

UNIVERSITY OF GOTHENBURG school of business, economics and law

Facilitating internationalization through business models

A multiple case study of Swedish Cleantech SMEs

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Abstract

Globalization has seen an increase in the last decades and has increased the need for sustainable development and sustainable technologies in light of energy shortages. Cleantech is the definition of innovations reducing the environmental impact and Sweden is one of the leading actors within the segment. Hence, there are a lot of opportunities for Swedish cleantech firms to internationalize and globally scale and create value through their businesses. In a theoretical perspective, the firm's business model defines how firms create value and is divided into different dimensions enlightening different characteristics enabling value. Internationalization and business models interplay with each other but are usually investigated separately. Thus, a research gap is discovered and to address the research gap, seven interviews have been conducted with Swedish cleantech SMEs to explore how their business models have developed or changed for facilitating their internationalization and what dimensions their business models have been of importance for internationalization. The findings show that internationalization and business models interplay with each other where networks are an integral part for the growth, development and internationalization of firms. Furthermore, both internationalization and changes in the business model occur naturally where firms both use business model innovation and business model replication to different extents on different dimensions of the business model. Moreover, the most important dimensions of the business model assisting firms competitive advantages is seen to be replicated to later on be innovated as firms learn, gain knowledge and experience.re

Key words: Business Model, Business Model Innovation, Business Model Replication, Internationalization, Networks, SME

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Starting an education during a pandemic has been a challenge which has involved adjustments and changes no one has been able to anticipate and that no one wants to experience. Challenges develop us all and that we have evolved as both human beings and fellow human beings can not be denied. Development is fun and time goes fast when you have fun. After several months of work, we are proud of the progress we have made, both academically, personally and professionally. Brighter times await, the pandemic is soon part of the past and new challenges await. We look forward to what is to come.

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Time flies and so do we. Thanks.

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1. Introduction

This chapter introduces the main concepts of this thesis starting with a background of internationalization, business models and cleantech. This is followed by a problem discussion, which briefly goes through current literature to concretize a research gap. Finally, the chapter will define the purpose, research question and delimitations of the thesis.

1.1 Background

Due to increased globalization in the last decades, internationalization has become a widely used phenomena for SMEs when trying to expand their businesses and increase their revenues as well as being an important role for countries economic development and innovative capability (Paul, Parthasarathy, Gupta, 2017). Further, globalization has led to easier distribution across markets and possibilities for changing revenue streams (Erixon, 2018). However, during very recent years, there has been a change in the progression of globalization due to events such as the COVID-19 pandemic (Shrestha et al., 2020) and the Ukraine-Russia war (Economic Outlook, 2022). However, globalization is adaptive and the changing and challenging trends are supposedly reforming and disturbing international trade patterns and the previously highly paced globalization (Madhok, 2021).

Although currently changing, internationalization has been a widely studied subject with many different approaches in different contexts not quite easily understandable or conceptualized (Lee & Stensaker, 2021). Through the years, scholars have attempted through many different lenses to explain how and why firms decide to undertake international expansion. Starting with more classical theories such as the Uppsala model (Johansson and Vahlne, 1977) and the eclectic paradigm proposed by Dunning (1977) to more novel theories stemming from the International new venture (Oviatt and McDougall, 1994) and Born global (Knight and Cavusgil, 1996) literature (Ribau et al., 2015). The different theories attempting to explain the internationalization process of the firm have taken various routes in their attempts, such as utilization of business networks, geographical proximity and global niche market and customer selection (Johansson and Vahlne, 1977, 2009; Oviatt and McDougall, 1994; Knight and Cavusgil, 1996) and they all have their own merits. The research on the internationalization process of firms is still quite ongoing, and new avenues of research are still getting significant exposure. One of the more novel avenues of investigating this process is through the lens of the business model concept. Recent works in the field have both put

emphasis on that the business model concept might be of interest for studying the internationalization process, and that the area is somewhat unexplored (Cavallo et al., 2019; Abrahamsson et al., 2018). Various authors have put forth different conceptualizations of the business model concept (Zott et al., 2011), but simply put, a business model is how the firm does business and how it creates value. (Teece, 2010; Baden-Fuller and Haeflinger, 2013). There are different dimensions of the business model, value creation, value proposition, value delivery and value capture, where each dimension creates a value in different ways for firms (Clauss, 2016; Abrahamsson, 2018; Cavallo, 2019; Baden-Fuller and Haeflinger, 2013).

Internationalization enables firms to create global value (Ghemawat, 2018) which is one motive behind internationalization. Other incentives for internationalization are for example recognizing a foreign demand of the firm's products, possibilities to increase sales, expanding the customer portfolio, pressure or lack of demand in the domestic market and possibilities to better make use of economies of scale (Kubíčková, Votoupalová, Toulová, 2014). Today's emergent trend of sustainable development has put a focus on innovative sustainable technologies where SMEs play a significant role for sustainable development further creating opportunities for SMEs to internationalize their operations. (Asemokha et al., 2020)

1.1.1 Sustainable development and importance with innovative technologies

The strive for more sustainable practices has led to governments setting up their own goals and regulations as well as international organizations creating common goals for sustainable development (Gallagher, 2009). These have a direct impact on firms as they need to cope with laws and regulations both locally and internationally, further creating a need for firms to be innovative and adaptable for changes to systematically create strategies towards the SDG-goals while at the same time being in the forefront of new technologies to cope with changing environments (Zanten & Tulder, 2021; Jaffe, Newell, Stavins, 2003). Sweden is a strong competitor to the international innovative capacity although there is increased competition among international actors for the creation of sustainable ecological, economical and social innovations to keep up with the increased environmental issues (Swedish ministry of Enterprise, Energy and Communications, 2012).

In line with the SDG-goals explained above, there is an increased need for energy sources that do not require fossil fuels, and instead come from renewable sources (OECD, n.d). The

new renewable energy supply must be reliable, as uncertainty will have negative consequences for the energy transition. (See & Ganguly, 2017). It has been determined that a focus on energy efficiency led to a decrease in total energy consumption, meaning a focus on this is necessary (Halvorsen & Larsen, 2021). As a result, innovations and technologies towards a decreased environmental impact has seen an increase and is sought after more than ever due to the nature of the issues being a global matter (Seebode, Jeanrenaud, Bessant, 2012). An umbrella term for innovations contributing for a reduced environmental impact is the term clean technology, or cleantech, which according to Neal Dikeman (CleanTech.org, 2010) consists of products, services and processes intending to lower costs by better performance, reducing the environmental impact and by improving the usage of natural resources.

Having consistently ranked as one of the most innovative countries in the world (Dutta et al., 2021), Sweden has both a great international reputation of being a technologically innovative country, and is one of the countries in the forefront of sustainable developments overall (Sachs et al., 2021). This leads to innovative Swedish firms having great opportunities to both grow their own business and make a positive impact internationally. Investigating different ways these firms can expand internationally can therefore be of great importance.

1.2 Problem discussion

The first paragraph of the problem discussion will summarize what we already know, what the problem is, why the problem matters and how we will address the problem to be followed by a deeper explanation.

Throughout our literature review of business journals from the last decade and historically accepted theories, it is clear that internationalization and business models interplay and interact with each other as developments in one of them has an impact for the other. Nevertheless, the concepts are hard to conceptualize as different authors have different contributions and hence, how internationalization can be facilitated by the different dimensions and characteristics of the business model is yet in need for further research. Since internationalization and business models are intertwined, a firm's corporate strategy is affected by this interdependence and hence, investigating the relation between the concepts

might be useful or a guidance for firms striving to internationalize when developing their business model as this might have an impact for the facilitation of internationalization. By investigating how the concepts of business models and internationalization interplay with each other, this thesis aims to develop an increased understanding of how SMEs are able to internationalize by developing or changing their business model.

Traditionally, internationalization is assumed to be made due to proximity or by the use of networks (Johanson, Vahlne, 1977; 2009) but novel theories of BG's and INV's who internationalize rapidly, suggest those firms are able to identify cross-border competitive advantages as their firms often has new and innovative technologies able to create a value on a greater scale (Oviatt, McDougall, 1994; Knight, Cavusgil, 2004). Eriksson et al. (2015) view the internationalization process as a natural behavioral process that can explain both the traditional and novel theories of internationalization complexifying how the process can be seen. Hence, internationalization can be seen as a strategic process (Melin, 1992) dependent on the firm's organizational capabilities and integration of knowledge (Grant, 1996). Firms are able to adopt different strategies for internationalization and SMEs are seen to internationalize by having a global niche strategy implying a niche focus on their offering towards niche customer segments where the demand becomes customer driven instead of the firm compelling or pushing the offering to a new market (Magnani, Zucchella, 2019; Hennart, 2014; Hennart et al., 2021; Martin Martin et al., 2022). Nevertheless, for the demand to be customer driven, the firm must be able to create a unique value offering in the new market implying a timely entry identifying a need, development or anticipation of the market development (Hennart et al., 2021; Gorynia et al., 2019). To gain the information or knowledge needed for a foreign market, firms' networks have a great impact for the accumulation of knowledge creating an understanding of the market dynamics and reducing perceived uncertainty (Marchi et al., 2014; Martin Martin et al., 2022; Johanson, Johanson, 2021).

Considering research of business models, different authors suggest the concept to consist of different dimensions, but in summary the concept is seen to be divided into the dimensions of value creation, value proposition, value delivery and value capture with the purpose to explain how firms do business or how their activities create value (Teece, 2010; Abrahmsson et al., 2018; Cavallo et al., 2019; Baden-Fuller, Haeflinger, 2013; Clauss et al., 2016). An

appearance in the literature of business models discussed by different authors is that there is a connection and interdependence between business models and corporate strategy that should be distinguished since business models should be seen as a short-term perspective while corporate strategy is the long-term perspective (Da Silva, Trkman, 2014; Baden-Fuller, Morgan, 2010; Teece, 2010). The business model can be used for creating sustained competitive advantages and evolve from internal and external factors affecting the usage of firms dynamic capabilities further possibly having an impact for discovering new opportunities or directions for the business, possibly changing the corporate strategy (Cassadesus-Masanell, Ricart, 2010; Demil, Lecocq, 2010). Acknowledging the market dynamism requires a market analysis (Porter, 2008) implicating the firms need to be agile and adaptable for changes in the market consequently resulting in the concept of business model innovation (BMI) being a strategy for the development of the business model (Abrahamsson et al., 2018; Demil and Lecocq, 2010). Another strategy for the business model is the business model replication (BMR) concept where firms by acknowledging their activities to add value and be scalable or replicated to global markets without changing any dimension of the business model, often resulting in rapid internationalization (Reuber et al., 2021; Dunford et al., 2010). This implies BMI occurs prior to the formation of a replicable business model further complexifying what dimensions of the business model to innovate, what dimensions are replicable and to what extent the business model is replicable (Aspara et al., 2010).

Prior research integrating internationalization and business models generally regard positive effects of utilizing BMI (Abrahamsson et al., 2018; Rask, 2014; Cavallo et al., 2019; Kraus et al., 2016) or BMR (Reuber et al., 2021; Dunford et al., 2010; Aspara et al., 2010) for internationalization but less focus is put on the specific dimensions of the business model, their importance for internationalization and their characteristics of being either innovative or replicable. As identified through the literature review and also suggested by for example Bohnsack (2021), further research is needed regarding what, or if there are any in particular, specific dimensions of the business model that facilitate internationalization, if all dimensions of the business model are innovated or replicated or what dimension of the business model can either be innovated or replicated. By investigating how firms internationalize, how their business models have evolved and whether or not the business model is innovated or replicated, this thesis aims to provide an increased understanding of how firms might make

use of their business model to facilitate internationalization. This leads us to the purpose and research question of this thesis.

1.3 Purpose

The purpose of this thesis is to develop an increased understanding of the interaction between internationalization and business models, their impact on one another as well as how, why or if the business model changes over time to facilitate internationalization for SMEs.

1.4 Research Question

How do SMEs facilitate internationalization by developing, innovating or replicating their business model?

1.5 Delimitations

The research question in this thesis has been limited to investigate Swedish cleantech SME. When searching for Swedish cleantech SMEs to interview, we set up criterias to be met. First of all, we defined the firms as SMEs through the definition of the European Commission (European Commission, 2016) implying the firms to have a revenue of maximum 500 million SEK and employing less than 250 people. Thereafter, the firms had to have some sort of physical product or system operating and in some sense having a technology improving energy efficiency. Lastly, the firms had to operate on more than one international market. Another decision that was made was to explore internationalization in a broader perspective to get a comprehensive view and understanding of the concept to easier be relatable to business models.

2. Theory

This chapter will discuss the theoretical foundations that will be used throughout the thesis. It starts with generally describing the internationalization process of firms from different perspectives. It continues with discussing the concept and dimensions of business models, BMI and replication. The chapter is continued by integrating the business model and internationalization research to conclude in a conceptual framework of our perception of the integration between business models and internationalization.

2.1 Internationalization

2.1.1 Internationalization and strategies

The Uppsala model by Johanson and Vahlne (1977; 2009) is a traditional theory of internationalization of a firm explaining how firms internationalize due to geographical proximity and networks whereas Grant (1996), Barney (1991) and Porter (2008) have made contributions to strategy research by investigating how firms organizational capabilities, resources and competitive advantages has an impact for understanding the business environment which in turn has an impact for firm's expansion. Internationalization is a strategic process (Melin, 1992) and different conceptualizations of theories of the internationalization process alone do not explain internationalization, instead there is a need for an integrative approach of the conceptualizations (Laghzaoui, 2011; Li, Li, Dalgic, 2004). To understand internationalization, one does therefore need to have an understanding of basic strategy theories explaining managerial practices (Grant, 1996; Barney, 1991; Porter, 2008) as the internationalization process can be described as a natural behavioral process influenced by firms experiential knowledge (Eriksson, Johanson, Majkgård, et al. 2015). Hence, Grant (1996) conceptualizes the knowledge-based view of a firm as a theory where the firm acts as an institution of integrated knowledge with the integration having implications for the organizational capabilities of the firm, further illuminating innovation capabilities and management practices.

To add to the knowledge-based view and the organizational capabilities, Barney (1991) discusses firm resources having an impact for sustained competitive advantages implying a sustained competitive advantage of a resource is attained if the resource is valuable, rare, inimitable and non-substitutable. Furthermore, a resource suggestibly must be analyzed

internally regarding strengths and weaknesses as well as externally analyzing opportunities and threats in the business environment exploited by the internal strengths and weaknesses (Barney, 1991), extending to exploit the barriers of entry in a new market discussed by Porter (2008) as a part of his market environment analysis. Accordingly, Porter (2008) acknowledges seven factors of barriers to entry for new entrants that are, in comparison, advantageous for already established firms, namely; Supply-side economies of scale; Demand-side benefits of scale; Customer switching costs; Capital requirements; Incumbency advantages independent of size; Unequal access to distribution channels and; Restrictive government policy. An evaluation of those factors by the new entrant, the firm, should be assessed by contrasting them to the firm's own capabilities, further enabling an understanding of the market environment creating incentives for the firm to expand to the market or not (Porter, 2008). However, this rationale and strategic approach is not always the case for firms when seeking business opportunities abroad and committing to a process for internationalizing (Li, Li, Dalgic, 2004) as the internationalization process rather, as previously stated, can be viewed as a natural behavioral process that is affected by a firm's experiential knowledge (Eriksson, Johanson, Majkgård, et al., 2015). This implies internationalization is hard to conceptualize and rather is a result of strategic actions after an internal and external risk assessment is made and opportunities or threats of a new market is discovered or explored throughout the firm's acquisition of knowledge, learning or prior experiences.

2.1.2 Explaining internationalization

To explain the internationalization process, the process tends to be dependent on a firm's both tangible and intangible resources where firms traditionally have relied their internationalization upon tangible resources such as for example financial, technological and human resources while firms today, who are rapidly internationalizing, rather are dependent on intangible resources such as human capabilities, networks and relationships (Knight, Cavusgil, 2004; Laghzaoui, 2011). Internationalization has historically progressed, according to the Uppsala Model, gradually as domestic firms by experiential knowledge have gained experience and knowledge of foreign markets with a similar business environment to internationalize their business to those markets, reducing the perceived risks associated with internationalization (Johanson, Vahlne, 1977). For SMEs, the decision-makers risk-aversion towards international market selection is often associated with their own perception,

experience, biases and strategic approach which affect the approach taken towards an internationalization at the same time a rationale and systematic planning is required for the selection of the international market (Marchi et al., 2014). Hence, it is suggested a systematic and behavioral approach complement each other and therefore intensive market research with close collaboration between the decision-maker and the research team of the firm is required which imply risks for deficient knowledge transfer between those, demanding a high degree of commitment and willingness to spend time and human resources on the international market selection process (Marchi, et al., 2014). This enforce vast and complex variables to be considered by the decision-maker, complexifying the internationalization process as well as creating a need to attain foreign market entry knowledge by making use of networking capabilities for international performance (Marchi et al, 2014: Martin Martin, Chetty, Bai, 2022).

Continuing on foreign market entry, a firm can adopt different entry modes when internationalizing such as export, joint ventures licensing or contractual agreements (Hill et al., 1990) where the commonality of choice for entry mode is affected by the perceived risks compared to opportunities, hence inducing costs to be a determinant factor for the choice (Eriksson, Johanson, Majkgård, et al. 2015). Prior experience of market entries have an influence on the choice for future market entries as firms successfully internationalizing in one way mitigate risks and uncertainty connected to internationalization, possibly enabling a more systematic approach for new market opportunities and market selection while at the same time increase their networking capabilities with partners enabling easier access to market knowledge helping their market selection (Martin Martin et al., 2022; Marchi et al. 2014). This further connects to the ideas of Porter (2008) minimizing the barriers for entry as the firm attains foreign market knowledge making them as informed, or similarly informed, as domestic firms.

2.1.3 Networking in internationalization

Networking capabilities is important for the establishment and development of partnerships, where partnerships can be created as both general partnerships where the experience for those gives a general experience from the occurrence while partner-specific partnerships creates a specific experience from the partnership due to a continuous concurrence with the partner

consequently resulting in receiving a higher value to the firm from the partnership (Gulati, Lavie, Singh, 2009). The value of partner-specific relationships depend on the uncertainties of the firm itself, what opportunities they seek from the partner as well as their operational resources and capacity with an interdependence of the relationships between firms where the assets of firms in the network are dependent on making use of assets of other firms in the network (Gulati, Lavie, Singh, 2009; Johanson, Mattsson, 2015). Johanson and Vahlne (2009) argue that a core prerequisite for internationalization is the firm's networking capability and consider a business network to be two-folded. On one side, the business network shall be viewed as a market of networks of partnerships where firms in complex and various ways connects to each other and on the other side the authors suppose the business network to be partnerships and relationships building on trust and commitment supposed to advance to learning for the firm (Johanson, Vahlne, 2009). Similarly, Gemser et al. (2004) implies networks and relationships towards suppliers, large clients, distributors as well as other personal relationships of a firm will influence the internationalization process as information to a large extent derives from those, further implying easier assessment of risks and opportunities related to the market entry.

A firm's international market presence and performance develops from integrating internal experience and learning developed over time together with external networks enabling further understandings of internationalization (Coviello, Munro, 1997) Hence, availability of information and knowledge of a market is valuable and fundamental for firms when internationalizing as it will be a factor for the market selection as both the firm itself and its partners will due to their trust, commitment and knowledge exchange apprehend common opportunities in specific markets, thus aspiring to extend their operations jointly, further building on their relationship (Johanson, Vahlne, 2009). As the relationships between firms and in the network develop and change over time, the firm's position, influence and dependence among other actors in the network will also change and the firm has to adapt to fit the network and its partners to retain relationships, maintain trustworthiness and strengthen their position in the network (Johanson, Matsson, 2015). Likewise, to internationalize, firms tend to take a collaborative approach utilizing their networks for information, knowledge and other supportive functions to ensure value throughout the value chain (Gemser et al., 2004). With information and knowledge being a key for internationalization, Johanson and Vahlne (2009) accordingly suggest that a reason for rapid

internationalization for INV's and BG's are to the fact that the founders of those companies already from the beginning have access to market knowledge and relationships with actors operating internationally, thus implying a strong, or relevant, network position.

2.1.4 Novel theories of internationalization

International new ventures, INV's, (Oviatt, McDougall, 1994) and born globals, BG's, (Knight, Cavusgil, 2004) are entrepreneurial firms that already from, or early to their founding, have the intention to enter foreign markets. In general, the theory behind INV's focuses on internationalization by establishing networks supporting up-stream activities such as R&D and manufacturing whereas the theory behind BG's generally suggests internationalization upon the creation of networks for downstream activities such as marketing and market knowledge. Commonally for INV's and BG's is that the firms are characterized by being entrepreneurial, internationalizing rapidly, having great internal capabilities for innovation and development, enabling competitive advantages in several markets, having global market competence and knowledge as well as for the development of unique resources or products (Oviatt, McDougall, 1994; Knight, Cavusgil, 2004). According to Li, Li, Dalgic (2004), the internationalization process is not easy for SME's, usually represented as an INV or BG, as they often lack both human and financial resources to gain knowledge of foreign markets, they are internationally inexperienced and must time their internationalization properly to the market to succeed with the process. Thus, those factors imply an increased uncertainty towards internationalization. To cope with the uncertainty, Magnani and Zucchella (2019) suggest a global niche strategy for SME's to remain their niche and focus on the development of this to exploit new global opportunities and find new areas for the usage of their core competence or technology to combine and maintain their competitive advantages to new segments. The authors hence imply the strategy for internationalization to be by creating new markets, focusing on global clients and controlling the firms own technology (Magnani, Zucchella, 2019).

According to Hennart (2014), INV's and BG's tend to have a global niche which does not require any extra time for dispersing information, transportation and adaptation to fit new markets, and hence is a contributing factor and facilitator to rapidly expanding to new markets. Hennart's (2014) view goes along with the global scalability discussed by Reuber, Tippmann and Monaghan (2021) implying a rapid international growth by replicating the

firm's business model. Reuber et al. (2021) highlights the challenges with BMR, international scalability and rapid international growth. Those challenges are seen to be affected by coordination of the firm's activities and decision making, maintaining and managing resources and a global value chain, maintaining competitiveness according to a replicated business model, strategic changes being consistent and lastly the challenge of handling pressure of adapting the business model.

Hennart, Majocchi and Hagen (2021) differentiate businesses by having a niche product or a mass-market approach implying the demand is driven by customers for niche products while one has to create a demand through a differentiated marketing-mix when adopting the mass-market approach to different markets. Hence, the authors imply firms having a niche product to be able to internationalize faster as the niche product has non-country specific attributes that through exportation will increase the foreign scalability whereas mass-market products must take account for different foreign demands resulting in a more extensive market research, adaptation and marketing-mix (Hennart, Majocchi, Hagen, 2021). Another interesting view on internationalization and market selection by Sakarya, Eckman and Hyllegard (2007) is the underestimation and disregard of emerging markets for firms. Firms traditionally prefer to enter markets generally perceived as attractive with a low market risk where they have competitive advantages whereas emerging markets, generally perceived as higher risk and of larger cultural distance, are not considered even though they in reality might be able to offer greater market opportunities to take advantage of. Sakarya et al. (2007) suggest an assessment of emerging markets for some industries might show greater market potential and lower cultural distance as well as a higher willingness to change and adapt to foreign investments than what is generally predicted. Hence, the authors imply that long-term commercial activity and business development for firms in emerging markets unreveal great growth opportunities in the long-run with possibly the same or lower barriers for entry than more developed and conservative markets (Sakarya, et al, 2007).

2.2 Business models

2.2.1 Business model definition and dimensions

One of the more influential theorists on the subject of business models is Teece (2010), who in summary views the concept in a way as how a firm manages to create and deliver value to

its customers, and how this value is captured and internalized into profits for the firm. In an even simpler way, the concept of business models can be described as Abrahamsson (2018, p.77) do, shortly, "how firms do business" or as Demil and Lecocq (2010) put it, the organizational activity streams assisting the firm to create value in their business. The concept and definition of business models vary to some degree between different scholars having slightly different views of the concept. Nevertheless, those views are still relatively concordant and contribute to each other. Baden-Fuller and Haeflinger (2013), define a business model as "a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction, and monetizing the value" (Baden-Fuller, Haeflinger, 2013, p. 419). In a comprehensive literature review, Zott, Amit and Massa (2011) are able to conclude that the business model concept is a different construct than for example the product, firm or network. The business model is centered on the focal firm, but adopts a holistic approach with borders wider than the firm. An interesting point to bring up is that business models have been given a vast variety of "names" in many different academic works through the years. Some of these include architecture, conceptual tool or *model*, and *framework* (Zott et al., 2011). In this thesis, the concept will be referred to solely as a business model.

There exists different conceptualizations of which exact dimensions a business model consists of, but through this literature review, the most solid consensus has been found to include the two dimensions of value creation and value capture (Teece, 2010; Baden-Fuller & Haeflinger, 2013, Clauss, 2016; Zott et al., 2011). Two other dimensions that have been encountered are value proposition (Teece, 2010; Osterwalder & Pigneur, 2013; Clauss 2016;) and value delivery (Cavallo, 2019; Abrahamsson, 2018). Important to note is that none of the works cited above include all four of the described dimensions of a business model, but all have been mentioned and seem to be distinctive to each other. Therefore, in this thesis the business model will be treated as consisting of these four dimensions mentioned above.

2.2.1.1 Value Creation

The value creation dimension of the business model describes how the firm, using both their internal and external capabilities and resources to create value for their customers (Clauss, 2016). Firms can also innovate their value creation dimension by for example creating new products and offering them to their customers (Abrahamsson, 2018). Clauss (2016) adds to

the value creation dimension by defining sub-constructs which make up the value creation dimension to consist of capabilities, technologies, and processes as well as external collaboration partners. For the value creation to be successful, technologies and features need to be selected and integrated into the product or service (Teece, 2010). In order for firms to generate further value for both their customers and itself, greater integration with them can be useful (Baden-Fuller & Haeflinger, 2013). In a dynamic perspective, alliances or networks possibly enable a greater value creation than the firm could attain on its own or even enable value creation at all, due to knowledge and information exchange for joint development consequently resulting in superior performance (Dyer et al., 2018)

2.2.1.2 Value Proposition

The value proposition can be seen as a collection of offerings or the portfolio of solutions that the firm proposes to their customers, in order to solve their problems (Clauss, 2016; Osterwalder & Pigneur, 2013). Components that make up the value proposition dimension include sales channels, customer segments, markets and customer relationships (Clauss 2016). The components are meant to appoint who the customers are, how to integrate with the customers and what markets and segments to select (Baden-Fuller & Haeflinger, 2013; Teece, 2010). Demil & Lecocq (2010) consider that the business model is a dynamic and changing construct, and that interactions both within and outside the firm will influence these dynamics. For instance, a new combination or availability to internal or external resources or competencies in one end of the firm might come to affect the organizational structure of the firm. This could in turn affect how the firm's resources and competencies are used and combined, possibly changing, refining or customizing the firm's value proposition (Demil & Lecocq, 2010; Osterwalder & Pigneur, 2013). Traditionally, changes in the value proposition are seen as deliberate strategic and managerial decisions but in reality, changes in the value proposition might often be a result of unpredictable developments in the firm's business network or environment consequently paving the way for a new, different or targeted value proposition to emerge (Demil, Lecocq, 2010).

2.2.1.3 Value Delivery

The way of actually making the recipient obtain the value is the purpose of the value delivery mechanic within the business model. Value delivery also includes the resources and organizational capabilities required for performing the needed tasks and all manner of

configurations needed in order to deliver the value. Hence, the value delivery dimension is constructed by components such as delivery and logistical features, both up and downstream in the supply-chain, and up-stream distribution channels (Abrahamsson et al. 2018; Cavallo et al. 2019). By some scholars, the sub-components of value delivery are included within the value proposition dimension. However, during the literature review, it was noted that Abrahamsson (et al. 2018) and Cavallo (et al. 2019) used the term value delivery in a distinctive and differing way. Abrahamsson (et al., 2018) and Cavallo (et al. 2019) describe and refer to the term of value delivery in a more physical way of actually delivering the products to the customer, entailing a view more focused on distribution and logistics. Due to this, it was decided that in this thesis, the concept of value delivery and its related sub-concepts would be separated from the other value mechanisms of the business model since the concept of value proposition is commonly percepted among the scholars principally relating to softer factors such as attitudes, approaches and behavioral actions concerning the business and market environment.

2.2.1.4 Value Capture

How a firm profits and capitalizes their business is what constitutes the value capture dimension (Clauss, 2016; Abrahamsson et al., 2018; Baden-Fuller, Haeflinger, 2013) Sub-components within the value capture dimension usually include revenue models, revenue streams, cost structures and pricing (Clauss 2016; Abrahamsson et al., 2018; Cavallo, 2019; Baden-Fuller, Haeflinger, 2013). Within the value capture dimension, the sales that the firm accomplishes are internalized, and turned into profits for the firm. In other words, how the value propositions are converted into financial input for the firm (Clauss 2016; Teece 2010). Baden-Fuller & Haeflinger (2013) make the point that firms need to make a decision on how to set prices for their products, which can either be done through negotiated prices or how much value that has been delivered. According to Dyer et al (2018), the dynamism of the value capture dimension is seen through competition within and between alliances where actors with greater or more critical resources at their disposal will likely have better bargaining power consequently resulting in favorable changes or offers in value capture dimension for the stronger partner. Selecting the right pricing is complicated for a firm and is often based on an incomplete information base and an understanding of the market dynamism is required. Thus, when firms possess greater knowledge of the business environment, pricing adapts and adjusts accordingly to remain competitive (Teece, 2010). Furthermore, decisions need to be made on when payments should be finalized, either before, at-sale or after. Firms can also choose to rent out their products, which is a viable decision when they are using a value-based revenue model where the decision will have an impact for when the revenues are attained (Baden-Fuller & Haeflinger, 2013).

2.2.3 Business models and strategies

Even though there often is a close connection between the business model and the corporate strategy, some well-known authors agree these should be separated from each other although interplaying, contributing and affecting one another (Da Silva, Trkman, 2014; Teece, 2010; Baden-Fuller, Morgan, 2010). A business model might be evolved from the strategy as the strategy possibly has an impact for the development and altering of the firm's dynamic capabilities, hence implying strategy to represent the long-term perspective of a firm and the business model a more agile, flexible and short-term perspective for a firm (Da Silva and Trkman, 2014). Demil and Leccoq (2010) extend this view between business models and strategies implying the business model is evolved from both internal and external factors, affecting the usage and focus of the firm's dynamic capabilities. The dynamism between internal and external factors and activities might develop unexpected or discovered opportunities in the business environment which might have an impact for or change the development of the firm's corporate strategy (Demil and Leccoq, 2010).

According to Casadesus-Masanell and Ricart (2010), competitiveness is derived from the business model and for firms to attain sustained competitive advantages, the authors suggest a focus on the development of the business model. The strategy concepts organizational capabilities (Grant, 1996) and firm resources (Barney, 1991) elaborate competitive advantages to be attained for a firm by integrating and analyzing knowledge, organizational capabilities and firm resources both internally and externally to be able to create and exploit opportunities for competitive and sustained advantages. Hence, the business model is affected by and closely related to internal and external factors which in turn become a market analysis for creation of a strategy for gaining competitive advantages. Porter (2008) refers to this by explaining his concept of five forces implying competition on a market to depend on factors relating to threats of new entrants, the bargaining power of buyers and suppliers and threats of substitutional products or services. By examining these factors, the firm will be able to analyze and understand the business environment and hence, presumably better acknowledge

risks or opportunities for the firm in the market as well as identify what competitive advantages they might be able to make use of, further resulting in the development of the business model and its characteristics. Interestingly, the five forces concept does not distinguish emerging or mature markets nor the level of governmental regulations or technological development but rather evaluate to which degree the forces have an impact for expected profitability and the structural market set up (Porter, 2008).

More novel theories relating to business models and strategies can be seen in theories of BG's and INV's which are firms identified, as described in previous sections, as firms characterized being entrepreneurial and rapidly internationalized through having great internal capabilities for innovations and development as well as global competencies together enabling the creation of competitive advantages (Oviatt, McDougall, 1994; Knight, Cavusgil, 2004). Those firms often have business models niched, or focused, on their competitive advantages in order to be put in a market instead of adapting to specific market needs, further suggesting a business model to be scalable rather than innovative or adaptable. This strategy further encompasses the structure of the business model implicating the dimensions of the business model to be viewed differently and that the creation, or innovation, of the business model occur prior internationalization to later on be used exploring opportunities in global markets (Magnani and Zucchella, 2019; Hennart et al., 2021; Reuber et al., 2021). For example, innovation of the business model should be seen as seeking or exploring new partnerships, markets or externalizing further activities rather than adopting to market needs or even exploring those opportunities prior establishing the business model in order to already from the beginning create a global business model for execution (Abrahamsson et al. 2018; Magnani, Zucchella 2019; Reuber et al., 2021).

2.2.3.1 Business Model Innovation

As discussed in prior chapters, the various dimensions of the business model need to be dynamic and innovative in order for firms to continually have an attractive offering for their customers, which is why this chapter will go into more detail on the concept of BMI. Abrahamsson et al. (2018) found in their study of International New Ventures that even if a business model has proven successful for an INV when internationalizing, keeping the same business model over time might not be a way forward to further growth and development. This is one of the main reasons why studying BMI is important (Abrahamsson et al. 2018). In

a study by Clauss (2016), some light was shed on how to measure BMI, to gain a greater understanding of the concept. Firstly, there is a need to define the concept in order to create a platform for continued understanding. Clauss (2016) defines BMI as viewing the business model itself as the unit of innovation, and not the products or processes offered or contained therein. This would mean that to innovate the business model, the four key components of the business model, the value creation, proposition, delivery and capture needs to be changed. This can then be connected with the view of Markides (2006), who views BMI as a fundamental change in the composition of the business model. Further, Clauss (2016) states that in order to measure the innovation of the business model the changes in the dimensions should be measured. Clauss (2016) further delves into the dimensions by breaking them down and identifying important sub-dimensions and how they can be innovated. See below table for an illustration of the business model dimensions and parts therein.

Value Creation	Value Proposition	Value Delivery	Value Capture
New capabilities	New offerings	New distribution channels	New revenue models
New technologies	New customer segments	New logistical functions	New cost structure
New processes	New sales channels		
New partnerships	New customer relationships		

Table 1: Conceptualization of BMI

Source: Own table based on Clauss, (2016), Abrahamsson et al. (2018) and Cavallo et al. (2019)

As seen in this table adapted from Clauss (2016) above, there are a vast array of different areas that can be innovated when discussing BMI. Indeed, there are many views on BMI, and what requirements and needs this innovation has. Schneider and Spieth (2013) examined this through a literature review, where they found several researchers that made points towards characterizing the processes that lie within BMI. According to Demil and Lecocq (2010), the process of BMI is a reactionary one, where changes need to be made due to external factors. Other authors press the BMI process as having an ongoing and learning nature (Chanal and

Caron-Fasan, 2010; McGrath, 2010; Sosna et al., 2010). Similarly, this focus on soft processes can be continued with references to other authors, where it is described as more of an iterative process, where trial and error and an explorative approach best defines it (McGrath, 2010; Smith et al.,2010; Sosna et al.,2010; Hienerth et al., 2011). Furthermore, Schneider and Spieth (2013) finds that for business models to be effectively innovated, a user centricity focus can be key. Hienerth et.al (2011) expands on this concept by noting it can be harder for older, established firms to refocus their business models to being user centric, due to organizational inertia. There are gains to be made from having a more user centric business model, by being able to more smoothly integrate customers and users, firms are able to better grasp their demands, and for example involve customers in new product design.

Teece (2010), explains that creating a business model that is successful is not an easy endeavor. He notes that replication of the business model itself is one of the easier ways to build a business model, but this does not guarantee profits. Consequently, he states that BMI on the other hand can be a route to gain competitive advantages in the firm's industry and that BMR is only possible if the business model is sufficiently unique and subsequently hard enough for competitors to imitate (Teece, 2010).

2.2.3.2 Business Model Replication

Continuing on BMR, Dunford, Palmer and Benveniste (2010), states that the concept of rapid internationalization has received increased attention in concert with the concept of BMR. The authors provide that a basis for rapid internationalization can be the use of a similar business model on many different markets (Dunford, Palmer, Beneviste 2010; Reuber, Tippman, Monaghan, 2021) The definition for BMR is that a firm expands by employing the same or a similar business model on different markets. In light of this, the authors emphasize that this necessarily does not have to mean that all of the business models for all markets have to be mirror images, it rather means that there is a shorter time period available for changes to the business model due to the rapid internationalization. The process of BMR still means that the firm is learning as they go, and the business model will evolve accordingly. (Dunford, Palmer, Beneviste 2010). One of the major keys within a BMR strategy is using the same business model, with as few changes as possible (Reuber, Tippman, Monaghan, 2021). The concept of BMR is closely connected with global scaling. Reuber et al. (2021) emphasize the potential upsides of global scaling through BMR by suggesting that it decreases the costs and

friction related to internationalization and assists with acquiring new customers. Aspara et al., (2010) continues on the subject of BMR by emphasizing that firms usually need to decide on whether to focus more on innovation or replication of the business model. However, they also emphasize that once a new business model design has been reached, firms can make choices on which of the components of the business model are replicable in different markets or locations. (Aspara et al., 2010). Winter and Szulanski (2001), develop the replication concept by pointing out that firms need to improve their capabilities of knowledge transfer for the replication to improve the business model.

2.3 Integrating internationalization, business models and strategies

A sustained business model needs to be flexible and adaptable to remain and maintain competitive advantages as well as for firms to innovate efficiently and cope with changing environments since different markets possess different needs and characteristics (Casadesus-Masanell & Ricart, 2010; Ricart & Llopis, 2014; Cavallo, 2019). According to Ghemawat (2018), different strategies for global value creation can be taken by firms when forming their business model. The author suggest the firm to consider if they must acknowledge differences between markets and adjust accordingly to fit, if they need to adjust their strategy to overcome some differences between global markets and fit on a greater scale or if the are able to deploy the same strategy on all markets and hence, make use of the standardized strategy to create a new value on global markets. Ghemawat (2018) further suggests that the strategies often overlap and interact with each other and hence, an analysis of cultural, administrative, geographical and economical factors must be made to help the firm identify the feasibility of strategy to be used when addressing new markets. The strategies implied by Ghemawat (2018) is similar to the concepts of BMI and BMR where a study performed by authors Aspara, Hietanen and Tikkanen (2010) in general terms found that making use of either BMI or BMR by the firm displayed better results in terms of financial performance than employing neither of them. The authors highlight issues with innovating the right dimension of the business model for certain geographical locations since that would imply difficulties further replicating the business model to other geographical locations as well as what parts of the business model are able to be replicated or what parts needed to be innovated (Aspara et al., 2010).

Bohnsack et al. (2020) distinguish between firm specific advantages and business model specific advantages where business model specific advantages shall be seen as the configuration of value adding mechanisms differentiating from firm specific advantages consisting of the firm's resources. Bohnsack et al. (2020) highlight that internationalization of a firm are rather dependent on the transferability and locational boundedness of business model specific advantages, hence suggesting the configuration and degree of boundedness of the complete business model to have an impact for the complexity and decision for entry in a new market as it will have implications for the risk assessment and cost analysis related to the decision. Also, the evaluation of business model specific advantages, in a global perspective, will enlighten to what extent the business model will be transferable without innovating, what mix of the business model is required as well as what parts of the business model needed to be innovated to fit new markets implicating smaller adjustments or barriers decreasing costs, risks and increasing international growth (Bohnsack et al., 2020). The internationalization speed and performance is suggestibly dependent on the firm in questions novelty in terms of innovativeness, consequently implying the firm's capabilities and value adding activities has an impact, further generally suggesting that older firms have more difficulties entering new markets and do so slower than more novel firms (Kraus et al. 2016, Bohnsack, 2020).

Rapid internationalization is often seen in entrepreneurial and innovative firms such as BG's and INV's where the performance is often explained as those firms apply a business model niched into a specific offering further being able to expand to international markets (Hennart, 2014). Efficiency centration in the business model is important for BG's and INV's, oftenly being SMEs, as their usually scarce financial and human resources need to be utilized in the most efficient manner (Kraus et al., 2016). Thus, a facilitator for SMEs internationalization is often by adapting a networking approach by establishing partnerships essential to and used for value adding activities necessary for international expansion, which further enables competitiveness in global markets due to the partners position in the foreign market while using and exchanging information, knowledge and resources (Johanson and Vahlne, 2009; Casadesus-Masanell, Ricart, 2010; Child et al., 2017; Rask, 2014; Hennart et al., 2021; Reuber et al., 2021). International external partnerships and collaborations help firms being innovative (Abrahamsson et al., 2018) and in the study by Cavallo et al. (2019) it was found that firms operating internationally with partners were able to solve issues resulting in positive outcomes in terms of the usage of the focal firms network, partners, distribution

channels and logistical functions. Hence, the collaborations help firms develop and innovate the dimensions of the business models consequently increasing their performance (Cavallo et al., 2019; Abrahamsson et al., 2018). In terms of integrating the network approach with internationalization and business models, the development of partnerships and its effect on the firm's business model relates to internationalization being a natural behavioral process (Eriksson et al., 2015) as a natural outcome of cooperation is the exchange of information, knowledge and learning, resulting in experiential knowledge, helpful in a dynamic business environment.

Internationalization is often associated with uncertainty and to cope with uncertainty, establishing partnerships as well as having a global niche strategy is suggested since partnerships enable foreign market knowledge which together with the view of the global niche strategy keeps the focus on global partners, firms core competencies and technology as well as for a niche offering (Martin Martin, Chetty, Bal, 2022; Marchi et al. 2014; Magnani, Zucchella, 2019) further relating to the concept of BMR to possibly be a mitigating factor for uncertainty. Hence, a strategy for realizing the global niche strategy and BMR to cope with uncertainty, is that the business model suggestively need to be innovated prior to the formation of the complete business model that is possible to replicate, similar to the view of Hennart et al. (2021) and Reuber et al. (2021). However, recognizing that both markets and networks are dynamic is important for the firm's understanding of activities to be performed since the firm must be adaptable for changes in their network or on the market to fit and remain competitive and successfully internationalize (Johanson, Johanson, 2021). As suggested by Aspara et al. (2010), there are difficulties with deciding what parts, to what extent and for how long a business model is able to be replicated. Furthermore, the complexity for the firm is to timely innovate their business model in line with identified or anticipated developments in the business environment due to the challenges of constantly changing environments with widespread and differential barriers in different markets (Gorynia et al. 2019). At the same time, Rissanen et al. (2019) suggest that to what degree the business model is changed for internationalization is influenced by the firm's own perception of their domestic market and its international reputation as well as for the firm's perception of other markets maturity and acceptance for the focal firms business. This complexifies the behavior of the firm and creates a need for understanding and embracing internal and external

changes that have an impact for the firm's business model, their internationalization as well as their corporate strategy.

2.4 Synthesis and Conceptual framework

Based on the literature review made and theories found, we have created a conceptual framework displaying our perception of how internationalization, business models and strategies interplay, shown in Figure 1. Hence, a description of the framework will follow. The framework was used as a basis for structuring our interviews and being able to relate empirical findings of firms' internationalization and business models to each other. The framework will later on in the result be re-evaluated based on our empirical findings and analysis.

To the left in the model, we describe and point out the different dimensions of a business model and characteristics within. The dimensions of the business model are shown to innovate continuously during the formation of the business model according to the arrows circling around the blocks. To the right is our perception of the internationalization process based on the literature review and due to the acknowledgement of internationalization being a natural behavioral process, shown by the arrows within the model as well as circling around the model. The natural behavioral process according to our understanding, is displayed logically by the vertical arrows but since the process is natural, the arrows circling around the model illustrate that the process is continuous with exceptions of the logical order, still implying a logic of the process. For instance, if acknowledging that the firm has insufficient resources for facilitating internationalization, it is logical for the firm to go backwards in the process to gather resources needed, for example by extending or better utilizing their network. As noted from the literature and theoretical concepts, the business model and internationalization process is closely interrelated and has an impact for both the corporate strategy as well as for the strategy taken towards both internationalization and for the development and formation of the business model. As also found in the theoretical framework, the strategy taken for the business model or internationalization process has an impact for each other and together possibly having an impact for, resulting in, or changing, the corporate strategy. This is illustrated through the arrows surrounding strategy between the two concepts as well as the vertical arrow pointing at corporate strategy. In an integrative view, the relationship between the concepts are intertwined and circular thus, in one way or another, changes of one concept has an impact on the other.

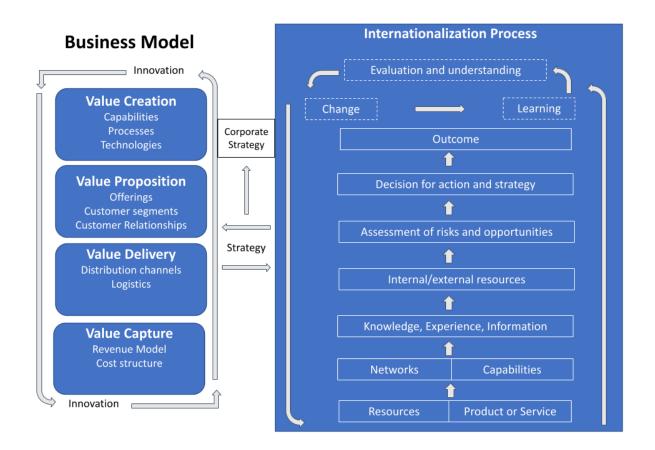


Figure 1: Conceptual framework

3. Methodology

The following chapter will describe and argue for the methodological choices made throughout the thesis.

3.1 Abductive research approach

When conducting research, there are generally two different major approaches one can adopt, a deductive methodology or an inductive methodology. Bryman & Bell (2019) explains that a deductive study builds on the concept of studying what is known, and then creating hypotheses on what might be. An inductive study on the other hand desires to determine if the theory fits the observed world and observations are made through research, which then are subjected to generalization, to see if new theory can be constructed. It has been argued that these two methods have weaknesses such as not being flexible, and too rigid. Hence, the abductive approach emerged. An abductive study overcomes this by allowing for more fluid movement between world observations and empirical theory. As new observations are made or new theory is found, the abductive study allows for correction of the original problems stated as the objective of the study (Bryman & Bell, 2019). The authors of this thesis found that the usage of the abductive approach to research enabled them to attain a greater understanding of the scope of the thesis. Initially, a research area was identified, and a literature review followed, from which a problem area was defined. As the literature review was a constant theme throughout the thesis it was inevitable that the problem definition would shift slightly along with new literature being reviewed. We argue that approximately the first half of the thesis process was more like an inductive approach, where the literature review was done as the first step, and then the data collection followed. However, as more and more data was collected, this led us to reevaluate the literature, and make adjustments along the way, since parts of the literature either rose or lessened in relevance in the authors' eyes, which is in line with the abductive methodology. As an example, in the early stages of the literature review, a greater emphasis was put on the concept of BMI, however, as the review progressed and newer research was found, the concept of BMR was discovered. This concept was identified as potentially of great interest, so the literature review was expanded in order to further include this concept. Ong (2012) describes that the foundation of the abductive research methodology is for the researcher to understand and to be able to draw conclusions from how the study object understands their reality. Our study is based on how

the managers or specialists of the interviewed firms have understood and interpreted the reality of their firms, what decisions or components of their firms have been more or less important, which is an additional reason as to why the abductive methodology should be suitable for this study.

3.2 Research Design

This study attempts to create a greater understanding of for example underlying factors and decision making drivers of how and why a firm did what it did within their internationalization process and what dimensions of their business model were more or less important in this respect. This leads to the nature of this thesis being to explore the connections between the internationalization of the firm and their business models investigating the importance of the business models different dimensions. The research question is formulated as "How do SMEs facilitate internationalization by developing, innovating or replicating their business model?", hence a qualitative methodology was deemed the most appropriate, which is considered in line with Eriksson and Kovalainen (2008) and Doz (2011), who states that research questions that start with "how", "who", and "why" are generally best approached through a qualitative research methodology. Furthemore, the study is interested in how the managers at the selected firms view both their own and the firm's decisions, with regard to their internationalization process and business model. Doz (2011) explains that historically, research within the international business field has mostly been focused on quantitative research, but that qualitative research within the field should not be discounted. Qualitative research within the international business field making use of broad and illustrative descriptions of observations are according to Doz (2011) a good way of protecting the researcher against only viewing the world through a single theoretical lens, which in this thesis is represented by observing the internationalization of firms by adding the business model perspective as well as identifying strategy research to be closely connected to both theoretical concepts.

3.3 Research method

3.3.1 Multiple Case Study

As this study is attempting to increase the understanding of how Swedish SME's internationalize, and in turn what role their business models play in the internationalization

process, it was determined that a case study research design would be suitable. For the eventual findings of the thesis to be more rigid, and due to for example time and scope constraints, the authors deemed not to be reasonable to only have one firm or organization as the object of the case study, leading to more specifically a multiple case study to be selected. This reasoning is in line with Yin (2014), who states that there are positive and negative outcomes related to both single and multiple case studies. Yin argues that multiple case studies for instance can be more analytically beneficial. At the same time, they should follow a replicative logic, where cases are selected on the same criteria. Eisenhardt (1989) and Flyvbjerg (2006) argue that adopting a case study research design when performing qualitative research is generally a good approach, and can be a good avenue to take with objectives such as creating generalizations and attempting to generate theory. Furthermore, Yin (2014) argues that when a research question starts with "how" or "why", the researchers do not have any control over the events taking place within the cases, and also when the events being observed are contemporary. We argue that this thesis follows quite well the stipulations set by Eisenhardt (1989), Flyvbjerg (2006) and Yin (2014), which further cements the methodological choice as sound.

3.3.2 Case selection

In the beginning of the research process for this thesis, the authors were approached by a smaller, newly started firm within the Cleantech industry. The firm has an innovative product offering, which according to their product testing can offer significant energy savings, within the refrigeration segment. The firm is in the starting stretch of their internationalization, and does not have resources to devote to assisting a thesis of this magnitude, hence the decision was made to not use their situation as a fully fledged case study, but rather take inspiration from the situation the firm finds itself in, and research how similar firms have managed their internationalization processes. Here is where an interesting, yet not fully developed research stream was found, namely the combination of internationalization research and business model research. These factors led the authors into looking at Swedish SMEs operating within the cleantech industry.

In order to establish contact with the interviewee firms, a screening of firms through the website swedishcleantech.com was carried out. This site contains among other things a database of Swedish cleantech companies. A fairly straight forward combing of the database

was conducted, which meant going through the website to identify suitable firms. There was information of the firms available at first glance on the site, and if this information was deemed suitable for the firm profile that the authors created, a more thorough search of the firm's own websites was done. The firms were evaluated on three key characteristics; Being an SME, producing and or selling some sort of physical product or system within cleantech, and finally, the firm being active on international markets. By being active, we mean that the firm is either exporting to international markets, or they have established a sales office or subsidiary cross-border. Quite some time was spent on finding firms meeting the criterias as well as finding other contact information than the info address usually presented on firms webpages. If these criteria were met, contact information for the firm was searched for, and then a standardized email would be sent to this address. The message contained brief information about the purpose of the study, introduction of the authors and formalities pertaining to an eventual interview. If a response was received, the authors followed up and an interview was scheduled. If no response was received during a few weeks time, a follow up email was sent in order to increase the chances of obtaining an interview, see table 2 below for more detailed information on each interview.

Company	Participant	Role	Format	Date	Time
Swedish Neutral AB	Andreas Winter & Niklas Winter	CEO & Co-CEO	Video meeting	2022-03-17	69 min
Battery Park AB (Anonymous)	Interviewee 2	Co-founder and business development manager	Video meeting	2022-03-23	67 min
Elvaco AB	Niclas Ermesjö	Export sales manager	Video meeting	2022-03-24	61 min
Airflow AB (Anonymous)	Interviewee 4	Co-CEO	Video meeting	2022-03-29	68 min
Sensor AB (Anonymous)	Interviewee 5	CEO	Physical meeting	2022-04-07	74 min
Ventilation AB (Anonymous)	Interviewee 6	CEO	Video meeting	2022-04-07	64 min

Hot and Cold	Interviewee 7	CEO	Video	2022-04-08	77 min
AB			meeting		
(Anonymous)					

Table 2: All conducted interviews

3.4 Data collection

3.4.1 Primary and secondary data

The first major collection of primary data was in this study done through interviews with either managers or specialists working at SMEs within the Cleantech industry in Sweden. A total of seven interviews were conducted, where all but one took place digitally, either via Zoom or Microsoft Teams, either due to geographical distance or as a legacy of the recently ended global pandemic. Bryman & Bell (2019) state that the sentiments among the scientific community regarding digital interviews are mainly positive, stating the flexibility and time saving aspects of it being large upsides. Possible downsides are technological issues, but this is not something we encountered as being an issue during the digital interviews that were held during this thesis. Further primary data included in this thesis consists mainly of academic journal articles and books published by researchers. The strategy for collecting this data was based on two main pillars, the first one being making use of search engines such as Google Scholar, or the Supersök database provided by the University of Gothenburg, where key words such as Internationalization process, Business Models, Business Model Innovation, Networks and combinations thereof were used. The other main pillar of the strategy was locating articles from already located favorable material. In many of the cases where for example a relevant journal article was found, this article had several references to other further relevant articles on the same or similar topic, which led the authors to further enrichment of the theoretical material. Furthermore, some secondary data was also collected from company websites and annual reports or financial statements, for instance if general information about an interviewed firm had to be supplemented in some way, this would be retrieved from either their websites or annual reports. However, those are not included in the reference list, as we reviewed financial statements from two of the anonymous firms, and aim to keep our academic integrity of not revealing the identity of them.

3.4.1.1 Semi-structured interviews

As the nature of this thesis is purely qualitative, a qualitative interview methodology was selected. Bryman and Bell (2019) states that adopting a semi-structured interview scheme can be beneficial when there is a desire to allow the interview respondents to explain their experiences without being bound by a narrow questionnaire. Furthermore, Qu and Dumay (2011) explain that the semi-structured interview is the most prominent way of interviewing due to its flexibility, accessibility and comprehensibility, they also emphasize it is the best way to capture the human and organizational experience. In this thesis, the perceptions of the managers that were interviewed, and having a condition in which both the interviewee and the interviewer had the best ability possible to speak freely within a predetermined topic was desired, further cementing the need for semi-structured interviews. An interviewing technique that Qu and Dumay (2011) and Kallio et al (2016) recommends for an interviewer is the use of probes, which is something that has been used successfully in the interviews within this thesis; when the interviewee has made an unexpected or interesting comment, we have made efforts to make the interviewee expand on this interesting topic by asking follow-up questions.

An interview guide was constructed in order to structure the interviews. The interview guide was constructed as a reflection of the literature review that was done within the scope of the thesis. The literature review illuminated the authors of what the central topics within the thesis were, and acted as a base for the authors when they were constructing the interview questions. The structure of the interview guide follows the same structure as the theoretical chapter of the thesis; *Internationalization process*, *Business model*, *Business model and internationalization integration*. According to Kallio et al (2016), a well formulated interview guide contains questions that are clearly worded, oriented towards the participant and open ended, in order to encourage depth in the answers. When using the interview guide during the interviews, we noticed that the respondents usually spoke very freely, which we interpreted as the interview guide should include the overarching themes and sub-questions derived from the themes, a method we used throughout the interview guide. The full interview guide can be viewed in the appendix.

3.4.1.2 Interviews with Swedish Cleantech SMEs

In order for the interviewee to not be surprised or have to consider a certain question for an extended period of time, the interview guide was sent to the interviewee 1-2 days before the interview, to allow them to familiarize themselves with the questions. To create an understanding of the practical view of business models and internationalization, we presented our conceptual framework based on theories for the interviewees to create an understanding of practical differences. Before the presentation of the framework, we asked the interviewees how they would define a business model compared to strategy to still make them speak freely about their practical view on the subject.

All the interviews were held in Swedish, as both the interviewers and all the interviewees are native Swedish speakers. All the interviews, except for one, were audio-recorded with explicit consent given, and cursory notes were taken during the recorded interviews. One interview was not recorded due to privacy concerns from the interviewee and during this interview more intensive and detailed notes were taken. The authors debated back and forth on whether to hold the interviews in Swedish or English, where positives and negatives for both alternatives were discussed. Ultimately, the authors decided on conducting the interviews in the language that would cause the least amount of eventual confusion during the actual interviews, and afterwards translate the answers to the best of their ability. Due to the semi-structured nature of the interviews, the interview guide was not followed chronologically and in some cases the latter questions of the interviews were transcribed to later on easier be used for answering the questions in our interview guide. Each interview was thereafter summarized and sent to the interviewees for approval to make sure we interpreted the interviews correctly.

3.5 Data analysis

In order for the data collected within a study to be properly analyzed, a structure for the analysis of the data should be established. When conducting qualitative interview data analysis, one well adopted method is thematic analysis. One major positive aspect of this analysis is that it fits all manners of different research areas (Maguire & Delahunt, 2017). The main idea of this method, as implied by its name, is to find themes, or patterns, within the collected data, and then apply these themes to the research problem, in order to draw

conclusions. The originators of the thematic analysis method, Braun and Clarke (2006), set up the analysis as a 6-step process; familiarization with the data, creating initial codes, search for themes, review themes, define themes and write-up of the analysis.

Familiarization with the data; As the first step of the method, further familiarization with the data should be done, through for example re-reading transcripts and notes made during interviews. *Creating initial codes;* This is the first step to organizing the data. When the familiarization is completed, certain patterns or themes might already be identified, and these should be noted down for future use, which is done through coding. Coding might be going through hard copies of transcripts and using a highlighting pen, or making color markings in a digital document. *Search for themes;* This next step involves finding and highlighting interesting patterns and themes that can be found within the collected data, which pertains to the research question. *Reviewing themes;* After the initial themes are found, they should be reviewed, and narrowed down if possible, since one important point is for the themes to be clearly distinct from one another. *Define themes;* The penultimate step of the process is to clearly define the identified themes, and attempt to capture the essence of them. There might also be relevant sub-themes within the defined themes that should be considered. *Write-Up;* Finally, the themes should be written up, to fit the structure of the report.

After the empirical findings were collected and written up, a cross case comparison was conducted with regards to the importance of the business model dimensions on the internationalization processes of the interviewed firms. Based on the answers given and what was emphasized throughout the interviews, we were able to identify the most prominent success factors for internationalization in the lens of the dimensions of the business model, based on our perception. Thereafter, we graded the dimensions to be of either high, medium or low importance. The results can be found in Table 10. Further, it was determined based on the theoretical findings regarding BMI and replication if the dimensions had been either innovated, replicated, or both, and the results from this was presented in table 11. For instance, if a firm had standardized technology to all markets, this was categorized as BMR.

After the thematic analysis and the cross case comparison of the collected data was concluded, the theoretical framework created by the literature review was integrated with the empirical findings in order to complete the analysis. The findings tabulated in Table 10 and

11 were integrated with the literature review and assisted with creating a visible overview of our findings. This was used and analyzed in the analysis chapter of the thesis, which assisted in finding similarities and differences to be able to draw conclusions from the theoretical and empirical findings.

3.6 Research Quality

It is important for qualitative research to meet certain criteria pertaining to the quality of the research itself. Korstjens and Moser (2018) explain that to increase the quality of all qualitative research, five different criteria should be respected, namely credibility, transferability, dependability, confirmability and reflexivity. In order to increase the credibility of the study, Korstjens and Moser recommend using techniques such as persistent observation and triangulation. Persistent observation has in this thesis been applied through finding certain themes within the research subject, such as networking in internationalization, and certain business model characteristics, and focusing on them more intently, through thematic analysis. Triangulation can be used in different ways, but has in this thesis been used through data triangulation, as two or more authors have been working on the analysis of the data. To further increase the credibility of the study, after the empirical chapter was written, it was forwarded back to the respondents, to ensure no misunderstandings had occurred during the interviews.

To ensure a greater deal of transferability for a study, Korstjens and Moser (2018) argue a need for proper contextual descriptions. Within the bounds of this study, efforts have been made to both contextualize the theoretical chapter through providing examples, and the empirical chapter through general descriptions and additional information for a reader to better understand the information. The concepts of dependability and confirmability are quite closely connected. To ensure dependability, an audit trail is required (Korstjens and Moser, 2018). An audit trail is a transparent description of what has been done through the entire study, which has been completed in this study through the methodology chapter, where in as great detail as possible the actions and motivations of the authors are presented. Furthermore, in order to increase confirmability, a rigid mode of analysis is needed. The analysis should not be affected by subjectivity from the authors, and thoroughly grounded in the data. In

order to achieve this, this study has a data analysis section, where proper form for analysis is described, and this is then followed in the analysis chapter of the paper.

3.7 Ethics

When conducting any type of research, one of the most important considerations to make is that the research is ethically sound. There are many different aspects of conducting research ethically, and as summarized by Bryman & Bell (2019) can be split into four main categories. Participants shall not be harmed, consent shall always be explicitly asked for and given, the privacy of the participants shall not be invaded, and deception shall never be employed. Additionally, the Swedish Research Council also states that researchers are obligated to offer anonymity to a participant, but that it comes with certain drawbacks, for instance that the results of the study are then impossible to verify (Swedish Research Council, 2017). The decision was made in this study to allow for anonymity with full knowledge of this drawback. This decision was based on two pillars: the researchers did not want to exclude potentially interesting results from an interview, and the pledge to not fabricate any results and include them in the study, as part of the authors academic integrity.

Furthermore, consent has always been asked in a written format before any information sharing is executed. The participants have always clearly been asked if they would like to participate in the study before it could be possible to actually participate. We as researchers have also attempted in the fullest regard to be respectful of the privacy of the participant, by for example always scheduling a meeting for any correspondence, and not contacting anyone, except through emails outside of office hours. We have also made efforts in presenting our research as close to the reality of it as possible, and not embellish or in any way make the research out to not be what it actually is.

4. Empirical Findings

In the following chapter, the empirical findings of the thesis will be presented. Each interview will be presented starting with a firm introduction followed by their internationalization process, business model, an integration of the firms internationalization and their business model. At the end of each case description, a summary of the findings based on our perception from the interviews will be presented in a table and shortly described. The chapter will conclude with summarizing and comparing the empirical findings in a cross case comparison.

4.1 Swedish Neutral

Swedish Neutral is a Swedish firm operating within earth fault protection providing and supplementing safe and reliable solutions for energy production and energy flows, reducing risks for power failures and damages of the electricity network eventually resulting in damages. The firm was founded by the interviewees' father in 1987 who was an engineer and electricity enthusiast with German origin with prior experience from large Swedish firms such as ABB. The firm has today 11 employees, a turnover of approximately 80 million SEK and operates in different markets in Europe, southeast Asia, Australia, the US and India. The interviewees act as CEO and Co-CEO of the firm, and since the firm is a family business, they have been employed in the firm since its foundation having experience from different roles starting as janitors in the firm. Interviewee 1 has no formal university education or international experience other than the experience received from the firm while interviewee 2 has a degree within Law and has studied various courses within economy and business administration abroad.

4.1.1 The Internationalization process of Swedish Neutral

The firm was already from its foundation to some extent international and was so naturally since they had a business network and production facilities in Germany due to the founders german connections as well as for the great availability to manufacturers of components needed for the end product. The firm have been selling their products in Europe for a long time and the interviewees say that it is hard to put a specific timeline of their process before 2010 when they themselves took over the business which led to a drastic turn in both their internationalization and turnover. In 2010, they were approached by a local state in Australia

that had got information of the firm's products through a common business network, Business Sweden, where the Australian state had made an evaluation of possible competitors to the firm before making the decision to reach out to the interviewees to point out their interest.

"We have a strong belief and trust in our products and their functionality and have proven their excellence in various tests which has made us confident about speaking-up about our firm and spreading awareness of our business by building business networks."

- Co-CEO of Swedish Neutral

Hence, the interviewees mean that their internationalization primarily proceeds through their business network where their business network and entrepreneurial spirit as well as their confidence and belief about their own technology is essential for the internationalization. Those capabilities are also of great importance for their risk assessment as they, rather than seeing risks with internationalization, view internationalization as a great opportunity to spread their business, increase their network as well as gaining experience and knowledge of new markets. One example is when the firm sold their products to a customer in India, understanding uncertainties of not getting paid, but still made the decision to execute the business.

"We still have not got paid, but do not regret the decision since it was a great experience that we learned a lot from with the expected upside shown to be true as we got an expanded network and contacts for further expanding our business."

- Co-CEO of Swedish Neutral

Moreover, the interviewees underline further importance of networking capabilities saying that their networks have led them to new contacts further enabling their business to expand on the partners market and enter new markets as some of their partners operate cross-border. For instance, the electricity network in one state in Australia created an interest and awareness of the firm's products to other states consequently resulting in the electricity networks having collaborations in between leading the firm to establish contacts in the US, where the firm decided to set up a subsidiary. The subsidiary however, is only established due to legal aspects and they do not have any office, employees or manufacturing in the US and the business is handled by themselves from Sweden. They do not have any other subsidiary and export their products to all their customers.

"Markets have kind of selected us and as we have learned, gained experience and expanded, we have also realized the importance and need for our product. Today, we analyze and put focus on markets that has the best potential for our product"

- Co-CEO Swedish Neutral

The main issue the firm has met with internationalization are legal aspects. Since their product is connected to the electricity network, a lot of specification statements are required which differ between countries and there are also differences between countries and customers for the structure of the agreements. The Co-CEO says that his background within law has been important but means that there are cultural differences between how business is handled, how agreements are set up and that customers sometimes try to set up advantageous agreements for their part consequently resulting in the firm always contracting a lawyer to make sure the agreements are satisfactory.

4.1.2 The business model of Swedish Neutral

When asked the interviewees how they would describe their business model they debate the difference between business model and corporate strategy before saying that they view the business model as "how they create value for their customers" whereas their strategy is what the firm does to utilize value stating "our strategy is to target electricity networks". The interviewees also say that their product could be directed towards any electricity producer such as industries, but they have chosen to target larger and more specific actors. When presenting our framework, the interviewees understand and agree with it emphasizing that their product and networks are the core components for their business. They suggest having great knowledge, trust and belief in their products alongside their entrepreneurial spirit and networking capabilities are the main factors for creating value for their customers. The interviewees further state that value is enabled and created through integrating their internal and external resources since they for example have manufacturers of a key component in Germany to be shipped to their assembly in Sweden at the same time their networks to a large extent enable their sales.

"Our offering is to offer a safety system, mainly preventing and protecting against electrical failure, and potential consequences of that, such as forest or bush fires"

- *Co-CEO*

The firm's offering is focused towards electricity network providers, who they have decided to target as their customers as they realized those to be in high need for their technology as well as the electricity providers often having collaborations and contact with other electricity providers enabling further business and network opportunities. The interviewees view customer relationships as very important to enable and develop both their business and network. There is not a particular focus on logistical or distribution channels for the firm since they export their products without having an agreement with any particular logistical partner and have a very long-term relationship with the supplier of a key component needed for their assembly, thus yet being important but less focused upon.

What was realized throughout the internationalization of the firm was that their revenue model needed to change. Prices of their products are fixed and are of one-time nature, but as they understood the market and alternative costs caused by for example bush fires, they were able to significantly increase and motivate a higher price. That is also a reason for focusing on the customers they do. In cases of for example bushfires, the electricity providers risk paying high costs for insurances which are of a tremendously larger magnitude than the price of the firm's product.

4.1.3 Integrating internationalization and business model of Swedish Neutral

The interviewees suggest the most remarkable change made when internationalizing would be when they understood their products' necessity and value for their customers compared to their alternative costs and were able to drastically increase their prices, and hence, profits. The change and refining of their pricing occur continuously and change depending on the market, which the interviewees mean made them focus and operate towards customers being electricity networks, experiencing risks for environmental disasters eventually resulting in high alternative costs and a need for reliable and safe electricity supplement. Thus, the driver behind the changes according to the interviewees were due to increasing profits but also to easier and more rapidly be able to internationalize and expand their business due to focus on and target specific customers. Those changes happened naturally as a result of the entrepreneurial spirit of the interviewees when they took responsibility for the firm. A conscious decision made by the interviewees has been to not change the firms offering or their technology, yet they do work with improving and upgrading the technology as well as eventually developing complimentary products which however is not the focus. As the firm has gained market knowledge and understood the actual value of their technology and its opportunities, a narrowed customer segment has been selected according to the interviewees The firm have been able to standardize both the size and specifications of their basic product, which according to the interviewees enables an easier internationalization and eventually forming of agreements. Due to their knowledge, their standardized product fits almost every market and its electricity network, thus needing minimal changes, making it easier to assemble but needing to convince the customer of the fit to create a common understanding. Lastly, the interviewees once again want to emphasize the importance of networks and that one should never underestimate any contact given.

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Low	Medium
Innovated	No	Yes	No	Yes
Replicated	Yes	Yes	Yes	No

4.1.4 Summary of findings from Swedish Neutral

Table 3: Summary of findings Swedish Neutral

Value Creation is highly important for Swedish Neutral as the technology, products and entrepreneurial spirit is the core of the firm both domestically and internationally. Value creation is replicated throughout internationalization.

Value Proposition is highly important for Swedish Neutral as they have a high focus on networks and relationships which enable and help the firm internationalize at the same time their product and technologies offer the same functionality across all markets. Value proposition is both innovated and replicated since the firm develops their customer relations continuously but does so to niche markets and niche segments.

Value Delivery is of lower importance due to logistics and distribution channels being used simply and similarly across all markets, no specific focus is put on innovating this dimension.

Value Capture is of medium importance for internationalization due to the firm being able to use different pricing for different customers. Hence, this dimension is innovated.

4.2 Battery Park AB

Battery Park is a Swedish firm listed on the stock exchange market operating within electricity storing and consumption within properties. To simplify the business, the firm has created a new technology for efficiently controlling energy consumption and storing in properties by steering energy flows to the right places with stored energy obtained when energy prices are low to minimize and optimize electricity usage and costs by mitigating risks of consuming energy during peaks. The firm was founded in 2010 by a fellow to the interviewee who soon was contacted by the founder who asked him to join and now the firm operates within different markets in Europe. The interviewee is one of the largest stakeholders of the firm and have had different roles in the firm acting as sales and marketing manager to as due to the stock exchange listing in 2019 change his responsibilities to act as a business developer. So as for today, the interviewees' responsibilities are to find new markets, create a good business environment around the products and technology as well as explaining the technology to both employees and customers. The interviewee has a long both domestic and international experience from advanced technologies within the electricity and data industry also having started and sold his own businesses. Today, Battery Park has about 75 employees with a turnover of approximately 100 million SEK.

4.2.1 The internationalization process of Battery Park

The interviewee states that he does not think the firm have internationalized rapidly or to the extent that they maybe would have wanted to, but the driver behind internationalization was that the firm realized a need for their products cross-border. The firm's first exportation was to Norway and the Netherlands where they started pretty slow whereas a pushing effect for a broader internationalization came due to new key people being hired at the time they were listed on the stock exchange market. Those new people had a new view on the firm and saw great possibilities in for example Germany, where those people predicted possible sales based

on the sales on the Swedish market, and hence, a lot of time and money were spent on trying to internationalize to Germany. However, the interviewee imply this internationalization was kind of forced and that the reality is different, even though Germany experiences a similar situation as Sweden in terms of lack of energy and demand for energy efficient solutions, the market was not mature enough for the firm's products and it was a tough market to enter with high competition. Finding the right markets is hard, but due to broadening its network, the firm has been able to identify strong partners possessing market knowledge, a willingness and drive to use their products as well as understanding the technology which has been key for the internationalization. The partners consist of system integrators within property construction whom they export their system to for the partners to implement to later on add software features to control and monitor the system by both the firm and the property owner.

"It is not possible for us to integrate and sell directly to property owners, we are in strong need for strong partners that are able to anchor our technology and help integrating with the end-user"

- Interviewee 2

According to the interviewee, the main issue the firm has experienced in their internationalization is finding the right market to enter, and diverse intentions within the firm. The interviewee imply that, he personally, would have focused on developing their product and utilizing it in existing markets rather than trying to expand to Germany for example, and further state there is a need for a high level of market knowledge to be able to internationalize. The importance of networks and partnerships are emphasized since those enable great understanding and knowledge of markets needed to understand if it is physically possible to enter a market considering the standardized system the firm has or if the market is mature enough for understanding the value and advantages the products offer. Also, economical aspects play a role as a both enabler and issue for internationalization, it is of importance that the users and markets understand and need the economical benefits of energy efficiency and energy savings. Hence, the interviewee implies there is a divergence and hard decisions of choosing between internationalizing or developing and utilizing their product in current markets where networks and partners are essential for accomplishing internationalization and understanding the specific market dynamics as well as possibly enabling further attractive markets to enter. An example is given for a partnership with a

Slovenian actor enabling a self-propelled handling through the partner having knowledge and connections within former Yugoslavia, areas important for business in the future to establish contacts and be able to enter the markets at the right time.

"We don't have time to slow down, it's like driving a car and changing the wheels at the same time. We do not have time to stop and must choose the right wheel to change to not risk failure in the future and still keep up with the pace"

- Interviewee 2

4.2.2 The business model of Battery Park

The interviewee states that a business model to him is how the company creates value and profits. The corporate strategy is derived from the business model, and as the business model is built upon their product, he proposes their corporate strategy as how they utilize value and capitalize on their product. The interviewee further states that this implies continuous changes to be made in the business model to extend the value offering by mainly updating and adding new software features coping and balancing with the hardware. According to the interviewee, our framework is very understandable and fits very well into how the firm operates. The firm does create the same value domestically and internationally, the main issue is rather to decide their offer and perform the risk analysis understanding the difference between reality and theory where the partners will play a role for the risk analysis.

"As we want to grow, what changes can be made to still fit all different markets, what changes are necessary for growth and will changes be accepted? Also, it is hard to predict a market. How fast will changes be accepted, do we have the capacity to meet the demand and how will an eventual rapid internationalization affect the development of our products?"

- Interviewee 2

Partners and networks are crucial to be able to create value as they are responsible for selling and anchoring their products to contractors and property owners further helping the firm understand market opportunities creating a need for evaluation of the partners to understand their knowledge, power and opportunities possibly offered. In some cases, the Slovenian partner for example, were shown to be very strong with lots of connections that enabled the firm to be a part of their network resulting in market knowledge of further markets important for the development of their technology and offering. Also, the increased network lowers barriers to entry in bordering markets as they usually are similar in terms of business environment and development. Hence, the interviewee states the firm's network and long-term relationships is essential for reaching out to and discovering contractors and property owners functioning as distributors, in turn able to provide the firm's value to end-users.

Partners are also used for production where the firm's main manufacturing occurs in Sweden where some parts just recently were outsourced to Asia, also a result of new people entering the firm with prior experiences of production in Asia. Shipment and distribution channels is not a primary focus for the firm and the interviewee argues whether or not the time and money spent on investigating the manufacturing maybe would have better been spent on development of their business and products instead. However, outsourcing the manufacturing decreased costs which had a positive impact on the revenue model since their profits are to a large extent built upon their costs but also showed positive effects since they had components not available in Europe still being available in Asia during the pandemic. Today, the firm has some fixed income and some flexible income, but the goal is to create a revenue model building on the actual savings customers make from the firm's products. Hence, the firm, according to the interviewee, can use the pricing as a strategic way for selling their products as customers more visibly understand the advantages.

4.2.3 Integrating internationalization and business model of Battery Park

The interviewee says the firm are not able to make any major local changes in their product since it is standardized, rather they have enabled customers to choose what software features should be included in their offer to be suitable for their needs and demands on the market. Thus, the firm acknowledges that their products and all possible features are not yet suitable for all markets as there is a need for a period for maturity. According to the interviewee, changes made when internationalizing are primarily development of the firm's products and content as well as updates of the hardware, but primarily software features to remain and maintain attractiveness in different markets. The technology is already there, the challenge is to choose the right features to develop and target, according to the interviewee. By having the right features defined and developed, the firm will better be able to respond to the market and customers will rather pull the demand instead of the firm trying to push their products

towards the market. An example is given regarding solar panels and energy storage that the interviewee today see as important features that the firm should have focused more on to easier attain financial gains, eventually being prepared to handle growth and finding partners.

"If being able to identify and having a greater focus on more unique and niche functions, the firm would much better be able to respond to the market and expand the business than what is possible today. But who could have known that 10 years ago?"

- Interviewee 2

A major lesson the interviewee has learned is that customer relationships are very important for internationalization but also that there is a clear distinction between theory and reality. It is not possible to have a detailed plan or model for realizing business and one must be able to be flexible and agile to adapt to the fast changing environments. The interviewee believes it is of great importance with a leadership clearly steering the direction to avoid the firm having different people going different directions by developing different processes. For a smaller firm, the interviewee suggests action should be taken towards innovation and development of the business instead of focusing on developing a plan for development since that, according to him, distracts the development of the actual business.

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Medium	Medium
Innovated	Yes	Yes	Yes	Yes
Replicated	Yes	Yes	Yes	No

4.2.4 Summary of findings from Battery Park

Table 4: Summary of findings Elvaco

Value Creation is highly important for Battery Park as their technology and innovation capabilities are core for the firm when internationalizing. The dimension is both replicated and innovated since the products are the same on all markets but a high focus is put on developing new features.

Value Proposition is highly important for Battery Park as they actively work with networks and relationships for offering value to customers. Value proposition is both innovated and replicated as the firm continuously innovate their offering to fit a niche segment.

Value Delivery is of medium importance for Battery Park since they have put a focus on changing their production with good results but it is debated whether or not this should have been done. Hence, the dimension is both innovated as of the change but replicated since it is the same throughout all markets.

Value Capture is of medium importance for Battery Park since it is not a direct factor for internationalization but enables a continuous income due to the mix of fixed and variable income. For this reason, the dimension is innovated as profits vary and they aim to create a different revenue model than the current.

4.3 Elvaco

Elvaco is a Swedish firm, founded in 1984 developing and manufacturing products designed to measure and collect data from meters installed in private and commercial properties, but also on energy networks and substations. The products measure data such as air quality, water usage, temperature and humidity and support this data measurement with a cloud solution. Within this niche segment they consider themselves to be world leading. The firm employs around 60 people, its revenue is approximately 150 million SEK and they are currently operating within many countries in Europe, Asia and North America. The interviewee has been with the company for roughly 4 years, and is currently Head of Export Markets which includes responsibility for markets where has yet to set up their own sales office. The interviewee has significant international business experience from previous positions within sales and export development.

4.3.1 The internationalization process of Elvaco

Starting from its founding in 1984, Elvaco has focused on being present and expanding domestically but has by now been present internationally for at least 10 years. In 2014, Elvaco was acquired by a large investment firm, which intensified their incentive to further

expand internationally. Hence, from 2014 and onwards, both their presence and sales on international markets has increased quite drastically which is reflected by having a strong internal growth of today employing 12 people working within their exports and international sales department, an increase from just two people five years ago. As of today, the main driver for internationalization is growth, according to the interviewee.

"We don't think locally, we think globally. So why shouldn't we internationalize?Niclas Ermesjö

In general, the success of the internationalization process of Elvaco has quite heavily depended on the partners and business networks they have managed to get in contact with. The interviewee emphasizes the necessity of doing research before entering a new market, both in terms of the market itself and the possible cooperation partners they can find in the specific market. The firm never approaches or sells to the end-customer or end-user of the product themselves, as their product can end up in many different types of installations, but rather they always sell through partners such as distributors or resellers in international markets, although the interviewee state that they operate prior and after sales with end-users by supplementing them with information or support. When the firm has found a competent partner in a specific market, and feel they have got a large enough foothold there, usually represented by around 10 million SEK in sales, they start considering starting a sales office, in which they will then employ local salesmen to run. They consider local experience to be an important part when further expanding their international presence, and value finding people with extensive networks, having experience of local culture and speaking the local language. Even though the sales offices are established, they still use their partners to sell to the end-customers, and the sales offices fill an important supporting role for the partners as well, if the partners for example are in need of technical assistance. They also have either local or global partnerships, where the local ones are usually more specialized, and within these they often partner up with system integrators or distributors and the global partnerships could be with a meter manufacturer with global sales.

Furthermore, the main difficulties the firm has experienced throughout their internationalization relates mainly to the differences of the technical and legal aspects of different countries. For the firm's product to work correctly, it needs to be compatible and

communicate with other devices within the real estate management system, and sometimes the firm's standards of communication are not compatible to communicate with the other devices. They have also found difficulties with legal aspects, for example in the UK, they have realized that their Swedish headquarters simply do not have the knowledge or experience to handle legal matters in the UK. Those issues have been resolved by employing people locally in the UK as they are more familiar with and have expertise within the UK law.

4.3.2 The business model of Elvaco

When asked to describe their business model in relation to their corporate strategy, the interviewee responded that they would define their business model as how they mainly create value for their customers. Further, he describes that their corporate strategy is offering quality products to reliably monitor, collect and transmit various data points in real estate properties. When presented with the conceptual model created by the authors, the interviewee agrees with the perception of the two concepts of business models and internationalization.

"Corporate strategy is the way you realize the business model, perhaps. Strategy is a bit more abstract, in a way that a business model is not."

- Niclas Ermesjö

The main ways that the firm is able to create value for their customers is through a standardized offering of qualitative products and their in-house technical know-how. He describes the firm as very technologically skilled, with a focus to constantly improve and develop their existing offering. The standardized offering is something the interviewee views as one of their strengths as it facilitates growth in more markets. The firm makes use of both up and downstream partners in order to generate value as they have outsourced parts of their production to Poland. Since the firm never sells their products to the end user of the technology, the users of their products and their actual customers are not the same. Furthermore, the firm is quite adamant in making sure they keep their promises to both their customers and suppliers. He emphasizes that long-term and profitable relationships come from trustworthiness and transparent communication. The firm also has quite standardized logistical functions; they do not use one specific partner, but have the same procedure for the majority of their shipments. The revenue model of the firm is as of now still quite traditional

in nature, as most of their revenue is coming from one-time transactions. Furthermore, the firm has to adapt their prices depending on where the sales are occurring. For example, they are unable to use the same pricing in Canada and Dubai, requiring flexible discounts. They are however using and developing a cloud service, which will be subscription based, and will provide revenue accordingly, and at the time represents approximately 15% of the firm's revenue.

4.3.3 Integrating internationalization and business model of Elvaco

One major change in how Elvaco executes their international business was initiated and carried out by the interviewee regarding their partner selection and evaluation processes. When he joined the company, they did not have any set structure on how they work with existing partners or distributors, or how they evaluate new ones. Sometimes they either advertently or inadvertently poached a customer from their partner, if for example the customer would turn directly to Elvaco instead of the partner. This was viewed by the interviewee as quite a big problem since this occurrence possibly would drastically impair their existing and potential relationship building and communication with their partners. The interviewee went over and standardized this entire process, significantly increasing the efficiency in how they work with and evaluate existing and future partners. As a result of this, they now use a partner certification program, in order to ensure that the international partners are up to the firm's standards. This led to, for example in the UK, they went from having around 25 different partners down to just a few without losing any sales volume in the process.

As the firm has got more and more internationalized, they have realized a greater need for further internal coordination of their resources. This realization has led to changes within the organization to how they internally distribute responsibility of certain customer segments. As their international sales organization grew, they realized a need for a more focused approach to responsibilities within the organization, resulting in specific export market responsibilities to each employee, which has through this standardization resulted in much greater internal efficiency and less confusion.

Furthermore, the interviewee wants to emphasize that their core offering is not something that has needed to be changed at all during their internationalization. The firm is, as stated above,

duly working with improvements to the offering, but the core value offering remains unchanged.

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Low	Medium
Innovated	No	Yes	No	Yes
Replicated	Yes	Yes	Yes	Yes

4.3.4 Summary of findings Elvaco

Table 5: Summary of findings Airflow

Value Creation is highly important to Elvaco as their products, technology and internal knowledge and capabilities has been a very important factor for their internationalization. Value creation is replicated since the firm has standardized their products and technology.

Value Proposition is also highly important for Elvaco, as their internationalization has both relied on and been helped by competent partners and their network. They have innovated how they work with partners and replicated use of similar sales channels.

Value Delivery has been of lesser importance in the internationalization of Elvaco, as logistical setups and distribution channels are standardized and have not seen much change, hence it is seen as replicated.

Value Capture is seen as having medium importance, as it has not been completely decisive for internationalization. Prices are standardized as much as possible, but has to vary depending on which distributor or partner is used, and also on where the product is sold, resulting in both innovation and replication.

4.4 Airflow AB

Airflow provides systems for indoor climate within real estate that improves the climate by having a demand-driven system saving energy and efficiently controlling air flows. The interviewee has worked in different roles within Airflow since 1995 when the firm was founded by his father after a major deal was signed with a large science park. In 1995, the firm had four employees but has today 95 employees with a turnover of approximately 220 million SEK where the interviewee acts as Co-CEO responsible for sales and development. The interviewee has a degree within engineering, speaks Swedish, Danish and German fluently but has no prior experience of internationalization before the Airflow internationalized in 2009 when exportation started to Norway.

4.4.1 The Internationalization process of Airflow

The reason for internationalizing was due to the firm striving for expansion, to cover a higher degree of the potential market and increasing their market share, and hence, they got contacts from Business Sweden who suggested Norway to be of interest for expansion since they were in close proximity and with an interest for energy efficient solutions. Some contacts were established through Business Sweden, but the firm Airflow ultimately decided to select a partner they found themselves. A couple of years thereafter, the partner in Norway expanded their business to the Baltics consequently resulting in business for Airflow in the area and soon after entering the Baltics, Airflow decided to set up an office in Denmark and employ a local sales manager. The reason for the establishment of an office in Denmark was due to opportunities for sales and having higher margins as well as for its proximity. Also Airflow believes to better control and steer the direction of the firm and its contact with possible partners by being present themselves in the market. The firm has only one employee in Denmark and sends people from Sweden to help when needed with the aim to employ more people as the firm has gained sufficient revenues. Internationalization has not gone fast and Airflow has entered one market at a time believing market knowledge to be the most important factor for internationalization. Airflows partners act as distributors and the firm sells and exports their products to distributors active within real estate development.

Market knowledge is essential for the firm, if the market does not share the same views on the importance of sustainability and energy savings or understands how their technology works, the interviewee thinks it is very hard for them to by themselves change the behavior and mindset of the market, hence making it impossible to enter. Even though the products have a payback time of approximately 6 years, it is not considered since a lack of understanding and different mindset towards the technology makes customers focus on cost minimization and instead choose traditional, already existing technologies. The interviewee implies that Airflow hence must focus on markets experiencing lack of energy and increased energy prices becoming a problem for property owners with governmental policies and regulations towards environmental aspects. An example is given when the firm tried to expand to the UK, where they experienced a completely different mindset and lack of sustainability focus, which resulted in difficulties to understand the technology and having cost minimization as the major objective in property development.

"We are not able to change an industry on our own. We can't make a shift from driving on the right side to the left side and stricter regulations is usually a requirement"

- Interviewee 4

If the market is not mature, it is also hard for the firm to find the right partners which the interviewee implies is the major challenge when internationalizing. Finding the right partners takes a lot of time and effort for the firm since they need to go through a lot of possible partners, understand their capacities and get them to understand the firm's products and value. Hence, the key for internationalization is knowledge about markets and finding partners, understanding the technology, striving for and having a common view of sustainable development. Prior to internationalization the market must be analyzed to detect competitors' customers to evaluate their demands and hence, try to pull the demand from the customers towards contractors and target the contractors to become partners. Networking and building relationships is very important for the firm as this enables the establishment of partnerships and knowledge of the market, further being of importance for their internationalization. However, the interviewee thinks too much time and focus sometimes are spent on networking and interacting with the wrong people and that the focus instead should be on networking with eventual valuable, strong partners with technology competence. Those are the actors actually enabling access to knowledge of the market and how to expand efficiently, possibly resulting in opportunities for business in new markets.

4.4.2 The business model of Airflow

Airflows business model according to the interviewee is what they do to earn money which is creating and developing energy efficient solutions for indoor climate, the corporate strategy is how they do so in the long-term. Hence, the interviewee imply their corporate strategy is to develop demand-driven indoor climate systems controlling air flows within the healthcare industry and governmental real estate contractors. When presented with the model, the interviewee understands and agrees with it but emphasizes that learning is very important for the firm's internationalization since it enables the firm to acknowledge how they are able to create value in different markets. Since their products are standardized, learning is of importance for understanding how to build a complete system by adding the right products to the system enabling the best, and right, value for the end-customer.

Airflow focuses on industries having requirements for sustainable development and steering of energy flows, mainly targeting firms within the healthcare industry and governmental real estate contractors. They have managed to establish a couple of strong partners internationally that they try to work with and further develop since the interviewee says that it is much cheaper and easier to work with existing partners than searching for new relations. During long-term relationships, it is easier to learn and develop together and from each other and as the firm usually do not integrate directly with the end-customers, the partners become their customers. To ensure satisfaction, Airflow always follow up projects to evaluate and eventually change for the better. Thus, the interviewee implies that they are able to recognize necessary changes demanded, for example platforms visibly showing the energy usage and consumption, ensuring the systems functionality and analyzing deviations. Moreover, the firm has some production in Sweden and some production cross-border where the distribution towards their customers is handled by two different distributors. They have a complex sourcing of components, which however is handled by their subcontractors. Consequently, the interviewee views delivery of products from Airflows viewpoint to occur once as their profits are gained from one-time transactions.

Airflow has a varying revenue model. The price towards the customer is varying depending on who the customer is and their position, sometimes an offer is presented and sometimes they work with discounts, thus, profits vary between customers. It is hard to set an optimal cost structure as our customers really do not care about the value the firm provides as this is only experienced by the end-customers, hence, Airflows customers mainly buy their products based on specifications. The interviewee views the varying pricing as an advantage for the firm as it allows for flexibility for creating business, however pricing and offers might take some time and it is hard to fulfill both their and the customers demands.

4.4.3 Integrating internationalization and business model of Airflow

According to the interviewee, Airflow has not made any major changes in their business model during their internationalization, they operate similarly in all countries and markets. However, the interviewee underlines the importance of learning and that Airflow is trying to develop their offering continuously. The focus is on growth and establishment in markets mature enough to do business in and not trying to pursue business in markets having a concordant perception and mindset of environmental issues or the firm's technology. By learning, the firm better understands markets, gains experience and also creates an understanding of how to proceed with their business in the most efficient manner, consequently being the driver behind minor changes made. They are very keen on maintaining relationships and customer satisfaction, customer relationships, their knowledge of their products and its value as well as keeping what is promised are of importance for the firm. Another thing the interviewee has learned is that they should not try to force promote their products on to markets not mature for the technology or to a partner not having the the technological competence needed for understanding Airflows products and systems.

"Many of our problems are because of the counterpart. As our products are complex, it is almost impossible to sell them to someone not understanding the technology and the counterpart will not be able to sell our products to end-customers"

- Interviewee 4

According to the interviewee, finding the right competencies is difficult internally as it is hard to find employees in a growth phase as they must ensure the employee can handle their business on their own and also externally to find partners with the right competencies. The interviewee suggested internationalization to be a lot easier if everything only were productified, which would have provided a clearer purpose, not dependent on any special expertise or such intense market analysis for understanding the market. Also, projects take a long time and it is tough to be let down after spending time and effort on specific projects. Hence, the interviewee believes partners are great for internationalizing easier and faster in the beginning, but he believes the firm sooner or later must be able to stand on its own to reach its full potential.

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Low	Medium
Innovated	No	Yes	No	Yes
Replicated	Yes	Yes	Yes	No

4.4.4 Summary of findings from Airflow

Table 6: Summary of findings Airflow

Value Creation is of high importance to Airflow as they have standardized products and unique technology aiming to fit markets of interest. The technology remains unchanged, hence Value Creation is replicated across markets.

Value Proposition is of high importance to Airflow as they continuously develop their offering and customer segments within a niche market and segment. Hence, the dimension is both innovated and replicated.

Value Delivery has been of lesser importance in the internationalization of Airflow, as logistical setups and distribution channels are standardized and have not seen much change, hence it is seen as replicated.

Value Capture is of medium importance due to the varying pricing being important for creating business, but not key for internationalization. The dimension is innovated through flexible pricing, depending on who the customer is and their position.

4.5 Sensor AB

Sensor is a Swedish firm established in 2009 as a startup venture to be turned into a firm in 2017. The firm has created a product for measuring deviations in liquid flows within

industrial manufacturing to optimize processes, avoid blockages or inaccuracies creating a sustainable and efficient production. Sensor is present globally in Europe, Asia, South and North America with a focus on South America. The firm employs 11 people and has a turnover of approximately 15 million SEK. The interviewee is CEO of the firm which he joined in 2017 as market director to be promoted in 2019. The interviewee has an academic background within physics and entrepreneurship and has international working experience from prior employment in the cleantech sector.

4.5.1 The Internationalization process of Sensor

The firm explored different opportunities to understand where their technology could be of the best use and in what market. Soon, they realized their product was able to bring a lot of advantages for pulp and paper firms and for that reason incentivized internationalization as the domestic market was too small for their niche product and desired market. The main focus has since been on expanding in South America as they have a lot of pulp and paper firms and hence, they have great opportunities to expand within the area. Swedish firms have great reputation internationally and domestic references have, according to the interviewee, helped the firm to establish internationally due to being percepted as providing high quality and high performance products.

"I believe it's sometimes easier to get business in Chile with a Swedish reference object than to do business with new partners in Sweden having the same reference object."

To internationalize, the firm has partnered up with a large trading house in Sweden having great networks in South America to act as distributor who handle sales and exportation of their products, hence a facilitator of entry to new business networks. In the US, they work mainly with a very technically competent partner. To further intensify their knowledge about the South American market, they used business network facilitators such as Business Sweden, and have found other potential partners through customers and suppliers. The interviewee also emphasizes that finding the correct people has great significance, with desired characteristics such as loyalty and technological competencies. Furthermore, the interviewee makes a clear distinction between different partners to the distributors, the agents used for networking. In contrast to the distributors, the agents should have no responsibility for the products, but rather act as sales or meeting

facilitators. In this regard, they have found that using partners such as distributors is essential for their expansion and knowledge of markets to enter as well as their partners being responsible for the sales of their products.

Conversely, one of the major challenges they have found during their internationalization process also stems from their cooperation with partners. Some of their current distribution contracts state that the distributor is supposed to have full ownership of the value process after the product is delivered to them, which include sales, installation and technical support for example. These stipulations have not quite been the case in some situations which have led to the firm spending quite a lot of their already scarce resources to additionally support their distributors. However, even though the partnership fails or does not work optimally, the interviewee believes it is important for growth and development of the business to be able to take risks to eventually identify opportunities by getting important knowledge of the market or risk not having a partner at all.

"If I could redo our business, I would focus on three main countries in South America and try to find someone with a strong business network there. Thereafter, I would give them a set fee and a fixed percentage in commission for everything sold. That could be the start of expanding to that market in a greater manner and eventually for us to set up an office there, enabling better control of our business"

- Interviewee 5

4.5.2 The business model of Sensor

According to the interviewee, a business model is how you present the firm to investors explaining how you make money. The corporate strategy is targeting and treating customers with similar problems and hence, the interviewee suggests that the business model must be adapted for different geographical areas as different geographical areas operate differently. Hence, the interviewee suggests that different business models are applied for different geographical areas. When presented with the conceptual model created for the thesis, he recognizes all parts and agrees with the model, however, wanting to put different weight on them, for example emphasizing that the main constraint for Sensor is the resources they have available.

The firm's main way of creating value is through their product and technology acting as a tool for process optimization. Through their hardware and software, process operators are able to get real-time feedback on the deviations of the liquids in the process and make adjustments accordingly. The firm mainly sell their products through partners and distributors but have also sold their products directly to the end-customer when they feel they are able to handle the communication at the same time the customer is in a proximity making it possible to help them with supporting activities in a timely manner. Sensor operates towards long-term relationships and the interviewee believes that the establishment of strong relationships and networks is essential for knowledge of the market. Further, implies knowledge grows and develops over time, consequently resulting in learning and a need for evaluation and change. Knowledge has for example led the firm into focusing on the paper and pulp industry as their network made them realize a lot of opportunities in the market.

"The technology and the product itself is very standardized. Hence, as we operate mainly within one industry, we don't need to make any fundamental changes in our product."

- Interviewee 5

Hence, the product itself being quite small and standardized, the firm has not put any specific focus on the logistical setup and distribution of their products is most of the time handled by the firm's distributors. The firm has different revenue models and is experimenting with a new revenue model being based on renting their products instead of buying it directly. Previously, the firm always sold their products and had a one-time payment but have found out that they could also make use of a subscription based model where they rent out their product to get business in firms not wanting to make large investments directly or having tighter budgets. Interestingly they have experienced different reactions form different markets towards the subscription based model. For example, they have seen significantly greater success with the rental model in Sweden compared to their second largest market Chile, hence the interviewee suggests markets behave differently.

4.5.3 Integrating internationalization and business model of Sensor

Some of the more remarkable changes in the business model during the internationalization process of Sensor can be seen in for example what customer segments they target, how they are changing their revenue model, how they are working with their current partners and how they attempt to find new ones. Regarding their changes in customer segments, during their internationalization process, they realized that the distance between countries within the industry they have as their main customer segment was far smaller than the distance within the same country but between different industries. This knowledge has assisted the firm in being able to focus on a more niche customer segment and niche market as they target countries producing papermass. Further, regarding their revenue model changes, the firm realized that they might have an easier time convincing customers to try and eventually buy their product if they use a subscription based price model in order to better fit with customers budget restrictions.

"Markets do not work the same. We have for example seen a significantly greater success with the subscription based model in developed countries such as Sweden and countries in the EU than in for example Chile."

- Interviewee 5

The interviewee theorizes that this could be due to the traditional behaviors and maturity of the markets and actors in feeling more or less comfortable with actually owning a product or technology rather than renting it. An issue with the model is its implications when working with a distributor, according to the interviewee. The interviewee discusses whether or not the product as usually sold to their distributors should be rented out to them or if the firm should still sell their product to their distributors and let them handle the collection of rent, hence increasing the uncertainty for the distributor. The firm's offering has not changed when internationalizing, their technology is the core of the firm and has remained the same according to the interviewee. Also, the firm has not made any changes or put any focus on the logistical or distributional aspects and rather put the focus on development of other parts of their business instead.

4.5.4 Summary of findings from Sensor

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Low	High
Innovated	No	Yes	No	Yes
Replicated	Yes	Yes	Yes	Yes

Table 7: Summary of findings Sensor

Value creation is highly important for Sensor as their technology is the core of the firm creating value. Their technology has not changed and is the same throughout all markets, hence being replicated.

Value proposition is also highly important due to their networks and partners being very important for their internationalization. The firm is constantly searching for new partners, sales channels and customer segments, but their main technology and offering remains the same, hence they both innovate and replicate.

Value Delivery is not a focus for the firm as they sell their products to distributors for exportation or export them directly to partners for further distribution. They are not responsible for shipping or have any specific forwarders, and hence, the dimension is replicated to all markets.

Value Capture is of high importance for the firm since the different revenue models have been seen to realize or enable international sales in markets more or less open minded towards a model of either renting or buying the technology. Thus, value capture is both innovated and replicated.

4.6 Ventilation AB

Ventilation is an older Swedish company, currently operating mostly within the ventilation industry. The firm was founded in 1964, and began selling accessories to boilers, but has

since changed direction and moved on to process control products and solutions within ventilation. The firm has approximately 25 million SEK in revenue, has had an international presence since the 1980's having international sales today account for around 70% of their total revenue. They are present in many countries globally but mainly in Europe and Asia. The interviewee is since three years back the CEO of the firm. He has an education within business and economics, and has many years of both domestic and international experience from his previous positions within banking and finance.

4.6.1 The Internationalization process of Ventilation

The internationalization of Ventilation started with an exploratory focus; they wanted to extend their reach from being purely domestic and search for new international customers. Ventilation has never used conscious strategies in order to gain an aggressive international expansion and has rather adopted a fairly slow process emerging throughout the years. As mentioned, they are mostly active in Europe and Asia today and have avoided North and South America mostly due to differing regulations between the regions. Furthermore, the interviewee states that he believes that one of the keys for a successful internationalization is finding a good partner, such as a distributor or reseller. In their view, for a partner to be considered good, the partner must meet a few important criterias. The partner needs first and foremost to be technologically competent with the same or similar field that the firm is operating within without being direct competitors. Secondly, the partner should also be active within a business network in their home country or region having close relationships with the end-customers or users. The interviewee also emphasizes that one of the keys to a prosperous internationalization is long-term relationships with their partners. The firm has noticed that when they have long-term relationships, their partners learn their products and technologies better and hence, resulting in a greater and more rapid expansion. Generally, the firm views much of their work with evolving their international expansion to include discovery of new distribution channels and through those being able to scale their operations by copying what they are already doing successfully. During their exploratory work during the 1980's, they found a competent partner in the Netherlands, with whom they have had a mutually beneficial cooperation with for the last 40 years.

Moreover, the firm has also in some cases noticed that existing contacts within a network has led them to find additional interesting potential partners within the same or an adjacent network. Due to a busy period recently, they have not done much work regarding expanding the reach of the firm, but will during the fall increase their marketing activities by attending fairs for domestic expansion and use digital marketing more extensively directed against international markets by for example utilizing search engine optimization.

"In many cases our partners have found us, since we have a good reputation within the industry, a lot of partners have found us via the internet. In some cases, what seemed like just a customer has turned out to be someone active within a similar industry, and they've turned out to then be our main representative in a certain market."

- Interviewee 6

The main issues the firm has encountered during their internationalization are those of a legal regulatory nature, which mostly has been evident in North America. This has by the firm been somewhat bypassed by using informal contracts with partners for the few contracts they have in the US, which they have found by utilizing the networks of their up and downstream partners, but the interviewee states that it has been quite successful. The interviewee also realizes that the firm will never have perfect foreign market knowledge, or be able to make optimal decisions, but he sees partners and distributors as a way to gain more of this important knowledge.

4.6.2 The business model of Ventilation

When asked to compare the business model of the firm and their strategy, the interviewee states that they believe the business model to be the result of a realized strategy. The view of the business model is described in the quote below.

"In this company, the business model is a tried and tested way of work, which is closely tied to the company culture. We work with strong long-term partnerships. We don't sit on our high horse with powerpoint presentations. A strong belief in our knowledge and capabilities, stability and profitability is more important for us than aggressive growth."

- Interviewee 6

When presented with the framework, the interviewee mostly agrees with the outlined processes, but wants to underline that in a small firm such as Ventilation, the actions taken are

happening informally, unstructured and naturally as they are not able to follow a standardized procedure or model. The interviewee describes that one of the main strengths of the firm are their internal technical competencies and capabilities. They have strong internal collaboration between different areas, such as technical sales, R&D and purchasing. The main offering the firm wants to propose to their customers is that of high quality products with long lifespans to a reasonable price. The firm views their partners as having a central role for creating value as they are an important part for their international business setup. The firm has outsourced some of its production, with production mainly occurring in Sweden or Poland, outsourced production is always shipped back to their headquarters for final assembly. They have a standardized basic product which is shipped to their main office for specialization and completion. Furthermore, they are not necessarily aimed towards one specific customer segment, as many of the products they offer have a wide variety of applications, and in the words of the interviewee:

"We have customers all from within the timber industry, with their own special demands, all the way to selling units that will be fitted in cruise ships".

- Interviewee 6

Additionally, as highlighted above, many of their sales channels involve selling to and through distributors, in order to reach the end-customers. The logistics of Ventilation are quite standardized, with not much change during the years. They mostly utilize the same suppliers and processes when handling logistics themselves, but more often than not due to contract terms, it is their customers that are responsible for shipping.

According to the interviewee, Ventilation has quite a good reputation within their industry, and this has strengthened their network position, with outcomes such as new business partners finding them either through recommendations or the internet. The revenue model of Ventilation is also quite standardized but they do work with flexible discount rates, usually translating into offering significant discounts to larger distributors, lower discounts to middle men, finally leading up to the end-customer paying the full price for the products. However, they usually end up spending time making offers either way even though the standardized pricing. Ventilation has also gained a lot from good communication with their distributors, as they relay information about customer demands back to the firm in order for them to improve

the products and technology according to customer desires. At the same time, they have realized the pitfalls of over-specialization, where too many specializations of similar products overcomplicates their product portfolio.

4.6.3 Integrating internationalization and business model of Ventilation

With regards to changes occurring in the business model of Ventilation, firstly, they are constantly working with evaluating and attempting to develop their relationships with partners, both in order to improve their products, or find more efficient partnerships to for example be able to reduce their prices. This includes that the firm is constantly attempting to further internationalize through their partner portfolio, or more specifically their distributors. As mentioned above, they are also working actively with improving existing customer relationships.

Considering what aspects the firm has not changed about their business model during their internationalization, the core offering stands out as the most prominent example. From its inception, the firm's core offering and main business idea has been to provide quality products within the ventilation segments at fair prices, which still remains today. Furthermore, the interviewee states that The interviewee brings up that one of the main reasons that they have been able to grow significantly in international markets is that many of the dimensions within their business model are able to be copied and applied directly to other markets.

"Doing the same thing we are already doing but in more places, trying to find scale through copy and pasting what we are currently doing. I do not really believe in finding the perfect information to do exactly the right thing in a specific market, that would more be on the shoulders of the distributor/partner."

- Interviewee 6

4.6.4 Summary of findings from Ventilation

	Value Creation	Value Proposition	Value Delivery	Value Capture
Importance for internationalization	High	High	Low	Medium
Innovated	No	Yes	No	Yes
Replicated	Yes	Yes	Yes	Yes

Table 8: Summary of findings Ventilation

Value creation is seen as highly important for Ventilation as their technical competence and internal resources for development and collaborations are their main strengths together with their technology. This has been constant through the years and has not changed when internationalizing, hence it is replicated and not innovated.

Value proposition is also seen as highly important for Ventilation as they are continuously attempting to develop their network and partnerships to find new sales channels. The firm's main offering has remained however, making this dimension both innovative and replicated.

Value Delivery is of lower importance due to less focus on logistics. The firm is usually not responsible for logistics and delivery of their products, hence this dimension is replicated.

Value Capture is of medium importance due to less focus put on this than the two main dimensions. The firm is both innovative and replicative with this dimension due to both flexible discounts depending on the distributor's size and perceived power but try to have standardized prices for like distributors.

4.7 Hot and Cold AB

Hot and Cold develops and sells exhaust air heat pumps that extracts energy from ventilation air enabling a more energy efficient heating and cooling of air and water than traditional alternatives. The firm was founded in 2003 by the developer and current owner of the firm but the growth just recently took place as the firm was sold to a dutch holding company restructuring the firm. According to the interviewee, the firm would probably have gone bankrupt if not being bought by the Dutch firm. However, the firm has today around 30 employees and a turnover of approximately 65 million SEK operating in several countries within Europe having contacts with the majority of european market. The interviewee acts as CEO and was prior employed as sales and managing director at the firm starting about 1,5 years ago. The interviewee has vast prior experiences from both international and domestic sales and development as well as for organizational growth and has also started own companies before selling them to other firms. The interviewee has worked within different industries but mainly within engineering related industries.

4.7.1 The Internationalization process of Hot and Cold

The first international sale was in 2009 to a German company the founder met at a business fair in Germany and thereafter, internationalization has gone slow. The interviewee, as recently employed in the firm, is surprised the firm have not seen a larger growth and international expansion than they have had. According to him, there is a huge demand for their products and a competitor to the firm, founded after Hot and Cold, has managed to take around 90% of the Swedish market, establish itself widely in Europe and be listed on the stock market exchange in Sweden. Hot and Cold is still small, but is present in Germany, Italy, the Netherlands, Denmark, Ireland and the UK, about to establish in Spain and has dialogue with the majority of European countries. Anyhow, the market has changed and the competitor has changed their strategy to solely focus on export markets, consequently increasing the domestic demand which Hot and Cold is able to take advantage of. The reason for the change on the market is due to other markets finally realizing the need for energy efficient solutions and energy saving technologies, which has been a commonality on the Swedish market for years, according to the interviewee. Due to an overwhelming demand, the firm has been trying to handle both domestic and international inquiries simultaneously where they need to select and pick the right partners to cooperate with. Previously, internationalization occured to one market at a time at slow pace, still by using partners.

"We unfortunately did not take advantage of our technology earlier which have made us too small, both in terms of financial and human resources to completely take advantage of the international demand today"

- Interviewee 7

The interviewee says the internationalization occurs due to a combination of their network and risk assessment. To do so, they make use of their network's knowledge and experience but also common sense for finding the right partners and learning about the actual market. For example, two Italian distributors contacted them, one in the north and one in the south. As it is commonly known that northern Italy is more developed within industry and technology, we had a more positive approach towards them. After an evaluation was shown to be right, the firm decided to partner up with them since they had coverage over the whole country which was not the case for the southern firm. The firm does not have any particular knowledge of a specific market but believe this is key for internationalization, implying that they must talk with a lot of distributors and build on relationships to get access to market knowledge and a further network to verify information. However, the interviewee means that it is very hard to get a real understanding of a market before entering it and that the firm itself should not spend too much time on market analysis.

Major difficulties with internationalization is the mentality towards and understanding of the technology as well as different markets having differing standards, requirements and regulations, in shorter terms immature markets, according to the interviewee. The interviewee implies it would be reasonable for inexperienced markets to learn from and listen to experienced ones, for example Swedish actors. Suggestibly, stricter policies towards energy efficient solutions would probably help actors to be more flexible, understanding and ope minded for change.

"It is very strange that an actor without experience, knowledge or understanding of the technology tells us that our solutions can not possibly work and do not believe us when informing about our solutions"

- Interviewee 7

The firm has standardized their products and do only make aesthetic changes by the customers' demand which the interviewee thinks is important to simplify internationalization. The firm has also restructured with employing people great at communicating, building relationships and doing business as well as setting up responsible people for different regions

to maintain a clear focus and structure of the firm to easier be able to keep up with their growth. By doing so, the interviewee believes they will better cope with the increased demand which he also believes is a key driver for expansion and development.

4.7.2 The business model of Hot and Cold

The formula for how we capitalize on our products is what a business model is according to the interviewee. He further believes it is hard to distinguish the business model from corporate strategy but says that the business model should pave the way for the corporate strategy and that the corporate strategy is more vivid. The model presented to the interviewee is understood and he believes it is very well thought through and might be something to have in mind and fallback to. If something should be highlighted in the model according to Hot and Cold, the interviewee suggests their products, technology, employees and offering are the most important since those are the same for the firm in all markets. The firm's partners are also of great importance for Hot and Cold as they enable them to enter markets, and hence create value. Partners act as the firm's distributors as they export products to their partners to be marketed, implemented and sold to end-customers. Another gain from their partners is that they are able to help them develop or change their product if needed due to errors or by demands from the market they operate within.

"Our offering is selling energy efficient exhaust air heat pumps towards installers or system integrators working with contractors building housing"

- Interviewee 7

Long-term relationships are very important for the firm and for the establishment of relationships and the creation of strong relationships, the interviewee believes internal structure and trust is important. One person cannot be involved in each part of the business and be responsible for everything, one must have an ability to realize its own limitations. Those are factors he believes have been prior issues for the firm and hindered growth and expansion. Hot and Cold have their manufacturing in Sweden with around half of their personnel handling production and order administration. However, the firm's customers are responsible for the shipping themselves. Their profits are of a one-time transaction nature as they only bill their customers once and there is no recurring or further profits other than eventual spare parts sold. Pricing of their products is set with a fixed discount, which is very

similarly applied to all distributors. This enables the firm to keep their margins in cases of increased costs for production without having to change the agreements with their distributors. The interviewee was responsible for recently changing the revenue model and made the decision to simplify and structure the firm's agreements since those were very different previously, some of them were not even profitable for the firm.

"As our costs for components have increased lately, our new revenue model has been great for us. As we have only promised a discount, it's easier to explain new pricing for customers"

- Interviewee 7

4.7.3 Integrating internationalization and business model of Hot and Cold

As the firm has undergone a major reconstruction, they have made many changes they believe necessary for growth, profitability and internationalization with the purpose of not having to make any fundamental changes of their products or for their business. Today, everything works very much the same both domestically and internationally as the interviewee has tried to put up a structure for the firm. The interviewee believes that it is important to make it right from the beginning and thus, they evaluated Hot and Cold to understand and learn from itself to make the right changes. Important changes the firm identified as necessary was employing great people, dividing markets and areas between their salesmen and standardizing the revenue model. The interviewee highlights leadership and the firm's internal capabilities to be of great importance to keep a structure within the firm and maintain competitiveness. Previously, the firm has had a large turnover of employees, consequently resulting in a lack of competencies needed for the firm's expansion. The interviewee imply their products are not very complex and can be learned. Rather, they are very keen about hiring and maintaining people with great capabilities for business and relationships who they have a high trust in.

"Of course our products and the technology are what really enable business and create the greatest value, but our employees are very important to make use of our products' advantages, build on relationships and actually do business in an environment of high interest and demand for our products."

- Interviewee 7

	Value Creation	ValueValuePropositionDelivery		Value Capture	
Importance for internationalization	High	High	Low	Medium	
Innovated	No	Yes	No	No	
Replicated	Yes	Yes	Yes	Yes	

4.7.4 Summary of findings from Hot and Cold

Table 9: Summary of findings Hot and Cold

Value Creation is of high importance for Hot and Cold as their technology is highly demanded on the market and hence, enables sales and value. The dimension is replicated as they do not make any major changes in the design or development of the technology for any market.

Value Proposition is of high importance for the firm as they offer the same product to all markets. Value proposition is innovated since they continuously seek new customer relationships and replicated as they have the same offering towards a niche segment.

Value Delivery is of low importance for Hot and Cold as they have their own production in Sweden and all customers are responsible for shipping. Hence, value delivery is replicated as it is the same towards all markets.

Value Capture is of medium importance for the firm as it was important for them to change their revenue model to be profitable, but the firm does not have their pricing as a key strength for internationalization. Manufacturing and pricing is the same towards all markets, hence the dimension is replicated.

4.8 Summary of empirical findings

In the below table we summarize the findings from our perception of the importance of the different dimensions of the business model for firms when internationalizing. Thereafter, we have created tables displaying how each dimension of the business model is approached by the firms being either innovated, replicated or both when internationalizing. This will later on

be used in the analysis to analyze the importance of each dimension of the business model as well as to analyze how the dimensions are handled.

	Swedish Neutral	Battery Park	Elvaco	Airflow	Sensor	Ventilation	Hot and Cold
Value Creation	High	High	High	High	High	High	High
Value Proposition	High	High	High	High	High	High	High
Value Delivery	Low	Medium	Low	Low	Low	Low	Low
Value Capture	Medium	Medium	Medium	Medium	High	Medium	Medium

Table 10: Importance of business model dimensions for internationalization

In summary, what has been understood from the interviews with the firms is that all 7 firms seem to have Value Creation and Value Proposition as the most important dimension of their business model for internationalization. Value Capture is of medium importance for all firms interviewed while Value Delivery is of the lowest importance for firms when internationalizing being only of medium importance for Battery Park.

Value Creation	Swedish Neutral	Battery Park	Elvaco	Airflow	Sensor	Ventilat ion	Hot and Cold
Innovation	No	Yes	No	No	No	No	No
Replication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Value Proposition	Swedish Neutral	Battery Park	Elvaco	Airflow	Sensor	Ventilat ion	Hot and Cold
Innovation	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Replication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Value Delivery	Swedish Neutral	Battery Park	Elvaco	Airflow	Sensor	Ventilat ion	Hot and Cold
Innovation	No	Yes	No	No	No	No	No

Replication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Value Capture	Swedish Neutral	Battery Park	Elvaco	Airflow	Sensor	Ventilat ion	Hot and Cold
Innovation	Yes	Yes	Yes	Yes	Yes	Yes	No
Replication	No	No	Yes	No	Yes	Yes	Yes

Table 11: Summary of business model dimension innovation or replication

4.9 Cross case comparison of the empirical findings

4.9.1 Importance of the business models dimensions for SMEs when internationalizing When summarizing the empirical findings, it is evident that the value creation and value proposition dimension of the business model have been shown to be of the highest importance for the interviewed firms internationalization while value capture has been for medium importance and value delivery being least important. The results are consistent for all firms interviewed with an exception for Battery Park where value delivery was percepted as being of medium importance for their internationalization. The reason for precepting value delivery to be of medium importance for Battery Park is for the reason the interviewee emphasized the outsourcing of production to have positive effects for their sourcing of components at the same time lowering their costs, hence having an impact also for the value capture dimension in long-term but in short-term implicated increased costs due to the high amount of time and money spent on finding the new manufacturer. In other cases, as firms did not emphasize or mention any focus put on their production or logistical set up, it has been percepted for the value delivery dimension to be of less importance for the firms interviewed internationalization since the three other dimensions were more directly emphasized by the interviewees. Moreover, the consequent gradation of value creation and value proposition and them both being percepted to be of high importance for all firms display, in our case, a tight interrelatedness between the two dimensions in likewise manner of what could possibly be the case for value delivery and value capture. To give an example, the firms interviewed has their technology as the core of the firm, hence being a part of the value creation, which furthermore causes their technology to be focused on what they offer their customers, hence being part of the value proposition dimension. Moreover, the firms

interviewed are all shown to have internal capabilities for innovating a product, being a part of the value creation dimension, but also their great internal capabilities have resulted in their abilities for networking, establishing partnerships and building on relationships, hence being a part of the value proposition dimension.

Although value creation and value proposition is shown to be interrelated, an interrelatedness was grasped between value delivery and value capture, there are also possible interrelations between all of the dimensions. For example, Battery Park stated new people in the organization with experiences of outsourcing production to Asia were employed enabled changes in the cost structure due to a change in their manufacturing of their products at consequently resulting in the firm being able to present an offering of their products during the pandemic at the same time there was an development of their up-stream customer relationships. Thus, it exemplifies an interrelatedness between all dimensions of the business model and how one dimension possibly impacts another dimension. The interrelation between the business models discussed in above section, even though a gradation have been made, makes it hard to make decisions for what parts of the business model is needed to be innovated or replicated to remain competitive in changing environments, just as suggested by Aspara et al. (2010), Casadesus-Masanell & Ricart (2010), Ricart & Llopis (2014) and Cavallo (2019).

4.9.1.1 Innovation and replication of the business models dimensions

The findings from the empirical chapter has revealed several interesting aspects of the business models of the interviewed firms. As is stated in table 11, many different configurations of how the firms' have either innovated or replicated their business models in order to facilitate internationalization have been observed. Further, as is also mentioned in Table 10, different levels of importance have been placed on the different business model dimensions. The behavior of the firms relating to their business models follow quite well with the conclusions of Aspara et al. (2010), that firms employing either an innovative or replicative strategy pertaining to their business model are likely to experience increased performance. Following we will give account for how the different dimensions of the business models.

4.9.1.2 Value Creation

A commonality for all of the studied firms is that they are convinced that their technology and products are quite unique, and can offer more extended value for their customers in comparison to their competitors. This has meant that during their internationalization, many of the specific sub-dimension pertaining to their value creation dimension to a much larger extent have been replicated, rather than innovated. For instance, even though they were indeed convinced of its value beforehand, during the initial internationalization of Swedish Neutral they realized that their technology seemed to be quite unique in its ability to increase the safety of electrical networks, which led them to further focus on and attempt to improve their core technology, subsequently resulting in the dimension to be replicable to other markets. Hence, as the firm realized their technology, value creation dimension, to be replicated, they had a focus on niche markets and managed to internationalize more rapidly than before. Just as the case is for Swedish Neutral, Elvaco, Airflow, Sensor, Ventilation and Hot and Cold have also had a replicating focus, and have not made fundamental changes of the value creation dimension whereas Battery Park have adopted a both innovative and replicative approach.

Further, by replicating the value creation dimension it has been easier for firms to enter or target markets experiencing or having a similar business or market environment as well as behavior towards technologies. This has been mentioned in the case of Swedish Neutral, Elvaco, Sensor, Ventilation and Hot and Cold suggesting that standardizing their product enabled much easier distribution and essential to scale their business internationally. Although Battery Park, Airflow and Hot and Cold experienced immature markets or markets hesitant to their technology, the replication of value creation is deemed to be essential for firms to enter foreign markets and rather helps them focus, or not focus, on markets where their technology or products are able to create value. On the other hand, Battery Park has adopted both an innovative and replicable approach within their value creation. This is seen as the interviewee emphasized the need to constantly evaluate and develop new features to be incorporated in their technology to extend the value created of their products purposely fitting all markets. Contrary to Battery Park, Ventilation discussed complexities with developing their products too much and having similar products implying that it would complicate and disperse their product portfolio.

4.9.1.3 Value Proposition

Value proposition has shown to be of the highest importance for all firms interviewed. When examining how the dimension is handled, it is evident that the dimension is both replicated and innovated among all firms. In that sense, the firms' offering is replicated towards all markets as they do not change their core offering or customers to target but innovative since all firms increase their customers base for further internationalization. This can be exemplified through for example Swedish Neutral where their main offering is safety for electrical networks focusing on electrical network providers, hence replicating both their offering and their customer segment. However, Swedish Neutral is constantly developing and extending their network, customers and partners implying the value proposition to be innovated as well. All of the other firms operate likewise, however with some differences for some of them. For example, Battery Park, as also stated above, underlines that they are constantly developing new features to improve and extend their offering, hence increasing and innovating their offering. Another difference can be found in Ventilation, they have a standardized offering, implying a replication of their value proposition, but do not focus on any specific customer segment but rather are trying to find new partners in differentiated industries. Hence, they operate slightly differently than the other firms interviewed by still having a niche product, however not focusing on a niche market or niche customer segment.

All firms have emphasized networks, customer relationships and partnerships to have a core role for internationalization, hence being an integral part of the value proposition dimension. The firms rarely, most interviewed firms never, sell their products directly to the end-user but make use of partnerships where the partner acts as a distributor for the firms being responsible for selling, marketing and implementing the firm's products. Thus, the firms' distributors are part of the value proposition dimension for the firms since those enable the firms' products to be sold to end-users at the same time the distributors act as the firms' customers. How firms make use of and handle their distributors is also similarly handled between all firms as they aspire to establish long-term relationships with partners perceived as strong by having an extensive network being able to actually sell and implement their products to end-users to fulfill its value. Despite aspiring to have long-term relationships implicating replication of value proposition, firms are seen to innovate their partnerships by establishing new partnerships in new markets or finding stronger partners in current ones. This is exemplified by for example Battery Park partnering up with a distributor shown to be

able to expand their business to new markets, Airflow who partnered up with a distributor to find out they could not keep what was promised forcing them to reevaluate the partnership and by Hot and Cold evaluating different distributors to choose a partner believed to have the best possible market coverage and respect in the market. Commonly, all firms evaluate their partnerships to not be bound to less favorable partnerships.

The evaluation of what partner to choose becomes a part of their risk analysis and it is emphasized that networks and networking capabilities help firms by providing knowledge and insight into the market and of other possible distributors for an easier assessment. Swedish Neutral and Sensor for example, acknowledged any partner to be better than risking to have none which might be compared to Elvaco having too many distributors forcing them reevaluate them to sort some of them out to remain and keep a structure of the firm. Lastly, Ventilation as mentioned, use their networks to find new partners in new industries possibly having a need for their products. Thus, those examples showcast different approaches towards innovating the value proposition dimension.

4.9.1.4 Value Delivery

The value delivery dimension has been shown throughout the empirical chapter to be of the lowest priority for the firms when internationalizing and has in many cases been replicated, following a standardization of logistical flows without focus on changing or developing the dimension. Nevertheless, and even though firmly no firm emphasized the dimension, it must still be important for the firms in the sense that all the firms are heavily reliant on logistics, shipping and up-stream distribution in order for them to manufacture products and internationalize successfully. None of the firms have however placed any particular emphasis on innovating this dimension, as they usually have found an acceptable operating scheme and continued using it. Interestingly, Battery Park as the only firm innovating the dimension had a positive outcome with outsourcing parts of their manufacturing to Asia in terms of both decreased costs for production and secured supply of components needed for their production. Also interestingly is the interviewee of Battery Park debating whether or not the change in production was necessary or if they should have focused on other parts to develop instead.

Nevertheless, all firms except for Sensor and Hot and Cold has manufacturing facilities or source components cross-border, however no firms interviewed had any acknowledged intentions on developing this further. In that sense, it may be debated if the value delivery dimension for the firms interviewed was innovated, in terms of being evaluated and worked out in an acceptable manner, prior to the internationalization of the firms to then be replicated across global markets. As the firms interviewed work with and develop innovative technologies seeing an increase of global demand, the focus for firms might be on innovating other dimensions of the business model to take advantage of forthcoming opportunities and try to get a foothold on the global market before trying to innovate a function considered to function acceptable.

4.9.1.5 Value Capture

The value capture dimension was placed as having medium importance for each of the firms except for Sensor, where firms have adopted a quite varied approach towards innovation or replication of the value capture dimension. All firms except for Hot and Cold have adopted an innovative approach while Hot and Cold is the only firm completely replicating the value capture dimension conversely to Swedish Neutral, Battery Park, and Airflow having a completely innovative approach of the dimension. Elvaco, Sensor and Ventilation have a both innovative and replicated approach to the dimension.

Sensor by being the only firm having value capture to be of high importance is due to the interviewee explicitly stating that the revenue model of subscription enabled business in some locations implicating there is a need to adapt and change the pricing depending on the foreign markets behavior. However, it can be noted that Swedish Neutral, Battery Park, Elvaco, Airflow and Ventilation change their prices or discounts depending on who the customer is, how strong the customer is perceived to be and on what market the customer is present in order to be flexible and not risk losing any business at the same time having the highest possible revenues. Elvaco, Sensor and Ventilation have both the innovative approach but also a replicated approach since they try to standardize their revenue model as much as possible while Hot and Cold has standardized their revenue model to be completely based on the firms costs by offering a fixed discount to their customers. Hence, Hot and Cold base their pricing on their costs implicating varying prices still being replicated since the discounts are fixed. Hot and Cold emphasized the importance for them to standardize the revenue model based on

keeping a clear structure of the firm to be transparent with pricing and simplify how they do business. Replication of the revenue model was not a key for internationalization of Hot and Cold but a key to simplify business making it easier to sign agreements. Hence, both innovation and replication of the value capture dimension can be used to simplify and enable business, depending on the structure and desires of the firms. Different markets and distributors have different purchasing power as their financial structure differs, hence inquiring for different prices if firms want to proceed business in the market or with the distributor, hence being dependent on what opportunities they see in either the market or with the distributor.

5. Analysis

This chapter will walk through our theoretical findings by comparing and contrasting theory with the empirical findings from our interviews. Thereafter, the analysis will integrate our cross case comparison and empirical findings in a more general manner to be compared and contrasted with the theoretical implications.

5.1 The internationalization process of Swedish SMEs

Just as Eriksson et al. (2015) and Melin (1992) states, the internationalization process of the swedish firms interviewed can be seen as a natural behavioral and strategic process since the driver behind internationalization is due to a common strive for expansion to increase their revenues, which is natural for firms. Also common for the firms interviewed is that they all have novel and innovative technologies being the core and strength for their firms, suggestibly what makes them competitive in both domestic and international markets due to acknowledging a need and demand for their technologies. Hence, the firms by integrating internal and external information and knowledge are able to understand and apprehend opportunities for sustained competitive advantages their technology might bring on international markets, tying on to the ideas from Grant (1996) and Barney (1991) regarding strategies exploiting expansion to international markets through a market analysis. However, once again tying on to the natural behavioral and strategic process suggested, there are a lot of factors affecting the internationalization process of the firms interviewed and the decisions for where to expand have changed over time.

Clearly, all firms interviewed have made their first international sales to countries in close proximity to Sweden, usually within the Nordics or well developed countries in Europe presumed to have a market similar to the Swedish market such as for example the Netherlands (Battery Park) or Germany (Swedish Neutral), following the idea of the Uppsala Model (Johanson, Vahlne, 1977). Thereafter, however, there is a distinguishing between the firms behavior towards internationalization as they apprehend different opportunities for creating value by utilizing their technology. One empirical finding is that firms when internationalizing have understood industry specific opportunities and hence, to redirect their corporate strategy to focus on niche markets or niche customer segments. Examples can be given for Swedish Neutral that after entering Australia realized Australia due to risks for bushfires and potential customers high costs for insurances to have great opportunities for expansion. Hence, they decided to target large electricity networks with their technology even though it was applicable and sold to other industries before further understanding their technologies possibilities for exploitation in markets with similar characteristics such as for example California. Another example is for Sensor that through exploring market opportunities and partnering up with a paper and pulp firm saw possibilities within the paper and pulp industry shifting their focus towards them. Those examples relate to Marchi et al. (2014) and Martin Martin, et al. (2022) suggesting international market selection and entry to be a factor of prior experiences, a system both human and financial matic and rational approach since it mitigates risks associated with internationalization. In that sense, those firms adopted a niche strategy for internationalization (Magnani, Zucchella, 2019; Hennart 2014) by having a niche product (Hennart, Majocchi, Hagen, 2021).

Adopting a niche strategy by having a niche product for internationalization is seen at all firms interviewed since they do not adopt a mass-market approach, all identified to have great internal capabilities for innovation and development of innovative and unique solutions, similar to firms recognized as BG's or INVs (Hennart, Majocchi, Hagen, 2021; Oviatt, McDougall, 1994; Knight, Cavusgil, 2004). Those firms are, in theory, able to internationalize rapidly as having great market knowledge, which however is seen to not be the case for the firms interviewed as only one firm, Hot and Cold, have seen a rapid internationalization and a majority of the firms struggle analyzing and understanding their markets. This ties on to Li, Li, Dalgic (2004) since the reason for the firms deficient ability to analyze markets rightfully is due to not having sufficient human and financial resources on their own. Further, the firms interviewed implicated difficulties to understand foreign markets' maturity for their technology as well as the foreign willingness to change and adapt to their new technology, hence implicating difficulties to timely enter a new market. Foreign structural or systematic differences are for example emphasized by Airflow as an issue since they state they are not able to change the market's behavior on their own and do not focus on entering markets they apprehend to not be mature enough for changes.

However, markets such as for example India, Slovenia and Chile, markets generally percepted as being of higher cultural distance than more western Europe like countries, have been shown to be markets of importance and of interest for Swedish Neutral, Battery Park and Sensor, connecting to the ideas of emerging markets by Sakarya et al. (2007). Those markets were shown to offer great opportunities for the firms in different matters. Swedish Neutral saw a possible need and demand for their products in India and even though realizing a high potential risk decided to enter the market by seeing a greater upside of the entrance than if not entering. Battery Park realized the partner in Slovenia to have a technological competence and being very strong by having great networks enabling business in further markets and Sensor by realizing to focus on the pulp and paper industry saw greater opportunities in Chile apprehending the Chilean market to be easier to get business in than Swedish actors. Hence, the markets showed low barriers for entry and long-run growth opportunities in the long-run by having commercial activity in the country and building on their reputation and networks, also relating to Sakarya et al (2007). Hence, networks importance for internationalization is to be analyzed.

5.1.1 Networks importance for SMEs when internationalizing

As stated above, all firms interviewed have made their first international sales to markets similarly perceived to the domestic Swedish market. How the interviewed firms have continued to internationalize is rather shown to be a result of their network, what partners they have obtained, what industry their partners operate within, information retrieved and opportunities perceived relating to the revisited Uppsala model (Johanson, Vahlne, 2009), Gemser (2004), Martin Martin et al. (2022) and Marchi et al. (2014) as networks are seen as essential for the internationalization of the firms interviewed further seen to minimize barriers for entry as suggested by Porter (2008). There are a lot of similarities between how the firms interviewed utilize their networks to enable internationalization with the largest commonality being to use networks to get market knowledge but also to establish relationships consequently resulting in partnerships where the partner act as a distributor for the firms internationalization by selling, marketing and implementing the firm's products in a foreign market. The utilization and usage of networks and partners for the firms internationalization have been seen to a large extent depend on the firms related and perceived uncertainties of entering or targeting a foreign market where networks, partners and distributors are seen to be the factor mitigating risks at the same time enabling access to the market.

All firms use an exportation mode of entry (Hill, et al., 1990) by utilizing their network to establish a partnership to export their products to, to further be distributed to end-customers. Elvaco and Airflow have set up offices cross-border but still export their products to their distributors having the office only to be in proximity to their partners for enabling and better controlling their business. Control of technology is persistently important for all firms interviewed as none of them have mentioned any R&D to occur outside of the own firm or in collaboration with partners, however it is interesting to to discuss the term control in other matters. For instance, Battery Park emphasized their partners to be of importance for the development of new features to integrate into their products and technology. Moreover, the firms interviewed do let control of sales and marketing away since they all are dependent on their partners for their products to be sold and implemented to the end-users. Hence, they all are trying to and emphasize the need for establishing great partnerships with strong actors in the respective field. What is referred to as a strong partner is a distributor having the capability and competence to understand the firms technologies and also having a great network in their respective market. This is mentioned explicitly by Battery Park, Elvaco, Airflow, Sensor, Ventilation and Hot and Cold while Swedish Neutral implicitly states the same as they have shifted their focus on partners to be large electricity network providers, hence relying on the actor having the greatest impact and control over the electricity network they apply their products for. Also, it can be seen in the case of Swedish Neutral, Battery Park, Airflow, Sensor and Ventilation that their network and partners enabled business on a global scale, as suggested by Magnani and Zucchella (2009), as the partners preceded their own business in new markets being followed by the firms interviewed which to an extent also has been possible due to the firms niche focus, having a product and technology with non-country specific advantages and not having to adapt for different markets (Hennart et al., 2021).

Not only are the firms interviewed dependent on establishing partnerships for distribution of their products but also for getting knowledge of international markets and hence, being able to evaluate and make risk assessments of entering the market or not. Also, the firms by utilizing their network make an assessment of possible partnerships to choose the strongest partner to collaborate with to get the best possible outcome. Hence, how networks are used for internationalization is in line with Gulati et al (2009), Gemser (2004), Johanson and Vahlne (2009) and Johanson and Mattsson (2015) since networks are used for creating both

partner-specific and general relationships at the same time their partners are shown to steer the direction and development of the firms international presence. Further, all firms interviewed emphasize learning and knowledge of markets to be key for their development and all underline the need for networking to be able to learn and adjust accordingly. They all strive for long-term relationships suggesting the partners need to be committed to the firms and their products, hence entailing trust to be of importance, similar to Johanson and Mattsson (2015) also differentiating the perception of how firms maintain control. Although all firms, as said strive for long-term relationships, continuously develop their networks by searching for new partners in new markets or developing their existing relationships, a general thought is that trust might be hard to pertain and the dynamic environment as well as changing, developing and increasing business, suggestibly change the dependence and influence between the firms interviewed and their distributors. That might be the reason for the interviewee of Airflow suggesting partners are important for getting into a market but one sooner or later has to be on its own to better control and steer the business. This is also seen in the case of Elvaco who after having a stable revenue on a market believe in establishing local offices to better steer the business, hence indicating the stable revenue to be a sign of foothold, experience and knowledge of the market to be the reason for being able to control the business on their own for further growth. Hence, for internationalization, there is a need for integrating the internal knowledge, technologies and capabilities with external networks and resources to understand the market and opportunities there within, similar to Coviello and Munro (1997). Thus, similar to what Gulati et al. (2009) suggest, networking capabilities enabling access to external partners' resources and knowledge is shown to be a key for the firms interviewed to possibly enter a market and also a factor for creating value in foreign markets.

5.2 Interpreting business models from the perspective of Swedish Cleantech SMEs

Interestingly, there is a common and concordant view between all interviewed firms perception of what a business model is which also goes along with the theoretical approaches from Teece (2010), Abrahamsson (2018), Demil and Lecocq (2010) and Baden-Fuller and Haeflinger (2013). Namely, a business model should be seen as how firms do business and create value. In like manner as the theoretical findings, the interviewed firms had some

difficulties distinguishing corporate strategy and business models and interviewees from Swedish Neutral and Hot and Cold having hard to separate the concepts. However, Swedish Neutral, Battery Park, Elvaco, Ventilation and Hot and Cold share the belief of corporate strategy to be realized from the business model, or a result of the business model. As the interviewee from Hot and Cold puts it, as viewing the business model as paving the way for realizing the strategy, it can be noted from both Airflow and Sensor that they actually have the same view on distinguishing the concept of business models and corporate strategy as the other firms since they believe the corporate strategy to be what they do to create value and the business model as how they create value and profits. To summarize, there is a shared view between the firm's outlook on business models and corporate strategy where one can say that the business model according to firms is how they do business and create value while the corporate strategy to be what business they do to create value, implicating the concepts to interrelate and impact one another. Examples are seen in for example Swedish Neutral, Airflow and Sensor as they throughout their internationalization realized their product to be the best fit in a specific, niche segment and hence, changed their corporate strategy to be focused on those specific segments. Hence, the theoretical contributions implying business models and corporate strategies interplay are shown to be similar to how the firms interviewed view the concept further implicating a dynamic relation between business models and corporate strategy (Da Silva, Trkman; Teece, 2010; Baden-Fuller, Morgan, 2010; Demil, Lecocq, 2010)

Firms want to be competitive and as discussed about sustained competitive advantages (Cassadeus-Masanell and Ricart, 2010) being derived from the business model is seen to be the case for the firms interviewed. The firms interviewed for the cause of this thesis all operate within the cleantech industry, all having, at least according to themselves, innovative and new technologies being the core for each one of them with little competition from like firms. Relating to Grant (1996) and Barney (1991), the firms interviewed have acknowledged both internal and external capabilities and resources to succeed and make use of their technologies to gain competitive advantages on international markets and try to do so by striving for long-term relationships. Likewise, external knowledge and experience has enabled market analysis for the firms and helped them better understand foreign markets and what opportunities they might bring forth. At the same time, external organizational capabilities have been of high importance for all interviewed firms to enter the market at all

since they are used as distributors, responsible for selling, marketing and implementing the interviewed firms products to end-users. Tying on external partnerships with the market analysis and evaluation of competition, it can be seen that firms might have difficulties examining barriers for entry, connecting to Porter's five forces (Porter, 2008). For instance, Battery Park expected Germany to be a market possibly highly profitable and suitable for their technology and Airflow believed the same of the UK market whereas it later was shown that the markets were not mature enough for their technologies and hesitant changing their traditional methods. Hence, the market analysis is hard to evaluate upon the ideas of Porter (2008) and require a greater understanding of the markets general behavior rather than expected profitability due to the firm's novel and innovative technologies. Different market behaviors have also been mentioned by Swedish Neutral, Battery Park, Sensor and Hot and Cold where Swedish Neutral and Sensor suggest some markets to be more open minded for business while Battery Park and Hot and Cold suggest that maturity in sense of acknowledging innovative technologies is a key reason for the firms growth and sales.

Moreover, something that has also been shown to be challenging for firms' businesses having an impact on their business models and ability to create value is technological, legal and regulatory aspects. Swedish Neutral experienced issues with specifications of their products to differ between different markets making it hard for them to have a standardized product, which they however have decided to keep having and instead focus on convincing their customers of the feasibility of their product and hiring lawyers to put the right specifications in their agreements. Elvaco encountered compatibility differences with their standardized technology and lacked sufficient knowledge about UK law to sign agreements, Airflow believes regulatory changes or demands are required for changing market behavior for shifting from traditional technologies, Ventilation by lacking regulatory and legal knowledge to be an issue surpassed by forming more informal agreements with help from their partners and Hot and Cold believing the mentality and understanding of new technologies as well as differing standards, regulations and requirements to be a major challenge for the firm. Hence, even though market analysis is made, there might evolve unexpected challenges or hindrances for firms challenging their ability to create value and do business in foreign markets, complexifying their decision making further displaying a dynamic environment requiring the business model to of firms to be flexible to adapt which makes it hard for firms to focus on and innovate the right dimensions of their business model to be globally scalable already form the beginning (Magnani, Zucchella, 2019; Hennart et al., 2021; Reuber et al., 2021; Abrahamsson et al., 2018).

5.3 How internationalization is facilitated through business models

According to Casadesus-Masanell & Ricart (2010), Ricart & Llopis (2014) and Cavallo (2019), a sustained business model need to be flexible and adaptable for firms to be competitive and maintain competitiveness in different markets which is found to be the case of all firms. For the creation of global value, firms are seen to adapt different strategies of their business models by innovating (Clauss, 2016) or replicating different dimensions to facilitate internationalization, in line with Ghemawat (2018). However, it can be noted that the firms interviewed all in some manners have adopted a niche strategy by replicating their technology as they all believe their technology is the core of the firm and the key for enabling value, conforming with Hennart (2014) and Reuber et al. (2021). Thus, firms niche their business to be compatible within a specific industry, in a specific market or towards specific customer segments. Hence, the niche strategy in a manner becomes replicable as firms have the same offering, value proposition, towards a specific group but also innovated as firms try to extend their offering to new markets. To find opportunities in new markets or to new customers, the firms interviewed are seen to be highly dependent on their networking capabilities and networks to acknowledge differences, opportunities and the firms feasibility in new markets to apprehend what dimensions of their business model has to be innovative or replicated to have the best possible outcome, similarly as suggested by Ghemawat (2018) and Aspara et al. (2010).

As discussed by Bohnsack et al. (2020), firms do evaluate and make risk assessments by utilizing their networks for market knowledge as well as for finding partners in new markets to make decisions for entry in the market as well as for finding what parts of their business model is possible to be replicated or what parts needs to be flexible and innovative. The risk assessment is used to understand the opportunities and risks associated with internationalizing to a new market by highlighting transferability, locational boundedness, hence barriers for entry, of the firm's business model to new areas. An example of this is in cases of Swedish Neutral and Airflow. Both Swedish Neutral and Airflow saw opportunities with replicating the value creation and value proposition dimensions towards new markets

but met different aspects requiring changes of the business models. Swedish Neutral found that they could replicate their value creation and value proposition to Australia but needed to innovate the value capture dimension due to understanding the market's demand and making greater profits. Airflow when trying to establish in the UK saw feasibility and need for their products and offering, but experienced a high degree of locational boundedness due to the immature market not wanting to change, hence implicating barriers for entry to the market, similar to Rissanen et al (2019) suggesting a lack of acceptance and maturity for Airflows products. Similarly, Swedish Neutral decided to partner up with large distributors in Australia having a global network which further enabling business in new markets, connecting with Cavallo (2019). In that sense, Swedish Neutral managed to cope with uncertainty by partnering up with a global partner by having a niche strategy which was suggested by Martin Martin et al. (2022), Marchi et al. (2014), Magnani and Zucchella (2019). Further, the realized niche strategy and replication of the business model stems from Swedish Neutral realizing their products to be of high interest for electricity network providers in countries in need for electrical safety, hence innovating the firms corporate strategy making them target like actors further implicating that innovation of the business model occurred prior, or during, the establishment in Australia to be replicated to new markets, in line with the thoughts of Hennart et al. (2021) and Reuber et al. (2021).

5.3.1 The impact of networks on business models for internationalization

In essence, all of the firms interviewed, as said, operate in different ways with a niche product towards a niche industry somewhat replicating their business model which according to the BGs literature as stated by Hennart (2014) and Reuber et al. (2021) creates possibilities for global scalability, often in a rapid manner. Although not many of the firms interviewed are seen to have had a rapid internationalization, Hot and Cold for example have had a rapid internationalization since the interviewee entered the firm and managed to make all of the dimensions of the business model replicable by only having the value proposition dimension innovated in the way of looking for establishing new customer relationships and utilizing their network for foreign market knowledge. This ties on to the thoughts of SME internationalization stated by Johanson and Vahlne, (2009), Casadesus-Masanell, Ricart, (2010), Child et al. (2017), Rask (2014), Hennart et al. (2021) and Reuber et al. (2021).

Continuing on partnerships and networks, it has been evident that all firms interviewed underline a high importance on external partners for utilizing their business in foreign markets by both using them as distributors, for understanding and getting knowledge of new or existing markets to develop their business for targeting new markets, or together with the partner enter new markets. Since internationalization by Eriksson et al (2015) is viewed as a natural behavioral process and the firms mentioning lacking resources (Kraus et al., 2016) on their own to establish cross-border or getting market knowledge needed for establishment, it is also a natural behavior for the firms interviewed to make use of their networks to understand to what extent their business models are feasible or transferable on new markets and use the new knowledge to innovate or replicate their business models, to new markets by integrating internal and external capabilities an knowledge, as suggested by Cavallo et al. (2019) and Abrahamsson et al. (2018). Further, understanding the market and network dynamics is of importance to timely enter the market and make changes in the business models required for a successful internationalization, connecting to Johansson, Johansson (2021) and Gorynia et al. (2019). An example of when firms have used their networks quite naturally to understand the business environment for international opportunities is in cases of Battery Park and Sensor. Battery Park used a strong partner for establishing and getting knowledge of markets in close proximity to the partners location but also entered farther markets together with the partner at the same time feedback from their partners was essential for the development of the firm's products and features. Sensor throughout their network found a compatible industry with a demand for their product and managed to enter new markets by using a partner for distribution and extending their network for new business opportunities suitable for their business model further made them realize innovation of their value capture to enable business in new markets.

5.3.2 Innovation or replication of the business models dimensions

Aspara et al. (2010) implied difficulties in understanding how to use the business model for internationalization, what importance dimensions of the business model have for internationalization as well as to what extent a business model is able to be replicated in an international context. The findings of this thesis suggest value creation to be the core of each firm and their main competitive advantage displaying the firms interviewed to replicate the dimension. Value proposition is closely related to the value creation and hence of high importance for firms, used for replicating what they offer but innovative in the sense of

exploring market opportunities through networks and partners. Value delivery is seen to be of less importance for the firms internationalization, probably for the reason that they have established an acceptable functionality, and the dimension being viewed as a support function, in sense for this thesis, thus being "left alone", replicated, implying a strive to focus on dimensions of the business model enabling international growth and development. Value capture is seen to be of medium importance since pricing is considered needed to be flexible depending on geographical location of their partners and their partners size or perceived power, although firms try to standardize the pricing to simplify business, which can be connected to Kraus (2016), stating efficiency centered business models to be of importance. Hence, value capture is seen to be both innovative as for the flexibility but also replicated due to the standardizations tried to be made. The business model is however possible to replicate to a certain degree before needing to be innovated. Due to learning, getting knowledge and understanding an international environment, firms sooner or later need to make some changes or developments in their business model to cope with the dynamic business environment, hence implicating innovation of the business model to cope with or redirect the firms corporate strategy. In line with Chanal and Caron-Fasan, (2010), McGrath, (2010), Sosna et al. (2010) and Hienerth et.al (2011) stating that BMI is characterized by ongoing learning process, similar to Beneviste et al. (2010) and Reuber et al. (2021) implying BMR to not completely replicate the business model but rather is an evolving process as new business emerge for firms.

6. Conclusion

This chapter will start with answering the research question to fulfill the purpose of this thesis. Following in our conclusion, our conceptual framework from the theoretical chapter is revisited showcasing and connecting our theoretical and empirical findings. Lastly, a discussion of the theoretical and managerial contributions and implications will follow to conclude with limitations and suggestions for future research of this thesis.

This thesis was guided by the question "How do SMEs facilitate internationalization by developing, innovating or replicating their business model?". The findings conclude that there is a close connection between internationalization and the concept of business models for Swedish Cleantech SMEs. The internationalization process is dynamic and follows a natural behavioral process as the firms investigated in this thesis facilitate internationalization by utilizing a niche strategy by having niche technology, niche customers and a focus on markets in need for or demanding their technology. Networks are seen to have an integral role for facilitating internationalization for the firms in this study since they are of high importance for the accumulation of market knowledge used for market analysis to understand market opportunities. Further, networks enable the establishment of partnerships where the partners act as distributors for the firms interviewed, hence enabling entry and sales in foreign markets and being a key part of a firm's ability to create value in cross-border markets. Also, firms are seen to exploit market opportunities by getting knowledge from their network, consequently resulting in learning experiences further evolving and developing how firms create value and structure their business.

Partners affect firm internationalization and are of importance for enabling firms' abilities to create global value, they are an integral part of the firm's business model, eventually leading to development of the business model. During internationalization, firms might find avenues for where or to which markets or industries their technologies create the most value. Subsequently changing or niching the business model and what markets, customers or industries to target, hence affecting their internationalization. The firms interviewed are seen to put the highest importance of the value creation and value proposition dimensions of their business models for facilitating internationalization. The value delivery dimension

seems to be more of a support function less crucial for internationalization, thus being of low importance for facilitating internationalization.

Firms are seen to use both BMI and BMR for facilitating internationalization. The firms interviewed in this thesis have emphasized their technology to be the core of the firms and something to never change which can be seen as they are found to replicate the value creation dimension. Innovation of the value creation dimension might occur as firms due to its partners realize a need for developing new features to incorporate in their technology. The value proposition dimension, also being of high importance, is both replicated and innovated. The firms' technology and design is standardized to a large extent and their offerings do not change in foreign markets, thus being replicated. Yet, to whom they offer their technology is under continuous development interplaying with their networks to expand to further markets or getting a greater foothold in an existing market, thus being innovated. The value delivery dimension is argued to be replicated throughout internationalization being of low importance as production is already in place and logistic functions outsourced or on their distributor's responsibility. Hence, value delivery is replicated by not changing for different markets and as the dimension is not considered crucial for internationalizing or growth, less emphasis and focus is put on the dimension. The value capture dimension is argued to be of medium importance being both replicated and innovated depending on what market the firms are trying to enter, and the perceived power of the partner used for distribution. The revenue model in the dimension is replicated to a large extent but innovated to fit the characteristics of each market to be as profitable as possible without risking not doing business at the same time coping with the firm's costs.

The key takeaways from the conclusion are summarized below.

- Internationalization and business models interplay and develops naturally over time where networks is an important part for firms growth, development and internationalization
- Firms use both BMI and BMR of the different dimensions of their business model. The dimensions considered to be of high importance assisting the firms competitive advantages is seen to be replicated to later on be innovated as firms learn, gain knowledge and experience.

6.1 Revisited conceptual model

After analyzing the interviews and comparing them to our original conceptual model based on theoretical aspects, we saw a need for revisiting the model to take both theoretical and practical aspects in consideration by investigating how internationalization and business models interact and impact internationalization. When firms internationalize, they acknowledge their business model must either change, innovate, or its possibility to be replicated towards a foreign market, customer or segment. BMI is seen to be dependent on the firms networks as networks enable market knowledge implicating eventual changes of the business model while in turn networks might need to be developed or established for the internationalization to occur, hence implicating a different form of BMI. When having made changes in the business model, the business model is either developed to a degree to which it is possible to be replicated or for realizing internationalization to a specific market, in need for further developments or changes for other foreign markets. A business model that is identified to either be directly or possible to replicate from the beginning is able to realize a more direct internationalization of the firm. However, when internationalizing, the firm gains a deeper market knowledge and experience of the foreign market implicating a learning process eventually developing into realizing a need for changes of the business model. Hence, internationalization sooner or later will result in BMI as the firm develops their network, identifies new opportunities in new segments or customers changing the direction of the firm or as the firm develops additional products or technologies in their offering. Hence, the business model and internationalization process interplay and are in continuous development to cope with the corporate strategy or being factors for the corporate strategy to eventually change.

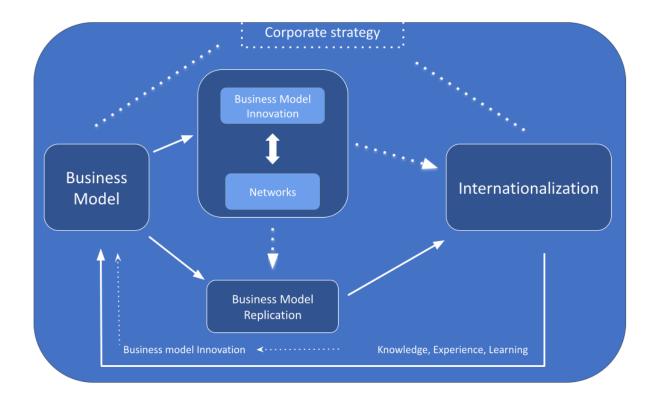


Figure 2: Revisited conceptual model based on theoretical and empirical findings

6.2 Implications and contributions

6.2.1 Theoretical contributions

This thesis has found that the concepts of internationalization and business models are closely related. Specific contributions that can be attributed to this thesis is that the different dimensions of the business model concept seem to have different importance on the internationalization of Swedish Cleantech SMEs. and also are handled differently with regards to BMI and BMR The revisited model presented above shows that innovation and replication of the business model is dependent on firms networks, which include partnerships, but also learning and knowledge the firms' attain during their internationalization. This thesis has also shed light upon how a firm's corporate strategy might be influenced by firms internationalization or business model and corporate strategy can be seen. Although networks are seen to be of high importance for internationalization theory, this thesis has exemplified how networks are integrated in business models in different ways enabling and facilitating internationalization of the firm. Hence, the research gap of investigating the relationship between internationalization and business models, how business models evolve over time,

what importance the dimensions of the business model has as well as how firms might use BMI or BMR to facilitate internationalization have been contributed to.

6.2.2 Managerial implications

Internationalization can be seen as a natural behavioral process which develops and changes over time by utilizing networks further developing or changing the business model creates a complexity for how firms operate and perform business. Our thesis suggests firms to focus on their core strengths to drive international growth and expansion by keeping their competitive advantages. SMEs by having scarce financial and human resources, suggestibly need to make use of their networks by partnering up with foreign actors to enable entering a foreign market or make as well-grounded decisions as possible. The thesis also shows that adopting a niche strategy for markets, industries or customers has been a factor for realizing international expansion, thus suggesting firms to explore opportunities in similar environments implies lower barriers for entry and easier utilization of networks. Also, our findings and conceptual frameworks might be used by managers to fall back on when evaluating the development of their business. For instance, our findings evaluate and suggest the importance of different dimensions of the business model and how these could be approached for facilitating internationalization. Moreover, our revisited conceptual framework displays how theory and practice of internationalization and business models interplay and develop over time, hence might be of use for managers to assess and evaluate theoretical aspects to consider in the development of their businesses.

6.3 Limitations and recommendations for further research

Even though the thesis has been able to make both theoretical contributions and managerial implications, it is still limited to some extent. If the number of cases examined could have been increased, it likely would have given a broader and more generalizable view. The same applies for the choice of industry, by limiting this study to investigate Swedish cleantech SMEs, we cannot ensure our results to be generalizable for other industries. However, cleantech firms are reckoned as innovative firms having developed new technologies able to create value on a global scale, we still argue that the thesis might enable an analytical generalization for firms having the same or similar characteristics. Further, in the scope of this thesis, it was not doable to make quantitative assessments of the importance of the

different dimensions of the business model, hence, it should be noted that those assessments are subjective and created through the authors' understanding from the empirical findings. Yet, we believe to have grasped the essentials and core thoughts of each interview since we have sent the final summary of the interviews for approval from the interviewees.

Interesting avenues for further research on this topic might be to investigate business models connections to internationalization in a narrower manner. This thesis has investigated internationalization in a general manner while studies usually focus on for instance rapid internationalization, or firms' financial developments due to internationalization. Hence, further research investigating what dimensions of the business model facilitate a rapid internationalization or how financial performance could be affected by business model design is encouraged to get further insight of the interrelation of business models and internationalization.

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Appendix

Interview guide

Presentation about us and our thesis

Formality questions

Ask if recording of the interview is okay Ask if they want anonymity Ask if it is okay to eventually recollect for follow up-questions

General questions

- **1.** Can you please describe yourself?
 - *a.* Name, Education, role, responsibilities, prior employments and responsibilities, international experience, years of employment
- 2. Can you please describe your company for us?
 - *a.* What does the company do, what is the history, establishment, years of international business, numbers of employees
 - b. Can you please present a short timeline over critical moments/points of your business?
- **3.** What is the company's overall strategy?

Internationalization related questions

- 4. What were the drivers for internationalization?
 - a. In what countries is your company present today?
 - b. Have you entered those markets rapidly or slowly, simultaneously or not?
- 5. How has your company internationalized?
 - a. Based on experience, knowledge, perceived risk/uncertainty, opportunities or networks?
 - *b.* How did/do you select markets to enter?
 - *c*. What entry mode did/do you use to enter new markets? Have you used different entry modes? If so, for what reason?
- **6.** Have you experienced any problems in your internationalization?
 - a. What are the issues, differences or barriers for internationalization?
- **7.** What are important factors for a successful internationalization according to you? *a*. Internal/external capabilities, entrepreneurial spirit, networks?
- 8. What is your view on business networks for internationalization?
 - *a.* What actors are important?
 - *b.* Did you have any relationships/networks prior to your internationalization? Did that affect your market selection?

Business model related questions

- **9.** What is a business model to you?
 - a. How do you, or do you, distinguish the business model from strategy?

b. How would you describe the strategy compared to the business model?

Description of our perception of a business model based on theories

- 10. Do you understand our perception?
 - a. Do you see any direct problems with our conceptualized business model?
- 11. Based on our model, how would you describe your business model?
 - a. Do you create value in the same ways in the domestic and the international market?
- **12.** How do you create value for your customers? What is according to you the firms main:
 - a. Capabilities, Processes, Technologies
- **13.** What are the most important factors according to you?
 - a. Do you work with partners/business networks for value creation?
- **14.** How do you propose value to customers?
 - a. What is your main offering to customers?
 - b. What customer segment/segments are you operating towards?
 - c. How do you interact, communicate and build relationships with your customers? Long/short-term?
 - d. What sales channels do you use?
- **15.** How do you deliver value for customers?
 - a. What are your distribution/delivery channels and logistical setups?
 - b. How do you work with up- and downstream partners?
 - c. Is the value delivery process consequent/continuous or inconsequent/discontinuous?
- **16.** How do your firm provide profits?
 - a. Are profits recurring, one-time, leasing etc?
 - b. Fixed or variable income?

Business model and Internationalization integrative related questions

- **17.** Describe changes (if any) to the business model before/while/after internationalizing.
- **18.** Describe what did not need changing, and why? Did some aspects of the business model fit into every new market (if you are active in more than one international market).
- **19.** What underlying reasons existed for the changes to the business model?
 - a. What were the results of changes/innovations made to the business model?
- **20.** What aspects of your business model did you find the most important while internationalizing?
- **21.** How have you as an organization learned throughout the process we have discussed above?
- **22.** Is there anything important we missed, or that you did not mention yet that you think is relevant?