SWEDISH EDTECH GOING GLOBAL

A qualitative study of internationalisation and business models in a nascent industry

The educational technology sector is an emergent industry across the world. Highly technological ventures in this field from smaller national markets, such as Sweden, often find themselves soon outgrowing the domestic market, and choose to internationalise quickly to further their growth. However, the educational sector is a difficult one to access; it is often, to varying extents across international markets, publicly governed, and thus aligned with traditional, non-digital practices of learning. Success and longevity is dependent on being able to adapt quickly to the demands of new markets. Therefore, implementing digital product offerings in new markets can be both demanding and difficult for new and developing SMEs. These companies often experience challenges in finding an appropriate business model when expanding operations globally.

Existing research has suggested that the survival of new ventures undergoing internationalisation is very much dependent on the business model adopted. This study investigates how the internationalisation strategies of SMEs entering new and complex markets impacts upon their business model.

To this end, a qualitative multiple case study was conducted with four edtech companies founded in Sweden, whom had either opted for global business opportunities from inception, or in recent years. A framework combining theories from the research fields of internationalisation and business models, facilitated the analytical discussion.

The results of this investigation have shown that a dynamic relationship exists between an SMEs business model, and its internationalisation strategies. Changes in one, have been seen to possess a tangible impact upon the other. This relationship is not only resultant from the decisions of management who look to best equip their business models for international activity, but also as a natural response to the fast-moving nature of the environment in which the SMEs operate.

Keywords: Educational technology, Edtech, Internationalisation, Business Model, SME, Born Global, Nascent Industry

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DEFINITIONS

Digitisation: The process of converting information into a digital format.

Digitalisation: The process of turning business functions and business models into more digital versions.

Educational Technology (edtech): Services and products, including machines, systems, software and models, that use digital technology to support education and enhance student learning.

Edtech firm: Commercial business developing edtech solutions.

Educational sector: In general, the term includes both K12 as well as adult education, however in this thesis the use of the term refers to K12.

K12: Comprises the sum of primary and secondary education, from 4- to 6-year-olds through twelfth grade (12) for 17- to 19-year-olds.

Nascent industry: A new industry in its formative stage, characterised by rapid change and high ambiguity.

Educational market: A market with a certain curriculum e.g. Swedish schools follow a Swedish curriculum, IB schools follow an IB curriculum etc.

Geographical market: A market whose scope is limited by national or regional boarders, e.g. Sweden or the Nordic region.

Small and Medium Enterprise (SME): Small and medium sized enterprises comprised of fewer than 500 employees and/or have a turnover of less than €50 million.

Internationalisation of the firm: a process in which a firm increases its involvement in international markets.

Internationalisation Strategy: A strategy for commercial transactions taking place between entities outside the domestic market. In the context of this thesis, internationalisation strategy is divided into traditional and modern strategy.

Born Global (BG): A firm that from inception seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries. In short, these firms originate internationally.

Client-server solution: Hardware or software that is locally installed and owned by a customer.

Software-as-a-Service (SaaS): Software provided with a licensed subscription model and is centrally hosted (not decentralised at each customer). In this context, the payment model is divided per student per year

Public procurement: The process by which public authorities such as government departments or local authorities purchase work, goods or services from companies.

Domestic market: A firm's home market - where the firm was founded and has its head office.

Psychic distance: The perceived difference between a domestic market and a foreign market.

Buyer: The decision-maker to purchase edtech products. Depending on firm and market it can be municipalities, public or private schools, school groups, principals, teachers or IT departments.

User: The person's using the product offering, most commonly referred to as either teachers or students.

Reseller: Finds buyers for a firm's product, acting as a middleman for the product offering. Often sells several products to the same market, sometimes competing products.

Distributor: Purchases products and sells to end-customers, can manage sales between several resellers. The relationship is closer to the firm and provides extra services like marketing and branding.

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1. INTRODUCTION

1.1 BACKGROUND

"Not many Swedish educational technology firms have succeeded with their internationalisation. How you learn is very different around the world. Most firms try to create a scalable product – one size fits all. But in education it becomes one size fits none"
Karin Bjerde, Global Business Development Manager at Kognity AB.

The effects of digitalisation can be sensed in all aspects of organisations today (Grossman, 2016). However, many industries have only seen the beginning of how digital transformation will affect their businesses. An industry where there is still room for further and quicker development in the digital area is education, as only 2 percent of the sector is digitalised (EdTechXGlobal, 2016). Digitalisation of education shows enormous potential in terms of increasing learning efficiency (Haelerman, 2017), providing equal access to knowledge (Wetterhall, 2018), and adapting both content and methods to fit a modern context (Karin Nygårds). Companies offering digital products and services in the educational sector are called edtech firms, short for educational technology firms, and collectively they make up the edtech industry (Swedish EdTech Report, 2017).

The edtech sector is projected to grow over 18 percent yearly in revenue until 2022 (Frost & Sullivan, 2017). At the same time, the speed of digitalisation in education is five times slower than in other industries, mainly due to the market being highly regulated and with barriers to entry at many different levels (EdtechX Global Report, 2016). The structure of the educational system differs between countries, however a large part of the educational sector is governed by the public apparatus. In Sweden firms serving the public-school system for elementary and upper secondary school (K12) must endure rigorous public procurement processes which are time consuming and resource demanding, making it difficult for SMEs to compete (Jannie Jeppesen).

Adding to this, the Swedish edtech market is still in its nascence, as is exemplified through the low level of investments (Wallenberg, 2017; Bainbridge, 2016; EdtechXGlobal, 2016). The market nascence and complexity together with the limited market size encourages Swedish edtech firms to seek new opportunities beyond the borders of their domestic market (Dib et al., 2004).

1.1.2 Internationalisation

When moving into foreign markets, there are various approaches and strategies that companies employ. Internationalisation of digitally-focused small and medium sized enterprises (SMEs) tends to be rapid due to the highly developed communications technology of today (Saarenketo, 2002). SMEs operating in the software industry with advanced technological products usually internationalise early, and they are often described as international from inception (Oviatt & McDougall, 1994).

However, for internationalisation to be successful, there are more parameters to take into consideration. In the case of the educational sector, digital maturity and IT infrastructure are two key factors that vary between markets and that are not always synonymous (Karin Nygårds). Another vital factor in internationalisation is the presence and usage of the network (Vahlne & Johanson, 2002). However, as the edtech industry is in its nascent phase, which by definition means it is lacking an established and visible ecosystem (Swedish EdTech Report, 2017), pinpointing relevant stakeholders and their roles can be challenging (Halldin, 2012; Morrison, 2009).

1.1.3 Business Model

As the process of internationalisation demands adaptations when penetrating new markets, it is only natural that a firm's business model also changes to meet these needs. Literature suggests that firms must continuously innovate their business models to sustain success, especially when acting in complex business environments (Johnson et al., 2008; Linder & Cantrell, 2001). According to previous research, SMEs adapt their business models with more ease compared to multinational corporations (MNCs) (Al-Aali & Teece, 2014), as their business models must support internationalisation since start (Vahvaselkä, 2009).

Previous research has suggested that business models affect the internationalisation path of a company, although this relationship has not been further investigated (Vahvaselkä, 2009). The purpose of this thesis is to explore the link between internationalisation and business models in order to provide further understanding of how edtech firms internationalise, as well as to offer guidance to stakeholders trying to navigate the complex and still forming edtech industry.

1.2 RESEARCH GAP

Research concerning edtech has been more prominent in recent times, but it remains narrow in its focus. Research has mainly focused on the learning/assessment aspect, and the development of tools needed to satisfy these needs (Hsu et al., 2013; Winn, 2002). There has been little research focused on exploring edtech as a business concept, especially an international one. The lack of prominent research arguably contributes to an existing knowledge gap regarding edtech firms.

Onetti et al. (2010) state that little is known about the extent to which business models accommodate or are adapted to internationalisation. For this reason, further research is needed from a theoretical perspective on how internationalisation of SMEs affects not only the design of the initial business model, but also gaining an understanding of how business models evolve and adapt in response to new business environments. Current research on SMEs offering high-technology innovations to international markets, lacks a strong

empirical foundation, with existing research being both limited and fragmented (Vahvaselkä, 2009; O'Cass & Weerawardena, 2009).
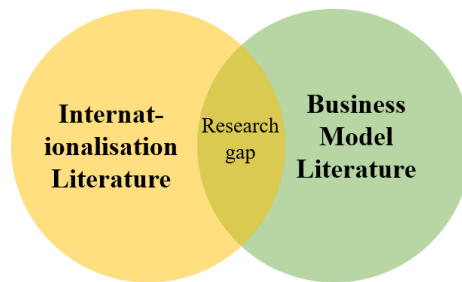
Figure 1: Visualisation of the Research Gap

1.3 THESIS PURPOSE AND RESEARCH QUESTIONS

The purpose of the study is to address the aforementioned research gap and understand the internationalisation process of Swedish edtech firms, through the lens of the internationalisation strategy, the business model and the relationship between these two. As a result, the following main research question was developed:

How do the business models of Swedish SMEs in the edtech industry affect their internationalisation?

To fully capture all relevant aspects, three sub-questions are proposed. Digital offerings and products may facilitate the process of entering foreign markets, however all firms have varying degrees of decision-making linked to their exporting activities. The authors theorise that entrepreneurial firms are to a higher degree opportunity-seekers with a strong influence from the founding team, whereas larger and older firms pursue a more strategic path to new market establishments. The following question will aid in understanding how the export process is initiated and realised in the edtech industry.

Sub-question A: How do the edtech firms' internationalisation strategies emerge and how are they realised?

As firm proceeds in its internationalisation journey, new knowledge and experience is gained over time. This in turn might imply a need for adaptations to be made in the business model, to remain a relevant market player. The second sub-question addresses the evolution of the business model throughout the internationalisation process.

Sub-question B: How do the edtech firms adapt their existing business models during internationalisation?

The main theoretical research gap is in the interplay between internationalisation and business model adaptations. It is suggested that the internationalisation strategy changes over time as firms enter new business environments and subsequently adjust their business model design.

Sub-question C: How do the edtech firms' internationalisation strategies and business models affect each other?

1.4 EXPECTED CONTRIBUTIONS

Study findings will be of value for both academics and practitioners. Academics will benefit from a deeper understanding of the internationalisation process of the modern technology-driven firm, as well as the business model development throughout the process. This research will contribute to an improved understanding how edtech firms utilise networks and resources in an emerging market.

Except for filling a theoretical gap, the anticipation is to make a practical contribution to the edtech industry. This study aims to provide valuable insights for edtech firms that are considering entering a new market or that are already actively internationalising. This research will remind firms to contemplate their business model design for internationalisation, as well as gather insights on how to acquire knowledge in a particularly complex sector.

1.5 THESIS OUTLINE

Chapters	Content
1. Introduction	Providing a background to the area of research and introduces the study purpose, aim and research question. Last, there is a summation of the pre-study findings.
2. Literature Review	Reviews previous research.
3. Theoretical Framework	Chosen theories have been highlighted to be of relevance to the study's purpose. Further, a study framework is composed.
4. Methodology	The method behind the study is presented and argued for, including pre-study, main-study and data quality.
5. Empirics	A description of the data collected from the case study
6. Analysis	Analysis of the empirical findings, based on the theoretical framework
7. Discussion	A discussion of obtained results
8. Conclusion	The final conclusions are presented. This chapter also includes the implications, limitations and suggests future research.

Figure 2: Thesis Disposition based on Hill et al., (1982).

1.6 DELIMITATIONS

Edtech is a large concept including companies offering administrative services, physical products, hardware and software as well as serving a plethora of customers (from K12 to corporate education). This thesis is delimited to studying firms in K12 and does not go into detail with each company product or service. The study can therefore not be fully representative of the whole edtech category. The study is limited to Swedish edtech firms whereby little can be said about implications for industries in other countries.

1.7 PRE-STUDY FINDINGS

As an introductory step to the research, a pre-study was conducted to get a sense of the industry in its current state in Sweden, its challenges and opportunities, as well as future outlook. A variety of sources were used; (1) interviews with stakeholders currently active in the industry, (2) industry event observations, and (3) secondary sources. Further, the authors gathered inspiration for the scope and potential contribution of the main study (Flick, 2014).

1.7.1 The Swedish Edtech Market

"Sweden has a need for digitally competent individuals, and the education of today is what will produce the workforce of tomorrow. That is why edtech is so important."
Anna Bjurström, Programme Manager at Vinnova.

During the last few years, much has happened in the Swedish edtech scene. The term 'edtech' was introduced in Sweden around the year 2015, which was also the year that the industry organisation EdTech Sweden[1] registered their trademark (Swedish EdTech Report, 2017). Prior to 2015, the edtech market was virtually non-existent and the main drivers of the market were individual teachers (Anna Bjurström). Fast forwarding to 2018, the digitalisation of education is still being pushed to a large degree by individual enthusiasts, and government officials are starting to pay attention to the area (Swedish National Agency for Education; Wallenberg, 2017).

The Swedish educational sector is described by many as highly bureaucratic, which in turn translates it into a generally inert sector that is slow to change (Erik Brandberg; Jannie Jeppesen). However, legislators have started to take action in the field, and in Fall 2018 the Swedish National Agency for Education are introducing digital national tests and programming as a part of the curriculum from year 1 (Wallenberg, 2017). These initiatives create a top-down push, which incentivises schools to update their technology[2] (Karin Nygårds).

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[1] EdTech Sweden is a network and an annual conference format connecting people from the commercial, public and educational sector. The first conference was held in 2015. Three years later, the industry organisation Swedish EdTech Industry was founded.
[2] E.g. computers and Internet connection/IT structure.

Compared to other countries Swedish schools hold a high level of digital maturity in terms of access to Internet connection and digital devices[3] (Karin Nygårds). Nevertheless, the integration of digitalisation into education is still subject to debate, as the receptiveness towards digital tools varies greatly between schools and is dependent on budget priorities (Lina von Post). Additionally, the latest framework agreement for municipal procurement of teaching materials set up in 2016 only includes digital teaching materials that comes with a matching physical version[4] (Anna Bjurström). Thereby, resulting from the lack of priority and knowledge among stakeholders throughout the educational sector, Swedish schools can still be considered digitally immature (Lina von Post).

1.7.2 The Sales Process (In Sweden)

The Swedish market can be divided into two main types of customers - municipalities and individual schools - who use different types of purchasing processes and thereby demand different types of approaches (Lina von Post). The sales processes can be time consuming (Anna Bjurström), and for firms to scale their business quickly is seldom possible due to differing demands among individual customers. The educational sector also tends to be risk-averse, which increases the importance of science-backed offerings and proof of concept (Alex Torgersson; Anna Bjurström). However, once the product has been accepted, implemented and proven to the customer, there is generally a high degree of loyalty - a so called "stickiness" (Erik Brandberg; Lina von Post).

> **"If you [entrepreneurs] only have a cool idea but don't know anything about how the school system works, then the end-result will probably not be that great"**
> Anna Bjurström.

Another challenge is that school budgets for teaching aids usually are set to a fixed level, regardless of whether only physical teaching material[5] or a combination of physical and digital material is included (Anna Bjurström). Consequently, edtech companies compete not only with each other, but also with companies selling traditional products. It is therefore key for edtech firms to take into account the pedagogical use of their product before launching (Karin Nygårds; Anna Bjurström). Adding to this, there is a prevalent mindset among principals and teachers that digital tools can be accessed for free. This further increases the difficulty for firms to convince buyers of the value of the product (Erik Brandberg; Karin Nygårds).

> **"There is an immaturity from both directions. The market has to understand the reality and the reality has to understand the market"**
> Karin Nygårds, Digitalisation Expert and Writer.

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[3] Hardware such as computers, "one-to-one" (i.e. an educational practice where there is one device available per student).
[4] This framework agreement is now being revised. A new one will run from 2019 and is expected to be more up to date with today's teaching situation and edtech market supply.
[5] Such as traditional books.

1.7.3 Investments

Product sales and implementation can be a lengthy process due to public procurement which is common in the K12 segment (Anna Bjurström; Erik Brandberg). The length of this process often creates a feeling of uncertainty which is reflected in the relatively low number of yearly investments in Swedish edtech[6] compared to similar innovative industries (Wallenberg, 2017). Traditional venture capital investors tend to be attracted to quick returns and rapid growth, hence the edtech industry might seem too uncertain, complex and slow (Erik Brandberg; Jannie Jeppesen).

**"You need a 10-year perspective on this industry.
The growth is a lot slower, which investors need to understand"**
Jannie Jeppesen, CEO at Swedish EdTech Industry.

Those who choose to take the leap and invest in edtech either take a personal interest in education or appreciate softer values such as contribution to society. Additionally, having a personal interest contributes to a deeper understanding of the sector which lowers the barrier to investing. (Erik Brandberg)

**"Everyone understands that edtech is growing worldwide, but you need to have
quite a lot of expertise to enter investments. You need to understand what the educational system
looks like, to understand whether a product will work in reality"**
Jannie Jeppesen.

1.7.4 Internationalisation

**"There is not a single small and innovative [edtech] firm that starts in Sweden
and considers Sweden to be their only market. It is too small.
All those firms have international ambitions"**
Jannie Jeppesen.

Swedish edtech firms are expressing a growing interest in exporting their offerings to foreign markets. Knowledge-sharing and collaboration between firms is emphasised and many express high hopes in the industry organisation as a future enabler and connector for companies wanting to go global. Simultaneously, foreign investors and customers in markets outside of Sweden are increasingly showing an interest for Swedish edtech. (Workshop, 2018)

**"It [export] is a blue ocean - I have no idea where it will land, but it is interesting.
It is so important for Sweden"**
Jannie Jeppesen.

Although internationalisation provides a promising opportunity for Swedish edtech firms, it is not free from challenges. The product offering and sales approach must fit with the export market's educational system as well as with the locally used pedagogical methods. The local educational system provides a structure from

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[6] Only 0.5 percent of all investments in Sweden are made in edtech (EdTech Report, 2017).

which the product offering must be adapted and a viable business model developed. Hence, the process of expanding to new markets is characterised by a high degree of complexity. (Erik Brandberg)

"When you are working with education you are tied to a market
- that country and their school system. You can enter new markets,
but it is not obvious what that growth will look like "
Erik Brandberg, Investment Manager at Gullspång Invest

2. LITERATURE REVIEW

The following chapter provides an overview of the current state of literature in the areas of edtech, internationalisation and business models. Moreover, the existing literature on the intersection of internationalisation and business models is presented.

2.1 EDTECH

Edtech as a research area has grown in interest since the year 2000, with a continuously increasing number of articles published every year. The definition of the edtech concept has evolved and transformed over the years. It started as a way of handling learning processes, then moving on to be a conceptual framework, theory and practice, and further on to entail the ethics of dealing with technological processes. (Hsu et al., 2013)

According to Hsu et al. (2013) the majority of edtech research has focused on the areas of technology integration and learning environments. For instance, through studying the pedagogical use and effectiveness of edtech tools (Hsu et al., 2013; Winn, 2002). What is clearly lacking in the research field is a business development perspective, with focus on how the edtech market is forming and how businesses handle challenges related to the industry's nascence.

2.2 INTERNATIONALISATION

2.2.1 Definition and introduction

Although the term *internationalisation* is widely used, it tends to work as a rather rough concept explaining firms' movement towards international operations and business. The most common definition, and the one used in this thesis, is internationalisation as "*the process of increasing involvement of enterprises in international markets*" (Welch & Luostarinen, 1988).

2.2.2 Factors Influencing Internationalisation

After an examination of the academic field of internationalisation, recent literature was used to conclude a few crucial variables influencing the internationalisation process: industry, firm, key individuals, and network (Dib et al., 2010; Andersson & Wictor, 2015).

2.2.2.1 Firm

Bell et al. (2003) suggest a classification of firms based on their speed of internationalisation. Three types of firms are presented: (1) Traditional firm, (2) Knowledge-intensive firm and (3) Knowledge-based firm.

1. *Traditional firm:* The firm uses widely understood technologies and potential customers can include many types of organisations. There is a high level of competition due to substitute products. The firm seeks local partners to regionally adapt marketing strategies, thus internationalisation is gradual. (Oviatt & McDougall, 2005)

2. *Knowledge-intensive firm:* The firm satisfies a customer need better than already existing products by offering a superior product solution and improving the customer experience. This creates competitive advantage which in turn facilitates internationalisation. Knowledge-intensive firms internationalise quicker than traditional firms due to the existing customer-demand. (Oviatt & McDougall, 2005)

3. *Knowledge-based firm:* Products from this firm are often unique due to their high technological complexity. The firm operates on an intricate market and targets specific customers worldwide. Local adaptations in the marketing mix are often not needed because of the low level of competition. The high level of innovativeness opens up opportunities for the firm to shape its own market and to become a market leader. The internationalisation occurs most rapidly for this type of firm. (Oviatt & McDougall, 2005)

2.2.2.2 Key Individuals

Previous research states that the entrepreneur plays a key role in initiating the internationalisation process through factors such as social capital, tolerance for risk and prior export experiences (Dominguinhos & Simoes, 2005; Dib et al., 2010; Englis et al., 2007; Madsen & Servais, 1997; Johanson & Vahlne, 2009). As the main decision-maker, the entrepreneur shapes the speed and scope of the firm's internationalisation process, based on his or her personal attitude towards risk, and interest in seeking global opportunities (Andersson, 2011; Wictor, 2012).

Prior international experience can be a beneficial factor during internationalisation as it tends to increase the likelihood of identifying promising opportunities (Johanson & Vahlne, 2009). Having access to knowledge and relationships prior to internationalisation can explain why some ventures grow faster than others (Madsen & Servais, 1997).

This paper expands the concept of *key individuals* from only including the founding entrepreneur, into encompassing any individuals responsible for and involved in planning, managing, or executing foreign market activities.

2.2.2.3 Network

Perhaps the most powerful and well-researched area in recent internationalisation literature is the role of network relationships (Rasmussen et al., 2001; Andersson & Wictor, 2003; Zahra, 2005; O'Cass & Weerawardena, 2009). Key individuals' networks often impact and shape market selection and method of entry, which in turn enables and drives the first instance of internationalisation (Andersson, 2011; Coviello & Munro, 1997; Oviatt & McDougall, 2005). Relationships are critical for SMEs to overcome size-related challenges, such as lack of resources and insufficient market knowledge. Being part of an established network can help smaller firms internationalise quicker, as they tend to be dependent on other organisations to reach success in new markets (Coviello & Munro, 1995).

Moreover, it is essential for SMEs to become so called *insiders* in networks where the firm can build trust and commitment as well as learn. Insidership is needed but does not automatically lead to successful business development. An *outsider* firm, on the other hand, does not belong to a relevant network which in turn complicates the entrance into a foreign market. (Johanson & Vahlne, 2009)

There are challenges associated with identifying networks, determining connections and finding suitable partnerships on new markets. Foreign operations on multiple markets requires business network coordination which can be complicated and resource demanding (Madsen & Servais, 1997). However, the efforts needed for coordination may vary depending on the *psychic distance*[7] between the markets. A firm's existing network, its ability to establish new network relationships, and coordination should be managed as one of a firm's key competitive capabilities (Coviello & Munro, 1995).

2.2.2.4 Industry

Industries characterised by high levels of growth tend to pull companies into early internationalisation (Mudambi & Zahra, 2007). Firms in technology-driven industries seek business opportunities in other markets since they perceive their domestic market to be insufficient (Ratten & Dana, 2007; Englis et al., 2007; Freeman et al., 2006). Entrepreneurial high-technology firms rarely follow a stepwise internationalisation process, as they usually adhere to more of a short-term strategy than businesses in other industries (Coviello & Martin, 1999; Bell, 1995; McDougall & Oviatt, 2000; Altshuler, 2012).

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[7] Psychic distance is further explained in "Views on Internationalisation".

2.2.3 Views on Internationalisation

Traditionally, internationalisation literature has focused on the expansion of MNCs (Welch & Luostarinen, 1988) that possess the resources needed to establish themselves on the international market (Falahat et al., 2015). Further on, the internationalisation of SMEs and start-ups has emerged as its own field of research, although it has received critique for not considering enough variety and differentiation among smaller firms (Westhead et al., 2007). The internationalisation of SMEs differs diametrically compared to the traditionally researched multinational manufacturing firms (Coviello & Munro, 1995). New ventures, with technology-focused business models, tend to internationalise early, or even from day one, to quickly achieve economies of scale in order to survive (Ratten & Dana, 2007; Coviello & Munro, 1995). Based on the theoretical background, internationalisation research can be divided into two main views of how firms internationalise - the traditional and the modern view.

2.2.3.1 Traditional View

The traditional view of the internationalisation process can be explained through three of the most well-known and influential theories in the field; the Uppsala Internationalisation Process Model (Johanson & Vahlne, 1977, 1990; Johanson & Wiedersheim-Paul, 1975), the Innovation Model (Bilkey & Tesar 1977) and the Product Life Cycle Theory (Vernon, 1966, 1971). These three models represent the incremental process literature (Falahat et al., 2015; Coviello & McAuley, 1999) and are *path dependent*. They explain how the key to a firm's internationalisation is to first set up production in the domestic market (Johanson & Vahlne, 1977). As internationalisation begins, the firm starts out with one market, building knowledge and capabilities, and then gradually entering more markets as experience is gained through each operation abroad (Johanson & Vahlne, 1977). As it progresses, the firm engages in expansion through export and further, as production standardises, production moves to other markets to make the product locally adapted (Vernon, 1966, 1971). Emphasis should be on learning from experience, as experiential knowledge is perceived as more critical in comparison to objective knowledge[8] (Johanson & Vahlne, 1977). The traditional and incremental frameworks have been heavily criticised the last decades, mainly for being too deterministic and simplified.

2.2.3.2 Modern View

The technological development that has occurred during the last decade has contributed to a more globalised world economy (Oviatt & McDougall, 1994; Knight, 2004). This has paved the way for smaller companies to enter the global market. Multiple researchers suggest that International New Ventures contradict the traditional and risk-averse view of incrementally internationalising the firm (Oviatt & McDougall, 1994; Bell, 1995; Knight & Cavusgil, 1996; Madsen & Servais, 1997; Gabrielsson, 2005; Evangelista, 2005; Rialp et al., 2005). SMEs can compete and thrive on a global scale despite a low

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[8] Knowledge that can be taught.

comparative level of previous business experience, knowledge of foreign markets and financial, managerial and social capital (Han, 2005; Dominguinhos & Simões, 2004).

Oviatt and McDougall (2004) define International New Ventures *"as a business organisation that, from inception, seeks to derive significant competitive advantage from the use of resources and the scale of outputs in multiple countries"*. These types of young ventures have also been labelled as Born International SMEs (Kundu & Katz, 2003), Early Internationalising Firms (Rialp et al., 2005), Instant Exporters (McAuley, 1999), Global Start-ups (Autio et al., 2000) as well as Born Global (Rennie, 1993). There are many definitions for the same term, but this paper adopts the term Born Global, a term Rennie (1993) coined already 25 years ago. BG is only one type of international SME, however Knight (2004) state *"given their young age, and relatively limited resource base, most BGs are SMEs"*.

Typically, BGs are founded within the last three decades (Moen & Servais, 2002) but more commonly in the most recent years. The internationalisation process is quicker for BGs because firms' offerings are niched and have few potential customers in the domestic market (Knight & Cavusgil, 1996). Firms predominantly origin from small domestic markets with open and knowledge-intensive economies, such as those commonly found in Europe's Nordic region (Dib et al., 2004; Chetty & Campbell-Hunt, 2004; Ratten & Dana, 2007). As internationalisation occurs more rapidly for firms using advanced technology, firms in the technology sector dominate BG academia (Coviello & Munro, 1995; Crick & Jones, 2000).

	Traditional view	Modern view
Influential studies	•Johansson & Vahlne 1977, 1997, 2009 •Bilkey & Tesar 1977 •Vernon 1979 •Wiedersheim-Paul, 1975	•Knight & Cavusgil 1996 •Madsen & Servais 1997 •Oviatt & McDougall, 1989, 1994, 1997, 2005 •Knight et al 2004 •Zahra & George 2002 •Riapl et al 2005 •Bell 1995 •Gabrielsson 2005 •Riap etal 2005 •Andersson & Wictor 2012 •Dominguinhos & Simoes 2004 •Ratten & Dana 2007 •Falahat et al 2015
Assumptions of internationalisation	The internationalisation process slowly progresses and is based on steps	Internationalisation is rapid and in an early phase
Explanation of internationalisation behaviour	The firm's own presence and experience from foreign markets is the internationalisation foundation.	The entrepreneur and other individuals in the firm, along with external forces in the environment, is the internationalisation foundation.

Figure 3: Summary of the behaviour of the internationalisation views, inspired by Halldin (2012).

2.3 BUSINESS MODEL

2.3.1 Introduction and Definition

Although the subject of business models is well-researched, literature is fragmented and heterogeneous and there is no agreed upon definition of the business model concept (Onetti et al., 2010). However, literature generally emphasises that business models explain and demonstrate how organisations conduct business and deliver value to stakeholders (Chesbrough & Rosenbloom, 2002; Magretta, 2002; Teece, 2010). Business models often describe the roles of network actors (Timmers, 1999), and how information, offerings and transactions flow between these actors (Well & Vitale, 2001). Some researchers include strategy as an element of the business model (Onetti et al., 2010; Margretta, 2002), while others emphasise a clear distinction between the concept of strategy and the concept of business model (Chesbrough, 2010).

In many cases, business model visualisations provide a rather static view of a firm - a description of the firm at a single point in time (Mason & Spring, 2011). A widely-used business model is the Business Model Canvas (BMC) by Osterwalder and Pigneur (2010) which outlines nine building blocks. The simplistic model is best used when focusing on one block at a time, thus complicating the process of getting a full picture of the firm (Rosenberg et al., 2011).

Contrasting theories argue that business models are not strategically designed, implemented and kept concepts. Instead the business model is described as a dynamic concept that allows for and even drives change in a dynamic business environment (Thiagarajan & Srivastava, 2002; Mason & Spring, 2011; Sainio et al., 2011).

2.4 BUSINESS MODEL APPROACH TO INTERNATIONALISATION

Limited scientific research has investigated to what extent business models accommodate to internationalisation (Onetti et al., 2010). Previous research has shown that using the original business model on other markets than the domestic, can be problematic due to financial, political, legal or cultural reasons (Rask, 2014). Furthermore, it has been proposed that new international ventures can adapt their business models more easily than MNCs, due to their flexibility and low complexity (Al-Aali & Teece, 2014).

The rise of the Internet has enabled new versions of business models. An increasing number of international technology-driven organisations are adopting Software-as-a-Service (SaaS) as their business model (Ma, 2007). Traditionally, firms have sold software applications for each customer to install locally, e.g. a client-server solution. In such cases, the customer possesses full ownership of the product, which requires the customer to provide the necessary IT infrastructure, hardware and support. SaaS, however, is installed, managed and stored by the firm. Thus, the firm assists users by enabling software updates, upgrades and data backups (Ma, 2007). The business becomes more service-oriented by allowing customers to purchase a license subscription (Godse & Mulik, 2009; Cusumano, 2008). SaaS is predicted to gradually replace the traditional model structure (Ma, 2007).

3. BUILDING THE THEORETICAL FRAMEWORK

The following chapter presents the two building blocks of the theoretical framework. Firstly, Mason & Spring's (2011) version of the business model is described, and secondly theory on internationalisation is explained. The final part of the chapter reviews the composition of the theoretical framework used in this study.

3.1 BUSINESS MODEL

As introduced in the previous chapter, much of the business model literature, perceive the business model as "*an objective representation of the reality of the firm and its markets*", usually at one point in time (Mason & Spring, 2011). However, as businesses tend to evolve over time and through interaction with other actors, a static definition of a firm's business model would quickly become obsolete. Therefore, in accordance with Mason and Spring (2011), this thesis uses a more open, network perspective on business models, where business models are seen as parts of embedded systems together with other network actors. In these systems, actions of others in the network can shape the business model, and the business model in turn, has the power to shape action.

3.1.1 Key components of the business model

Mason and Spring (2011) summarise three key components of business models: (1) the *technologies* used; (2) the *market offering*; and (3) the *network architecture* which consists of the buyers and suppliers that support the market offering.[9]

3.1.1.1 Technology

The technology component of the business model considers the usage and knowledge of technologies in terms of tools, techniques, systems, methods of organisations or material products (Kremer, 1993) that in turn support or make up the offering, the delivery of the offering, and the management in an organisation (Mason & Spring, 2011). When analysing the business model there are four different technologies to take into consideration (Mason & Spring, 2011):

Product technologies are the technologies that make up the product or service offering are often discussed in terms of innovation and product development (Christensen, 2000).

Process technologies are those used to create and manufacture products or services. According to Utterback and Abernathy (1975) the focus of technology innovation usually shifts from product to process innovation over time as the business develops. Adding to this, Cusumano (2008) showed that in the case of software companies, process innovation was followed by an addition of services to the offering.

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[9] Find the complete model in Appendix 1.

Core technologies provide the foundation for the business and the product technologies and set the frames for new product development.

Infrastructure technologies facilitate connections to be made for instance through providing Internet access and mobile networks (Mason & Spring, 2011).

In the analysis of the business model, the technology section should explain the interplay between different types of technologies, as well as with the other parts of the business model.

3.1.1.2 Market Offering

The market offering describes how the firm provides value to their customers in the best way, where *value* is defined as the benefits that a customer gains from an exchange (Mason & Spring, 2011). When the market offering consists of a product or service, value creation is often perceived as connected to essential features of that product or service situation. However, value rather concerns what occurs in the interaction between the producer and the user and the results of this interaction (Mason & Spring, 2011). In the case of products, these can also be seen as so called "programs in action" which means that their role is to coordinate a network of different roles (D'Adderio, 2001; Hagberg & Kjellberg, 2010). Breaking down the concept of the market offering, it can be interpreted as an opportunity for value-creation, which is enabled by combining different *artefacts*, and then using suppliers' capabilities, capacities, and activities on the customer or customer's property (Mason & Spring, 2011). Thereby, the market offering can be defined as the way in which *activities* are reconfigured and value creation is stimulated (Normann, 2001) and how these two aspects are interrelated.

In addition to the actual product or service that the customer receives, the market offering also entails the transaction, which is part in explaining how value is created. *Access*-based business models offer their customers access to a service or product while the firm still retains ownership of the resources and capacities that influence value creation (Gadrey, 2000). Many SaaS firms use access-based business models to create customer value. There are also business models which combine services and products. In some cases, businesses introduce services as a complement to their initial product offering in order to differentiate themselves (Matthyssens & Vandenbempt, 2008). This can however be problematic, due to varying customer requirements (Bowen & Youngdahl, 1998) and difficulties of scaling such a concept.

3.1.1.3 Network Architecture

The network architecture is defined as "*the organisation of a focal firm's transactions with all of its external constituents in factor and product markets*" (Zott & Amit, 2008). The network architecture of a firm has four dimensions of which two are used in this thesis: capabilities and relationships (Mason & Spring, 2011).

Capabilities deal with how know-how is retained, maintained and developed in a firm over time (Mason & Spring, 2011). *Direct* capabilities are the foundational capabilities of the focal firm and of other actors in the network, and these capabilities determine what tasks are done by each actor in the network (Winter, 2003; Langlois & Cosgel, 1998). *Indirect* capabilities on the other hand, are capabilities that the firm can access and use that belong to others within the wider network (Loasby, 1998; Araujo et al., 2003; Araujo & Novello, 2004; D'Adderio, 2001; Mason & Leek, 2008; Teece, 2007).

Relationships are interpreted as the relationships between the firm and other network actors. As closer working relationships are developed with some actors in the network, the boundaries of the firm might blur and the nature of the firm's identity as well as its offering might change (Araujo et al., 2003; Penrose, 1959; Richardson, 1972; Loasby, 1998). These types of network relationships are often identified through monetary transactions, however non-financial exchange and social interaction often enable the closer relationships (Mason & Spring, 2011).

3.1.2 Business Model Sites

According to Mason & Spring (2011), business models exist in multiple sites or variations. As business models evolve and change through interaction and exchanges conducted by, essentially, individuals, it is necessary to have several sites of business models. These business model variants aid in understanding how the identity and the role of the organisation differs depending on the point in time, the geographical market and other factors (Schatzki, 2005).

3.2 INTERNATIONALISATION

3.2.1 Internationalisation Approach

Simplified, there are two main approaches to foreign entry, either a firm has an *active* or a *reactive approach*. The former firm type actively seeks new business opportunities with set expansion plans and clear goals. The latter firm has an emergent approach without any announced plans or goals in how to engage in export (Sharma & Johanson, 1987).

Active	Reactive
• Internationalisation strategy • Detailed plans • Numeric goals and targets • Technology competence/unique product • Management support • Employees dedicated to the expansion	• Ad-hoc internationalisation • No plans or goals • International interest from customers • Competitive pressure in the domestic market • Small and saturated domestic market

Figure 4: Main reasons for active and reactive approach to internationalisation.
Inspired by Sharma & Johanson (1987) and Hollensen (2008)

3.2.2 Internationalisation Strategy

The internationalisation strategy can either be shaped by the traditional or modern school, introduced in Chapter 2. Firms' internationalisation strategies can be illustrated through four parameters: (1) internationalisation speed, (2) market selection, (3) method of establishment and (4) geographical scope.[10]

3.2.2.1 Internationalisation Speed

For the traditional firm, the beginning of internationalisation is characterised by high risk aversion, as operations in the domestic market are established prior to entering new markets (Johanson & Vahlne, 1977). New markets are subsequently entered gradually and slowly through a series of stages. In contrast, BGs are characterised by rapid speed of internationalisation, being international from inception (Rennie, 1993; Falahat et al., 2015), particularly if the domestic market is small (Freeman et al., 2006).

3.2.2.2 Market Selection

According to the traditional view, the internationalisation starts with firms entering markets where the psychic distance[11] is low (Johanson & Vahlne, 2009). Hence, viewed as less risky and requiring a lower degree of commitment compared to markets with greater psychic distance (Wiedersheim-Paul, 1975). BG internationalisation is not affected by psychic distance (Madsen & Servais, 1997) and the domestic market is not as emphasised as in older literature. Some firms even bypass their domestic market through immediate

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[10] A summation can be found in Appendix 2.
[11] Differences between the domestic and new markets can be affected by factors such as language, educational level, political systems, business practices, culture and/or industrial development.

international operations and enter several markets simultaneously (Oviatt & McDougall, 1995; Knight, 1996).

3.2.2.3 Method of Establishment

Establishment according to the traditional view includes several incremental decisions - starting off through exporting via an agent or distributor, moving on to open own sales subsidiaries and, if suitable for the firm, set up production plants in the new market (Johanson & Vahlne, 1977). This sequence of increased commitment may be suitable for larger firms with many functions and resources, whilst new entrepreneurial ventures may not go through the same phases but pursue opportunities more opportunistically and rapidly (Ratten & Dana, 2007; Kirzner, 1973; Coviello & Munro, 1997).

3.2.2.4 Geographical Scope of International Operations

The extent to which a firm operates on international markets and locations, can be either on one or several markets, countries in the same part of the world, or in various regions (Chetty & Campbell-Hunt, 2004). Most firms are "born regional" as they operate in markets close to their domestic market (Lopez et al., 2009). The expansion of BGs, on the other hand, is rapid both in terms of scope and location, with a diverse and global presence almost instantly (Oviatt & McDougall, 1994; Englis et al., 2007; Wakkee, 2004). Knight (1996) state that over 25 percent of revenue should stem from international sales within the first three years of a firm's existence, for a BG.

3.3 THE INTEGRATED THEORETICAL FRAMEWORK

The study aims to explore the theoretical divide between traditional and modern internationalisation patterns in the empirical setting of the edtech industry as well as the development of business models. Based on the current technology-intense and globalised business climate, the modern view is assumed to be most relevant for the study on software firms. The overall research question explores the research gap[12] and an integrated framework is proposed as an analytical tool to visualise this relationship.

The framework suggests that the influencing factors described earlier – industry, type of firm, key individuals, and network - shape the way internationalisation strategies emerge and develop. The first sub-question (*A*)[13] aims to investigate this process and address the relationship.

Foreign market entry can result in business model adaptations based on the needs and requisites of the local market. The second sub-question (*B*)[14] is investigated through the use of Mason and Springs (2011) business model framework.

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[12] Figure 1 in 1.2 Research Gap.
[13] How do the edtech firms' internationalisation strategies emerge and how are they realised?
[14] How do the edtech firms adapt their existing business model during internationalisation?

The last sub-question (*C*)[15] implies that international expansion and business model characteristics have a direct connection and affect each other extensively over time. Firms' internationalisation is then realised based on the components of the strategy and adaptations of the business model.
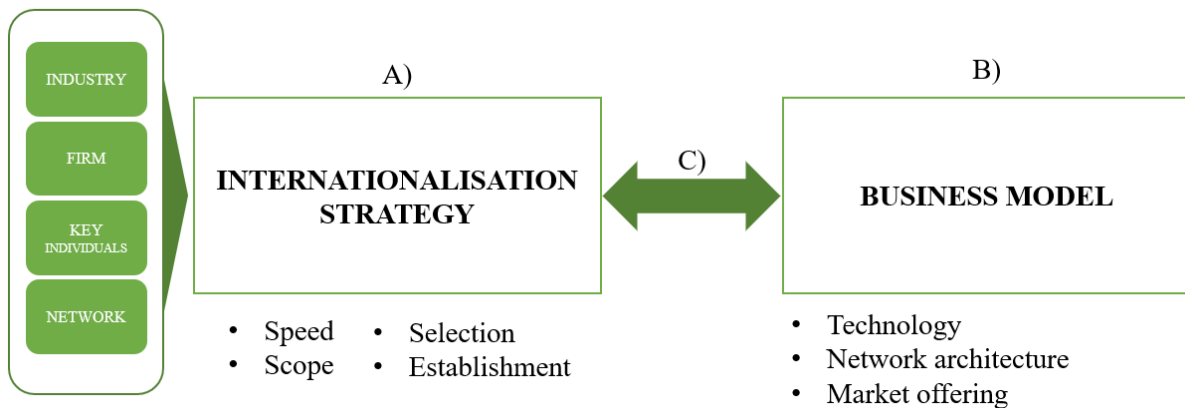
Figure 5: Theoretical Framework

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[15] How do the edtech firms' internationalisation strategies and business models affect each other?

4. METHODOLOGY

The following sections discuss the reasoning behind the choice of conducting a qualitative multiple-case study. Furthermore, the research approach, methods for data collection and analysis, as well as the basis for the interview sample and design are described.

4.1 METHODOLOGICAL FIT

The fit of the methodology ensures internal consistency among the four elements of the study: pre-study, research question, research design and theoretical contribution (Edmondson & McManus, 2007). As the edtech industry is in a nascent phase, there is a lack of available data in terms of previous research. This motivated the authors to select a qualitative approach as it focuses on developing and discovering the nature of the research problem and understand the *how* and *why* (Strauss & Corbin, 1994; Marshall & Rossman, 1999).

Selected parts of the framework "the Research Onion" guides the subsequent parts of this methodology chapter (Saunders et al., 2012)[16].

4.1.1 Research Philosophy

When conducting research on a nascent phenomenon, the philosophy of interpretivism is preferably adopted. Interpretivism allows the authors to understand the social world, interpret their observations and reflect on the phenomenon (Flick, 2014). This philosophy seemed suitable for the study due to its qualitative nature (Sahay, 2016).

4.1.2 Research Approach

Inspired by Dubois and Gadde's (2002) reasoning about "systematic combining"[17] the selected research approach for this study is an abductive logic allowing the authors to continuously move from theory to empirical observations (Reichertz, 2010; Dubois & Gadde, 2002). This approach is particularly helpful for researchers aiming to predict and explain behaviour with an emphasis upon developing and building theory (Goulding, 2002). Further, it is appropriate since the study's objective is to explore new concepts and develop theoretical models rather than confirming existing theory (Dubois & Gadde, 2002).

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[16] The model in its completion can be found in Appendix 3.
[17] As explained in Dubois and Gadde (2002): "*The main characteristic of this approach is a continuous movement between an empirical world and a model world. During this process, the research issues and the analytical framework are successively reoriented when they are confronted with the empirical world.*"

4.1.3 Research Strategy

This study adopts a qualitative approach in its research to answer the *how*-framed research question. The lack of empirical data on this topic made the authors select a case-study as the most suitable strategy. It may facilitate describing, understanding and explaining a research problem or situation (Baxter & Jack, 2008; Eisenhardt & Grabner, 2007). Case study research is an effective methodology to gather in-depth descriptions of complex issues and decisions in a real-world setting (Dubois & Gadde, 2002; Baskarada, 2014; Schramm, 1971).

4.1.4 Research Choice

The study's data collection includes a combination of primary and secondary data, thus, resulting in a multi-method qualitative study (Saunders et al., 2012). Multiple sources of evidence[18] were used as it is improves the level of accuracy and credibility, hence a *triangulation* method (Yin, 2014; Flick, 2014). The primary data was obtained through interviews with employees at Swedish edtech firms, complemented with industry experts in the pre-study. Multiple cases were selected in order to provide understanding of different contexts (Baxter & Jack, 2008) as well as to allow for comparisons between the cases, which in turn increases robustness (Yin, 2014; Herriott & Firestone, 1983). Secondary data consisted of information gained from academic journals, industry articles and reports and company websites.

4.2 DATA COLLECTION AND DATA ANALYSIS

4.2.1 Interview Sample

The interviews followed "*theoretical sampling*", typical for grounded theory. The sampling was purposively selected to enable exploration of relationships and develop theory, thus basing the sampling on theoretical and not statistical reasons (Saunders et al., 2012; Yin, 2014).

The full research study sample consisted of:

- 11 interviews with 12 representatives
- 1 industry event [19]
- 1 workshop with 11 representatives

The pre-study included five interviews with industry experts[20], one workshop and one event with industry firms. These meetings helped the authors in obtaining a complete picture of the industry, becoming a vital preparation for the main-study interviews. (Flick, 2014)

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[18] Such as industry reports, podcasts, videos, company and industry websites, academic and media articles.
[19] The event was the release of the EdTech Map. More information can be found in Appendix 4.
[20] Brief presentations of the pre-study organisations can be found in Appendix 5.

The authors attended the industry organisation Swedish EdTech Industry's internal export meeting in order to (1) gain an understanding of the industry, (2) get a brief insight in the current status of internationalisation and (3) to get in touch with case firms. The four main study case firms were selected after observing the workshop. The main-study constituted of eight firm representatives involved in the firm's export operations. The interviews were either conducted in person in Stockholm or through Skype, and all meetings lasted between 30-135 minutes[21] and with factual follow-up questions via email.

To limit the scope, and to choose suitable case companies, three criteria were used: the firms had to be (1) founded in Sweden[22], (2) operating in K12, and (3) have operations in foreign markets (outside the Nordic region). Three of the selected case firms[23] attended the workshop, which proved that they are active in their internationalisation. The fourth case firm[24] was recurrent in both interviews and media articles during the pre-study and was therefore selected as an interesting case. The authors were in contact with more potential case firms, however they were not pursued further due to several reasons[25]. It was essential that all selected firms were diverse enough by either having various (1) business models and/or (2) internationalisation experience.

However, selection based on convenience[26] was pursued to overcome problem of access which may occur in qualitative studies (Flick, 2014). Access to interview subjects was sometimes difficult because new ventures have a limited number of employees and even fewer who have in-depth insights about the internationalisation journey and/or the changes in firm's business model. In the end, the authors had to prioritise the quality of interviews, as in relevance to the purpose of this study.[27]

4.2.2 Interview Design

As this study is of an explorative nature, a non-standardised interview design was applied (Cooper & Schindler, 2008). The study predominantly adopted the format of semi-structured interviews. Elements of in-depth interviews were also used to allow the interviewees to speak freely. Semi-structured interviews tend to predominate qualitative research (Bryman, 2006) when researchers can attract knowledge through conversations with questions adapted to each organisational context. Whilst a list of themes and questions

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[21] Main interviews normally lasted longer, between 60-100 minutes while either an introductory meeting or follow-up meetings were shorter (around 30 minutes).

[22] Although it may not be the company's main market. The companies are then also part of, either as a member or have ambitions of becoming a member of, the industry organisation Swedish EdTech Industry

[23] Lexplore AB, IST Group and Nova Software AB

[24] Kognity AB

[25] Firms (1) used to be active internationally but had reduced the activity due to priority changes*, (2) responded too late in the research process, or (3) did not respond at all.

[26] The cases which had easiest access to given the conditions and limited resources

[27] A detailed description of all interviews can be found in Appendix 6.

*Priority changes: The Swedish National Agency for Education (Skolverket) is introducing increased digital focus in Sweden starting from 2017. This increases some edtech firms business opportunities in the domestic market. As a consequence, the employees that had been driving forces in the internationalisation process in that company no longer work there, and the company was therefore no longer relevant as participants for this study.

are to be covered to explore the research question, the questions and order depends on the flow of the conversation (Marshall & Rossman, 1999).

To build a relationship and create trust between the authors and interviewees, Rubin and Rubins (2011) "conversational partnership" and "responsive interviewing" techniques were applied. Both the interviewer and the interviewee played active roles in shaping the discussion and the questions were adapted during the conversation. The authors let the interviewees decide upon the interview location to ensure that they felt as comfortable as possible (Saunders et al., 2012). The relaxed atmosphere together with open-ended questions made it easier for the interviewees to avoid short answers and encouraged them to open up and share opinions and experiences (Rubin & Rubin, 2011; Flick, 2014).

Prior to the interviews, a set of themes were decided upon that were relevant to discuss with the interviewees (Saunders et al., 2012). The specific themes were closely linked to the study's research questions and were then translated into an interview guide (Flick, 2014). The aim of having an interview guide and by asking similarly phrased questions, will increase the data compatibility between the cases. Nevertheless, the interview guide was slightly adapted and tailored to each interview depending on the role of the interviewee.[28] Secondary sources[29] about the company and the interviewee were researched before each interview.

The coordination occurred online via emails and an introductory interview request together with a brief description of the research and study's themes were introduced.[30] As a starting point of the interview, an "informed consent" was given by the interviewee about recording permission and the study's future publishing (Flick, 2014).

4.2.3 Data Processing

Interpretation is central in qualitative research because it searches for meaning in people's actions (Willig, 2012; Flick, 2014). The process of documentation was comprised of recording and transcribing all interviews. Although precise transcription of data absorbs time and energy, in agreement of Flick (2014) the authors found the transcriptions as a necessary step of the interpretation. The transcription was part of the reflection process, since useful knowledge was gathered before the next interview. Later, the transcriptions were easily available for referencing. The selected citations in the report were translated from the study's original interview language - Swedish to English[31].

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[28] A sample of the interview guide can be found in Appendix 7 and 8.
[29] Such as company website, articles, Twitter and LinkedIn.
[30] See Appendix 9 and 10.
[31] Translation work was only done on the selected quotations.

Both authors read through the case transcriptions individually to summarise the most relevant parts for the research before discussion. For the main study, themes were identified in each interview and separated into phases that the cases had experienced over time.

4.2.4 Summation of the Research Process

1.	Curious of the edtech industry. Read reports and articles.
2.	Pre-study: 1 workshop, 1 event and 5 interviews
3.	Transcribing and coding
4.	Theory and theoretical framework
5.	Main study: Case firm interviews
6.	Transcribing and coding
7.	Return to theory and theoretical framework
8.	Conduct analysis and discussion
9.	Report writing
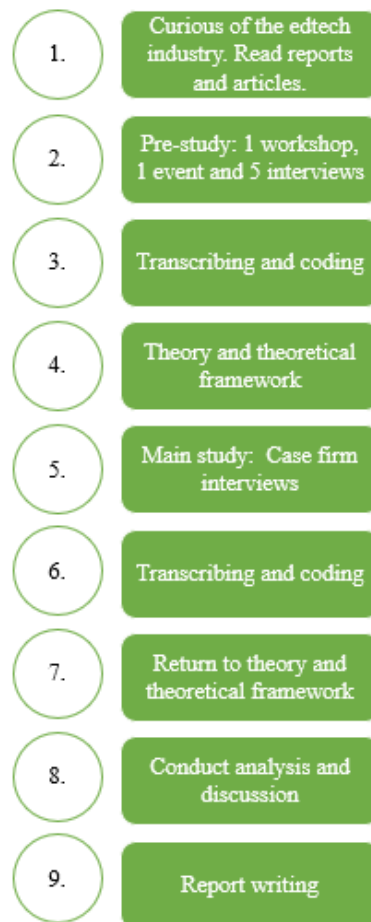
Figure 6: Summation of the Research Process

4.3 QUALITY OF THE STUDY

4.3.1 Consistency

The usage and comparison of multiple data sources ensured that findings were supported by more than one single source of evidence (Merriam, 2009). Consistency was improved by having all audio recordings transcribed, thus ensuring that the translations was as accurately cited as possible (Gibbs, 2007). The detailed presentation of the research process helped the transparency of the study, by including frequent interviewee citations and having material available such as interview samples and guidelines. The clear demonstration of

the study's data collection also facilitates the possibility for others to conduct similar studies (Flick, 2014; Yin, 2014).

4.3.2 Credibility

Triangulation of methods, sources and theories helped to extend the credibility of the study's research and conclusions (Flick, 2009; Strauss & Corbin, 1994). Quotations and the empirical part of the study was shared with the interviewees to minimise factual errors, misinterpretations and ensure accuracy (Merriam, 2009; Yin, 2014).

4.3.3 Transferability

Transferability is considered to be the greatest challenge of adopting a qualitative case-study strategy (Yin, 2014). A qualitative study has to give a rich description of the study's phenomenon to help the reader get an understanding of the context, thus enabling them to compare it to more familiar situations (Lincoln & Guba, 1985). This study has assisted with this through giving a holistic view of the sector and providing rich descriptions of each case study setting.

5. EMPIRICS

The empirical data findings are presented in this chapter. Each case study company is introduced with the following information: company background, their initial business model together with adaptations, the internationalisation process and future ambitions. This is presented in a narrative manner, keeping the processes and reality rather descriptive than analytical. The empirics is based on the qualitative interviews at each firm.

5.1 THE INDUSTRY SETTING

The Swedish edtech industry is in its early and developing phase. However, the industry is experiencing a strong annual growth and there is consensus among firms and investors that Swedish and Nordic edtech will boom worldwide (Jeppesen, 2018). Opportunity-seeking firms are rapidly entering the global marketplace with their innovations. Nevertheless, the market complexity, uncertain mindset towards digital tools among stakeholders and the lack of a strong ecosystem remains. The potential is endless, yet only a few Swedish edtech firms have managed international operations sustainably.

There is a wide range of firm strategies and business models active in the edtech industry, and each case organisation provides something different. IST Group (IST) and Nova Software AB (Nova Software) were founded over 30 years ago with an established position in the domestic market. Kognity AB (Kognity) and Lexplore AB (Lexplore) are younger ventures with strong international ambitions from start.

The authors have identified five phases for each organisation, in how the internationalisation journey, and business model transformations, have unfolded and been realised. The first (1) phase explains the situation and business model on the domestic market, before the (2) first international move by entering new markets. Further, the (3) firm continues to enter new markets, which may lead to (4) changes in either the business model design or in the export. This change leads to a (5) focus on specific international markets or market offering. Each case is described through a narrative, whilst analyses of the empirics through the theoretical framework is presented in the next chapter.

5.2 CASE ORGANISATIONS

5.2.1 IST

IST offer solutions and services for schools.[32] The firm has 400 employees, and the workforce is split between having background from IT and education.

Phase 1: Prior to Internationalisation [1985-1994]

IST were founded 1985 in Växjö. Their market offering in Sweden was a locally installed product at each customer - a so called client-server solution. Municipalities are their customers with contracts usually lasting around 4-10 years. It is a common procedure to prolong the contracts, as long as customers are satisfied with the company and the products. However, customers must go through public procurements regularly as part of the sales cycle. The customers set up a list of requirements and demands that the firm must match. It could take around one year for the process to be completed.[33]

IST are rarely in direct contact with the customers. Swedish municipalities have system administrators as system support for the provided IT solutions and IST invite these employees twice a year to educational conventions where new solutions and services are presented.[34]

Phase 2: Entering New Markets [1995 - 2006]

The founder expressed an interest in internationalisation, and IST entered their first markets abroad through acquisitions in Norway and Denmark in 1995.

The client-server solution required customers to be educated in the usage of the local product. As time went by and the client base grew, product updates and development became a costly procedure, and sometimes even impossible to do. A need for a new product generation was identified. Later IST launched a new cloud-based solution - a resource-effective cloud-based SaaS solution where the municipality pay a yearly fee based on a price-per-student model. Service and support is included in the contract and customised solutions can be added for an additional fee. Norwegian customers frequently order customised features, not as common on the Swedish market. The process of replacing the old product generation with the SaaS products began among customers on the Swedish and Norwegian markets. The new products were quicker implemented in the Norwegian market, being 1.5 years ahead of the Swedish market.

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[32] Offers on the Swedish market: IST Administration, simplifies interaction between all different roles involved in managing the daily activities in a school. It enables efficient workflows for administration while providing a reliable communication between home and school.
IST Learn enables teachers and student collaboration with fully integrated tools for planning, education, evaluation and assessment.
IST Schedule makes the timetabling process much more efficient and facilitates resource planning.
IST Home simplifies the collaboration between home and school, providing parents with support, knowledge and inspiration to be more involved in their children's development and learning.
[33] An example of a step-by-step procedure of a public procurement process can be found in Appendix 11.
[34] The structure can be found in Appendix 12.

**"It is not up to us when the customer changes product,
it is up to the municipality, depending on their procurement process
but we always need to have a competitive offering available"**
Torbjörn Karlsson, Vice President, Head of Business Unit Products.

The municipalities have a detailed list of product requirements that the firms must match. At times, that forces firms into costly product development which may not always be profitable. At times, smaller firms contact IST for potential partnerships, for mutual business development.

**"To develop and offer a complete administrative system with high level
of functionality requires a lot of resources, many firms don't have that option.
Your product portfolio offering has to offer both width and depth"**
Torbjörn Karlsson.

IST have many suppliers whose products can complement their offerings. Two of them are Nova Software and Untis as providers of schedule features in Sweden and Norway. These partnerships facilitated their success in some purchasing negotiations.

Phase 3: Going International [2007 - 2016]

**"When we implement our products in the Swedish and Norwegian market successfully,
then we see a huge potential in continuing on new markets where the requirements are lower than
in our domestic markets. The process in Sweden and Norway is more complex"**
Torbjörn Karlsson.

IST continued their expansion and set up an office in the US in 2007 and an office in China year 2010, however, they were both closed after a few years.

**"We created many new market contacts, but our main focus was to keep our existing market
shares and replace our solutions on our home markets with our new cloud based solution. The
new markets got lower priority and we were not able to deliver a product at a pace that the new
markets demanded"**
Torbjörn Karlsson.

The exported product was unpolished and failed to respond to market demands. There was a need to develop a product appropriate for the American and Chinese market, simultaneously as the launch of the new SaaS product generation in the Nordic markets. It was decided to prioritise the product launch in the Nordic markets, and consequently to close down the operations outside Europe. The US operations closed down in 2015 and the Chinese office still exist but is inactive. Additionally, an office in the UK was almost set up 2015 but was put on hold.

A new CEO was recruited in 2015 and he contributed to these aforementioned organisational changes. He set up a new business plan announcing that IST will have (1) a 20 percent annual growth at 2020, (2) set up offices in a new country and (3) developed and implemented a new product category to their portfolio. The

business plan also included a more focused internationalisation with the help of analysing markets with Business Sweden[35].

Phase 4: Change [2017]

After closing down the market operations overseas, IST entered the German market in 2017 by acquiring a German firm. This firm had a similar offering as IST, however with a less-modern technology. To build a new and updated product generation was then considered an expensive project. The new ownership lead the firm to cancel any further product development and replace the traditional products with the IST product offering. Additionally, the purchase included the German firm's product portfolio and existing customer contracts. As a result, IST gained immediate market shares on the German market.

The new product generation developed for the Nordic market is also planned to be distributed in Germany, thus adding another revenue stream for IST. Hence, navigation on several markets opened up possibilities to find synergies between markets, exchanging products from various markets' product portfolios.[36]

Originally, the internationalisation strategy was to open up offices in each new market to establish the IST brand locally. Nevertheless, two realisations made the firm change direction. First, creating brand awareness on new markets required a lot of resources (e.g. time and investments). Second, IST experienced a distance between the firm and their customers. As a result, IST decided to relocate their resource from the office set-up to focus on developing a simple core product for the international markets. The strategy from then on would be to either acquire firms or work with resellers with local market knowledge. IST products can then be used in combination with other products to become a complete product offering, sold under the reseller's brand.

The strategic decisions could potentially lead to a more rapid internationalisation and contributing to a quicker return on investment. Entering markets with resellers would first be conducted in the United Kingdom (UK) and Ireland. The selected resellers were found at *Bett*[37] - the largest educational fair in the UK. The resellers take full responsibility of the local sales process by conducting product adjustments, negotiations and ensure product implementation. Resellers will regularly be invited to Bergen in Norway for trainings in how to integrate the local products with IST offerings.

"Sometimes there's an advantage for local resellers to have a heavy player in the background, due to our size on the Nordic market. It can be good for the customer to know that we're not an inexperienced start-up"
Torbjörn Karlsson.

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[35] Business Sweden "provides strategic advice, sales execution and operational support to help firms grow their international revenues."
[36] As an example: local products in Norway and Denmark could be distributed to the German market.
[37] Formerly known as 'British Educational Training and Technology Show'. It has been held annually since 1985 and brings together over almost 35 000 attendees.

There is a slower implementation in UK, Ireland and Germany due to the smaller buyer size. These European markets do not have public procurement process through large municipalities. The UK has so called "*Trusts*" where between 15-60 schools in a region jointly conduct purchases. They publish a request with a number of requirements that IST's local resellers has to respond to, in a similar manner to sale in the Nordic markets. However, IST have had a few issues when launching on the Danish market, due to the large variances between municipalities, thus resulting in difficulties to create a basic product for the Danish market.

Phase 5: Focus [2018]

Beginning in 2015 Norwegian municipalities have set strict demands on the implementation of new technical solutions in the educational sector. Swedish municipalities have started to set similar demands, but it will not be reinforced in a few years time.

"The 50-60 percent market shares we have with [Swedish and Norwegian] municipalities are extremely important, we cannot lose those deals."
Torbjörn Karlsson.

IST's main strategic priority is to protect their large market shares on the Nordic market, hence the operation of replacing the products to the SaaS system. Sweden and Norway have long purchasing processes, but the product implementation is large across municipalities. Successfully managing the shift to the SaaS product can secure revenue streams for the next 10 years. The new solutions will later on be launched on the other foreign markets too.

Key Challenges	Key Learnings
• Strict product requirements from municipalities • Geographical markets differ in digital maturity • Challenging to manage product generation shifts in several countries simultaneously • Long product implementation process	• The Nordic market is complex • Long contracts with customers • Not all firms can successfully go through public procurement processes individually • Moved from client-servers to cloud-based solutions • Change in strategy from local market presence to outsourcing the sales process

5.2.2 NOVA SOFTWARE (NS)

NS is the Swedish market leader within school administration with their mission statement "We Simplify the School". The main products are scheduling and reporting absence/presence. They deliver over 90 percent of the scheduling functions to the K12 segment in Sweden, and NS is one of the few organisations delivering the common school platform[38] in Stockholm.

Phase 1: Prior to Internationalisation [1985 - 2000]

The organisation was founded in 1985 and created the first digital system for reporting student presence and absence in Sweden. As the exclusive provider of the system, NS had full ownership of the market. Domestically, the sales process has consisted of many meetings in person and public procurement processes with municipalities.

Phase 2: Entering New Markets [2001 - 2005]

NS launched operations in Norway, UK and France between 2001 and 2005. The firm chose to enter the markets together with small sized distributors who are responsible for each market.

NS's first distributor in Norway was purchased by their competitor IST, and they have developed a close collaboration over time. The firms managed a successful sales process on the Swedish market and are in discussion whether to continue selling their products co-jointly internationally.

> **"We are competitors on the Swedish market,**
> **but the world offers so many opportunities**
> **so we can help each other out"**
> Jacob Westman, Director Business Development & Growth.

There can, however, be challenges, uncertainty and drawbacks related to conducting business with distributors. A firm's product may not be prioritised in the sales process unless the distributor or reseller believes that it adds value.

> **"There is a risk that the distributor won't be as passionate about the product as us.**
> **Perhaps they sell several products within the same region competing against one another. At the**
> **same time, it is expensive to build up your own organisation on all markets"**
> Daniel Wendel, Business Partner Manager.

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[38] A common platform for the city of Stockholm's pre schools and schools. The platform's purpose is to simplify and quality check the administrative work, the pedagogical working environment and teaching. This platform will replace several old systems, joining teachers, parents and 140 000 pupils from 1 200 schools. There are in total five organisations delivering the solution, whereas NS is one of the three for the administrative part. (http://www.stockholm.se/ForskolaSkola/Skolplattform-Stockholm/)

"If you have a bad contract from start, then you have to endure it for quite some time. It is a slower sales process if you have a middle man. On the other hand, the right contact can help you access the perfect network."
Jacob Westman.

Phase 3: Going International [2006 - 2013]

Individual schools worldwide use NS administrative solutions, making the firm present in almost all continents. Initially, schools located abroad with Swedish educational systems became customers. Then, schools with international educational systems (e.g. American or British curriculums) expressed an interest in the products. Individual moves between international schools resulted in a passive distribution of NS product offerings (e.g. a principal using the product in an American school in Japan, then moving to a school in Dubai and purchasing the service there). Many sales initiatives began through customers requesting NS for consultancy services to investigate the school's current administrative system, leading to sign-ups for the product offering from NS.

The service offering is a licence and, consultancy service upon request. The licensing model is easy to scale; however, new market entries require language adaptations, and hiring of local consultants among many other things.

"Sales abroad required many adaptations and we could not dedicate time to it then. We can now tighten our muscles and make market adaptations to new markets"
Jacob Westman.

NS avoided active exporting operations and put all resources into the domestic market, only a few percentages of the revenue stems from international activities. The Stockholm platform development was a resource demanding operation and NS had to turn down several projects abroad. NS could reprioritise as the products for Stockholm finished, because the owners have highlighted the firm need to grow internationally, with the belief that the firm has the right reasons, product and knowledge to succeed.

Phase 4: Change [2014 - 2018]

"We will go broad when we export. Currently, we look at every market that sounds interesting, and then we'll make decisions on which ones to pursue"
Jacob Westman.

The organisation began discussing exporting strategy in 2014 by setting a long-term goal to have an equal revenue distribution domestically as abroad. As a starting point, 10 percent of the revenue in 2020 should stem from international business. Business Sweden was recruited to suggest appropriate market opportunities. As a result, markets with similar educational systems and purchasing procedures to Sweden was proposed (e.g. the Netherlands, Germany, Canada).

There is an awareness of what size of a customer the organisation can handle. Too large of an order (e.g. all schools in a city or region/district) would require more employees, and the need to product develop for several years. Yet, no clear market entry path has been selected, whether to continue using distributors, sell products co-jointly with firms, or by using own resources. Overall, the idea is to work in a more modern manner and gain inspiration from new ventures by utilising other types of marketing channels and to development SaaS products.

> **"Our internationally sold product is a locally installed software,
> where each school downloads and use it on their computers.
> This calls for educating local employees in how to utilise the service,
> and from a scalability point of view it would be preferred
> with a web-based solution"**
> Daniel Wendel.

Phase 5: Focus [2018]

The firm's first priority in its international strategy is to target international schools with English speaking educational systems. NS argue that these schools are to a larger extent privately owned and stronger financially situated. The sales processes are done in groups of several schools, hence no communication with municipalities. NS's perception is that Sweden is in the forefront with IT in education, especially within their product field[39]. The overall sales pitch has changed from being about the product's functionality to its value-creation. Private schools are often in need of attracting students and guardians more than public schools, so NS is convinced that they can help a school become more competitive and attractive by providing a good administrative system.

Key Challenges	Key Learnings
• Identifying the most suitable way to engage in international sales • Extensive product development needed to stay competitive	• Focus on the domestic market, difficult to manage too many large projects simultaneously. • Both downsides and opportunities of using distributors • Organic growth through word-of-mouth activities. • Change from product-functionality to focus on value

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[39] In flexible and individualised schedules compared to traditional static ones.

5.2.3 LEXPLORE

Lexplore, founded in 2015, offers a digital tool which objectively maps and identifies students' reading capability. The method is built upon 25 years of scientific research from Karolinska Institutet[40] where eye-tracking technology combined with artificial intelligence (AI) is used in order to assess a child's reading ability in 2 minutes with high accuracy. Lexplore's helps in addressing student literacy achievement gaps early on, which in turn enables schools to recognise this and put in necessary aid. Teachers can then follow the student's development over time by using the service.

Phase 1: Prior to Internationalisation [2015]

Lexplore's solution is perceived as highly innovative which makes it challenging to introduce to the customers - schools and municipalities. The traditional method to measure reading abilities is in a non-digitised survey in individual classrooms. This can be seen as an inadequate or flawed approach due to its lack of objectivity[41]. In contrast, Lexplore is collecting real time data possible to explore and segment on school level or municipality level. The full potential of Lexplore's product will be visible in a few years' time when enough follow-up data has been collected on students' over time.

The core product is a SaaS offering together with a hardware device. Lexplore dedicates a lot of time to build a complete systematic service offering that is attractive in the school context to enable the applicability in teachers' and principals' everyday life. The customers can either conduct the data collection on their own or with the help of the firm.

In the beginning, the CEO worked actively with the sales process, setting up meetings with a plethora of stakeholders in the educational sector[42]. Without a background in education, he realised that it was a complex sales process, leading Lexplore to employ teachers with the needed knowledge. To offer a unique product has been challenging in the sales process, because customers have a difficult time understanding the technology and trusting the service.

> **"It is so different from how reading capabilities have been measured before, everyone was sceptic to begin with, and wondered how it can work, because no one has done anything similar before. It is our strength but also our weakness. We have to make people understand how it works."**
> Fredrik Wetterhall, CEO.

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[40] Karolinska Institute (sometimes known as Royal Caroline Institute) is one of the world's foremost medical universities and is Sweden's single largest centre of medical academic research, medical courses and programmes. It has a good reputation for its quality research and innovation, and it is the home of the Nobel Assembly.

[41] Individual teachers correct the tests, teacher judgments may not always be objective.

[42] Municipality boards, individual teachers, educators, principal etc.

Lexplore's perception is that Sweden is far ahead in digitalising schools compared to many other nations. However, all customers are not interested in trying new methods. A digital tool means new ways of working and a complete understanding for the product is needed.

Decision-making in Swedish schools is decentralised and distributed between municipalities and individual schools. The Swedish culture of consensus also affects decisions as many different stakeholders can act as gatekeepers[43].

**"Even if we've met and convinced one person in a school,
there may be 20 other people we haven't met, so they aren't convinced.
Anyone can stop the process. Everybody wants change but no one
wants to change their own behaviour"**
Fredrik Wetterhall.

Phase 2: Entering New Markets [2015 - 2016]

Since the methodological and scientific research is from Sweden, the first product was available in the Swedish language. Nevertheless, the organisation had international ambitions from day one.

"The Swedish market is so small, it is a test market for us. All potential is outside Sweden"
Fredrik Wetterhall.

External funding set expectations for Lexplore to internationalise. No clear path of selecting appropriate markets has been established yet, however two factors matter. First, the market perception and attitude towards reading capabilities - the firm avoids markets with high levels of scepticism towards reading difficulties. Second, the market size and local language play a role.

**"It takes as much resources to enter Denmark as to enter Germany. Then the German market has
so much more potential"**
Fredrik Wetterhall.

Research studies were conducted by the firm in the United States (US) (2015), France (Spring 2016) and UK (Autumn 2016). As the product foundation is language and alphabets, local studies are needed to adapt the algorithms to new language structures. Research results proved that the original product algorithm functioned for both Swedish and English, whilst the French language needed additional testing for full functionality. Six months after launching in Sweden, Lexplore began to pilot its English product version in the US and UK.

**"We are considering other languages too, especially towards newly arrived migrants. However,
languages that are too far from Swedish grammar will most likely require more rigorous testing to
update the research models"**
Fredrik Wetterhall.

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[43] E.g. teachers, special-need teachers and principals.

Phase 3: Going International [2017]

Lexplore have received market requests from up to 30 countries across the globe. The overwhelming interest makes the organisation consider foreign markets. However, the product model is not scalable enough to chase all opportunities. The novel product calls for individual market support where educating the customer on the products is a must. Lexplore has decided to fully commit to one or a few markets at a time, rather than to dedicate resources to all interested markets.

"We do not have the capacity right now, we would rather choose one market at a time and go all in there than to be all over the place"
Fredrik Wetterhall.

Initially, the organisation searched for new markets based on geographical proximity, market size, and attitude towards reading disabilities. External consultants were hired to conduct market research, landing in markets such as the US.

"I wish we could say that we conducted an extensive analysis of all markets which made us choose UK and US but that is not the case. We tested and learned throughout the process. Then you realise that you didn't know much at all, and you start over."
Fredrik Wetterhall.

They view US as a complex market, virtually acting as 50 separate countries. Throughout the sales process, the firm has learned that US schools value a firm's local presence - being 'locally patriotic'. Product testing in each state, thus grounding the firm locally, is a necessity for the sales process.

The US market entry was facilitated by Swedes, which provided a useful network and was beneficial in terms of providing market knowledge and bridging cultural differences. Lexplore opened and closed down operations in North Carolina and Oregon, and have since then employees located in California, Georgia and New Jersey.

Phase 4: Change [2017]

Lexplore's ambition is to create close partner collaborations in each market, prior to market entrance. Their view is that partners create increased business opportunities and help the firm's expansion. IT-giant Microsoft has been an early partner to Lexplore. As Lexplore use their technology in an innovative manner, the edtech firm has become a showcase for Microsoft on a global scale, opening up PR possibilities and jointly attending conferences. Lexplore is nowadays their co-selling partner, resulting in Microsoft's sales representatives receiving monetary incentives when selling Lexplore's product.

"Our partner view was originally resellers. But you can forget the dream of having someone selling the product for you - then you need a really simple product. Partners on the other hand open up doors and find common areas of interest - then sales happen"
Fredrik Wetterhall.

Lexplore entered the US market organically and scanned the market for partners. In the UK however, the strategy was the opposite. A British distributor contacted Lexplore after an event, and the two organisations began negotiations. The employees at the distributor quit the firm during the process and explored opportunities with Lexplore on their own. In the end, Lexplore entered the British market organically too. Lexplore has two employees located in Manchester, UK.

Phase 5: Focus [2018]

"In the beginning, we underestimated the importance to be rooted in the school world"
Lars Lengquist, Head of Communications.

The product is not initially shaped from an educational context, but from medical research. Lexplore employed teachers early, only to realise the importance of having principals in the organisation. Industry competence was a crucial factor to engage in sales activities in a convincing manner, by developing the service to suit the customers' reality.

A lesson learned from the US establishment is to early on recruit individuals with knowledge in the local educational system. Lexplore first US CEO has a background as (1) special-needs teaching, (2) principal, (3) superintendent and (4) entrepreneur. Lexplore further recruited a CEO for the UK operations with previous edtech experience. Also, the CEO for the Nordic market has a background as principal. Close communication and knowledge sharing within each corresponding market team was emphasised to keep improving the core product available in all markets.

Key Challenges	Key Learnings
• Different buyer and user • Make the target group realise the product need and value • Not enough internal resources to enter all interested markets worldwide	• Be local when the product is complex and innovative • Be based in the local educational system, taking all stakeholders into account • Recruit great individuals to new markets early on • To educate the customer on the product is necessary • Partnerships create opportunities

5.2.4 KOGNITY

Kognity is a fast-growing company founded in 2015. They are challenging the dominating textbook publishers by providing a so-called "intelligent textbook" - a digital and interactive textbook. Students actively engage with the content and the high level of interactivity make the learning more effective. Teachers access statistics provided by the platform and follow students' learning curves through real-time insights.

Phase 1: Prior to Internationalisation [2015]

The company's initial business model was based on targeting schools with international curriculums, the International Baccalaureate (IB)[44], where both of Kognity's founders had studied in their teenage years. Prior to Kognity, they had founded another company in the educational industry with strong international ambitions.[45]

Kognity launched a minimum viable product to conduct an early launch. The aim was to begin the sales process although the product was far from complete. Customers pay an annual fee for the service, adopting a SaaS model.

The founders requested and received a list of all potential customers - contact details to all IB schools worldwide. With the world as their marketplace, the process of contacting and setting up meetings with stakeholders began. Areas of responsibilities were split between the entrepreneurs where one set up sales meetings internationally, whilst the other continued the product development in Stockholm.

Phase 2: Entering New Markets [2015]

A standardised email was sent out to the IB contact list, and a school in Kigali, Rwanda, expressed an interest in the product. A "*short and chaotic*" Skype meeting surprisingly lead to the firm's first sales deal. After an overall unsuccessful year in sales, where the Rwandan sales was one of few exceptions, the firm reflected over their positioning and product purpose.

"When we had initial sales meetings with customers, they could quickly identify that we did not understand much about education or teacher's resources. We did not deserve a sales deal because we did not have a good product"
Hugo Wernhoff, CEO.

The founders met the Academic Director of the firs IB school in Switzerland where the IB education originated. This Director believed in Kognity's product concept, with an understanding that the firm was in a developing phase. A relationship between the venture and the school quickly developed into a close

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[44] International Baccalaureate (IB) was founded in 1968 in Geneva, Switzerland. Over 4900 schools in 150 countries offer IB programs.
[45] Lanterna Education had its headquarters in London with the ambition of becoming a global company within school courses abroad, where customers (students) can travel and study during school breaks and therehein improve their grades when returning to their actual class. Course centers were set up across Europe, North America and the Middle East. This company was run besides the founders university studies and the revenue was around 7-8 million SEK.

partnership. The firm offered free product trials for all the school's students, in exchange of receiving in-depth user insights. The founders continued to product develop for two years to find the appropriate market fit. Having an accessible test market at a well-respected school turned out to be invaluable for Kognity's product development and brand building. The product trial in an actual student context helped the start-up's legitimacy and validity - two fundamental concepts in education.

Additionally, the IB market is characterised by movement of stakeholders[46] in the IB system. These market characteristics provided an excellent foundation for word-of-mouth marketing, which Kognity experienced as a result of working closely with its customers.

**"Our customers make their decisions on validity and recommendations.
Teachers listen to other teachers' opinions"**
Karin Bjerde, Global Business Development Manager.

Phase 3: Going International [2015]

The new sales process began lead by two employees in 2015. The market selection strategy was to map out the markets that (1) were compatible with direct sales as distribution channel, (2) had an academic tradition, (3) good macroeconomic conditions, (4) had financial muscles, and (5) good enough IT structure for a successful launch. Kognity aimed to make as few product adjustments as possible for each new sale.

**"We [the two sales employees] divided the world. I got Asia, Africa, Australia, Middle-East and Europe. He got the Americas. We left and said "see you in a year".
We were a modern version of door to door salesmen"**
Karin Bjerde.

To brand Kognity as a textbook facilitated the sales and marketing communication. Textbooks are usually included in the school budget, customers can then easier understand, position and place the product in their organisations.

"We were very lucky with our business model. We clearly expressed that we replaced the printed textbook. Then customers immediately understood how we fit into their world, because they buy books every year. They had instant knowledge about the purchasing process, how to use the product and how to relate to it"
Hugo Wernhoff.

Printed textbooks, and not other edtech tools, are Kognity's main competitors. The challenge was to express the product value in a comprehensive manner with all its features, as a '*textbook + + +'*.

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[46] Teachers, principals and students.

As individual schools purchase the product, Kognity can either approach a teacher or the principal directly when initiating a sale. The principal is the ultimate owner of the budget and has to be involved in the sales process in some way. However, since the teachers, together with the students, are the main users of the product it is essential to have their support. Therefore, it is key for Kognity to not overlook any stakeholders in order to succeed with the product implementation. Prior to product subscription, the customer experience a trial period of two months, including mandatory product trainings. The trainings are a large part of gathering buy-in from all parts of the school network.

Further, Kognity decided to keep the distribution in-house to remain in control over the sales process and develop customer relationships.

> **"We are experts on our own product. Yes, it may be an investment for us
> to travel around the world on a regular basis but we believe that the return
> will be higher in the long term because we know how to best sell
> the product and later on own the customer experience"**
> Karin Bjerde.

The sales team is the largest team in the organisation. By keeping sales in-house, the firm receives immediate feedback and can directly respond to market needs.

> **"We often receive comments from Chinese schools that we do not
> have enough study questions, although we have thousands.
> We rarely get that type of feedback from the US. They ask for
> more features to facilitate collaborative work and critical thinking."**
> Karin Bjerde.

So even though all customers use the IB system, there are still cultural differences to consider during product development. However, the firm has one core product that must cater a global market.

> **"It is a combination of a lot of product development but also trial and errors.
> We need to develop products that the customers are willing to pay for.
> Many edtech companies have great products but many struggle with the
> commercialisation of it. We are doing the opposite"**
> Karin Bjerde.

Phase 4: Change [2016 - 2017]

After the first year, the sales team expanded with an additional six employees. The team divided up the responsibility into 3 regions in: the Americas (3), Europe/Middle East/Africa (2) and Asia (1). Besides the sales function, a Customer Success (CS) team was responsible for renewing recurring customers, but also in setting up customer accounts, the support function and conducting trainings.

A year later these tasks were redistributed, and the sales team took over responsibility for the entire financial aspect from CS, specifically the renewal of contracts. As the renewal aspect was removed from the CS team, the sales team's duties covered both new and recurring customers. This is quite an unusual setup for a new venture, which usually divides the staff into "*hunters and farmers*"[47]. The CS team transformed into a Customer Experience (CX) team, fully owning the product experience with product implementation and trainings, allowing deeper product usage and more dedicated customer support.

Additionally, the sales team kept expanding and sales development representatives (SDR) were responsible for seeking out new customers and ensuring a purchase of the trial, after which the contact was handed over to the account managers (AM) responsible for converting the trial to a sale, as well as renewing the customer at the end of the 12-month licensing period.

> **"We try to learn as much as possible from the surrounding world and try not to reinvent the wheel, but always apply the knowledge to our context. We use different parameters than other software firms."**
> Karin Bjerde.

Further down the line, Kognity established a new sales agreement to reduce the time spent on recurring sales processes and the risk of customer churn. As practically all customers provided two-year educational programs, the contract length was extended to 24 months in order to last the whole two years of a student's education. Thereby, after the first year, each customer would have two contracts á 24 months running at the same time corresponding to the two student groups attending the program. Hence, if a customer cancelled one contract, the AMs still had 12 months left to renew the customer before the last contract expired.

Further, the SDRs were relocated to their geographical regions. The constant travelling made it unsustainable and inefficient for all SDRs to be based in Stockholm. Now, the sales team consists of 15 people, with international staff located in Singapore (2), Dubai (1), London (2), North America (4) and Mexico (1).

> **"We try to be agile and decentralise as much as possible. We have no traditional management team because we believe that the teams are best suited to make decisions."**
> Karin Bjerde.

Kognity apply a feedback-based non-hierarchical company culture. All employees are regularly asked to review each other's performance. Additionally, the staff is encouraged to be creative and try out new ideas outside of their day-to-day tasks.

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[47] Characteristics of different sales roles. The 'hunters' aim to close as many sales deals as fast as possible, whilst the 'farmers' focus on developing long-term relationships with existing clients.

Phase 5: Focus [2018]

**"We have not internationalised in the traditional sense of the word
as we have not had any registered firms in other markets up until recently.
Perhaps, our version of what other firms are experiencing as establishing themselves abroad, is
entering new markets outside IB [new curriculums]"**
Hugo Wernhoff.

The IB market was their first curriculum, the company is now entering the British GCSE[48] and IGCSE[49]. Working towards doubling the revenues each year (100 percent annual growth goal) consequently leads to increased opportunities and thereby also challenges.

**"When you double revenue, unless you plan carefully, you also double administrative work and
you double the problems. Everything doubles! Very often the organisational structure does not
keep up and this tends to inhibit learning."**
Karin Bjerde.

To continue growing in the set speed, the founders believe that entering other educational markets with other curriculums than IB are a necessity for Kognity. The platform remains the same on all markets while the content is adapted based on the local curriculum. Kognity faces a challenge of adapting to various study patterns globally.

"The curriculum in each country is unique so to create a scalable product is difficult"
Karin Bjerde.

Kognity is becoming an established market player on the IB market with around 15 percent market share. Nevertheless, they are in their initial phases on the new market segments GCSE and IGCSE.

**"That is what keeps it interesting, we will be in new phases for each new product launch. We will
always be in an educational system where we are unknown but there will also be systems where
we are known. That dynamic is exciting"**
Karin Bjerde.

The product platform remains the same on all markets while the content is adapted based on the local market. Each software update on the platform is available for all students simultaneously. Making as few changes as possible maximises the product development impact and keeps the return on investment high. Kognity is present in over 75 countries and has high international ambitions to expand further. In order to create a sustainable organisational culture that can keep up with the rapid speed of expansion, Kognity recruited their Head of Content from one of their main competitors.

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[48] General Certificate of Secondary Education
[49] International General Certificate of Secondary Education

The company does not have a strong presence in Sweden and has no future ambition to focus on the market where the headquarter is located.

"The Swedish market is too small. Our bets have always been international"
Karin Bjerde.

Key Challenges	Key Learnings
• Buyer and customer are different people • Limited customer base by being active in only one educational market • Unsure who to approach in sales to ensure purchase and product implementation • Growing too quickly puts pressure on the organisational structure	• Benefits of operating in an international network • Building customer cases are invaluable • Be close to the customer • Allow tests and create a strong feedback culture

5.3 SUMMATION OF ALL CASE PHASES

A summation of all case firms can be found in Appendix 13 and Appendix 14. Below is a summation of all firm phases.

	Phase 1: Prior to Internationalisation	Phase 2: Entering New Markets	Phase 3: Going International	Phase 4: Change	Phase 5: Focus
IST	Offered a COTS solution to municipalities in Sweden. Focus: Sweden	Acquired firms in Norway and Denmark. Has a successful partnership with Nova Software on several markets. 2 new SaaS products were launched.	Opened operations in US and China.	New CEO setting up internationalisation strategy Closed down operations overseas. Could not product develop for the new markets.	Acquiring German firm. Enter UK and Ireland via resellers Develop a generic product for resellers. Domestic market focus
Nova Software	Focus: Sweden	Entered Norway, United Kingdom and France through distributors	Worldwide in Swedish and International schools	Could not product develop for the new markets. Focus: Domestic Internationalisation strategy Recognising need to product develop for new markets	International schools focus
Lexplore	Focus: Sweden Recruited teachers for sales.	Product tests in France and US.	Entered 4 US states organically. Closed down 2 US states. Opened 1 US state.	Entered UK with partners.	Employed decision-makers with educational background.
Kognity	Contacted IB schools worldwide	Sales in Rwanda Partnership with A Swiss IB school for product testing and development	Sales all over the world through active sales process	Change in the organisational and product structure	Enter new educational markets

Figure 7: Summation of All Case Phases. Actions in Blue are linked to Business Model and Green to Internationalisation.

6. ANALYSIS

The analysis is divided into three parts based on the three research sub-questions and the suggested theoretical framework. The first section deals with internationalisation strategies and how they emerge and develop. The second section investigates how business models change and adapt during the process of internationalisation. The last part of the analysis ties together the first two sections, by investigating how the internationalisation strategy and the business model affect each other and aims to discover any causality between the two.

6.1 THE EMERGENCE OF THE INTERNATIONALISATION STRATEGY

The first sub-question[50] is investigated through an analysis of the following four variables - firm, key individuals, network, and industry – and their respective influence on firms' internationalisation strategy[51].

6.1.1 Firm

Bell et al. (2003) presents three types of firms with different characteristics which are represented among the studied cases. IST started out as a *knowledge-intensive* firm, later displaying traits of the *traditional* firm type, as they devote themselves to one country at a time, by using local resellers to adapt their marketing and sales strategies. NS represent the knowledge-intensive firm as they offer a more innovative and flexible offering compared to existing product solutions. This competitive advantage attracts customers from foreign markets, creating a pull-effect, which occurred in NS's early phase of internationalisation (Mudambi & Zahra, 2007). Kognity and Lexplore, on the other hand, can be classified as *knowledge-based* firms due to their unique products, the non-existence of direct competitors and the strong pull-effect from geographically dispersed customers. This in turn stimulates quicker internationalisation (Oviatt & McDougall, 2005).

6.1.2 Key Individuals

In agreement with previous research, all founders played an essential role in enthusiastically initiating and driving global pursuits (Dib et al., 2010; Englis et al., 2007; Madsen & Servais, 1997). The entrepreneurs from Kognity and Lexplore differed, as they explored international opportunities from start by either engaging in immediate sales abroad or initiating a search for partners. All case companies' management teams' set up specific numerical targets to ensure that expansional growth was prioritised by the organisation. Additionally, all managers responsible for export proved to have prior professional experience from working with foreign markets[52], which has been proven to be advantageous for international growth (Madsen & Servais, 1997).

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[50] How do the edtech firms' internationalisation strategies emerge and how are they realised?
[51] Internationalisation strategy consisting of internationalisation speed, market selection, method of establishment, and geographical scope.
[52] See the Main Study interviews in Appendix 6.

6.1.3 Network

IST, NS and Lexplore hired external consultants to help identify potential markets. After market selection, relationships with potential partners were initiated and evaluated. However, identifying suitable partners on foreign markets proved to be challenging (Axelsson & Johanson, 1992). IST, NS, and Lexplore emphasised the difficulty of finding a partner with the right fit, and Lexplore further described the process of initiating partnerships as "trial-and-error". Although partners contribute with knowledge and experience regarding a certain market, the resource demanding process of managing the relationship might affect the speed of internationalisation negatively.

Kognity differed from the other companies as they early on decided not to use any external partners, neither for researching potential markets, nor for actual sales. Due to their choice of educational market, Kognity managed to access an already established customer network which simultaneously consisted of both their buyers and users in the IB program. Once Kognity established their first relationships within the network, mainly with the Swiss school, the network aided in the speed of internationalisation through word-of-mouth and proof-of-concept.

6.1.4 Industry

The complexity of the edtech industry presents several factors[53] that firms have to consider prior to entering a new market. Several of the case firms stated that they experienced 'a pull' from foreign markets. However, responding to these customer requests seemed challenging due to both a lack of internal resources, as well as varying digital maturity among customers. Differing levels of digital maturity combined with the novelty of the product added another dimension of complexity when responding to both new and existing customers, as support had to be adapted to the needs of each market or customer.

6.1.5 Summation

Internationalisation strategy emerges as a result of all four variables, although the industry, the firm, and the network are concluded to have had the most effect. A more traditional firm type seems to shape a more traditional internationalisation strategy. Knowledge-intensive and knowledge-based firms stimulate a more reactive approach however this is complemented with an active strategy among the case firms.

For all companies the network variable was used in all stages of internationalisation. Working with partners during sales was perceived as both positive (e.g. providing knowledge and experience) and negative (e.g. hard to find a good fit, and resource-demanding to manage). Thereby, the network variable could either enable or slow down firm's internationalisation. Kognity differed from the other case companies as they did not partner with other businesses at all. Rather, they partnered with some of their customers to access a

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[53] E.g. what stakeholders to include, what type of purchasing process is most commonly used, and the local educational system.

network and thereby speeding up internationalisation. The industry provides a multifaceted setting, within which several considerations have to be made, and where digital maturity was frequently discussed as criteria for market selection.

6.2 ADAPTATIONS OF THE BUSINESS MODEL

The second sub-question[54] is analysed based on the business model framework provided by Mason and Spring (2011), and examines the firm's technology, market offering and network architecture.

6.2.1 Technology

As all four case firms offer software solutions, their business models are by definition technology-heavy. Kognity and Lexplore offer SaaS solutions while NS and IST worked with client-servers as their initial offering. In these types of software companies, it appears that the product and the process technology, and sometimes even the core technology, are often all the same. For instance, Lexplore's core, product and process technology is the combination of eye-tracking technology with the algorithms that create the AI-element. In Kognity's, NS's and IST's cases, the core technology is a platform where add-on products and services can be used to tailor the offering to each customer. The platform offering of Kognity, IST and NS is scalable in the sense that it mainly requires language adjustments in order to be sold to foreign markets. Lexplore differs from the other firms, as their technology requires new data input, depending on language, in order for the AI-model to produce accurate results. Thereby, the technology aspect of Lexplore's business model is heavily dependent on the capability to access and analyse the right data. Additionally, Lexplore's product offering includes hardware which might affect the sales process.

6.2.1.1 Technology Innovation

All firms have innovated and developed their technology throughout the internationalisation process. Previous research shows that technology innovation usually moves from product to process innovation (Mason & Spring, 2011), and is then followed by an addition of services (Cusumano, 2008).[55] This pattern is visible for all case firms. Kognity went from digitising a physical product (product technology innovation), to creating a platform onto which services can be added (process technology innovation), and finally enhancing customer training and customer experience (addition of services). Lexplore, IST and NS have all proceeded to add services in the form of consulting, training, and support to their initial product offering. Furthermore, IST and NS have recently felt the need to update their product offering from client-servers to SaaS in order to enhance competitiveness as they further internationalise.

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[54] How do the edtech firms adapt their existing business models during internationalisation?
[55] The development of software firms' services is visualised in Appendix 15.

6.2.2 Market Offering

6.2.2.1 Producer-User Interaction

Kognity, Lexplore, and NS emphasised the interaction with the customer as crucial for the customer to receive the optimal product benefits. Support and training are key due to the high level of product innovation. Without proper training, customers would not be able to unleash the full product value. To ensure this, Kognity changed their CS department to become the CX department. Lexplore has worked in a similar manner, where their product started out as a measuring tool, providing customers with basic support. Later, they added services to assist customers in achieving optimal use for instance by suggesting targeted actions, follow-up measurements, as well as consulting services. NS offer consultancy services upon request, for example educating the customers about the software and helping them with resource optimisation. Kognity has used producer-user interaction in their product development through close collaboration with their customers, to ensure that customers and users would find the product valuable.

6.2.2.2 Using other capabilities or activities to enhance value

As previously mentioned, Lexplore's offering is dependent on data, and a larger amount of data strengthens the product. In other words, Lexplore's product will provide more value to the customer when used by a larger customer entity[56]. Additionally, the value of Lexplore's product increases over time as the effects of using the product are visible after a period of time when actual student improvements can be measured. IST's and NS's offerings create value through the possibility of tailoring the product. This is carried out by using capabilities of other suppliers, e.g. resellers adding local product modifications.

6.2.2.3 Type of Transaction

Kognity and Lexplore have both offered SaaS products since their founding. Lexplore's customers pay an annual fee per student, while Kognity changed their licensing model from running for one year to two years, to match the customer needs. The licensing model change enhances the value for Kognity's customers as it is better suited to the users. IST and NS started out with client-servers offerings in the 1980s and are now slowly moving towards SaaS and licensing models.

6.2.3 Network Architecture

6.2.3.1 Capabilities

A key direct capability for all companies was to involve individuals with experience from the educational sector in the business operations. Lexplore started out by recruiting teachers, but later on proceeded to hire former principals to be able to fully relate to all levels of customers' organisations. IST's workforce has a mixed background of IT and education. Kognity also valued educational experience among their employees,

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[56]Municipal or regional level is preferred over individual schools.

however, they realised quickly that a hire from one of their main competitors could provide them with valuable knowledge on how to structure a rapidly growing organisation. Furthermore, NS, IST, and to some extent also Lexplore, gained market knowledge and experience through indirect capabilities, by working with distributors. IST additionally used acquisitions as a way of transforming indirect capabilities into direct capabilities.

Lexplore and Kognity mentioned knowledge sharing and company culture as key capabilities. Kognity emphasised their strong feedback culture, where individuals on all levels of the firm have regular feedback session, thus diminishing hierarchical structures. Additionally, Kognity's culture is characterised by experimentation, as employees are encouraged to test new ideas, and failure is viewed as an opportunity to learn. Lexplore described knowledge sharing with other companies, as well as between their own regional managers as a way to learn from each other's successes and mistakes. IST and NS did not explicitly mention knowledge sharing as a key capability. However, this might be a result of knowledge sharing already being integrated in the organisation. The younger firms on the other hand, are in their formative years where company culture and organisational structure is still being established.

6.2.3.2 Relationships

Kognity and Lexplore frequently mentioned relationships with customers as a vital part of their business model. For Kognity, relationships with partner schools served both as a case to present to other customers, a source of word-of-mouth marketing, and as a key factor in product development. Lexplore also worked with finding early adopters, to use as showcases. These early adopters were often teachers or principals who were brought along to fairs as informal ambassadors.

Lexplore, IST, and NS have also worked with firm partnerships. Lexplore's relationship with Microsoft played an important role in the business model development, as well as in the firm's growth. In particular for the US market as Lexplore is now co-selling partner to Microsoft which incentivises local salesmen to promote Lexplore. Where Lexplore is sold through these resellers, Lexplore becomes to some extent synonymous with Microsoft.

Lexplore's relationship with Microsoft started from a personal connection and grew into a formal partnership. In the UK, the opposite occurred, where a sales director from a potential partner was recruited to Lexplore's team. Thereby, what was supposed to become a formal collaborative partnership between firms, turned into a personal working relationship, which in turn affected the internal structure of Lexplore.

6.2.4 Summation

In a technology focused industry such as edtech, product development is a constant and foundational element of the business model. However, because of the technologically advanced products, all firms have developed their product offerings by adding service elements. Having a scalable technology that facilitates local adaptations was common among several of the firms and also a way to increase value for the customer. Lexplore differed from the rest of the firms as their offering is dependent on access to data, making it difficult to scale. All firms found the experience from education or edtech as becoming more crucial as the firm grew, to be able to connect with customers. Relationships with both customers and other companies was emphasised among all case firms as important, and subsequently affected their business model developments. This was exemplified by Kognity and their partner schools, Lexplore and Microsoft, and IST, NS and their respective resellers.

6.3 THE RELATIONSHIP BETWEEN INTERNATIONALISATION STRATEGY AND BUSINESS MODEL

The third sub-question[57] explores the relationship between internationalisation and business models.

6.3.1 Traditional or Modern Internationalisation Strategy

Based on the definition of Born Global (BG) by Knight (2004), *"firms less than 20 years old internationalise on average within three years of founding and generate at least 25 percent of total sales from abroad",* two of the case firms could potentially be classified as BGs.

Case firms	Kognity	Lexplore	Nova Software	IST
Founded in the last 20 years	Yes	Yes	No	No
Internationalise 3 years after founding	Yes	Yes	No	No
25 % International Sales	Yes	N/A	No	No

Figure 8: Inspired by Knight (2004)

The global strategy of the BGs Kognity and Lexplore was prevalent already from start and mainly founded in a perception of the Swedish market as small and limited. Both Kognity and Lexplore pursued markets outside their domestic market either directly or shortly after founding. Kognity even bypassed Sweden and the Nordic region, by entering Rwanda as their first market, displaying typical BG behaviour (Falahat et al., 2015; Halldin, 2012). Further, Kognity's internationalisation was rapid both in terms of scope and geography, managing to overcome the challenges linked to psychic distance by targeting a more globally homogenous customer group. Subsequently market selection was simplified for Kognity, compared to the

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[57] How do the edtech firms' internationalisation strategies and business models affect each other?

other case firms who had to consider many variables prior to market entry such as choice of partner, and factors linked to psychic distance.

IST and NS do not meet the BG criteria and instead initiated internationalisation after having established business on the domestic market. Both IST and NS selected Norway as their first foreign market, which is characterised by low psychic distance due to the geographical proximity, similarity in language, culture, and educational system (Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977). Elements of traditional strategy were also visible as local partners were used to modify and complement the core offering. Through this strategy, risk was avoided by using the knowledge and experience of others. The scalable core technology of NS and IST could create conditions for rapid internationalisation. However, the inherent risk aversion of these firms shaped the internationalisation strategy into being more traditional, which in turn affected the network architecture of the business model.

As a knowledge-intensive firm, NS did however experience pull from foreign markets, and had unplanned sales in geographically dispersed markets. Thereby, NS displayed a mix of a reactive and a proactive approach, as they later proceeded with a more traditional internationalisation strategy.

The BGs also experienced pull from foreign markets, however the response to these opportunities was influenced by the business model of the respective firm. In Lexplore's case the lack of resources affected the ability to respond to all customer interest. Additionally, the firm was limited by the business model that requires substantial data input to adapt to new languages. Although Lexplore can be classified as a BG, they adopted parts of the traditional strategy by following a stepwise model, ensuring proof-of-concept, and focusing on one or a few markets at a time. It confirms previous research saying that BGs sometimes follow traditional models (Coviello & Munro, 1997; Loustrainen & Gabrielsson, 2006; Oviatt & McDougall, 1994; Knight, 2004). Thereby, the technology aspect of Lexplore's business model guided the internationalisation strategy towards being more traditional by limiting market selection, geographical scope, as well as slowing the speed of internationalisation.

In contrast to Lexplore, Kognity's business model enabled the BG strategy. The niche market segment provided an optimal foundation for a BG strategy. In other words, Kognity's market offering affected the speed of internationalisation and the geographical scope positively.

6.3.2 The Role of the Network

Firms used both existing and new networks to access knowledge, experience and social connections in the local market. However, the local involvement varied between firms in terms of number of operations and value chain activities in foreign countries. This in turn impacted the internationalisation strategy and market commitment. Table 6 categorises the case firms stating that the larger the number of dedicated resources in

a market, such as local offices and staff members, the higher the degree of activities to coordinate. As demonstrated, the BGs are highly committed in their foreign operations, with a relatively high number of employees on-site. IST and NS rely on resellers, thus resulting in few directly owned activities to coordinate. However, as IST is more mature in its market commitments, by having own investments in several countries, they can be classified as a multinational firm.

		Number of countries involved	
Number of activities coordinated across countries		*Few*	*Many*
	Few	Nova Software (export)	IST (multinational firm)
	Many	Lexplore (geographically focused)	Kognity (global firm)

Figure 9: Inspired by Oviatt & McDougall (1994, p59)

Furthermore, the level of commitment to the market is also related to the characteristics of the network relationships. Generally, relationships with resellers and distributors are of a more transactional nature, such as in IST's and NS's case. These types of transactional relationships correspond with the business model as the market offering is based on tailoring for customer preferences facilitated by resellers. Additionally, NS's and IST's buyers are large entities adhering to complicated procurement processes, which requires local market knowledge. Thereby, the importance of partnerships for IST's and NS's internationalisation strategies as well as business models, is a result of the variability in the global market. Their market offerings are built on integration with external solutions which in turn facilitates the collaborative work with partners. Further, this suggests little need to develop brand knowledge for customers. These types of solutions are commonly sold under foreign distributors' brand, implying an emphasis on the product functions more than the brand value.

Kognity and Lexplore on the other hand, are cautious of working with resellers, mainly because of their highly innovative and technological products. The uniqueness of the product makes the process of identifying suitable partners complicated and risky. Additionally, as both customers and resellers might find it difficult to understand how to maximise value from the product, firms would have to spend time and human resources on training and education. This study suggests that new ventures aim to establish a brand name and identity for customers, therefore wanting to have responsibility of the customer experience. Therefore, Kognity decided to maintain full control of the value chain, and Lexplore are highly involved with their partners. Kognity differed from the other companies in their use of the customer network, both as part of their internationalisation strategy and their business model. The active collaboration with the customers, enabled improved customer experience. These strong customer relationships in turn contributed to a quicker internationalisation speed and geographical scope.

6.3.2.1 Working with Partners Leads to Locally Adapted Business Models

For IST, the strategy of working with resellers, could help bridge the knowledge and cultural gap to the foreign market. Commonly, the local resellers were allowed to sell IST products under their own brand name and have full control over installations and local support. This in turn would create a local business model variation or site, that blended ISTs business model and the reseller's business model. Thereby, the internationalisation strategy of using partnerships led to local business model sites which could differ in technology (i.e. add-on technological solutions), market offering (i.e. new service additions), and network architecture (i.e. including the resellers network to the mix). NS had no own employees at international locations, therefore also creating local business model sites in collaboration with partner companies.

6.3.4 Summation

To conclude, the study shows that the firm type does not always correspond with the internationalisation strategy, as for instance a BG firm can adopt elements from the traditional strategy. The internationalisation strategy also changes over time, displaying elements from both fields in different combinations, further contributing to the difficult task of categorising a firm as either modern or traditional. Furthermore, the causality between the business model and the internationalisation strategy is multidirectional. However, the clearest examples provided by the study were of the business model guiding the internationalisation strategy both by enabling and limiting a certain strategy.

All firms changed their internationalisation strategy and their business model over time by testing different approaches. The network variable was a component in both internationalisation and business model theory, and networks were used as a way to overcome market challenges. For the case firms working with business partners, local business model sites were created as the business model of the firm blended with the business model of the partner. Collaborating with partners, distributors or resellers brought on several challenges, mainly due to the complexity of the products. Finding the right partner and educating them about the product is a time consuming and expensive process.

In conclusion, firms' international strategy and business model formation are closely intertwined, as a change in one part leads to changes in the other. The business model design proved to influence the internationalisation speed, scope, selection and establishment, and the internationalisation strategy motivated changes in the business model.

7. DISCUSSION

In this chapter, a discussion on three main findings are presented: the ecosystem and network, the development of a viable business model and strategy changes throughout internationalisation.

The aim of the study was to investigate how SMEs in the edtech industry internationalise and what role their business models play in the process. In line with previous research (Onetti et al., 2010; Vahvaselkä, 2009), the main study concluded that internationalisation strategies and business models are interrelated as they affect the development of one another throughout the internationalisation process. The business model proved to have both an enabling and a limiting effect on the internationalisation process which validates Mason and Spring's (2011) view of the business model as an active change agent. The interactive relationship between the business model and the internationalisation strategy seems to be a result of the nascence and complexity of the edtech industry context, which in turn leads to firms adopting a mix of traditional and modern strategies as they internationalise.

When examining the customer side of the market, it appears that the K12 sector generally is permeated by a conservative mindset. The system itself is set up to be resistant to change, for example through the use of complex public purchasing processes. Thereby, the market is not seeking disruption, rather it is requesting slow change. At the same time this is contradicted by the rapidly growing number of innovative edtech companies, aiming to digitalise education and capitalise on the tech start-up trend. Therefore, the edtech industry offers a unique context as it demonstrates a dichotomy between a fast-moving seller side and an inert buyer side. This in turn frames all aspects of conducting business in both the domestic market as well as in foreign markets. However, it is especially key when internationalising, as different types of know-how and resources are needed to juggle several markets simultaneously.

7.1 CHALLENGES WITHIN THE ECOSYSTEM

7.1.1 Local Presence Needed to Create Value

Edtech products tend to be innovative and novel, meaning that clear needs are not yet established among users. education, training and support is needed both during and after the actual sell, in order for customers to understand the product benefits and application. The sales and support functions should go beyond simple problem solving, and rather focus on proactively investigating how customers use the product and how optimal value can be achieved. This requires specific knowledge and experience, whereby firms must to some extent be locally or regionally rooted to comprehend stakeholders in the local ecosystem and their subsequent needs. In order to achieve this, many firms partner up with actors in the local business network.

7.1.2 The Network is Central

Previous research states that the Internet works as an opportunity creator and is the primary communications channel for new SME products and services (Yip et al., 2000). However, this study confirms contradicting research which argues that Internet is not the optimal marketing tool for complex and customised software (Moen et al., 2003). Instead, meetings in person are vital for high-technology product sales, due to the intangibility of the offering. Attending conferences, industry fairs and events was seen as an effective way to gain understanding of markets' ecosystems, achieve exposure among potential customers, and to extend the network through finding appropriate partners or distributors.

In line with previous research (Andersson, 2011; Coviello & Munro, 1997; Freeman et al., 2006, Oviatt & McDougall, 2005), this study emphasises the benefits of using partners as part of the business model design, since it can improve the market offering and facilitate new market entry. The characteristics of firms' relationships with partners can range from simply transactional, to collaborative, to extending the network instantly through acquisitions. Regardless of the nature of the relationships with third parties, these network connections are key influencing factors of both the internationalisation strategy and process as well as the business model.

7.2 DEVELOPING A VIABLE BUSINESS MODEL

7.2.1 The Business Model is Affected by the Environment

In accordance with Mason and Spring (2011), the main study shows that the business model is shaped by its surroundings. Alterations in the business model occur as a response to organisational changes or to adapt to new business environments, leading to constant iterations of the original business model. In internationalisation, this results in multiple variants or sites of the business model that are suited to the conditions of the local market.

It has been argued that SMEs, due to their size, are more flexible in innovating their business models (Al-Aali & Teece, 2014). The findings from this thesis suggest that although edtech firms are adaptive in terms of making business model adjustments, the industry is inherently inflexible. Thus, when change is conducted internally in the firm, implementation among customers still takes time due to the conservative nature of the buyer side. This creates a delay as a company working with continuous product development might have several different market offerings on various markets, leading to increased coordination costs for the firm. Getting all customers up to date on the newest product release might be nearly impossible, which ultimately means that the slow responsiveness of the industry holds firms back.

7.2.2 Product Development to stay Competitive

The technology aspect of the business model is central for firms in the software segment due to the nature of their offerings (Cusumano, 2008). Continuous product development not only ensures and improves the functionality of the product but is also essential for the firm to keep up with the industry pace of technological development. Technical advancements in the industry at large trigger product and process innovations, in particular for older firms (Freeman et al., 2006; Onetti et al., 2010; Ma, 2007). This was also demonstrated in the main study as IST and NS remade their market offerings in order to remain competitive amongst newer ventures.

Furthermore, this thesis argues that it is insufficient for firms to rely on being market pioneers. The main study demonstrates that firms are expanding their value propositions by adding new features and service elements, with the aim to provide complete offerings rather than a single niched product. Initiating internationalisation might be easier with a niche product, due to the low degree of competition (Knight & Cavusgil, 1996), however this thesis indicates that firms need to improve and expand the existing offering in order to achieve increased market share and revenue growth. Also, taking into account that the industry will move from its elementary stage to becoming more mature. In its nascence, competition revolves around innovation and product development. Nevertheless, as the industry matures, that aspect's importance may decrease and be replaced by brand and service as competitive capability and value-creator.

7.2.3 The Search for a Scalable Business Model

The study displays that the older firms moved from offering a decentralised product solution that required local presence, to a more generalised scalable solution based on up-to-date technology. However, due to the industry characteristics, some local presence is still necessary and the product has to be locally grounded. This partly contradicts theory stating that software firms can rapidly implement their products in multiple countries with close to no costs (Oviatt & McDougall, 1994).

Furthermore, the study revealed that the scalability of the business model is a key foundational characteristic to bear in mind when designing for international expansion. With the local differences on the edtech market, building a scalable business model is challenging. Additionally, there are trade-offs to consider when investing resources in a customised product which by definition is limited to only one or a few customers, and respectively when creating a product that is generic and less costly, but not optimal for any customers. The study demonstrates how edtech firms work with developing scalable yet locally adapted business models through working with partners, adding services to the original offering, and developing the product together with customers.

7.3 STRATEGY CHANGE THROUGHOUT INTERNATIONALISATION

Due to its nascence, the edtech industry is lacking a homogenous market and an established ecosystem, both in Sweden and globally. The prerequisites offered by the global edtech market where products are novel, with few early adopters, creates a need for firms' physical presence both during the marketing and sales process, as well as during the customer lifetime. The high demand of physical presence inhibits modern internationalisation strategies, unless the company manages to find a clearly defined segment in the market or has unlimited access to resources. Instead, the internationalisation process will more likely be stepwise where even knowledge-based firms adopt a gradual strategy and an active, evaluative approach, similar to the traditional firm strategies.

Thereby, separating internationalisation strategy into two polarised perspectives - traditional and modern - provides a rather static and inaccurate view of how firms internationalise in today's digitalised society. Rather than actively choosing a strategy, or naturally belonging to one, edtech firms try out different strategies and business model structures throughout the expansion. However, this process of experimentation is not always conscious and active, as the business model and the internationalisation strategy both possess performative power and thereby affect and guide each other, as well as the actions of the firm (Mason & Spring, 2011).

Ultimately, internationalisation is not a linear process, as changes in the internationalisation strategy occur over time based on the firm's current state and priorities. In that sense, for a firm to be a BG might not be a strategy that can be assigned to a firm based on its founding date or industry. Rather, BG should be viewed as a strategy that emerges from a business model that allows for instant global expansion and that can employ elements from traditional strategy if necessary. Simultaneously, a traditional firm can achieve rapid internationalisation through adopting a strategy that mixes traditional and modern, however, always adapted to the industry conditions.

8. CONCLUSION

The purpose of this thesis was to study the internationalisation of highly technological SMEs, and to investigate how they manage and develop their business models throughout this process. Therefore, this study has built upon existing work by Mason and Spring (2011) on business model theory and has applied internationalisation theories to answer the main research question: *How do the business models of Swedish SMEs in the edtech industry affect their internationalisation?*

The study has found that a dynamic relationship exists between the internationalisation process a company adopts, and the business model it uses. Changes in the business model have been found to have a substantial impact on the way in which a company undergoes internationalisation. Conversely, the internationalisation process will ultimately impact the business model of a company, due to the need to adapt to multiple market operations in differing locales. This suggests there is an inherent difficulty in maintaining a consistent business model whilst attempting to expand into international markets. The study has found that a single business model is not scalable to bridge the gap between local and international markets in what is a complex and nascent industry. This is relevant to SMEs, whose survival is dependent on the effectiveness of their business model design. Therefore, SMEs in pursuit of international activities are best served by adopting a flexible and dynamic business model.

8.1 LIMITATIONS

There is limited basis for scientific generalisation due to the qualitative nature of this study (Yin, 2014). Experiments and surveys are more numerical and standardised, and therefore better suited for finding causal relationships (Saunders et al., 2012). Further, multiple cases were prioritised over a single case in-depth study, in order to access varying perspectives from the industry and enable comparisons. However, this may have resulted in a more shallow and broad analysis. Due to time and resources the case interviews were relatively few per company (ranging from one to two), thereby limiting the empirics to only be representative of the view of those people interviewed. The authors are aware of the potential bias of those viewpoints, however few employees at the case firms had the relevant knowledge for the study, which in turn limited the number of potential interviewees.

8.2 THEORETICAL CONTRIBUTION

The study adds to the currently limited knowledge base regarding the edtech industry as a business field. Additionally, this thesis contributes to theory involved in the intersection of business model and internationalisation literature. The study found that internationalisation strategies and business models both work as active change agents, interchangeably influencing and shaping each other, as well as the behavior of the firm. Furthermore, the study discussed how firms' internationalisation processes can be influenced

from both traditional and modern strategy perspectives, regardless of the firm's size, age or intended strategy.

8.3 MANAGERIAL IMPLICATIONS

The real-life phenomenon was explained by cases representing various firm types from the Oviatt and McDougall (1994) model, bringing practical insight for SMEs in the industry. Overall, this study can be of help for new technology-based firms facing challenges by the complexity of markets, industries and technologies. Tools are suggested to aid managers to navigate in an uncertain market environment, a list is compiled in Appendix 16.

8.4 FUTURE RESEARCH

It is suggested that future research should study the edtech sector in other regions (e.g. Nordic region, Europe, outside of Europe) to identify patterns and find potential similarities and differences. Other contexts can also be investigated whether of the phenomenon of business model adaptations and internationalisation. Another interesting aspect would be to examine foreign firms entering the Swedish market and how they experience the educational sector. Also, it can be valuable to look at other sectors that are slow-adapters of technological platforms, facing high-technological SMEs. Additionally, future studies should study different types of edtech offerings, and examine what business models are the most suitable. A longitudinal study can look at SMEs business models over time and see what factors that influence over the changes. Usage of a single case study can produce more in-depth knowledge over the business model iteration periods. In contrast a large scale quantitative study about SME's internationalisation strategies could also provide further insight.

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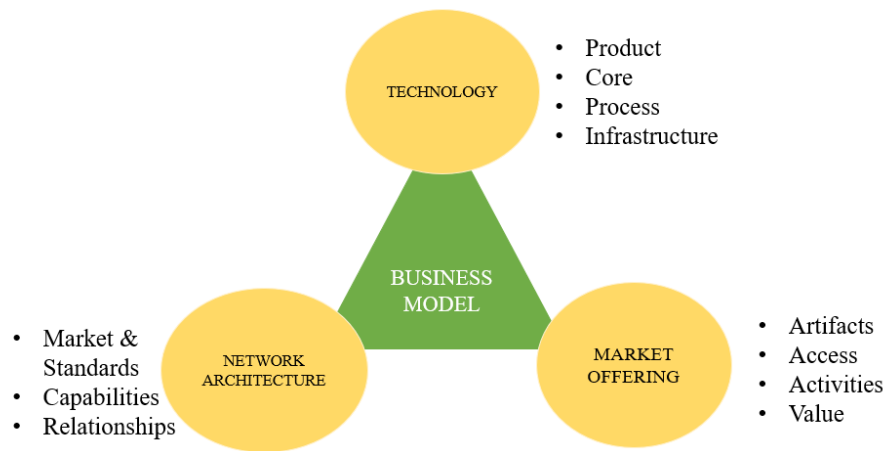
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APPENDIX 1: BUSINESS MODEL FRAMEWORK (MASON & SPRING, 2011)

TECHNOLOGY

- Product
- Core
- Process
- Infrastructure

BUSINESS MODEL

NETWORK ARCHITECTURE

- Market & Standards
- Capabilities
- Relationships

MARKET OFFERING

- Artifacts
- Access
- Activities
- Value

APPENDIX 2: SUMMATION OF INTERNATIONALISATION STRATEGY

	Traditional view	Modern view
Influential studies	• Johansson & Vahlne 1977, 1997, 2009 • Bilkey & Tesar, 1977 • Vernon, 1979 • Wiedersheim-Paul, 1975	• Knight & Cavusgil, 1996 • Madsen & Servais, 1997 • Oviatt & McDougall, 1989, 1994, 1997, 2005 • Knight et al, 2004 • Zahra & George, 2002 • Bell, 1995 • Gabrielsson, 2005 • Riap et al, 2005 • Andersson & Wictor, 2012 • Dominguinhos & Simoes, 2004 • Ratten & Dana, 2007 • Falahat et al, 2015
Strategy	A less niche-focused international strategy.	A niche-focused and highly proactive international strategy.
Explanation of internationalisation behaviour	The firm's own presence and experience from foreign markets is the internationalisation foundation (Uppsala Model).	The entrepreneur and other individuals in the firm, along with external forces in the environment, is the internationalisation foundation.
Internationalisation speed	The internationalisation process slowly progresses and is based on steps, often through intermediaries in the beginning.	Internationalisation occurs rapidly and early after firm foundation
Market selection	Firstly entering markets with low psychic distance, earning from those operations before pursuing markets with larger psychic distance.	Not affected by psychic distance, so have a more opportunistic view on market selection.
Market establishment	Gradual procedure of committing more and more to a market, learn through accumulated international experience.	Simultaneous establishment on multiple markets, learn quicker due to extensive international experience.
Geographic scope	Geographically focused on the nearest neighboring markets.	Global spread around the world from an early stage

APPENDIX 3: THE RESEARCH ONION

The study's research design, adapted from Saunders et al. (2012).
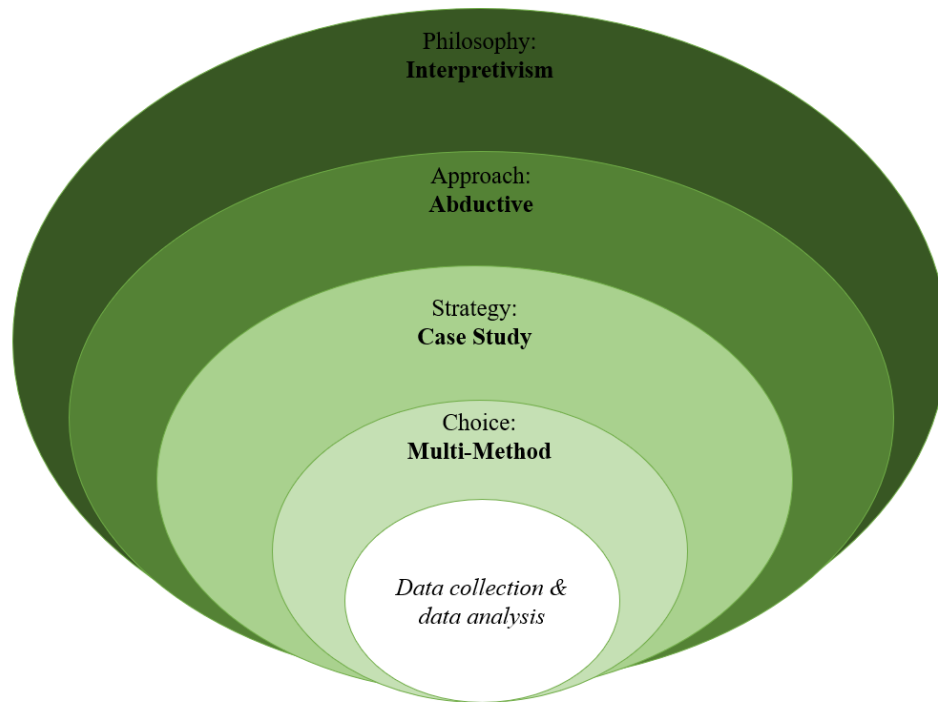
APPENDIX 4: THE EDTECH MAP

http://www.edtechkartan.se/

The edtech map provides an overview of the extensive edtech eco-system in the context of the Swedish educational system. Three main types of edtech solutions are identified:

Managing Processes (Yellow)

- Administration
- Identity and infrastructure management

Teaching (Blue)

– Pedagogical teaching process

– Pedagogical material

– Support processes in teaching

School administration (Green)

– Organisation

– Schedule

– Support processes
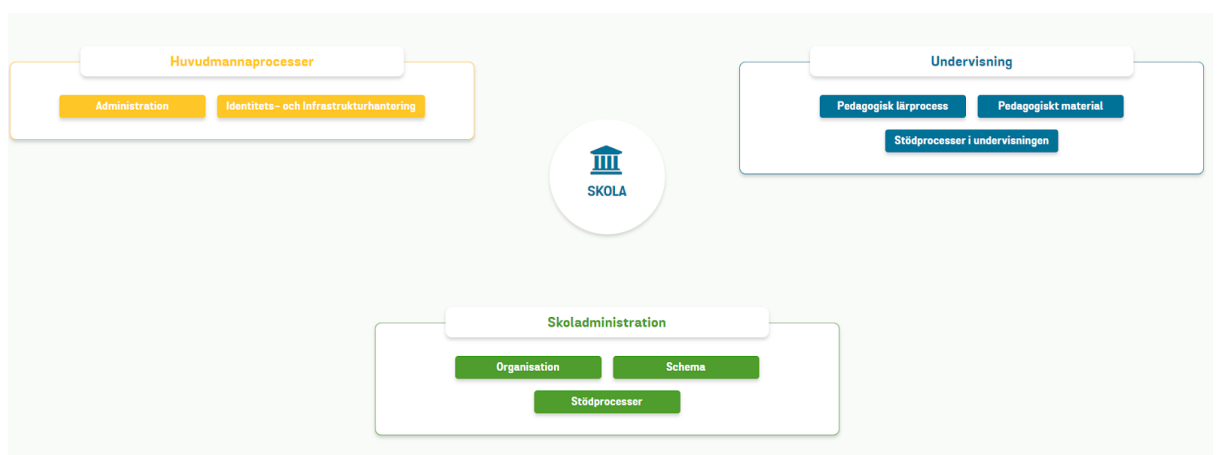
The case firms belong to the following categories:

Kognity: Teaching

Lexplore: Teaching

IST: Managing Processes, Teaching, School Administration

Nova Software: Managing Processes, School Administration

APPENDIX 5: BRIEF INTRODUCTION OF PRE-STUDY ORGANISATIONS

Swedish EdTech Industry AB - Non-Governmental Organisation

English: The Swedish EdTech Industry Association

A membership organisation founded in 2017, gathering the stakeholders in the Swedish edtech ecosystem. They connect established edtech firms, startups and investors, thus building a network. The organisation promotes and establishes Swedish edtech nationally and internationally.

Source: Interview and http://swedishedtechindustry.se/

Gullspång Invest AB - Investment Firm

A firm that funds entrepreneurs who are committed to building businesses with an aim to make a positive societal impact. Gullspång Invest are purpose-driven, for profit, passionate and seek long-term partnerships with like-minded entrepreneurs. The firm is especially interested in investing in food, health, cleantech and education. Gullspång Invest have invested in four edtech firms.

Source: Interview and http://gullspang.vc/

Nära Hjärtat AB - Investment Firm

An investment firm with a specific focus on education. They aim to create a positive impact and view education as the key to societal change. Nära Hjärtat run two elementary schools and have invested in four edtech firms.

Source: Interview

Vinnova - Governmental Agency

English: Sweden's Innovation Agency

An organisation that finances research and innovation projects, provides support in the form of networks, meetings and analysis. They fund projects contributing to sustainable growth and benefit society.

Source: Interview and Report: *Vinnova - Sweden's Innovation Agency.*

https://www.vinnova.se/contentassets/c66f3cf96a3643a08c472a6e2644a5e5/vi_14_10.pdf

Karin Nygårds AB – Author and Freelancer

Karin Nygårds has a background as a teacher and is now most known for her passionate work in promoting digital competence in education. She has written a book about the Internet and hosted a TV show about programming. Karin is also active in motivating schools to use digital tools.

Source: Interview and http://www.karinnygards.se/

APPENDIX 6: INTERVIEWS

Pre-study:

Interviews							
Name	Titel	Organisation	Interview type	Location	City	Date	Minutes
Jannie Jeppesen	CEO	Swedish EdTech Industry AB	In person	Café	Stockholm	30/1	120 min
Erik Brandberg Alex Torgersson	Investment Manager Venture Capital Analyst	Gullspång Invest AB	In person	Gullspång Invest's Office	Stockholm	27/2	75 min
Anna Bjurström	Program Manager	Vinnova	In person	Vinnova's Office	Stockholm	6/3	60 min
Lina von Post	CEO	Nära Hjärtat AB	In person	Nära Hjärtat's Office	Stockholm	6/3	60 min
Karin Nygårds	Writer, digitalisation expert, producer, teacher	Karin Nygårds AB	Digital	Skype	-	16/3	70 min
Events							
	Name of Event	Organiser	Event type	Location	City	Date	Minutes
	Export Meeting	Swedish EdTech Industry AB	Workshop with 11 organisations	An EdTech firm's office	Stockholm	14/2	135 min
	EdTech Map Release Event	Swedish EdTech Industry AB	Event with industry stakeholders	An EdTech firm's office	Stockholm	6/3	60 min

Main study:

Name	Titel/Position	Organisation	Interview type	Location	City	Date	Minutes	Previous experience in internationalisation
Karin Bjerde	Global Business Development Manager	Kognity AB	In Person	Café	Stockholm	21/3	85 min	Worked and studied abroad.
Hugo Wernhoff	Founder & CEO	Kognity AB	In Person	Kognity HQ	Stockholm	3/4	35 min	Worked abroad.
Fredrik Wetterhall Lars Lenquist	CEO Head of Communications	Lexplore AB	In Person	Lexplore HQ	Stockholm	21/3	90 min	N/A
Torbjörn Karlsson	Vice President, Head of Business Unit Products	IST Group	Digital	Skype	Online	22/3	30 min	Internationalised in another industry, he distributed the core product to new markets.
Torbjörn Karlsson	Vice President, Head Of Business Unit Products	IST Group	Digital	Skype	Online	4/4	100 min	-
Jacob Westman Daniel Wendel	Director Business Development & Growth Business Partner Manager	Nova Software AB	Digital	Skype	Online	26/3	60 min	Internationalised firm three times before. N/A

Follow up contact			82	
Name	Organisation	Contact	Response date	Purpose
Daniel Wendel	Nova Software AB	Email	2/5	Follow-up questions
Karin Bjerde	Kognity AB	Email	3/5 & 7/5	Follow-up questions and factual check
Hugo Wernhoff	Kognity AB	Email	7/5	Factual check
Lars Lengquist	Lexplore AB	Email	8/5	Follow-up questions and factual check
Jacob Westman	Nova Software AB	Email	8/5	Factual check
Torbjörn Karlsson	IST Group	Email	9/5	Follow-up questions and factual check

APPENDIX 7: SAMPLE INTERVIEW GUIDE - PRE-STUDY

- Introduction of the authors and the thesis topic
- Ask interviewee for an introduction, position in the organisation, the person's connection to edtech

All of the following segments were not used for every interview. The topics discussed depended on the expertise of the interviewee.

Investments

- How many investments in edtech?
- Why so few investments in edtech?
- What is the situation like for edtech firms to find investments in Sweden?
- In what stage does an edtech firm contact your organisation for investments?
- In what stage does your organisation prefer to invest?
- What are your edtech organisations' biggest challenges?

International

- Invested in any edtech firms with international outlook?
- Are the edtech firms interested in export?
- How can you help?
- Noticed any go-to-market strategies?
- Does your organisation aid with the internationalisation process?
- How far is the Swedish school compared globally?
- Noticed an interest for Swedish edtech abroad? Why? What type of services?

Edtech in schools

- Benefits of edtech?
- Gap in customer demand and supplier supply?
- How can edtech firms succeed and scale in Sweden and abroad?
- What does the future school look like?

APPENDIX 8: SAMPLE INTERVIEW GUIDE - MAIN STUDY

1. Introduction
- Introduction of authors and thesis topic
- Information about the interview set up (recorded and transcribed, potential to read the thesis when done etc.)

2. Interviewee
- Role in the organisation
- Role in internationalisation
- Any previous experience from other organisations or internationalisation?

3. Organisation
- Asks about the overall operations in Sweden/domestic markets
- Asks about the business model in Sweden/domestic markets
  (Products, Revenue streams, Customers, Suppliers, Value creation etc)

4. Start-up Process
- How was the organisation founded?
- The founder/responsible for internationalisation background
- Was Sweden the first market?
- How is the Swedish market, interest for edtech solutions, access to Internet.
- What does the sale process look like? Capabilities?
- What has the strategy been and how has it changed over time?

5. International expansion

5.1 Prior to internationalisation:

- When did the interest for internationalisation begin?
- Who led the expansion?
- What was the founder's role in the decision-making process?
- Preparations? Research beforehand or prior internal experience/knowledge.

5.2 The establishment:

- The sequence - All markets at once or focus on one market?
- What market was the first market? Why? Strategy or coincidence?

- What did/does the sale process abroad look like? Same/different?
- What distribution channel or strategy?
- Have you met any problems on the way?
- Did you have employees there? Are they still there now?
- How about the next market entrance? Same/different approach?
- What markets is the organisation operating in now?
- How mature is the markets you're operating in? Digitally, competition, IT structure, acceptance to digital tools?

5.3 Network:

- What types of relationships have been needed/valuable?
- Did you use consultants to analyse markets beforehand?

5.4 Future:

- What markets are you interested in ahead? Why?
- What lessons have you learned from previous markets/expansional activities?
- What capabilities will you bring with you moving forward?
- What capabilities do you need to add/develop?

6. **Business Model & Internationalisation**
- How has the business model change throughout the internationalisation process
- Different for each market?

7. **Industry networks:**
- What is your relationship with Swedish EdTech Industry?
- Where do you place the organisation in the Swedish EdTech Map?
- What roles can the Swedish or Nordic network organisations have in internationalisation?

APPENDIX 9: EMAIL EXAMPLE - PRE-STUDY

Hej X,

Jag heter Nathalie/Teresa, och är Masterstudent på Handelshögskolan i Stockholm. Tillsammans med min kollega Teresa/Nathalie skriver vi vår D-uppsats inom edtech, med fokus på export.

Vi läste Ys specialnummer om edtech och kom då över din inledande krönika ("Z"). Jag kontaktar därför dig för att se om du har möjlighet att ta ett möte som en del av vår förstudie. Vi håller för närvarande på att sätta oss in i ämnet för att förstå den nuvarande situationen, förutsättningarna och problematiken. Vi söker att få ett A - och B perspektiv från dig.

Har du möjlighet att ta ett möte nästa vecka?

Tack på förhand!

English translation:

Hi X,

My name is Nathalie/Teresa, and I am a Master student at Stockholm School of Economics in Stockholm. I am, together with my colleague Teresa/Nathalie, writing a master thesis on the edtech industry, with a focus on internationalisation.

We read Y's special edition on edtech and found your column ("Z"). Therefore, we are reaching out to you to ask if you would consider taking part in our pre-study. We are currently trying to get an overview of the topic, by gathering information about the present situation, the preconditions and the challenges. The aim of meeting you would be to understand the point of view of A and B.

Would it be possible for us to schedule a meeting with you next week?

Thank you in advance!

APPENDIX 9: EMAIL EXAMPLE - PRE-STUDY

APPENDIX 10: EMAIL EXAMPLE - MAIN STUDY

Hej [förnamn],

Det här är Nathalie/Teresa, handelsstudenten som var med på Swedish EdTech Industry exportmöte den 14e februari. Jag skriver tillsammans med min klasskompis Teresa/Nathalie, en D-uppsats om svenska edtech-bolags tillvägagångssätt vid internationalisering. Dels såg jag ett intresse för Y från de andra bolagen under exportmötet, men Y har också återkommit under samtal med andra aktörer så som Z på Ö och med Ä. Vi tycker att det låter som att Y haft en spännande exportresa och vi skulle gärna intervjua er för vår huvudstudie gällande hur er resa sett ut och vad ni haft för strategier/icke-strategier när ni gått in på nya marknader, och kanske hur er affärsmodell eller produkterbjudande har behövt anpassats.

Vi ses gärna för ett möte mellan den 20-23 mars om möjligt, och om något annat datum passar bättre är vi givetvis flexibla.

Då vår studie är mer utforskande och djupdykande så är vi även intresserade av att intervjua fler eventuella nyckelpersoner på Y som varit aktiva i exportresan.

Tack så mycket, och hoppas vi hörs snart!

Med vänliga hälsningar,

Nathalie Thiel och Teresa Garcia

English translation:

Hi [name],

This is Nathalie/Teresa, the student who was present at the Swedish EdTech Industry export meeting on February 14th. I am together with my colleague Teresa/Nathalie writing a Master Thesis about the internationalisation approaches of Swedish edtech firms. I noticed an interest in Y, by other companies, during the export meeting, and Y has also been mentioned during interviews with Ö at Ä and Å. Our impression is that Y has had an interesting internationalisation journey and we would like to interview you for our main study regarding your internationalisation, your strategies/lack of strategies when you have entered new markets, and also how your business model or product offering has adapted.

If possible we would appreciate a meeting between March 20-23rd, but we are flexible if another date would suit you better.

Our study has an explorative nature, so we are also interested in interviewing other key individuals at Y who have been active during the export journey.

Thank you and we hope to hear from you soon!

Best regards,

Nathalie Thiel and Teresa Garcia

APPENDIX 10: EMAIL EXAMPLE - MAIN STUDY

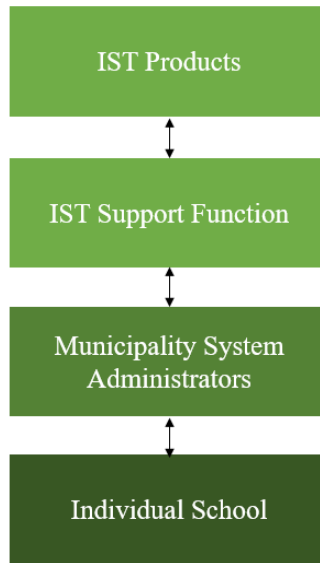## APPENDIX 11: PUBLIC PROCUREMENT PROCESS IN SWEDEN

Explained by Torbjörn Karlsson, IST Group.

It could take around one year for a process to be complete:

1. Call for procurement, normally 40 days to answer
2. Hand in the procurement
3. Pre-qualification - a few suppliers are chosen to the next step
4. The chosen firms demonstrate a suggested solution
5. Decision
6. Change in system/product offering

APPENDIX 12: IST SUPPORT STRUCTURE

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┌─────────────────────────┐
│      IST Products        │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│   IST Support Function   │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│  Municipality System     │
│     Administrators       │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│    Individual School     │
└─────────────────────────┘
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APPENDIX 13: SUMMARY OF CASE FIRMS

Case Firms	IST	Nova Software	Lexplore	Kognity
Founded	1985	1985	2015	2015
Founding/Head Office	Växjö, Sweden	Falköping, Sweden	Stockholm, Sweden	Stockholm, Sweden
Employees total (employees abroad)	400 (200)	65 (0)	25 (5)	65 (15)
Product EdTech map classification	School administration, teaching, infrastructure management, main processes and schedule.	School administration (scheduling etc)	Support processes tool in teaching/evaluation	Teaching tools (digital textbooks)
Product type	Client-server, SaaS	Client-server	SaaS	SaaS
Customer	Municipality or equivalent	Municipality or equivalent	Individual school, municipality or equivalent	Individual school
User	Municipality/Schools/Students/ Parents	Municipality/Schools	Teachers/Specialised teachers	Teachers/Students
First market	Sweden	Sweden	Sweden	Rwanda
Market operations April 2018	Sweden, Norway, Denmark, Germany, Ireland and UK	Sweden, Norway, UK, France and across the world	Sweden, USA, UK	75 markets worldwide
Had operations in, no longer	USA and China	N/A	States in USA, France	N/A
Responsible for the international sales process	Resellers	Distributors	Partners	In-house sales team
Internationalisation approach	Active	Reactive	Active/Reactive	Active
Main focus	Domestic market	Domestic market	Global market?	Global market

APPENDIX 14: VISUALISATION OF CASE FIRMS' INTERNATIONALISATION JOURNEYS

IST

Nova Software

Lexplore

Kognity
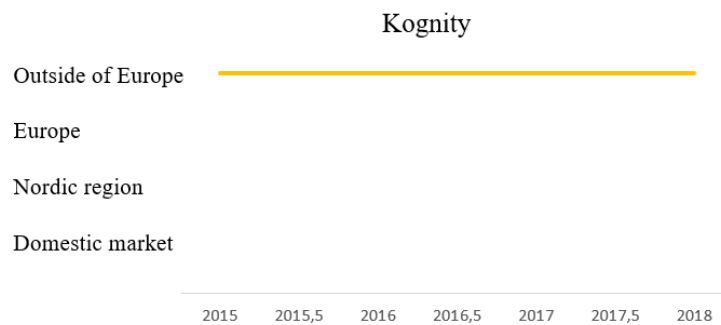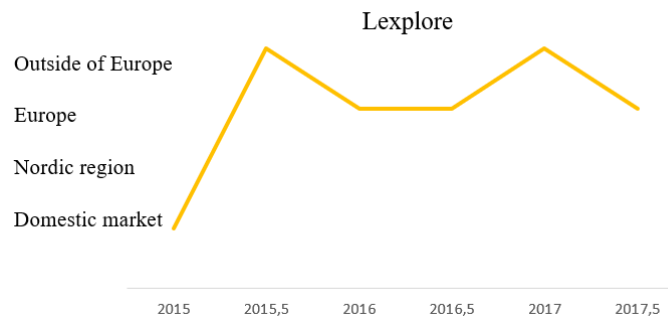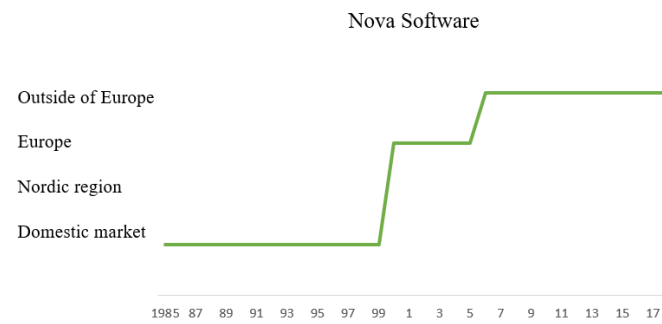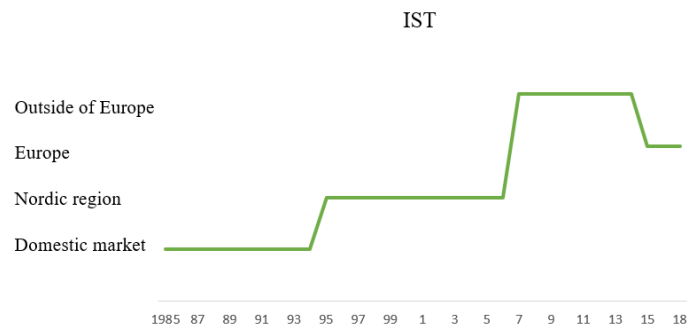
APPENDIX 15: DEVELOPMENT OF SOFTWARE FIRMS' OFFERINGS

Software firms' offerings evolve from products to include more services over time. Services will become increasingly important for software firms in the future.
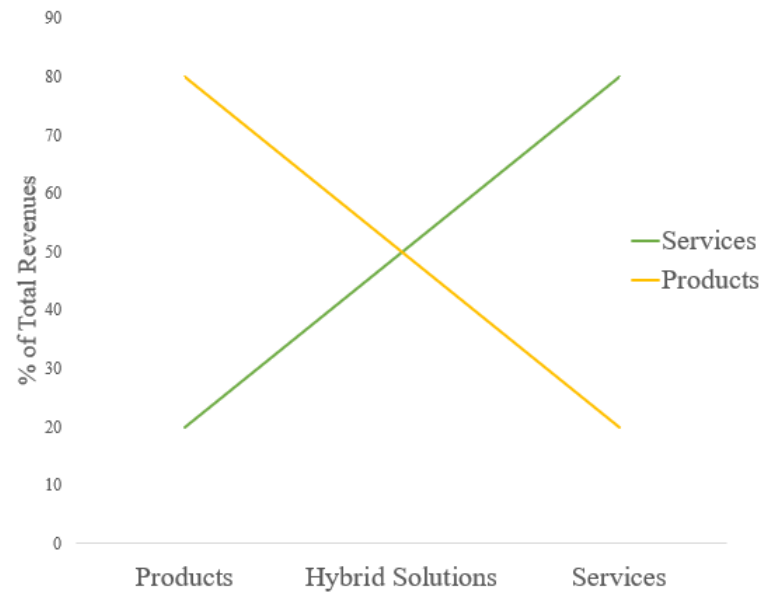
Source: M. Cusumano, The Business of Software (2004)

APPENDIX 16: MANAGERIAL IMPLICATIONS

As part of the final research conclusions, some key findings and learnings are presented for edtech firms looking to internationalise:

- Criteria for market selection should be carefully considered based on the characteristics of the product offering.

- Involving customers, both teachers and principals, in the business operations (e.g. sales process and product development) is crucial

- Reflect on the scalability of the product - what changes would be needed for each new market (e.g. language adaptations)? If the product requires substantial change, then opt for a gradual internationalisation strategy.

- Working with partners can be both challenging and rewarding. If the product is highly complex, then it may be more appropriate to convince and educate the customers directly instead of using middle-men.

- Use the customer network. Word-of-mouth is a powerful source of marketing, however, beware of its uncontrollable nature.

- The business model should be viewed as a flexible tool that both affects and is affected by the environment, not simply as a static visualisation of business