

Master's Thesis

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DEVELOPMENT OF INTERNATIONALIZATION STRATEGY

A Comparative study between Finnish SMEs in the Cleantech and the IT Industry

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ABSTRACT

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Internationalization has become increasingly relevant as a source of growth for many companies. With limited domestic markets, there is pressure to look for growth opportunities from abroad. Information Technology is one of the most prominent industries in the world whereas Cleantech is an emerging industry gaining motion fast most especially in the Nordics. This study sheds light to the internationalization strategy development of companies in the industry benchmarking against the classical internationalization theories of Uppsala, Network theory as well as the Born Global.

The data collection for this research was conducted in the form of case study and semi-structured face-to-face interviews. The data was then categorized and analyzed for patterns and anomalies. The results show great differences between the companies under study mostly stemming from the industry and business sector characteristics that differ between Cleantech and Industry.

There is evidence that supports and contributes knowledge to the internationalization theories under focus. The managerial implications include the exploration of different entry modes for internationalization, consideration of sustainability strategy as well as unifying management team views.

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Kansainvälistyminen on saanut lisääntyvin määrin huomiota kun yritykset ovat lähteneet kansainvälisille markkinoille tavoittelemaan lisäkasvua. Kotimaiset markkinat ovat usein rajalliset, joten paine lähteä tutkimaan kotimarkkinan ulkopuolisia mahdollisuuksia saattaa olla joskus erityisen painava. IT- ala on yksi maailman lupaavimmista teollisuudenaloista kun taas Cleantech on kasvanut vahvasti erityisesti Pohjoismaissa. Tämä tutkielma pyrki valottamaan kansainvälistymisstrategiakehityksen eroja käyttäen apunaan Uppsala-, Network-, ja Born Global- teorioita.

Datan keruu tapahtui case study- metodilla. Haastattelut olivat pääosassa aineiston keräämisessä. Haastattelut tapahtuivat kasvotusten haastateltavien kanssa. Tulokset kategorisoitiin ja analysoitiin etsien toistuvia kuvioita ja/tai poikkeamia. Tutkimuksen tulokset osoittavat merkittäviä eroja alojen välillä. Nämä erot johtuivat suurimmaksi osaksi alojen luonteesta ja peruspiirteistä, sekä yrityssektoreissa olevista eriävyyksistä.

Tulokset tukevat kansainvälistymisteorioita kuten Uppsalaa ja Network- teoriaa. Suosituksiksi muodostui muun muassa johtoryhmän ajatusmallin yhdentäminen, yrityskulttuurin pohtiminen, kansainvälistymismahdollisuuksien avaaminen, sekä kestävä kehityksen tuominen yrityskulttuuriin ja strategiaan.

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The all-nighters away from home with aching joints and bloodshot eyes would have come between me and the completing of this work if not for my husband and my daughter that met me with laughter each time I got home and whose smiles reminded me of why I do everything I do.

Let it be known that if not for Ben, Iryna and Kristiina responding to my electronic cries of help and outbursts of despair with full 24/7 service hours, this work would not have been completed. Ben, if not for your belief in me when I lost all hope and motivation and humor that pushed me on, I would not be composing this acknowledgement page.

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“Prosperity tries the fortunate, adversity the great.”

- Rose Kennedy

Amanda Shonubi

Espoo, October 2018

LIST OF ABBREVIATIONS

GDP – Gross Domestic Product

IT – Information Technology

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1 INTRODUCTION

1.0 Research Gap

Today's fast paced and highly competitive market environment together with the phenomenon of globalization has driven the importance of internationalization to the surface of business discussions in increasing amounts. With limited domestic markets, companies are often find themselves looking outside their home country for growth (Johanson & Vahlne, 1977).

Finland inhabits a population of approximately 5.5 million people, 18 inhabitants per square kilometer. The GDP per capita of the country is 40,612 euros. (Finland Promotion Board, 2018) While a wealthy country, there are clear limitations to the market size. As such, companies often face increasing pressure to internationalize. In fact, the fastest growing companies in Finland are ones that have international operations. Of these, one third have direct exports. (Pietarila, 2017)

With the digitalization trend on the surface, there are clear indications that innovation-led industries and companies are to experience high growth. Furthermore, those innovation intensive industries are in the center of this future growth. This includes information technology (IT), Cleantech, healthcare and marketing. In the IT and Cleantech industries trends such as bioenergy, drones, AI and mobility technology are experiencing and pushing for growth. (Heitzman, 2017)

Cleantech being a new and upcoming industry and with the IT being significantly more established industry, the existing research on the two do not match in terms of number nor depth. The topics for scientific work in IT vary from nearly all imaginable angles whereas the Cleantech research takes mostly an industrial or a financial approach. For example, the venture capital (VC) aspect of Cleantech industry has been explored by Cummings et.al (2016) and Burer et.al (2009). Especially the study by Cummings takes into consideration the aspect of international operations and conducts a cross-country analysis of the VC. Having said this, there is room for more studies regarding the Cleantech industry and even more so for comparative studies between the industries.

1.1 Research Questions

The aim of this research is to explore internationalization in Cleantech and IT companies. Most especially the development of strategy for internationalization will be explored. I am looking to understand the reasons and processes as well as the mind-set and most important considerations in its regard. Most importantly, I want to gain understanding to whether or not these aspects differ between the two industries and in case they do, how and why. The main research question as such forms shape in to the following format:

How does internationalization strategy development differ between Cleantech and IT companies?

This research question is broad in nature. As such, a set of sub-questions need to be introduced to aid in seeking an answer for the question. The following categories of topics that the supporting questions need to address are motives, managerial outlook, strategy and industry specifics. The supporting questions follow as:

- 1. What are the motives for internationalization and how do they differ between the industries?***
- 2. How is internationalization cooperated into corporate strategy?***
- 3. What are the operational implications of internationalization strategy development?***
- 4. What is the managerial cognition to internationalization?***
- 5. How does the managerial cognition affect internationalization considerations?***
- 6. What are the industry elements that affect internationalization?***

1.2 Theoretical Frameworks

The theoretical frameworks explored in this research focus mostly around the internationalization models. Namely Uppsala, network and born globals are explored. The Uppsala model as well as the networks model address the motives, entry mode and the process of internationalization. They act as strong and widely recognized theoretical basis for internationalization. As for the Born Globals, it is a more modern approach and often addressed as the missing consideration in the Uppsala model. It is also considered applicable most especially for industries such as the ones under scope here.

Apart from these classical frameworks, I will also explore different theories presented by researchers in scientific journals. By exploring these more in detail, I will be able to add dimension and depth to the study. It will also allow me to make more comparisons between my results and understand the implications and possible new knowledge gained from this research.

1.3 Definitions and Delimitations

Internationalization

Internationalization is often described as a process with strategic outlook and a purpose. The process is usually defined as ongoing and the target being to expand operations towards a global outreach. (Hawawini, 2016) In this research, internationalization is referred to as a process with clear intention and/or strategic planning aiming to expand the company operations outside the homeland borders.

Information Technology

Information technology refers to the industry of using of hardware, software and supporting infrastructure to store and process data (Grinsteinner, 2017). Here Information technology is

used to describe the industry and its subsectors. As such, the study will melt possible arising subsectors into the main category of IT, however I will aim to mention such circumstances.

Cleantech

Cleantech is often described as an industry where companies whose offering is centrally focused on a service or product that reduces environmental impacts. The role of technology is central in the definition as well as the aspect of sustainability. (Dikeman, 2008) In this study, the Cleantech is accepted as a definition, which includes the social aspect of sustainability.

Sustainability and Sustainability Strategy

Sustainability concept generally takes conservation of the following aspects into consideration: economic, ecological and social. (Sustainability Degrees, 2013-2018). Sustainability strategy is considered as a systematic and written or unwritten plan to reduce the impact on one or more of the above-mentioned pillars of sustainability.

Strategy

Strategy in this research refers first and foremost to corporate strategy of different kinds. Strategy is defined as actions to achieve (a long-term) aim (WebFinance Inc, 2018) . In business it is often the means and method and actions to achieve the corporate objectives.

The most significant delimitation to this study is the limited geographic area explored as well as the size of the sample. With two companies studied within the geographic area of Finland alone, the difficulty to apply the results to a generalization arises.

Another important note on the delimitations is that of the concepts studied. The concepts of sustainability as well as Cleantech are relatively unsettled upon and have great variance in content depending on the source. Additionally, literature especially on Cleantech is yet limited.

Furthermore, in evaluating the internationalization strategy development of the companies and making comparisons, there is the question of comparability. The companies are not directly comparable in size nor age nor level of internationalization.

1.4 Research Methodology

This study is conducted in the form of qualitative study. The qualitative study methodology is common for business research. It is useful in gaining understanding as it allows, and in fact seeks to look at individuals' perspectives and viewpoints. Qualitative studies collect data in forms of text and images instead of numerical data. Its usefulness has become widely accepted most especially in social sciences. Due to the nature of the qualitative methods, it is at times referred to as the interpretive methodology. (Flick, 2007)

The study takes place in the context of small and medium sized enterprises in Finland. The industries in scope are the Cleantech and the IT- industries. While the internationalization strategy development is under study, already having internationalized is not a requirement for the case study companies.

Interviews are used as method of data collection. More specifically, face-to-face interviews with the participants was chosen in the format of semi structured interview. This allowed for a clear structure to find out certain key information, but simultaneously permitted alteration from the pre-planned questions depending on the conversation and the course it took between the interviewer and the interviewee.

The data analysis is by categorizing the data collected and looking for patterns and anomalies. The findings are then benchmarked and compared against the existing literature and theoretical frameworks. Lastly, the hypothesis is neglected or accepted and the research questions answered.

1.5 Structure of Study

The study begins with introduction to the topic and the presentation of the relevant research gap. After defining the research gap it overviews the definitions and delimitations. After the background information, the study introduces relevant theoretical frameworks and literature on the topics of internationalization, strategy, IT- and Cleantech- industries.

In chapter 7 the paper introduces and explains the methodology used in the study, more in detail. Followed by chapter 8 the research then presents the results of the data collection and together with the main findings. Lastly, the results are put to an analytical perspective and discussed in chapter 9 with conclusions and managerial implications.

2 INTERNATIONALIZATION THEORIES

By definition, internationalization is the process of a company to expand operations from domestic to international, i.e. outside home country borders. Internationalization is one of the most important and significant strategic decisions for companies today. It affects all levels of a firm from the strategic throughout to the operational level. In most cases, internationalization means investment into resources. The motives of expanding beyond home borders vary. (Gillespie & Hennessey, 2016) There are several theoretical frameworks built around internationalization. I will explore four of the most relevant (to this study) ones in this chapter.

The theories I have chosen to overview are the Uppsala, the Network and the Eclectic Paradigm theories as well as the Born Global. This covers a range of both classical theories such as the Uppsala and Dunning's eclectic paradigm as well as the more modern theories like the network theory and the theory of born globals. These are some of the most commonly used and classical theories in the field.

2.1 Uppsala Model

Written and created by Jan Johanson and Jan-Erik Vahlne, the Uppsala Model for internationalization of firms has become one of the most known theoretical frameworks for internationalization. Written in 1977, the Uppsala model explains internationalization, as a process that increases in depth as the knowledge a company possess increases. (Johanson & Vahlne, 1977)

In practice, the model suggests that when a company is starting out the internationalization activities it tends to take the simplest form: direct exports. The motivation present is often demand from abroad. At this stage, the knowledge of the new market is shallow and limited. In addition, the commitment and allocation of resources to the market is limited. As the knowledge of the market gains depth, so does the decision to commit to the market. This in turn leads to higher activity in the market and in turn to deeper market commitment. The reason for this

being the increased investment into the market as well as knowledge on how to take advantage of the market in an optimal manner. (Johanson & Vahlne, 1977)

Johanson and Vahlne state that there the type resources committed to the market as well as the amount of resources affect the overall market commitment. For example, resources directed to serving a specific market are likely to increase the commitment to serve that very market. Additionally, knowledge on how the market can be exploited and its changes and environment are said to contribute greatly to the market commitment. Knowledge can be thought of as a resource as it is mostly specific to the particular country and thus cannot generally be transferred as applicable to other markets. As such, the more knowledge, the higher the commitment. (Johanson & Vahlne, 1977)

Lastly, the model lists change aspects and differentiate between current business activities and commitment decisions. It states that current business activities that take their time to come to effect or to reap benefits from are ones that effect the commitment to a market. For example, marketing efforts are unlikely to come to effect unless given a considerable amount of time. This means that the experience gained with time invested increases commitment to the market. At the same time, the decision to commit resources does this as well. (Johanson & Vahlne, 1977)

Johanson and Vahlne have revisited the model in 2009. They made notes on the changed business environments and altered their model based on the observations. One of the most significant changes that the article notes is the recognition of networks. Where the original model considered market commitment, the revisited model replaces and highlights networks. They state that the firm's position in networks is a critical factor to internationalization processes. (Johanson & Vahlne, 2009)

Secondly, the revisited model discusses the original Uppsala model's aspect of knowledge and extends it to "recognition of opportunities". The authors point out opportunities as a subset of knowledge and the single most important element. This is because opportunities act as the driving force of the process. (Johanson & Vahlne, 2009)

Thirdly, in order to make the outcome of the "current activities" factor more explicit Johanson and Vahlne have named it as "learning, creating and trust building". With this, they are able to bring abstraction to the element. Having done so, the "current activities" shift from routine-like daily tasks to a more intangible element of knowledge acquirement. (Johanson & Vahlne, 2009)

To further highlight the networks element, a “relationship” factor has been added to the model. It describes that the firm commits to relationships or networks of relationships. Firms then make decisions to commit further or to decrease their commitment to the relationship. While it can be merely psychological, the commitment is often seen in investment, entry-mode and organizational decisions. (Johanson & Vahlne, 2009)

One of the topmost criticisms to the model is its inability to consider industries and their specific needs. Additionally, it fails to address the born global phenomenon. The Uppsala model also does not appear to consider other factors such as firm specific capabilities. Additionally, the model does not take a stand on whether the investigated and observed way of internationalization, on which their models base, are in fact optimal or what companies should do. Carneiro, Rocha and Ferrero da Silva argue that the model is flawed in the sense that it merely states how companies do act but make no comments on how companies should act when it comes to their internationalization strategies given a combination of circumstances. (Carneiro, et al., 2008)

On the other hand Figueira and Oliveira made note of the fact that the Uppsala model is rather general in nature allowing it to adapt and accommodate different theories. Their research shows that the core assumptions and elements of the model are important to emerging multinational enterprises. (Oliveira & Figueira, 2017) Their note that the model is rather general can however be considered a point of criticism as well.

In my opinion, the most important notes and point of challenging the Uppsala model are indeed the fact that it is rather general and that it aims to explain rather than optimize and research the advantages and disadvantages of proceeding according to the model. It is widely used as bases for internationalization strategies despite the fact that it takes little to no significant stand on whether following the model is optimal for businesses.

Secondly, the model is general. Its roots go back to the manufacturing industry though there are papers such as that of Carneiro et al. that argue its applicability to other industries such as the service industry. It also has little consideration towards specific markets and their characteristics. Furthermore, it does not consider a multimarket entry strategy.

Lastly, I would argue the psychic distance of a market to another has altered in meaning altogether. Due to the phenomenon of globalization, cultures and ways of operating have mixed as well as come together greatly. It could be said that while the geographical distance

remains vast between two countries, their cultural distance may not be as far off. I do not try to dispute the role geographic distance has on the perceived (i.e. psychic) distance between markets but rather question that of the culture and habits. For example, there are parts of Canada that may come surprisingly close to for example Finland in habits, laws, environments, cultural approaches etc. that would make internationalization of a Finnish company to Canada much easier than to for example Russia even though Russia shares borders with Finland.

Nevertheless, the Uppsala model is a classical theory and highly relevant in explaining and modeling the internationalization process of firms. It does also give a certain baseline for companies considering internationalization. If considered the best approach, companies can use the model for new market entries as well as internationalization first timers. Whether or not the Uppsala is the best model for internationalization despite having proven to describe a common pattern, is uncertain.

2.2 Network Theory

The network theory is an internationalization theory that looks to explain the internationalization process of a firm by looking into the relationships and positions companies have or need to have in the process. It assumes that a company depends on resources that they cannot access alone. The resources are controlled by other companies and in order for a company to gain access they must attain a position in the network. The model also assumes that the access to these resources determines the future success and strategic direction of a company. (Johanson & Mattson, 1988)

Furhermore, the model states that the interactions between the different parties of the network create an important adaptation process. This adaptation process then enable stronger relationships, interdependency and create movement i.e. change. Moreover, this process enables for a mutual orientation. (Johanson & Mattson, 1988)

The network approach to internationalization is interesting because it takes into account the social dimension of the process. However, I disagree with the fundamental idea that the internationalization process would be solemnly dependent on networks even though they will make the process faster and reduce the risk to an extent. Nevertheless, it is an interesting

approach with one of the highest exposure among the internationalization theories. Furthermore, I question that the networks need to be external or in the foreign markets to the extent the model presents.

Another research paper suggests that networks can be with not only companies based in the foreign markets and ones that may act as partners or enablers etc. but competitors as well. Especially companies that are relatively small and suffer a lack of resources on their own may benefit from building such networks with their competitors. Doing so can give them access to scaled solutions in terms of e.g. logistics, warehousing etc. as well as give significant cost advantages that further spark-up their competitive edge. Furthermore, companies that originate from the same industry and most especially the same geography form a bond that deepens commitment to each other and the network. (Johnsen & Johnsen, 1998)

Considering the internationalization-enabling network to be built with competitors is an interesting approach. To some extent it correlates with today's cluster- thinking where companies from the same space work together to create something mutually beneficial. It could be considered a form of resource pooling. I would argue that this presents certain risks of conflict and "rules of the game" ought to be clear to the parties to minimize any negative outcomes of such competitor network. For example, there may be discussions on resources, pecking order etc. as well as the use and sharing of sensitive information.

In a more recent study Johanson and Vahlne discuss the network model and bring some altered insight to it. They find that the process of interaction between firms should be considered as a learning and commitment play in the form of business relationships more specifically. They note that in the earlier models the significance of entry mode and psychic distance was highlighted strongly which does not seem to reflect the world today. Some of the reasons for the change in the focus of the internationalization process are stated as ones that have to do with the phenomenon of globalization. The authors state that the importance of relationships has overpowered the questions of ownership. Furthermore, they find that the process of internationalization is similar to that entrepreneurial process where instead of aiming for certainty, there is a goal to reduce uncertainty together. Last remarks of the paper are the conception of climbing a ladder to achieve and extract benefits alone is incorrect. It highlights that the business network relationships are delicate and more than others requires care and nourishment. They also require attention and sincerity towards mutual benefits and building trust. (Johanson & Vahlne, 2003)

Another way to look at the network model is to consider the types relationships companies form and use in the internationalization process. The relationships can be divided into internal and external or inward and outbound. The outbound or external relationships are ones that the company makes in order to gain access to resources such as exports activities in the foreign markets. The internal or inward relationships are ones that look within the company for example to gain information etc. (Ratajczak-Mrozek, 2017)

This approach is interesting because in a way it capitalizes the relationships and the networks. Looking at them as resources highlights their importance and value. Furthermore, analyzing the types of relationships and networks as well as their value and purpose can help companies nurture and care for them accordingly by allocating resources and structuring activities.

The last paper reflects much of the criticism I highlighted earlier on in the study. Globalization is in fact a significant phenomenon that has altered the world greatly. This has naturally changed the applicability of models created before its outreach. Nevertheless, the network model is certainly a relevant one and it gives an important insight to the social aspect of the internationalization process that often focuses more on resources and finance.

2.3 Born Globals

A born global is a company that from the early stages or as early as in the phase of establishment pursues or has cross-border business activity. The international mindset is one of the strongest characteristics of a born global. Other characteristics include strong differentiation, product quality, relevance across industries as well as the use of information technology to their advantage. In the technology industry a born global is often characterized with a limited domestic market, foreign consumers from the get-go, have a distinctive value proposition that overcome logistics challenges and costs, are first to market and have experienced international managers. (Tanev, 2012)

I must argue that while there are still companies that are distinctively born globals according to the characteristics listed in Tanev's research, many companies fulfill these qualities simply due to the globalization trend. The world is coming together in a way that shapes individuals and mindsets: most companies and managers these days look abroad for market already at the

stage of founding a company. Furthermore, the economies of today allow for cross-border trade almost without any absolute barriers. As for logistics and technology, most especially IT companies have products and services that require no physical exchange of product, which from the get-go make them, or all players of the sector born globals by definition without a need for further assessment of whether it is so.

Some of the challenges of the born globals are the strategic decision on their internationalization. Their foremost task is to improve firm performance. Companies should implement geography-specific strategies in order to have structured form of operation. A study found that when considering these questions, born globals would reduce their risk if diversifying in the interregional dimension and increase their risk if diversifying in the intraregional dimension. For example, instead of diversifying across Asia, Europa and the US a company might want to choose to diversify within Europe instead and by doing so would reduce the risk. (Patel, et al., 2016)

A study by Oystein (2002) earlier in the 21st century, finds that companies that want to export should focus centrally to doing so already in the early stages or in the very establishment stage of the company. The research suggests that companies that do not begin their internationalization activities within a few years will find it increasingly difficult to do so later. As such, the company should have the mindset and direction to have operations or activities outside home country borders as early on as possible. With this in mind, the research highlights the strategic alignment greatly. (Moen, 2002)

Another research with a case study of a Belarusian company found that not enough research had focused on the pace of internationalization of companies nor on the resource allocation. In other words, this paper also highlights the importance of a strategic view on the internationalization instead of a chaotic freefall process leaning on the born global principle. The paper states that the home country economic and political situation must be kept in mind as it ultimately has an effect on the other operations of a company (naturally). The internationalization process of a born global can reach a plateau and it can stabilize over time. Furthermore, the company must allocate their resources with strategic objectives in mind. (Vissak & Zhang, 2016)

Indeed, the born global is often thought of as a country that simply has “access” to the whole world. It is all too often forgotten that a company falling into this category must, just alike its

counterparts, look for strategic direction in allocating its resources. Furthermore, it has to evaluate the internationalization process as well. The difference is found in the fact that such a company starts the process earlier or has capabilities to do so through resources, nature of product etc. I would argue the born global to fall into a category rather than a theory, however it is an interesting scientific angle to internationalization.

3 STRATEGY DEVELOPMENT

The meaning of strategy can alter depending on the context. Strategy in business is defined as the plan or the method as to how to achieve a desired outcome or goal. Alternatively, strategy can be defined as the art of using resources efficiently and effectively to get to a desired outcome. (Web Finance Inc., 2018) Strategy is an umbrella term that can refer to any variety of strategies be it financial-, sustainability-, internationalization-, expansion-, business- or corporate strategy etc.

In general, mission and vision, vehicles, resource allocation logic, staging and economic logic, compile the five main pillars of strategy. Unsurprisingly, the economic logic is at the center with each other pillar leaning against it. There are different theories on how these pillars are used in strategy formulation. However, the one I consider most relevant most especially for SMEs is one presented by Mintzberg (1998). It drafts that companies will plan to go from an intended to deliberate strategy that is then affected by the different circumstances the firm faces in the fast-paced business environment i.e. the emergent strategies. The final stage is the realized strategy. However, in this model the execution and planning phases of strategy are not exclusive. Instead, they overlap one affecting the other because according to research, strictly formulated strategy is rarely implemented as is if at all. (Gandellini, et al., 2013)

As for practical considerations, strategy design involves quite a bit of research and thought into different factors. These include future and present conditions in the market environment, competitors, budget and the company objectives. As strategy ought to serve as actions to reach objectives (for example, reach a sales figure of X), it must put them at the center of concern. Market and economic decisions together with competitor movement affect needs to invest into marketing and R&D for example, as well as the opportunities in exploring new markets or target groups for example. On the other hand, regulations and macro-economic conditions have an impact on financial decisions like interest rates and recruiting. (Gandellini, et al., 2013)

The importance of having corporate strategy functions has been studied. Research shows that companies that do have them make better and more informed decisions.

Furthermore, the studies also find that the value derived from such function increases as companies put more resources into the group's contributions being enabled via organizational characteristics that allow for them. (Brunsman, et al., 2011)

A research into the uniqueness of corporate strategy and firm value suggests that managers often face a paradox when choosing the strategy to implement. It finds that the more unique the chosen strategy, the less analyst coverage the firm is likely to get. With that said, the article finds that while the uniqueness promotes firm value, the lower coverage is likely to do the opposite. (Litov, et al., 2012)

Secondly, corporate strategy and corporate identity are theorized as interdependent. On the one hand, the strategic outlook the company takes shapes the identity of the company. Then again, the identity of the company is to shape the strategic decisions the company takes. This interdependence can lead to managerial dissonance about what the company should do in terms of strategy and who it wants to "be". The dissonance can lead to compensation by the management in trying to artificially match the two. In other words, the interdependence the corporate strategy and corporate identity have, have serious practical implications. Firstly, certain strict ideological elements of an identity can create a bias in strategy choice and implementation. Then again, this relationship between the two can also have an effect on the organizational change, how the company receives and deals with it as well as its success in it. (He & Balmer, 2013)

As mentioned earlier, strategy is affected by different factors. With new environmental laws and regulations increasing significantly, companies may find themselves facing a need to consider environmental and sustainability measures. Studies have been conducted in sphere of sustainability and sustainability strategy, but many find the quantification of the studies challenging mostly because of the vague concept of sustainability itself. However, research does show that companies that wish to truly perform in a sustainable manner and in fact increase their sustainability, incorporating sustainability clauses into corporate strategy alone is not enough. Instead, companies that wish to "become sustainable" ought to adopt the entire mind-set. For example, he

managerial thinking and decision-making should incorporate and embody the sustainability oriented thinking in every stage rather than as a clause in an overall written piece of strategy alignment. (Wijethilake, 2017)

As for strategies and strategy creation in the sphere of internationalization, the school of thought differs greatly. Some companies invest big once the strategic decision to go abroad has been made, while others feel around the opportunities before making grand moves into international markets. Research shows that in the case of exports, born-globals and born-regional companies have the lowest success and retaliation rate. Companies that take the internationalization as a gradual process of increasing commitments experience the biggest success. The study finds that international strategy should focus on resources. Innovative firms that have resources on the one hand and slack on the other, tend to do better. (Sui & Baum, 2014)

Now, managerial cognition has often been recognized in literature as an important factor or/and facilitator in internationalization of the firm. The Uppsala model already recognizes the managerial desire to internationalize as bases for initiating the process. (Johanson & Vahlne, 1977) Other studies have also found that most especially the CEO and other chief-level professionals' mind-set towards the international markets is an important factor in the firm's readiness to enter foreign markets. The CEO together with the top management are generally highly influential in the corporate scene and as such naturally have an effect in shaping the culture of the corporation towards (or away for that matter) internationalization. (Jaw & Lin, 2009)

The internationalization strategies are dependent mostly on the industry and capabilities. On the other hand, corporate control measures that affect the strategy to some extent, are often bound to the country of origin. In other words, the strategies companies take in order to internationalize are often tied to their industry. (Harzing & Sorge, 2003)

That being said, if internationalization strategies are often tied to the industry, it means that the uniqueness of the strategy is to some extent compromised. On the other hand, if so, does it mean that managers employed by specific industries share views on

strategy development. Then again, it could be the embodiment of the strategy being affected by the organizational culture.

4 THE CLEANTECH INDUSTRY

4.1 Overview of the Cleantech Industry

Cleantech is a term interchangeable with clean technology and greentech. It generally refers to business sectors such as clean energy (or renewable energy) and products of green, sustainable and environmental consideration. Cleantech as an industry and established concept came to existence in the early 2000's. What it really withholds depends on the source of definition, but general characteristics of Cleantech businesses, products and services are reduction of negative ecological impact, improving of efficiency and use of resources as well as lowering costs. (Dikeman, 2015)

With the strong economic trend towards sustainability, the Cleantech industry is growing rapidly, gaining relevance around the world. Frost and Sullivan estimated that the market for clean technology was worth 601 billion USD in 2014 and predicted it to grow to 1.3 trillion USD by 2021. For example, solar and wind power and installations have experienced substantial growth in volume as well as in investment. (Yeo, 2015)

According to the WWF Cleantech industry index report of 2017 investigates the countries that are most likely to produce Cleantech companies in relation to the countries' GDP in the next 10 years. Finland, Sweden and Denmark rose to the top of the list. The report recognizes the greatest success factors as demands to increase growth in the renewables and Cleantech sector as well as the investment into start-ups by connecting them to different channels. Furthermore, the international engagement in the Cleantech ecosystem appears to play a great part in ranking high in the index. (Sworder, et al., 2017)

The report addresses the most important innovation drivers for Cleantech. It states that both the governments and private bodies play a role in promoting innovation in the industry. The most important drivers are recognized as access to funding, access to clusters, Cleantech supportive policy, investment into R&D and the attractiveness of renewable energy in the market. (Sworder, et al., 2017)

4.2 The Cleantech Industry in Finland

Finland has a favorable macro-economic environment for Cleantech companies in many aspects. Its GNI and GDP per capita are one of the highest in the world providing high living standards (World Bank Group, 2018). Moreover, with one of the best education systems in the world (Weller, 2017), Finland produces high-skilled individuals with capabilities for sophisticated innovations. Investment into both innovation (Soini, 2016) and entrepreneurship (Kerr, et al., 2012) has strong government support. Furthermore, the country has invested heavily into renewable energy with a target of 50% renewable energy consumption by 2030 (Yle News, 2017).

In Finland up to 53% of clean technology turnover came from exports and up to 40% of income retrieved from the industry came from abroad in 2014. The businesses focused strongly in energy efficiency followed by clean processes, renewable energy, consultancy, waste management, recycling, water treatment, green building, and air protection etc. (Hernberg, 2014) Considering the generally challenging macro-economic environment and slow growth in many economies, the Nordics included, it seems logical that the energy efficiency (as it lowers costs) is at the top of the list.

The key markets for Finnish Cleantech companies were identified as Sweden, Germany, Russia, UK and China in 2013, but in 2020, the focus shifted to China dominating strongly in attractiveness followed by Russia, Germany and USA. Sweden had dropped from the 1st place to the bottom in the list. This supports the emerging economies trend as China and Russia as part of the BRICS are pushing through. In consideration of the Uppsala model, one could deduct that with Sweden and Germany in short psychic distance being exploited, the next ones would be markets farther in psychic distance. (Hernberg, 2014)

While the Cleantech industry has plenty of potential in Finland, the companies as well as the market are relatively small. Due to this, the companies need to internationalize if they wish to grow beyond the limitations of the Finnish market. This is likely best boosted by collaborating and networking. Large partners can provide financing and expertise while smaller companies bring in agility and high-innovation. (Saarenketo & Torkkeli, 2017)

4.3 Cleantech related research

Research in Cleantech companies and most especially their internationalization is still an emerging branch of research. Understandably so, as the term has only established itself in the early 21st century. As forerunners in the industry, many of the available research works focus on the Scandinavian companies or originate from Scandinavia.

A study by Torkkeli and Laine finds a higher orientation towards internationalization and growth among Finnish Cleantech companies when compared with the average Finnish SME. In addition, virtually every Cleantech company in the sample have revenue flow from abroad. (Laine & Torkkeli, 2017) This aligns with the notes made above on the need for Finnish Cleantech SMEs to internationalize.

Another research suggests that depending on the sector of the company, internationalization is a significant source of growth for Cleantech companies. It also states that while Uppsala may be an interesting approach for these firms especially for established businesses such as hydropower. It argues however, that Born Global may be an applicable approach in the case of newer and upcoming sectors like the solar power and tidal energy as the whole world may be considered their market. (Bjornali & Ellingsen, 2014)

A particular study by Weber and Reardon focuses on regional growth of Swedish Cleantech companies. They make an important note that on the one hand brings to attention the fact that there are companies that have business and departments so diversified and large, which make it difficult to determine whether they can or cannot be called a Cleantech company. Furthermore making notes of growth that come from one region can be difficult as so many of the companies operate in diverse markets. (Weber & Reardon, 2015)

The question of definition of a Cleantech company is indeed an important one. In the previous section, I discussed the definition but when bringing it to closer inspection it is indeed subject to interpretation. Many companies market themselves as green or clean, but where is the line drawn? Furthermore, what is considered as one that drives sustainability? Sustainability itself can be considered as one that preserves the environment and/or the social dimension. I will return to this in section 6.

5 THE INFORMATION TECHNOLOGY INDUSTRY

5.1 Overview of the industry

By definition, information technology industry is business focused around the development, usage, service and upkeep of hardware, software and networks used to process and handle data (Merriam Webster, 2018). Markets with the highest expected growth are China, India, Indonesia, South Korea, Sweden and Denmark, well aligned with the general macro-economic trends (Forrester Inc., 2017). However, Sweden and Denmark are not top growth markets on a general outlook. The set of countries does still reflect the notes made on the top spenders on IT.

The Information Technology (IT) industry has been a growth industry for decades. According to some of the recent findings, the industry is expected to experience a 5 percent annual growth. The global market for IT services on the other hand is estimated at 4,8 trillion US dollars. With universities and education systems around the world paying increasing amounts of attention in the technology curriculum, the labor pool for skilled workers is looking promising. The highest IT spending is in the US, Asia and Europe respectively. (ComptIA Properties LLC, 2018)

According to Paul Sallomi the era of digital disruption provides new opportunities for companies both through threats that need attention as well as the increasing demands. Sallomi states that most especially the challenges facing the industry such as cyber security and regulatory bodies provide opportunities for companies. (Sallomi, 2018)

The European Commission states in its report that 5,7 million people were employed in the sector in 2014. Additionally, the region has invested heavily in R&D in the sector with 16% of the global expenditure amounting to 84 billion euros. Public funding accounted for approximately 6,4 billion euros of this total. Furthermore, it makes note of the global trend of the ICT sector: a tripled size between 1995 and 2014. (The European Commission, 2017)

5.2 IT-Industry in Finland

The IT sector in Finland is one of the most important and prominent industries in the country. Employing about 50,000 people with companies grossing over 7 billion euros in revenues, it contributes significantly to the economy. The sector is traditionally thought of as one to produce different software, databases, networks and content. However, in the modern set-up, many services are provided across the IT networks and platforms, opening more opportunities for growth. Additionally, it has opened the market to the world, making it of global reach. (Viitasaari, 2016)

Earlier I stated that the EU had high investments in research and development. Finland follows the regional trend spending 2,9% of total GDP in 2015. The Finnish regulation also commands that the IPR rights belong to the developing party instead of a research facility such as a university. This has made the country attractive for different companies in terms of research and development as well as innovation centers. (Invest In Finland, 2018).

As a manifestation of this, is the high skilled labor force in the country. At the time of writing this research, LinkedIn listed 12,890 jobs in Finland. Out of these jobs, 2,895 were listed as ones in the information technology industry. This comes to 22,5 % share of the total posted jobs in Finland. (LinkedIn, 2018) Additionally, there are over 15 000 science and technology graduates from universities around the country per annum. Furthermore, Finland has seen explosive growth of 40% over the period of six years in software companies. (Invest In Finland, 2018)

Lastly, Finland's communications infrastructure has contributed greatly to the prominence of the industry in the country. It led the way in 3G networks and over 97% of Finnish homes have internet connection. Moreover, while the international broadband speed averages 256 kb/s, the Finnish average lies in 10Mb/s. This both enables the industry growth as well as creates demand and an educated user base. (Millar, 2015)

5.3 IT- Industry related research

In a study focusing on patterns of innovation and the use of ICT in Europe, the researchers found that the ICT business sector is one of the most significant contributors to R&D activities. It highlights the regional differences and patterns. It finds that high innovation and high usage of ICT go hand in hand, depending on the region. As such, it suggests that policy makers must take this into account if they wish to foster innovation and the ICT sector.

One of the benefits IT companies have in terms of internationalization is the fact that they are often online based or function centrally over the internet making the physical location of the company less important. The internet enables companies by default to explore markets globally. Furthermore, it can help reduce the perceived distance and improve agility of communications. (Khairullina, 2016)

The globalization and the IT industry together have formed an interesting phenomenon of convergence. The borders of the sector are becoming less clear as information technology diffuses into several industries, products and services. This brings not only opportunity, but challenges as well. Firstly, competition and differentiation become issues for the firms to tackle. Furthermore, the strategic planning of operations and international management take a more central role than in the past. Making alliances may help in the strategic orientation of companies in these times of convergence. Most especially collaborating with the non-IT companies that are blending into the sector will help companies grow sustainably as well as protect them from competition that may affect them from several directions. (Lee & Joshi, 2016)

According to a study, networks are the essential to the internationalization processes, as especially internet-based businesses require a user base for value creation. It argues that in the lack of such network the company may face a situation of outsidership. In such scenario, they will not have access to the needed users in their target market abroad, which will endanger the success of the venture. (Brouthers, et al., 2016)

The IT sector is interesting as it is no longer a clear-cut independent industry but rather converging and becoming bedded into others. Furthermore, its characteristics and global readiness is unique as companies are often born global. Lastly, the industry plays an important role within other industries, policies and innovation.

6 SUSTAINABILITY

Sustainability as a concept is tricky to begin with. There is no clear consensus on what the official definition is nor what it exclusively should include or exclude. According to thesaurus sustainability is the usage of resources in a manner that will not deplete or damage it (Merriam Webster, 2018). In environmental science, the concept is often determined as conservation and preservation of nature, species, ecosystem etc. (Mason, 2018). One of the most common and comprehensive definitions states that sustainability is the ability to meet the needs of today without compromising the future generations' ability to meet theirs (University of Alberta, n.a.).

In the most common of approaches, sustainability comprises of three main pillars: economic, social and environmental. The environmental is one with some of the highest amount of literature and research amongst the three. It has also been quantified more concretely and concisely than the other two. The environmental factor comprises of considerations around issues with pollution, CO₂, fossil fuels and energy sources, energy consumption, waste and waste management, toxins and toxic waste, ecology and biodiversity, deforestation etc. For years, there has been consensus on the fact that natural resources are limited and their use at the current rate does not reflect the acknowledgement of this. (Portney, 2015)

In terms of economic and social factors, sustainability often looks at measurable variables and statistics such as the development of GDP and GNI in order to gain insight into welfare. Poverty eradication and economic growth often described in the center of these factors when it comes to sustainability measures. However, using GDP as a tool for this has been greatly criticized. Rightly so, as the national income and statistics of an entire country tell a fraction of the story. They hide inequalities and distribution of income as well as poverty levels in some cases almost completely. (Dahl, 2014)

Apart from the macro-economic take on sustainability, the factor also withholds the micro-economic and business perspective. Economic sustainability can be thought of as operating in a manner that allows for profit generation. As a general rule, the incentive to remain in business without profit is next to nothing. Unprofitable business is as such considered unsustainable. Bringing sustainability measures and vision to a company without considering the profitability is not a favorable strategy. (Thiele, 2013)

I would argue that the beginning of the thought process into bringing sustainability strategy or direction to firm should begin with profitability in mind. For example, optimization of resources by reducing electricity usage can affect profitability as it may bring cost savings. In fact, I dare put forward the thought the optimization is the most important single feature in the starting of any sustainability strategy.

Another popular sustainability approach is the triple bottom approach: people, planet and profit. It is similar to the three pillars with the factors named slightly differently. What is common to both is that they suggest that there can be no one without the other. The main criticism to the two approaches is that they suggest a stationary status instead of incorporating a dynamic balance seeking entity. (Thiele, 2013) My observation is that the three are rarely considered together but instead are often taken apart when conducting a research or an investigation. On the one hand, the entity may be too complex to be handled together without great inaccuracies. However, my observation remains that all too often the three are considered as separate from one another albeit acknowledgement of the relationship between the three.

As sustainability is an argued field of study due to the different possible angles and approaches and lack of unified opinion of the entity, the measurability most especially, brings about a challenge. Measurability should be possible for the unbiased evaluation of the impact and implementation of sustainability measures. While most figures and indicators have words for and against and the consensus on them is unclear, there are a few widely used key indicators. The indicators are mostly ones that are used to evaluate progress towards the world development goals set by the United Nations. These include but are not limited to growth of GDP per employed person, income, amount of people living on less than one dollar per day, HIV prevalence, carbon dioxide emissions per capita etc. (Brinkmann, 2016)

As stated by Huang and Rust, another concern to sustainability is the trend of consumption. Consumption is affected by standard of living (which in reverse is often achieved by consumption), pursuit of happiness. They note that one of the most important measures to tackle inequality and poverty is for the rich to consume less. In order to force this, they find that governments should place incentives and pressure on the consumers. Furthermore, consumers should be further informed of the consequences of their consumption habits and motivated to reduce the negative impacts following. (Huang & Rust, 2011)

While I certainly agree to an extent, I do find that apart from as per say reducing consumption, what is consumed should be even further paid attention to. I find that this is more important because simply cutting of consumption is less likely for many consumers in realistic terms. Rather, there should be information and incentive to consume green energy, biodegradable cleansing products and bags, organic and locally produced food products etc. However, I do agree that there is a significant amount of unnecessary consumption due to wastefulness and lack of information.

6.1 Sustainability in Cleantech

Needless to say, sustainability is an integral part of the concept of Cleantech. Companies in the industry are “born sustainable” so to speak as their central offering is by definition supposedly sustainable. This factor together with the relatively new industry translates to limited amount of research available on the topic. However, technology and sustainability related articles can be applied.

There are several ways in which technology companies can improve and incorporate sustainability into their operations. Firstly, creating a sustainable value proposition and secondly, conducting sustainable life cycle assessment. Industrial companies are often process specialists, which means they have some of the best knowledge on how to promote and integrate sustainability for both themselves as well as their clients. By doing so, they may as well be able to set themselves in the position of key supplier. When creating value propositions through life cycle assessment it is important that the benefits get quantified. This should be done using reliable key indicators. Furthermore, the value should be monetized. Monetization will allow for risk and investment analysis and help encourage sustainability oriented investing in the future. (Patala, et al., 2016)

In a research Finnish Cleantech companies were interviewed about their innovation, product design and industrial processes. They were questioned on the role environmental orientation has. It was found that all companies took the environmental impact and sustainability into careful consideration, but many admitted it could have been more elaborate and more visible. When asked about the concrete measures used to implement this the answers changed greatly

from life cycle assessment and product design towards longer lasting products to concrete considerations. (Virtanen, 2016)

While Cleantech companies should be sustainability oriented conscious by nature, the concept of what sustainability is inconsistent. Having said this, there is no unified interpretation of sustainability measures and Cleantech companies. In the above-described study company A had clear and defined indicators for sustainability in product development whereas company B interpreted or argued their product development sustainable due to the long product life focus. The research on the topic is relatively limited, but on the other hand different technology and industrial research can be applied to Cleantech companies even if the research is not specifically done with Cleantech companies in focus.

6.2 Relevance of Sustainability in IT

Information technology is both a sustainability enabler as well as a challenge. On one hand IT can be used to improve sustainability of different business and production functions. As an example, eliminating the need for physical space for certain functions, helps save space which in turn contributes to e.g. need to cut down trees and clear land, build etc. In addition, the digitalization reduces the amount of information printed on paper. On the other hand, the IT industry has a significant carbon footprint. Approximately 2% of all carbon dioxide emissions globally trace back to the information technology sector. 75% of these emissions originate from the use of different IT products and 25% from the manufacturing, disposal and processing of them. Datacenter CO₂ emissions are estimated to grow to 259 megatons by 2020 from the 76 megatons in 2002. Some of the most important considerations in the sector are that of origin of electricity and the disposal and usage of equipment. A concise and thorough strategic sustainability planning can direct well planned activities that will significantly reduce the carbon footprint. Most importantly, IT companies should pay attention to the source and usage of their electricity as well as the life cycle of their products and services. To do this efficiently a strategic sustainability plan and life cycle analysis are needed. (Rahman & Akhter, 2010)

Information technology can be used to gain and develop sustainability capabilities. By investing into IT resources that address automation, information, transformation and infrastructure, companies can significantly bring value in terms of sustainability to the stakeholders. These

resources should be integrated with different business functions in order for them to contribute to the sustainability strategy as a whole. Overall, IT resources should be used by managers as integral components of business resources. By doing so, the entity will function towards the successful implementation of a sustainability strategy. Furthermore, companies should use IT more actively and courageously as a tool for sustainability implementation. (Dao, et al., 2011)

Another study found supporting evidence to implementation of sustainability strategies in information technology. It states that IT and sustainable practices improve infrastructure and processes. (Machado, et al., 2017) In reference to section 6, profitability should be kept in mind when considering sustainability implementation in companies. Improvement in business process and infrastructure will work towards that purpose when done correctly.

Overall, information technology certainly presents opportunities as a tool for improvement of sustainability but challenges in the carbon footprint it in itself produces. However, when combined with other business processes and integrated with resources, it can contribute greatly towards sustainability. Still, the successful implementation require strategic outlook and planning.

7 RESEARCH METHODOLOGY

The process and research methodology are described in this section. To explore the topic of internationalization strategy development, I chose the qualitative study over quantitative. The general trend in studying internationalization has been to use the qualitative methodology in order to gain in-depth knowledge of the topics.

The research follows the common process where it begins with the identified desire to conduct research. A clarification of the research topic and main research question is then formulated, followed by a topic is the critical review of existing research and literature as I have done in the chapters before. The research approach is then determined, which is the content of this chapter. The research philosophy, methodology and design are described in the following sub chapters. (Saunders, et al., 2016)

7.1 Research Philosophy

I have identified interpretivism as the applicable research philosophy for this study. It best reflects my approach as a scientist and researcher. As such, I look to understand organizational phenomenon from different perspectives. I also believe that humans create meanings due to the different realities and social contexts they exist in. (Saunders, et al., 2016)

An important note on the philosophy of interpretivism is that the researcher's own thinking plays an important part on the results. Due to the use of the researcher's beliefs and values, the research as such takes a subjective stance. The limitation to this philosophy is the very aspect. Despite the subjectivism, the researcher must seek to understand the viewpoint of the research participant. (Saunders, et al., 2016)

Interpretivism is often considered an appropriate approach for business and management research as the corporate and organizational subjects are usually context dependent. Furthermore, they often involve complex interaction between individuals and organizational bodies. (Saunders, et al., 2016) Moreover, the philosophy is thought of as applicable for qualitative studies as it emphasizes the relationship between the researcher and the field under

study. Additionally, it puts focus on the understanding. (Eriksson & Kovalainen, 2008) As for me, I often find myself looking at the world with considerations of the different social aspects affecting its function. Overall, upon evaluation I find that interpretivism is the most natural choice for research philosophy for this study as well as my researcher personality.

7.2 Qualitative Research

As opposed to quantitative research where different kinds of numerical data is collected and analyzed, qualitative research collects data that takes the form of words and images. As such, collecting the data takes the form of unique categorization. The analysis of the results requires the interpretation of the researcher. This is a common method for interpretivist research philosophy. (Saunders, et al., 2016)

When conducting research, it is particularly important to consider the value of the study. Qualitative research has been found to contribute the understanding and description of processes taking place in organizations. Furthermore, qualitative research has historically been considered as the method for translating scientific research into practical knowledge that can be used in the implementation of strategy etc. It is also considered the approach for evaluating traditional models etc. (Travers, 2011)

With this information, it appears appropriate to consider qualitative method as the suitable one for this study. As such, in this paper I study internationalization frameworks, strategy development theories and approaches which I then use as basis for investigating the case companies. In interpreting the results I use my own values and understanding. Furthermore, the case companies operate in their own particular context and I seek to gain an understanding of them by investigating perspectives of different parts of the organizations.

7.3 Case Study

Case study is a popular approach to qualitative study where the researcher picks a small number of case companies to observe. It studies a phenomenon in a real-life and to-date context. Some of the most usual questions a case study looks to answer are those of when,

how and why. The case study allows for a full understanding as the context and circumstances can be integrated into the research. As such, the circumstances and other factors that are otherwise hard to collect or account for, can be recorded and taken into account in the interpretation of results. This essentially allows for the analysis of the complexity of phenomenon occurring in real life. A case study is usually conducted by studying a small sample. The results are then used to gain an understanding of for example the applicability of known theories. Moreover, the results can then be used to theorize further and develop a new perspective to a named phenomenon. The aim is to be able to make generalizations based on the results collected from the sample population. (Farquhar, 2013)

As the case study aims to understand, predict or describe the behavior or pattern of action, it is considered particularly useful for management and business studies. A research on the case study method suggests that instead of using the afore mentioned as objectives, the case study should aim to gain a deeper understanding of the sentiments, actors, interactions and behaviors in processes overtime. (Woodside & Wilson, 2003) Indeed, it appears logic that the longitudinal study ought to be the aim as the businesses and organizations often alter over time, which means that instead of a snapshot of time, an entire period be studied to gain a much more thorough understanding and ability to generalize findings. Moreover, doing so allows for more reliable pattern recognition.

Some of the most common criticism to the case method include the lack of evidence on the conversations between the respondents and the researcher, Furthermore, while a characteristic of a case study, the studying of individuals' beliefs and values also acts as a limitation to research as generalizing rules or theory based on this is questionable. (Woodside & Wilson, 2003). Some researchers however argue, that generalization is not necessarily the focus a research should take nor the single desirable outcome. Other problems that persist in the use of case study is that there is bound to be some misinterpretation, alterations of reality, use of imagination on answers as well as the lack of ability to truly determine causality. (Becker, 2009).

7.4 Interviews

Interviews can allow for rich data collection. Even a small amount of interviews can fetch insightful data. In order to optimize the richness and depth of data it is useful to ask the interviewees open-ended questions, follow-up with your interpretations of the data and allow them to comment on it. (Travers, 2011) This brings about the essential question of the interview questionnaire design.

When considering an in-person interview where the researcher and the interviewee are usually placed face to face, the interview gains depth. This is due to the fact that the information handled often concerns of personal matters such as beliefs, viewpoints and values, experiences and choices concerning professional conduct. In this the question of the interviewer remaining in the position of a scientist and researcher instead of the role of a friend arises. The often intangible data collected whose interpretation depends and shapes according to the researcher's own standpoint and view of the world is mostly useful for studies aiming to explore mechanisms and context. (Johnson & Rowlands, 2014)

In the process of learning to interview, it is important to test against biases and the understanding the interviewer himself/herself has on the topics and concepts they handle. This can be done by interviewing the interviewers themselves. It is also important to understand the interviewing techniques such as listening to the interviewee respectfully refrain from guiding the answers given, refrain from questions that guide the answers, consider ethical perspectives such as handling of sensitive information and investigating and observing the interactions between the interviewer and interviewees and their affect to the outcome. (Roulston, 2014)

There are several variations of interviews: conceptual, factual, narrative, confrontational, focus group and discursive. The interview form in this study will be that of a mix of conceptual and factual interview: I will seek to understand the participants' understanding of certain concepts as well as interview them on facts on e.g. their role and things going on in the organization. (Kvale, 2011)

7.5 Hypothesis

The hypothesis for this research is that there is a significant difference in the internationalization strategy development between the IT and Cleantech companies. The difference arises from the ethical and sustainability related considerations as well as business sector. Furthermore, the strategy development is affected by the international capabilities of the companies.

7.6 Data Collection and analysis

The data collection for this research took place in the form of in-person in-depth interviews. As such, the interviews took place in private rooms where only the interviewee and the interviewer were present. The interviews were scheduled from 30 minutes to 1 hour each. The case company A was located in Espoo, Finland while the other company and the interviews conducted were for most part in Lappeenranta, Finland, although some representatives were interviewed in Espoo as well.

The research discussed in the earlier sections showed most references and impact to strategy and internationalization came from the management team. As such, the interviewees were all part of the management team, board of directors or/and the executive (CXO) level employees. Furthermore, the interview questions dealt with strategy on which the executives and board members who are most knowledgeable on the issues. Due to difference in size of the companies, the titles are not directly comparable as the hierarchy of positions differed in the companies. When describing the companies, identification based on details given can be made, which is why the exact position held by the interviewee is not revealed. Instead, the interviewees are given identification codes in the fashion of company code (A/B) and number.

Table 7.1 Interview Details

Date and Place	Length (minutes)	Company	Interviewee ID
18.10.2018 Espoo	45	A	A1
18.10.2018 Espoo	35	B	B1
22.10.2018 Espoo	45	B	B2
22.10.2018 Espoo	45	B	B3
23.10.2018 Lappeenranta	45	A	A2
23.10.2018 Lappeenranta	65	A	A3
25.10.2018 Espoo	35	A	A4
25.10.2018 Espoo	30	B	B4
25.10.2018 Espoo	30	A	A5
25.10.2018 Espoo	30	B	B5

Face-to-face interviews are an appropriate method of research when dealing with complex questions and long interview sets. They offer flexibility and allow for the interviewer to examine and consider non-verbal communication. (A. Singleton Jr & Straits, 2012) Semi structured interview was used as it is one of the best methods for qualitative studies. This type of interview allows for exploration, explanation and evaluation to be conducted. It allows for some alteration of the exact questions at hand depending on the context as well as the flow of the conversation. Additionally, some data that may not have originally been on the agenda can be collected. The semi-structured interview allows for in-depth data to be collected. (Saundres, et al., 2015)

The interview was structured in a manner where, in the beginning some background information on the company's organizational culture and diversity as well as the interviewees' main tasks were covered. After this, the industry of the company the interviewee worked for was discussed at general level. The interview then moved on to the topic of strategy and strategy in the case company especially. Internationalization was then covered and lastly a few questions on sustainability. The reasoning behind this was that the background information was important for analysis of the data in the form of background information or miscellaneous factors. The general discussion on strategy and internationalization in the industry was needed to gain an understanding of the possible differences in thinking for the industry and later the company in

specific. Lastly, as sustainability has an important role in the study most especially due to the nature of the Cleantech industry, it was interesting to hear a few thoughts on the topic. The sustainability was left as the last part of the interview to explore whether or not the interviewees mention it by themselves at an earlier point and if not, attempt to gain insight on this aspect in the last section.

7.8 Reliability and Validity

Firstly, when studying concepts that differ in definition, there is always a risk that the data collected especially from interviewees will vary due to the different understanding of the concepts studied. Furthermore, the general knowledge, perception and academic and other understanding of the concepts based on the different backgrounds of the interviewees may cause dispersion in the data collected.

Secondly, the interviewer is one of the greatest sources of bias and validity issues in qualitative research. This is because the interviewer poses his/her own thinking into the processing of the data. That aside, the interviewer may also intentionally or unintentionally guide the conversations with the interviewees or formulate the questions, whether consciously or unconsciously, in a leading manner that alters the response. Lastly, there are different non-verbal elements that may or may not affect the respondents' answers. These include the chemistry between the interviewer and interviewee as well as the general rapport and atmosphere created in the interview situation. The interviewer's body language and responses to the answers given by the respondent may also affect the data collected.

Lastly, when studying case companies and most especially in this paper, where executives were interviewed, the question of openness and disclosure arises. The respondents may "sugar-coat" truths or leave certain factors out in question of disclosure as well as the perception given out about the company they represent. Overall, the interview and qualitative data research has many elements that question reliability and validity of the data collected.

8 ANALYSIS AND FINDINGS

In this chapter, the findings of the research are presented and analyzed. The topics covered in the interviews with the respondents will act as main headings. Meanwhile, the results are presented by company and broken down to individual response where needed.

8,1 Case Companies

8.1.1 General information

Company A was founded in 2014 and is located in the Eastern city of Lappeenranta in Finland. It employs 18 people and has a turnover of approximately 3 million euros. It has grown rapidly and steadily from 1 million euros in 2015 to 2,5 million in 2016 to the latest 3 million in 2017. Depending on the viewing party, the company can be classified to operate in the air filtration, air conditioning, assembly industry or/and Cleantech.

Company B has a longer history, but in its current form, it has existed since 2003. The company employs 82 people and has a turnover of approximately 21 million euros. It operates in the IT industry, offering a range of services from hardware to consultative services. The company is located in Espoo, in the capital area of Helsinki, in Finland.

Both companies operate in industries that are characterized by growth and megatrends. Innovation and technology have a big role in the space of both IT and Cleantech. Both companies are experiencing growth in terms of both revenue, as well as the amount of employees and extent of operations. However, the companies differ significantly when it comes to size and age. Company A is a young company aged less than 5 years and small in terms of size and revenue. Company B is at a more mature state and sized more towards the mid-sized enterprise rather than small, at least on the national scale.

8.1.2 Organizational culture and identity

The interviewees of Company A tended to mention their size and informality as an organization. All of the respondents but one mentioned fast decision-making. The openness and flexibility came up with 4 out of 5 interviews in some form. There is a culture of everyone doing everything, which is typical for small businesses in their initial stages. One respondent differed by stating he did not feel the company had an organizational culture at all. He mentioned the company had a mission to contribute to improving the situation of international health. Two respondents mentioned the customer orientation as one of the important characteristics of the organizational culture. While there was variety in the answers, the interviewees seemed to have relatively similar perceptions of the culture and identity. The only constant seemed to be the informality. Five out of the nine characteristics were mentioned by over 50% of the respondents.

Table 8.1 Organizational culture Company A

Characteristic	Mentions
Simple	1
Takes action	3
Fast decision-making	4
Informal	5
Flexible	3
Curious	1
Social entrepreneurship	2
Positivity and doing things together	3
Customer oriented	2

On the other hand, the respondents for Company B had significantly less consensus on the organizational culture. Only one characteristic out of the eight were mentioned by over 50% of the respondents. Good atmosphere came out as the single most dominant characteristic of the organizational culture. Other mentioned characteristics included fast decision making and flexibility.

Table 8.2 Organizational culture Company B

Characteristic	Mentions
Informal	1
Overlapping of roles/ Flexible	2
Customer orientation	1
Good atmosphere	4
Entrepreneurship	2
Achievement oriented	1
Fast decision-making	2
Dynamic	1

Overall, Company A had a better consensus among the respondents on the organizational culture and identity than Company B.

8.1.3 Diversity of work force

Both companies' respondents agreed that there is clear male dominance. Neither company has foreign nationals nor individuals with fundamental foreign background, though Company B has a few employees with foreign roots. The respondents had different views on the age diversity within companies. Some considered the age dispersion to be wide while others responded as the staff consisting mostly of "young" individuals.

8.1.4 Existing international activity

Company B had just initiated international expansion, being at the verge of initiating operations in Denmark. Company A has a few listed international clients, which some considered as internationalization, but has not consciously internationalized nor initiated international operations.

8.2 Industry

In this part of the interview, the respondents were asked questions about the industry they would place their company in, alongside questions about the dominating characteristics of the industry depending on the angle asked to consider. The angles the respondents were asked to consider were that of strategy and internationalization. They were also asked to consider the market outlook, competitive advantage as well as the greatest stepping-stones for companies in the industry.

Company A's respondents all struggled alike to place the company to an industry. Only one respondent brought up Cleantech and the health sector. Others considered air filtration, air cleansing, air conditioning, consumer market, assembly industry and technology. However, all apart from one identified with Cleantech when asked specifically. The one differing opinion did not see a fit to the definition of Cleantech.

One person mentioned Cleantech's main characteristic as energy and waste processing focused space. Another mentioned dysfunctional technologies and beliefs. One high growth and the fourth pollution problems. The fifth and last respondent mentioned a global issue of air quality problems and concurred to the characteristic of pollution but slightly differently worded. In other words, not a single person mentioned the same characteristics.

As for the characteristics that would have an impact on strategy development four out of five respondents mentioned product and technology quality and functionality, competition and growth. One interviewee lead with sustainability, ecology and certifications. There was consensus apart from the last respondent, to differentiate strongly with functionality lead.

One person considered there to be no industry specific internationalization consideration and mentioned the general importance of local knowledge. One considered the considerations to be the same as in those of strategy: differentiation, product focus and competition. Another respondent viewed the market as global from the get-go with alterations on the root cause of the problem but highlighted global demand. The last two interviewees saw the international market to be highly appreciative of Finnish rooted products and expertise in the industry.

The market outlook for the industry according to the respondents is one of high growth. The pollution issues are likely to increase, new competitors will rise and the consumer education

will spread with more knowledgeable consumers demanding for functional products. There was consensus this with all interviewees mentioning similar factors.

Similarly, all respondents appeared to agree that the industry is highly dynamic. However, everyone also mentioned the fact that, the basic need answered by the solutions provided by companies in the industry, are static. However, one person sees the Cleantech itself relatively static, but the technological development as highly dynamic.

The competitive environment was seen as tough by one of the interviewees especially domestically as the industry is prominent in the country. Another finds that the competition is to increase as traditional companies seek for growth by penetrating into the industry. One finds that the competitive environment is different in its essence as (in contrary to the above) the problems are different in nature depending on the market. Generally, there was consensus that the competitive market is extremely tough and more so in the future.

Two out of the five respondents mentioned dysfunctional technology (products that do not deliver the promised value or function) as the biggest stepping-stone for companies in the industry. Three out of the five interviewees considered the lack of development and innovation and the comfort zone-state as mistakes companies would stumble upon. One of these three added companies forgetting the “value-added” factor and selling products alone without the service orientation.

Table 8.3 Summary of industry views Company A

Topic	Dominant Factors
General characteristics of the Cleantech industry	No consensus found
Strategy affecting characteristics of the industry	Product/technology quality and functionality, competition, growth
Internationalization affecting characteristics of the industry	No consensus found
Dynamics of the industry	Dynamic
Market outlook	Growth, competition roughens
Competitive environment	Tough
Biggest stepping stone	Lack of innovation and change, dissatisfying product

In the case of Company B, all respondents but one mentioned their industry to be service industry or IT service industry. One respondent identified the company to operate in the IT industry. When asked about the main characteristics of the industry, the respondents repeatedly mentioned dynamics, technology focus, growth and competition. Only one respondent differed significantly in their response mentioning hardware and the main function of the industry being to serve as an accelerator and facilitator for other industries.

When asked about whether or not there were distinctive characteristics when considering strategy development the answers varied more. One respondent did not feel the industry characteristics differed greatly in terms of strategy development. Others mentioned values and mission statement, competitors, organizational culture, expertise, technology development, dynamics and product offering. The mentioning of product/service portfolio occurred in three out of the five interviews as well as the expertise needed in the future. Only one person mentioned the dynamics of other industries and their inter-relatedness to the IT-sector. All respondents' answers incorporated views of the future and megatrends.

Lastly, the respondents were asked to consider the internationalization aspect and industry characteristic's' effect on it. All but one respondent incorporated market conditions and the megatrends in this aspect as well and considered the competitive aspect carefully. Two out of the five respondents see that localization is more likely than internationalization. One respondent sees that at least in the service industry internationalization is not possible.

All but one respondents consider their industry (the IT) as dynamic on the surface. Additionally, everyone had the consensus of great differences in dynamics depending on the sector or the view. For example, B2B is seen as relatively static, the service sector as stagnant even and the different industries using IT services having great differences in their dynamics. One respondent finds that the overall IT industry is not at all dynamic but the different sectors are.

The market outlook in the next three to five years was seen as dominated by megatrends such as relevance of data and data storage, technological development and the growth of software that will require supporting structures and services. One person mentioned the upcoming shortage of expertise. One respondent highlighted the importance of consolidation of companies and another the role of large dominant market players.

Apart from one differing response, all interviewees considered the competitive environment to be dominated largely by big companies both abroad and in Finland. They considered this to differ mostly in scale when moving internationally but the structure of the competitive environment being relatively similar. All interviewees considered the international market to be attractive especially for the large corporations, but one respondent considered all markets local at the core with local requirements.

The biggest stepping-stone for companies in the industry were mentioned as the lack of customer orientation and the lack of innovation, renewal and change. Two out of the five respondents also mentioned technological choices as a factor.

Overall, the respondents from Company B had relatively differing views of their industry as well as the characteristics companies operating in the space should consider. Summary of the dominant and most occurring mentions are summarized in the table below.

Table 8.4 Summary of industry views Company B

Topic	Dominant Factors
General characteristics of IT and Service Industry	Dynamics, growth, competition
Strategy affecting characteristics of the industry	Product / Service portfolio
Internationalization affecting characteristics of the industry	Market conditions, need to localize
Dynamics of the industry	Dynamic, static within sectors
Market outlook	Megatrends, technology
Competitive environment	Large players dominate, international players
Biggest stepping stone	Lack of innovation and change

8.3 Strategy

In the strategy section, the respondents were asked questions specifically about their own companies and the strategic decisions and direction. The questions touched upon the companies' current objectives and strategic take on the market. The interviewees from

Company A had relatively similar responses and had strong consensus on the growth and internationalization taking main focus. However, there was no single factor that all respondents would have mentioned. As for Company B, all respondents mentioned growth and over 50% of interviewees mentioned the expansion and diversification of the company offering. Overall, both companies had relatively widespread responses. Lastly, if considering that “no client losses” overlaps with “customer satisfaction”, there is strong customer orientation with four out of five respondents mentioning this. The corporate objectives mentioned by the interviewees are summarized in the table below.

Table 8.5 Summary of corporate objectives

Company A	Mentions
Growth	3
Profitability	1
Product improvement	1
Market placement/branding	2
Internationalization	3
Expanding portfolio	1
Company B	
	Mentions
Growth	5
Profitability	2
No client losses	2
Cash flow	1
Happy and skilled workforce	2
Customer satisfaction	2
Expanding and diversifying portfolio	3

In Company A there was one respondent that felt the company did not have a strategy as per say due to its small size, but tactical moves made on ad hoc bases. Three out of the five respondents stated the corporate strategy to consider the outlook of toughening competition and translating it in their strategy as considerations on price and customer segmentation.

As for Company B, there was clear consensus among the respondents that there will be a strong megatrend towards the cloud which is what the company has started developing and investing in. Additionally, one respondent highlighted the competitive advantage of being a mid-sized company competing against the large and dominant companies on the market, being agility and flexibility, which is an edge the corporate strategy, seeks to conserve.

Two of the Company A respondents consider the competitive environment mostly in the customer segmentation needs which is reflected in their strategy. Three of the five mentioned products as the main factor of differentiation. The interviewees were relatively divided on this aspect.

On the other hand, in Company B, there was more dispersion. One respondent felt their strategy was not outward looking and did not necessarily consider competition at all or at least sufficiently. He considered the strategy to put too little focus on differentiating factors such as expertise. Another mentioned that there had even been simulations in order to predict the possible moves of competitors. The last one mentioned service as the differentiating factor. There did not seem to be consensus on this.

Two of the three interviewees from Company A viewed their strategy and organizational culture and identity as in line. On the other hand, three out of five respondents in Company B felt that their strategy and organizational identity/culture were in line. One felt that that while they were in line, there were some mismatches between the two. Lastly, one respondent felt that the two are not directly related to one another.

8.4 Internationalization

In this section, the interviewees were asked questions regarding the internationalization of their company. The questions were about the current state of internationalization and the plans of the future. Additionally, there were questions regarding the internationalization strategy and processes.

Interestingly, Company A respondents unanimously agreed that there was no internationalization strategy written as per say, but one respondent mentioned it had been a topic of discussion at the board meeting. However, apart from one respondent who said there

none, all respondents equally agreed that there was quite a bit of demand and requests for the product from abroad. Furthermore, there were four mentions out five for growth being the main motive behind internationalization. Only one person mentioned the mission of helping people as the motive to go beyond domestic borders.

On the contrary, Company B had variance in their responses to the existence of a written internationalization strategy. Some felt there had been some inclusion of international elements in the last strategy, another felt there has never been and will never be one, the third felt there clearly was one but it was never realized and lastly, there was a comment of internationalization being part of the overall change strategy. In other words, the agreement was that at the current moment there is no separate and specific internationalization strategy.

As for the motive to move to the international markets, the respondents from Company B had similar but yet completely different answers. Interviewee B2 felt that it would happen because of something “forcing it” and the motive would be to maintain competitiveness. Respondent B3 said it would be in order to add value to the client. Respondent B4 mentioned growth in terms of volume and clientele. B1 mentioned growth as well as a strategic partnership requiring for the international cooperation. Lastly, respondent B5 mentioned customers to be the one and only thing that would motivate the company to internationalize.

When asked about the mode of entry to the foreign market (realized or hypothetical), Company A’s interviewees stated their company to have entered in the form of an external sales representative in their target country. One respondent felt that in the future there might be need to expand it to having some production functions in the country as well as customer service agents.

Company B’s respondents had a clear hypothetical approach towards partnership of some kind. This was mostly mentioned in relation to clients and their needs. In other words, the entrance to a market would be likely to be done together with an important client /partnership. Additionally, there were mentions of company acquisition as one mode of entry.

The discussions on the resources the companies have and what they would essentially need more to be successful in their efforts of internationalization yielded more unified results with Company A. Its respondents A stated unanimously that their greatest asset is their product with one added comment about expertise. Three out of five respondents said they would need more export specialized personnel with ability and willingness to travel and relocate. One person

mentioned a partner and one mentioned consumer education. All respondents considered their competitive advantage abroad to be their product. Equally, the interviewees found internationalization to be an opportunity as opposed to a threat.

The answers from Company B's interviewees were more spread out. For the most valuable resources, the following were mentioned: expertise in company acquisition, technology and customer value, international experience (among personnel), sales experience, products and the great people working for us (Company B). As for what would be needed more there was more consensus: language skills, cultural knowledge and intelligence, partners and clients as well as market knowledge. One person mentioned commitment. Most respondents mentioned the quality of service to be the competitive advantage in international markets; however, agility and commitment to customers were also mentioned. Three out of five respondents considered internationalization an opportunity, one considered it both an opportunity as well as a threat and one considered it a pure threat.

The last question was about the potential markets for internationalization. Company A had already entered Denmark and were considering Sweden and Norway. All but one respondent added China, India, and two mentioned the market to be truly global. Company B's respondents mentioned Russia, the Baltics and Germany. One respondent does not see an attractive market for the company. The post-soviet republics were mentioned by one respondent. Germany was backed by the data cable, whereas Russia, post-soviet republics and the Baltics were considered as technologically conscious and advanced enough for potential with sufficient segments of clients with purchasing power. China and USA were mentioned but then ruled out due to the physical distance.

In terms of Company this seems to a logical choice as consumer education was mentioned an important factor in success of sales. Literature shows that the Nordics are the first and foremost runners in the Cleantech sphere, which is likely to translate into a more educated target market. However, in case of Company B, they did not choose markets that the industry literature would recommend as the highest growth (China, India, Indonesia, South Korea etc.) or those with highest IT spending (US), but rather those with low psychic distance (e.g. Sweden).

8.5 Sustainability

Sustainability strategy did not exist by consensus in Company A. The respondents stated that they did not see sustainability as a competitive edge apart from one respondent who felt it was not only a competitive edge but also a requirement for business. All but one respondent stated sustainability to be an investment overall. The differing response considered sustainability as an ethical decision that should not necessarily be linked with business profitability. So far, there had not been any requirement from clients for sustainability proof or certificates. Two had careful predictions that this will change in the future. One respondent clearly stated that there will be no need for certificates or sustainability measures and one did not see it likely to change in the near future.

There was a similar trend in the responses from Company B, however, there was clear indication that sustainability had been considered and brought up in the past with three out of five interviewees stating it had been a topic of discussion but no written strategy had been drafted. Three interviewees found sustainability to be more or less a competitive edge, one considered it a requirement and one did not find it a competitive edge. However, all five respondents found sustainability an investment as opposed to a cost. Additionally, three respondents are relatively certain sustainability, certificates will be requirements in the future, and one hopes for it to be so. Three stated there had been questions in this regard by clients but no demands.

9 DISCUSSION AND CONCLUSIONS

In this section, the results of the research are discussed more in detail together with the hypothesis presented for the study. Additionally, the research questions presented in the first chapter of the work shall be addressed. The results will be evaluated for theoretical contributions and the managerial implications discussed. Lastly, the limitations and further research suggestions will be presented.

9.1 Summary of Results

The case companies operated in different industries which was essential to the research aim and questions of the study. Both companies had a relatively relaxed and informal organizational culture, despite being in different phases of maturity and size. There was a significant difference between the companies in terms of both factors. The executive/managerial team of both companies was interviewed; however, the positions were not directly comparable due to the hierarchical differences and the differences in not only titles but daily tasks as well. Overall, the companies differed greatly within themselves in the responses and viewpoints but also when compared to each other. Company A, despite its small size, was internationally oriented while Company B had significantly less indications of managerial incentive to internationalize. However, both companies had a strong growth-lead and -seeking strategic outlook.

Earlier the following hypothesis was presented for the study:

“... there is a significant difference in the internationalization strategy development between the IT and Cleantech companies. The difference arises from the ethical and sustainability related considerations as well as business sector. Furthermore, the strategy development is affected by the international capabilities of the companies. “

Based on the results of the study, there is indeed strong evidence to suggest that IT and Cleantech companies differ significantly in developing internationalization strategies. The Cleantech company, Company A, resonated with patterns recognizable from the Uppsala

model whereas the IT company, Company B, demonstrated qualities of the network approach (see chapter 9.2 for theoretical contributions). The overall view and approach to internationalization and its strategic development was essentially different between the representatives of the industries.

While this part of the hypothesis can be accepted, the explanation for the difference cannot. The ethical and sustainability related considerations did not appear to be present in neither company's strategic, internationalization nor organizational culture's sphere as they did not come up during the interview at all with the exception of two respondents. However, the difference does indeed seem to stem from the business sector or industry the companies operate in. Cleantech is more product centered traditionally, which is why exportation (one of the most straightforward modes of internationalization) with low barriers had an essential role in the internationalization strategy. The IT- sector often comprises of products less tangible and was characterized with major companies in the space. Having said this, Company B took a more networked and partner-seeking view to internationalization and to some extent felt it was not a fit for internationalization at all. However, there is a possibility that the lack of tangibility of goods in the sector leads to a thinking that makes the barrier to internationalize higher due to the perceived risk and extent of resource commitment. Point being, the intangibility may have led to the exclusion of exports as an option as seemingly undoable.

What are the motives for internationalization and how do they differ between the industries?

In Cleantech, the motive for internationalization was straightforward: growth and the global demand and fit of the product. Additionally, limited markets were brought-up. On the other hand, in IT the motive to internationalize took a more relationship dependent approach. Clients, partners and their need for their supplier to internationalize was the most mentioned reason for internationalization. The motive for Cleantech was more inward looking and proactive whereas the motive for IT was outward looking and took a reactive form.

How does internationalization strategy development differ between Cleantech and IT companies?

The Cleantech representative had a strong direction of internationalization and it happening was agreed upon. Additionally, it had been planned, researched and executed. Furthermore, there were discussions and some preliminary findings on the possible next stages. All this despite the fact that internationalization strategy had not been written down as such. The focal point was growth.

The IT representative on the other hand had considered it on some occasions and even researched some possibilities, but it was never executed nor followed up on systematically. However, when asked about the hypothetical situation of doing so, the approach was highly systematic, risk averting and thorough. The focal point was the client.

How is internationalization cooperated into corporate strategy?

Neither company confessed internationalization to be in any way cooperated into corporate strategy, despite Company A having operations abroad and Company B having considered it in the past. However, Company A showed strong internationalization orientation, which was visible in growth plans in the corporate objectives and the future resource planning (in terms of investment into resources and expertise). As for Company B, there was no indication that the internationalization would be cooperated into their corporate strategy in any way.

What are the operational implications of internationalization strategy development?

As for Company B there were none. For Company A there were indications that product development and design took the international markets into account. Additionally, marketing had been to some extent impacted by the internationalization strategy development and the allocation of time resources was mentioned.

What is the managerial cognition to internationalization?

When discussing with Company A, the whole management team had very hopeful and positive views on internationalization. When asked what his opinion was about internationalization, one respondent said the following: “Internationalization is a lot of fun. Plus it’s very exciting and interesting.”

On the contrary, Company B had almost unanimously responded to internationalization being an opportunity more so than a risk. However, the general approach to the topic was clearly more critical, serious and doubting. There was clear resistance to thinking the company would internationalize at some point. Some responded directly that they either thought it would or should never happen or it was not relevant at the moment and the rest had answers characterized highly with “..but”.

How does the managerial cognition affect internationalization considerations?

Based on my observation the managerial cognition was critical in internationalization considerations for both companies. It can directly be said, that where there was a positive and open view on internationalization the company had steps towards it, whereas a more reserved attitude correlated with reserved ideas and lack of concrete planning or commitment to internationalization.

What are the industry elements that affect internationalization?

During the course of the interviews it became obvious to me that the product-centeredness of the Cleantech industry and the elements of intangible offering in the IT had a profound effect on the internationalization of the companies. Additionally, Cleantech being a newer industry especially internationally offered more opportunities and less saturated markets abroad as

opposed to the domestic market in Finland. IT- industry then again is competitive in near all markets, at least ones with low physical and psychic distance with Finland.

How does internationalization strategy development differ between Cleantech and IT companies?

This was the main research question of this study. Compiling the previous answers together, the internationalization strategy development differs in several aspects between Cleantech and IT companies. The main differences come from the industry and business sectors that affect the nature of the offering and as such the natural entry mode for internationalization. This takes different complex forms, but competitive environment and the saturation of the markets is at an important role. Unlike initially thought, sustainability and ethical considerations often at the center of the Cleantech industry do not, according to this study, act as an important factor in the internationalization strategy development.

9.2 Theoretical Contributions

9.2.1 New Gained Knowledge

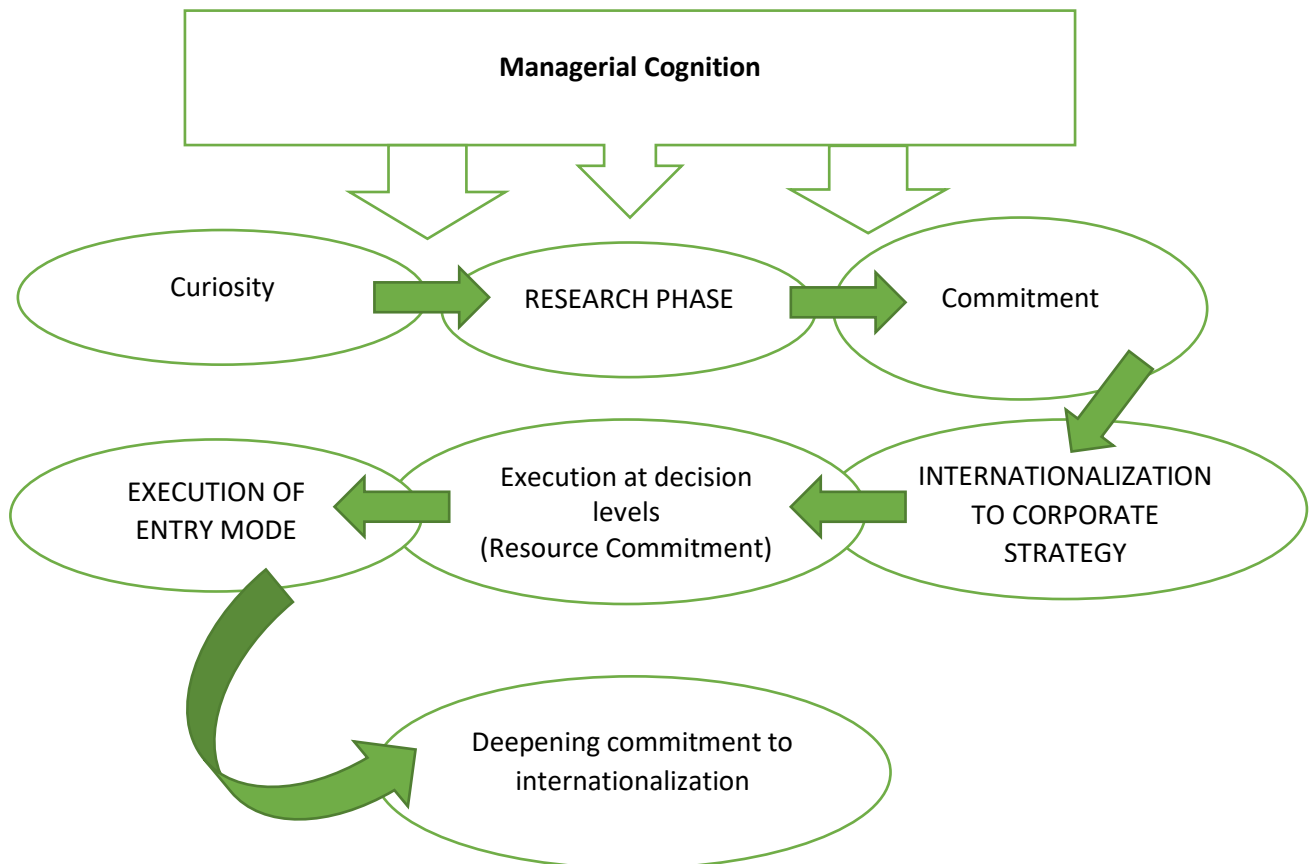
Based on the findings of the research, a framework for internationalization strategy development was developed. The bases for the theory are drafted in the table below. In this data, the most significant highlights are the differences in views between the companies when it comes to sustainability and internationalization, which I believe, are reflected in the status of the companies' approach to the two and root in the managerial cognition.

Table 9 Theory bases

Factor	Company A	Company B
Size	18 employees, turnover 3 million euros, established 2014	82 employees, turnover 21 million euros, established 2003
Industry focus	Product	Service
Internationalization status	International operations	Domestic operations
Strategic focus	Growth, internationalization	Growth, portfolio expansion
Internationalization motive	Growth	None
Internationalization inclination	Push, self-initiative, proactive, "exciting and fun"	Pull, lagging/reactive, "something should force us"
Entry Mode Approach	Exports and representative	Network, partnership
Internationalization view	Opportunity	Threat / Threat+Opportunity
Sustainability strategy	None in place	None in place
Sustainability viewed as competitive advantage	No	Mostly Yes
Sustainability view for the future	Will not be relevant in the near future	Increasing relevance
Sustainability view	-	Investment

The findings lead me to two theoretical approaches. Firstly, the evidence suggests that for the company to internationalize, the managerial will to do so must be there as the most critical factor. Before motive, there will be curiosity. The curiosity will get the company to internationalization research phase. To enter to the next phase there must be commitment from at least the majority of the managerial level to further down the internationalization path. When these are in place, the internationalization will be written to corporate strategy that will then be executed at the different decision levels of the company (resource commitment). At this point, the company would enter the first executive stage of internationalization, which is the execution of entry mode. At this point, there has been time, money and psychological resource commitment to the process and the likelihood of advancing increases significantly. It is then followed by plans to deepen the commitment to the foreign markets by either expanding or deepening in the market of entry or by exploring additional new geographies. This is illustrated below.

Illustration 1: Internationalization



Secondly, the evidence from this research suggests strongly, that the strongest varying factor is that of managerial cognition towards internationalization. Where negative root thinking colors the attitude towards the (potential) opportunities negatively, the company is unlikely to proceed from the stage of curiosity any further. There is evidence in the case companies' data to support this: Firstly, Company A had clear positive managerial cognition about internationalization and had gone from curiosity, to research, to execution of entry mode and increasing commitment to expanding up on the international activities. As for Company B, there was clear resistance to internationalization and a generally more reserved attitude towards it. Having said that, the company had explored and researched, but not committed nor executed internationalization activities. Interviewee B1 said the following: *"We explored internationalization and at some point even tried to make some connections and deals in Russia, but it was kind of left hanging and ended up failing."* This statement indicates both lack of commitment as well as the failure to execute the plan of internationalizing in reality.

As for sustainability, I still find it strongly linked with managerial cognition and values of individuals rather than industry factors. There was no supporting evidence to link industry and sustainability nor customer push towards sustainability to companies' interest or level of sustainability. Where the managers seemed to have personal interest towards the issue is the only link to sustainability measures.

9.2.2 The Uppsala Model

Firstly, the study showed evidence for and against the Uppsala model. The Cleantech company appeared to fit into the model near seamlessly. They had strong managerial motivation and commitment to internationalize, the motive was growth focused and they started with countries of low psychic distance (Sweden and Denmark) with exports. The Uppsala model was based on industrial companies' case to which Company A fits with production and assembly. I will soon explore the case of Company B, but it did not fit the Uppsala process in near any ways, except in showing evidence that with lack of management commitment and motive, internationalization is unlikely to begin. With that being said, the research supports the notion that the Uppsala model may in fact be applicable to companies of industrial nature. However, this study did not shed light on whether Company B should consider the Uppsala model nor is

able to contribute to answering the question of whether following the model is the best practice or not.

The Uppsala model (most especially the revisited version) states that opportunity is one of the single most important elements in driving internationalization. However, Company A did not experience strong demand or flood of inquiries from abroad (except China) yet they had moved forward to internationalize. On the other hand, Company B had at least weekly enquiries for their services, but did not orient towards even intending to internationalize. This study would argue against opportunity being the strongest driver as the managerial commitment seems to play a more important role. At the same time, it may be that the cognitive opportunity Company B seeks for did not match in nature of the existing or incoming opportunities and is as such perhaps not considered an opportunity in itself.

Uppsala model states that the commitment- factor is most often manifested in organizational decisions, investment and entry mode. This study supports the statement. Company A provided supporting evidence as described afore. Company B supports the statement by manifesting the lack of both manifestation of the commitment as well as the commitment.

9.2.3 Network Theory

The network theory suggests that in internationalization companies depend on resources they cannot access alone. It also incorporates the social dimension of relationship building to internationalization. Company B demonstrated strong applicability of this theory. They considered their relationships and networks as the lifeline and main motive for possible internationalization and did not see it possible without them.

Additionally, the network theory compares internationalization to the process of entrepreneurial process and claims that the partnerships aim to reduce uncertainty together. Referring back to the data collected from Company B, there is strong evidence to support this as the respondents showed signs of finding internationalization risky and the clients or partnerships as a certain indication that internationalization is needed. The network theory is also supported and logical to the organizational culture where clients and relationships seem to be at a central role. Additionally, Lee and Joshi (2016) claim that IT companies should collaborate with non- IT

companies that could support their growth as well as protect them from competition (Lee & Joshi, 2016).

There was no evidence to support the network theory in data collected from Company A despite the fact that some literature introduced in Chapter 4 made strong recommendations for alliances and their benefits to internationalizing Cleantech companies.

9.2.4 Born Globals

The single most important characteristic of the Born Global approach is that the company has an international mindset. Additionally, limited domestic market and foreign consumers (global demand) as well as a value proposition that overcomes any logistic challenges are characteristics of a born global. Company A correlated strongly with these characteristics. The management team were internationally oriented and they mentioned all factors listed above: global demand, limited market in Finland and a superior value proposition (unbeatable technology). While the market characteristics in this theory match those of Company B, the other aspects do not support it.

However, a study related to the theory claims that companies that seek to internationalize, should do so as early as possible or they will find it all the more harder as time goes by (Moen, 2002). There is evidence in data collected from Company B, which aligns with this as they appear to have considered and planned internationalization on several occasions, but did not follow through with it and the attitude has potentially changed from seeing it as a possibility to partially making it more distant than before.

9.2.5 Other studies

A study by He and Balmer (2013) found that corporate strategy and identity are interrelated. They claimed that the strategic outlook of the company shapes the identity and vice versa. This could then create managerial dissonance when a situation of mismatch between the two would occur, as the company would struggle between who it wants to be as opposed to where they

want to go. It could then lead to artificial matching of the two. (He & Balmer, 2013) There is some evidence in this research to support that the strategy and identity of a company, however whether the identity and strategy have been artificially matched is a phenomenon that I did not collect enough data to directly comment upon. However, based on the observations I made during the interviews, I see a possible pattern.

9.3 Managerial Implications

A paper on the born global- theory suggests that even the born global internationalizing needs to pay careful strategic attention to the process of internationalization (Patel, et al., 2016). Having said this, the management team of most especially Company A ought to note the importance of strategic alignment and direction of internationalization operations. I recommend that a systematic and through strategy be written down even if it need be reviewed at high frequencies. Writing down a strategy pushes the management team's cognition to the agreed direction and aligns the mindset of the members in the team then helping with allocation of resources of today with tomorrow in mind.

I would also recommend revisiting the target market considerations as there are emerging markets with great growth potential, much less challenging that e.g. China. Company B could consider internationalization as a source of growth and assess alternative ways of entering the international markets. Such entry modes include e.g. the embracing of the opportunities currently present (in the form of inquiries from abroad) and developing them in an agile manner with trial and error, as the risk involved is low. However, in doing this I highlight the importance of written strategy and commitment of the management. Lastly, I want to note that even if committing to the currently most consensual entry mode of partnership, it could be proactively pursued through attendance to trade shows etc. instead of a reactive approach.

Neither company showed any form of commitment to sustainability despite literature showing the need for companies in both industries to do so. Datacenter CO₂ emissions are to grow to 259 megatons by 2020 and the IT industry as a whole accounts for 2% of global emissions.

(Rahman & Akhter, 2010) Additionally, sustainability should be at the center of Cleantech companies by definition.

Company A's mission statement as accounted by two of the respondents has strong social sustainability focus. Having said this, I would recommend life cycle analysis and assessment for Company A allowing for optimization of resources and identification of optimization points. By taking a recommendation to put economic benefit to the center, this should provide both ecological as well as economic benefits. The social aspect of sustainability can be incorporated by the value proposition of the product of planned for in other ways. In any case, I recommend that if adopting this, the Company take a systematic approach with adaptation of the mindset that carries beyond a sustainability strategy to all spheres of the business.

In the case of Company B, I see that electricity is the greatest single point for sustainability improvement. However, I recommend that an analysis of resources used in the operative functions be conducted. Literature shows that bringing sustainable practices to IT improves infrastructure and helps form processes (Machado, et al., 2017).

I see that conducting these assessments and drawing a concise and clear sustainability plan with commitment can benefit the companies in several ways. Firstly, looking at internal processes and resource usage closely is an informative and educational procedure that can enable identification of other optimization or opportunity touchpoints. Additionally, using the measures in marketing and branding can add value to the brand if done sincerely.

Lastly, I recommend that both Companies' management teams take time to align and write down certain corporate essentials to help unify the understanding of where the company is and where it is going. There may be value in engaging in debates on the most controversial topics like internationalization in Company B and sustainability in Company A. Additionally, I see that both companies could benefit from discussions on organizational culture, diversity, competitive advantage and differentiation angles.

9.4 Limitations and Future Research

Like all research, this study had limitations to it. Firstly, the sample was small. In future research, a bigger sample could be studied in terms of both companies, as well as diversifying the study across borders with cross-country analysis. In taking more companies under the scope, the results' generality would be better justified.

Secondly, the comparability of the case companies and the interviewees within them should be improved. The companies differed significantly in size and maturity that may have presented too many variables to be considered comparable. I propose that the only variable where possible be the industry. Additionally, the positions of the interviewees were not directly comparable neither by title nor by tasks adding yet another variable. In the future, this could be made constant.

One of the most important limitations to me is that of the level of internationalization of the companies. The study had internationalization and more specifically the development of strategy in its regard at central focus. Therefore, it seems to me that this factor above all else should be comparable between the sample companies.

Additionally, I believe that looking more closely into the managerial cognition and the background of the interviewees and their impact on internationalization would be an interesting avenue for research. There is reason to believe that national culture as well as experiences (i.e. cognition) shape the way an individual perceives internationalization. This is especially relevant in a managerial position where the direction of the company is impacted.

Lastly, future research could look more deeply into the "best practice" when it comes to internationalization theories. I suggest evidence of companies having followed e.g. the Uppsala model and their success in doing so be evaluated. Longitudinal studies are challenging, but could finally yield some insight to the recommended model for internationalization and the possible differences in choice between industries or other company characteristics.

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APPENDICES

Appendix 1

Interview questions

Name

Role

Company

Main Tasks

Company size people

Company size revenue

Company

1. How would you characterize your organizational culture?
2. How would you characterize your organizational identity?
3. How diverse is your workforce?
4. Do you have international operations? If yes, where and what is the format?

Begin with industry

1. What industry does your company operate in?
2. Think generally: What are the main characteristics/ considerations for you in terms of your industry?
3. Think in terms of strategy: What are the main characteristics/ considerations for you in terms of your industry?
4. Think internationalization: What are the main characteristics/ considerations for you in terms of your industry?
5. What would you say is the market outlook for the industry for the next 3-5 years?
6. How are the dynamics of the industry?
7. How would you describe the competitive environment? At home? Internationally?
8. What kill companies in this industry?

Strategy

1. What are your corporate objectives?
2. In terms of strategy, how do you see the market outlook?
3. How does your strategy take competition into account?
4. What are the main financial objectives in your strategy?
5. MAYBE LAST Do you consciously consider your organizational strategy's fit to your organizational identity?

Internationalization

1. Do you have an internationalization strategy planned out and written down?
2. Are there currently requests for your products from abroad?
3. What is or would be your most important motive to internationalize?
4. What is your opinion on (expanding) international operations?
5. How would you start internationalization? How did you start?
6. What are the most important resources you have currently for internationalization?
7. What are the resources you see you would need (more)?
8. What are your competitive advantages in internationalization?
9. Do you see internationalization as a risk or as an opportunity?
10. What would you name as the most attractive markets for you at the current moment and why?

Sustainability

1. Do you have a sustainability strategy? If yes, is it a part of your internationalization capabilities or strategy?
2. Do you see sustainability as a competitive edge?
3. Would you describe sustainability as a cost or a saving?
4. Is there a demand from your customers for sustainability considerations?