What are your main concerns/problems in international projects/operations?

28. Have you worked with consultants for internationalisation projects before? If not why? If yes: What kind of experiences do you have when working with consultants in internationalization projects?
29. Do you see a value for international business consultants?
30. What kind of opportunities do you see for the life science companies in internationalization?

Future challenges and possibilities in internationalization of projects

31. How do you think that international consultancy can benefit your project?
32. Can you give some examples of your international projects?
33. What are the greatest challenges when you think especially internationalization of projects?
34. What are the possible solutions to the problems?