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"Think Small First": Growth Strategies for Scaleups to Overcome Challenges in their Growing up Phase

by

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Abstract

M.Sc E-Business

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Firm growth has been receiving increased attention from researchers, practitioners and policy makers. Empirical studies repeatedly show that a relatively small proportion of firms generate most new jobs. These firms, belonging to all demographics, are most often referred to as high-growth firms (HGFs) or gazelles. How these firms are defined vary in the literature and have resulted in fragmented studies and incompatible results. However, extensive knowledge has been produced in the field of HGFs. Most firm growth research relies on supply-side arguments, consequently demand-side arguments are absent. In this master thesis the author uses an integrated approach to examine fast growing new technology ventures, so-called scaleups, and their different growth paths. To this end, a case study was conducted on two Copenhagen-based scaleups in the cloud-based software industry. The objective of this study is to apply an integrated conceptual framework to scaleups to explain their growth. The originality of the framework lies in the fact that it is contextual, where it considers the market and local characteristics and how those influence a firm's growth.

The value of the study is considerable. First, the findings build on and add to the knowledge base of HGF research and new technology venture growth, aggregating prior findings into a comprehensive and unified study. Second, the study has several implications for practice and policy. This study findings include but are not limited to, external factors, such as investors and alliance formation, and internal factors, including human capital of founders and choice of growth strategies, can contribute to the growth of scaleups. Additionally, contextual factors can be barriers to growth, such as limited access to skilled labor and financial capital as well as cross-border trade restrictions. Conversely, internationalization or penetrating new markets are seen as opportunities for growth. Lastly, to understand this complex topic the author viewed firm growth from multiple theoretical angles (Andersson, 2003). Thus, a variety of appropriate theories were used as underpinning for the thesis, such as resource-based contingency theory, dynamic capabilities and diffusion of innovation.

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Abbreviations

B2B	**B**usiness **2** **B**usiness
CDN	**C**ontent **D**elivery **N**etwork
CRM	**C**ustomer **R**elationship **M**anagement (system)
ERP	**E**nterprise **R**esource **P**lanning (system)
EVP	**E**xecutive **V**ice-**P**resident
HGF	**H**igh-**G**rowth **F**irm
IPO	**I**nitial **P**ublic **O**ffering
R&D	**R**esearch **&** **D**evelopment
SaaS	**S**oftware **as** **a** **S**ervice
SME	**S**mall and **M**edium sized **E**nterprise
VC	**V**enture **C**apital

Chapter 1

Introduction

1.1 Background

In the early days of e-commerce, Windrum (2002) conducted a case study of five 'micro networks' in Europe, each comprised of a web authoring company, a business client and an independent contractor. In those days only few businesses ran a fully-fledged e-commerce website. Instead, many businesses decided to set up basic websites (e.g. static or brochure websites):

> . . . the diffusion of these types of websites has been quite rapid [. . .] fueled by expectations both within the industries in which the client firms operate and the wider milieu, fueled by a high level of media attention. As one client company put it, this give 'A sense that something was going to happen. Rivals were getting on board and had some kind of web presence – however basic – or it was likely they would soon be getting on board. So we needed some basic level of web presence in case we were left behind'. (Windrum, 2002, p. 116)

In the 16 years that have passed since the above citation was written many things have changed, although the bandwagon effect still applies. Currently, many companies operate a fully-fledged e-commerce website, either solely depending on their digital stores (e.g. Amazon.com) or as part of a multi-channel retailing (e.g. HM.com). Consequently, the market for e-commerce platforms and related services has grown considerably creating opportunities for new entrants into the market.

The e-commerce industry is comprised of multiple networks. Within the networks there are multiple participants shaping its direction, including users connected to the Internet, ICT infrastructure providers, intermediaries, software authors and manufacturers (e.g. browsers and SDKs), digital agencies, suppliers of financial capital, and public-sector institutions (Windrum, 2002).

According to Windrum (2002, p. 109), the complexity of e-commerce networks requires integration and mediation. In his research he identifies two types of system integrators: human actors (e.g. web authoring companies), and non-human actors (e.g. standards). Firstly, standards are necessary for different system components to interoperate. Without common standards it would be very difficult for organizations to develop scalable solutions. The role of standards in e-commerce will be discussed in more detail in the literature review. Second, there are organizations that act as intermediaries.

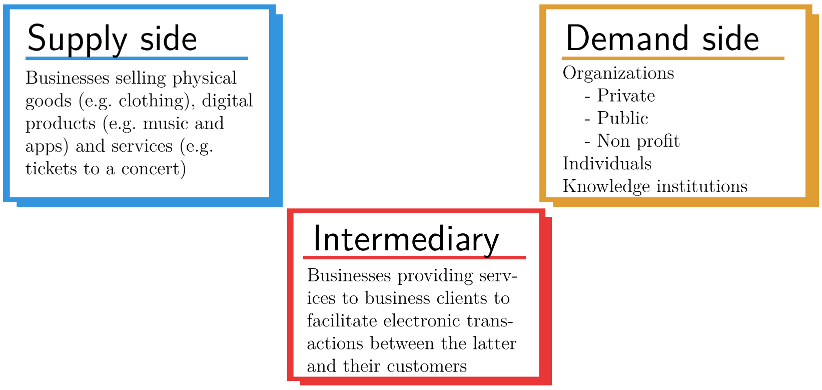

FIGURE 1.1: The two sides of e-commerce and the intermediary (based on Windrum (2002))

These are knowledge-intensive service providers that bring together the supply and demand side of the market (See Figure 1.1).

> ...a key interface between the evolving preferences of business clients and the rapidly changing technologies of e-commerce [...] they are system integrators who bring together a range of different hardware, interfaces, software and artwork in order to configure bespoke packages tailored to their client's particular needs (Windrum, 2002, p. 130).

Figure 1 depicts a simplified relationship between the supply side and demand side of e-commerce networks and the role of intermediaries as an interface between the two sides. IT consultancies, e-commerce platform vendors, marketplaces, Internet software companies etc. are businesses that take up that intermediating role. To give an example of some of the players operating in this field, in 2013 SAP acquired Hybris, an e-commerce platform vendor, to compete in the enterprise commerce market with its arch rivals Oracle and IBM (Sheldon, 2013).

Apart from the incumbents, like SAP and IBM, many new technology ventures have entered the e-commerce scene in more recent years. Most notably the emergence of the sharing economy with players like Airbnb and Uber, wreaking havoc in many markets. With lower costs associated with the early-stage tech startups, it is becoming less and less expensive to start, or put investment into, a new technology venture compared to previous eras of investment of e-businesses (P. Miller & Bound, 2011). Many of these new ventures operate on a so called software as a service model (SaaS) running on a cloud. First, software as a service (SaaS) is a software or application deployed from a centralized data center over a network, where users are granted access to the application by a provider, often in return for some kind of compensation (Hoch, Kerr, & Griffith, 2001). Secondly, cloud computing enables entrepreneurs to develop scalable solutions without investing in expensive IT infrastructure. Instead they can simply lease servers and computing capacity from a cloud service provider.

Recently scaleups have started to become more visible and accelerator programs, which have the aim to turn startups into scaleups, have been diffused throughout the US and Europe. Participants of these programs include scaleups such as Dropbox and AirBnB. The latter was valued for over $1 billion in 2011, merely three years after its launch (P. Miller & Bound, 2011). However, many of these new technology ventures never leave the startup stage. In fact, in the US over 60% of all startups fail and 75% of venture-backed firms never return investor's capital (Gage, 2012).

There seems to be a common problem among startups. It involves reaching mininum viable size in relatively short time. To this end, startups need to accelerate their growth in the early stages and reaching critical mass to become a sustainable business. In fact, Shapiro and Varian (1999) argue that for firms in virtual networks (such as e-commerce networks), it is a strategic imperative to grow (see Section 3.3.6). In addition, digital markets are highly influenced by first mover advantage and network externalities, which often involves winner takes all economics. To grow, many startups must rely mainly on their own resources while a chosen few receive substantial external support. Be that as it may, all face the same challenge, to achieve sufficient market share to make profit from their product offering. Scaleups, already having passed the phase of developing their product and attracting some users, face a new challenge: to design a market strategy with the goal of either to win markets or to create new ones.

From the academic perspective, there seems to be lacking an integrated perspective on growth in high-growth firm (HGF) research. HGF research has produced knowledge that is fragmented and spans across multiple disciplines. This can be seen in different definitions and methods applied, which makes comparison between studies difficult. The most common method applied is descriptive statistics, which can be criticized for not producing knowledge with much practical value. What the author of this thesis is attempting is to identify growth factors influencing growth of scaleups using an integrated framework. More importantly, in this thesis a explanatory multiple-case study is used to study growth. This can give in-depth understanding on how firms grow, instead of which firms grow. The latter being best answered by descriptive statistics. Thus, the problem this thesis aims to address is twofold: managing a scalable business and; lack of integrated perspective and use of qualitative methods when studying growth.

1.2 Motivation

There are three main motivations behind this research. First, scaleup has become a major buzzword in recent years, for entrepreneurs, investors and public institutions alike. The Nordic countries have been producing an impressive amount of scaleups in recent years. Denmark has approximately one fifth (20%) of the total capital raised by scaleups in the region. Most of these firms are located in Copenhagen. Software solutions account for 16% of all capital raised by Danish scaleups or $204 million (SEP, 2016).

Second, existing research on firm growth have been criticized for focusing too much on resource-based view (RBV) arguments, neglecting the role of customers or users as sources of growth (Zupic &

Giudici, 2017). With this focus, researchers studying firm growth have underestimated the demand-side arguments that are important for the understanding how value is created (Priem, Li, & Carr, 2012). In their new literature review on firm growth, Zupic and Giudici (2017, p. 209) suggest future research to explore firm growth using an integrated perspective that combines both supply-side and demand-side arguments. The current study aims to fill this gap.

Lastly, as the researcher has experience working with entrepreneurs in the past (some have been successful in scaling, others have not), the goal is to cast light on the main issues of concern when it comes to growing a successful software company. The goal of this thesis is that its contents may be useful for anyone who is interested in the topic of the growth of scaleups.

1.3 Research question

The author of this thesis aims to answer the following research question:

- *How does a set of internal and external growth factors influence the rapid growth of scaleups?*

1.4 Definition

There is no consensus concerning the definition of the term 'scaleup'. One source defines scaleup as a company that has raised more than $1 million in funds (SEP, 2016), while another as a business displaying high growth characteristics (*The Scale-up Challenge*, 2014). In this thesis the author argues that the term is context dependent and relative to the size and scope of the local economy. As such, the following definition is proposed: *A scaleup is a new technology venture in a state of high-growth.*

Scaleup has reference to Moore's (2014) growth chasm explaining a gap between the early adopters and early majority (see Section 3.3.6). Crossing the 'chasm' has been used in the context of high-tech companies that are expanding their business into new markets, which aligns well with challenges faced by new technology venture. This perspective assumes that startup goes through different stages during its life. Iborra et al. (2017, p. 1576) describe three stages: Concept-stage startups where a business model is established; early-stage startups involving testing of the business model and; late-stage startups where the business model has been validated and the founders are ready to expand and raise funds to fuel that expansion. Startups in the last stage have the potential to become scaleups, but that potential depends on the growth strategies that they adopt, and the financial backing they receive.

Chapter 2

Methodology

To answer the research question and meet the objectives of this study, a multiple-case study methodology is applied. In the next sections the methodology is explained, including the case study design as well as the process of collecting and analyzing data.

2.1 Case study design

To examine the phenomenon of rapid growth of scaleups an explanatory case study methodology was chosen. Case studies are a preferred research strategy when examining contemporary events and suitable to answer explanatory research questions (i.e. "how" and "why" questions) (Yin, 2003). To strengthen the validity and precision of the evidence, multiple-case designs were developed, and replication logic applied, as suggested by Yin (2003).

Binding the case is useful as it ensures that a study remains reasonable in scope (Baxter & Jack, 2008). To this end, the current study follows Miles & Huberman (1994) to select the setting, the actors and the events and processes.

2.1.1 Setting

This thesis focuses on two scaleups in the cloud-based software industry and their growth stage. The high-growth stage varies from two to three years, which is an appropriate time period to observe significant development in a firm (Prashantham & Dhanaraj, 2010). The setting is the Copenhagen cloud-based SaaS industry, a scaleup hotspot in the Nordics, in a highly innovative country, Denmark. The frequent emergence of scaleups in the Nordics make an outstanding context for studying rapid growth of scaleups and extends the relevance of this thesis beyond the immediate context. The small size of the domestic market makes it more appealing for firms in this industry to expand their operation across borders to achieve growth. Denmark has a history of software firms succeeding internationally, including Trustpilot, Axapta and Zendesk. Success stories or role models can encourage innovation and entrepreneurial activities in countries (*The Scale-up Challenge*, 2014). Furthermore, according to SEP (2016), software solutions receive a large proportion of all funds raised by Danish scaleups, which gives an indication of the industry's significance.

2.1.2 Actors

Two firms agreed to participate. The participating firms are Alpha Protect and Uniconta and their founding teams. Upon the request of the former company, its name was altered along with the names of informants from the firm (however, their job titles are the same). The case-companies were selected purposefully based on a set of criteria, size, age, growth and industry. Both companies have international B2B operations and offer cloud-based software products. As both firms are in the same industry, no industry difference had to be accounted for. The same applies to the country and cultural differences (both companies are Danish).

The case companies are both intermediaries or knowledge-intensive service providers that bring together the supply and demand side of the market. First, Uniconta (founded 2016) provides a cloud-based ERP system that enables small and medium sized enterprises to conduct their business. Second, Alpha Protect (founded 2010) provides a virtual waiting room solution supporting the IT infrastructure of firms of all sizes conducting business online preventing their websites from failing during end-user peaks. Both case companies are internet software companies taking on the role of being the interface between the two sides of the market by offering specialized services combining both IT infrastructure and architecture to meet the needs of their business clients (Windrum, 2002). A description of the case companies can also be found in Appendix A.

2.1.3 Events and processes

The events and processes that were of interest to the current thesis involved milestones on the way to growth, such as international expansion and large deals closed. In addition, which growth strategies worked, and which ones did not prove as successful. For the interviews conducted, the topics discussed include financial and human resources, strategies, alliances, competition and other dimensions covered in the conceptual framework. In each case, the level of growth attained differed as one company had an advantage over the other in terms of age. Although the younger firm has only recently begun its rapid growth, both companies had experienced considerable growth.

2.1.4 Definition and growth measurement

In this thesis a scaleup is defined as *a new technology venture with annual growth of 20% or more in terms of turnover or number of employees for a period of three years*. Here, the benchmark for a firm's newness is five years or less at the beginning of the three-year period and the cut-off value is 5 employees. This definition is based Eurostat and OECD's (2007) definition of HGFs (for full definition see Section 3.1.1).

In this thesis, employment is used as the basis for growth. According to OECD the correlation between turnover and employment-based measures on growth by sector is high in Denmark (approximately 80%). This suggests a "good consistency between the turnover and employment based measures, meaning that an analysis of high-growth rates by sector would reveal similar results whatever the basis for growth" ((Petersen & Ahmad, 2007, p. 12).

The following formula was used to calculate annual relative growth:

$$g = \frac{(S_{t_1} - S_{t_0})}{S_{t_0}} \tag{2.1}$$

where S_{t_0} refers to the size at the start of the period and S_{t_1} refers to the size at the end of the period

2.2 Literature review

Literature review was conducted systematically. It was organized as an iterative process, where the process started with search, learning, redefining and extending the initial search. Redefining and extending the initial search allowed additional related work to be identified and studied and the cycle was repeated until the author was satisfied with what was learned. Thus, it was an iterative learning process that is often required when performing concept-centric literature synthesis (vom Brocke et al., 2015).

The literature was analyzed to identify concepts relevant to the research topic. Those concepts were defined and explained in the context of the studies they were found. The latter is important as some concept vary depending on the setting in which they are applied. This means contextual effects were taken into account as these can shape the meaning of the variables studied (Rousseau, Fried, & Heinz, 2001).

2.2.1 Scope of the search

The aim of the review section was to understand and conceptualize the topic, "to find research ideas, and to refine them into research problems" (vom Brocke et al., 2015, p. 210). To this end, various databases were used, including CBS library, Google Scholar and Scopus. First, general keyword search for high growth companies was performed using the keywords 'high-growth firm' and 'gazelle'. Analyzing review papers and special issues on HGFs found using those keywords lead to a better understanding of the topic and a more refined subsequent search.

2.2.2 Analyzing the literature

A reference management software was used to store and manage all the citations and notes. In addition, a spreadsheet was used to keep an overview of the publications and a concept matrix to develop a conceptual framework. Once the conceptual framework was developed it was peer-reviewed by the thesis supervisor. The framework is presented and supported by theory that has been applied and prior high-growth firm research. However, to address a gap in the literature an additional dimension was added, user adoption or demand-side factors, which was found to be largely ignored in prior research (Zupic & Giudici, 2017). The concept of user adoption is viewed from the perspectives of diffusion of innovation (Rogers, 1995) and network externalities (Shapiro & Varian, 1999). These perspectives have not been applied before in the high-growth firm literature, by the author's knowledge.

2.3 Data collection protocol

According to Yin (2003), it is essential to have a case study protocol when doing a multiple-case study. It serves as a guide when collecting data and is a way of increasing the reliability of the research. It involves keeping an overview of whom to interview, preparation, an outline of the report or thesis, procedures and case study questions.

A plan for data collection was made once the case companies had agreed to participate. It contains procedures concerning how interviews are conducted, what equipment to bring to the field and when data collection should be completed. Publicly available information was accessed and collected online.

Beside the research question a set of questions were created in the case study protocol. All the questions pertained to the initial research design. Firstly, protocol questions formed the structure of the inquiry. The protocol questions were directed to the researcher about the information that need to be collected and why. Secondly, questions asked of each interviewee or interview questions, referred to here as interview guide (see Appendix B). The protocol questions need to be answered by the researcher during a single case and those questions serve as a basis for the second case study when conducting a multiple-case study (Yin, 2003).

2.3.1 The replication logic

In short, the replication logic involves following the guidelines set forth in the case study protocol to complete a single case study. The process is repeated on a second case to assess whether the research design has replication potential. It is similar to an experiment where findings from a single experiment are repeated on a second sample of subjects. For this study it was therefore essential that one case study be completed before starting on the next to ensure validity of findings.

2.3.2 Reliability

The case study protocol supports the reliability of the study. It means the researcher displays a level of professionalism towards the research subjects, signaling that he is conducting a serious study. This was important in the current thesis as the researcher had ties with one of the firms. The protocol was followed for each interviewee, that is same set of questions and the same setting (except one interview was conducted through Skype), even though the researcher knew the answer to some of the questions. Thus, bias did not undermine the reliability of the study.

2.4 Sources of data

The empirical data collected includes interviews, archival records and publicly available information concerning the companies.

2.4.1 Interviews

For this thesis, semi-structured interview technique was used. In semi-structured interviews the researcher uses list of questions or themes to be covered. This means that the order of questions may vary, depending on the flow of the interview and the respondent's area of domain. Also, questions may be added that are not on the list to explore new themes emerging given the nature of growth within particular scaleups (Saunders, Lewis, & Thornhill, 2006).

The interviews were conducted one on one, in person (5) or through Skype (1). In the interviews a combination of open and probing questions was used. The number of open questions was kept within reason to allow the respondent to share his/her experience without frequently being interrupted. The interviews were recorded, and notes were taken. The average length of interview was 53.5 minutes. The interviews were transcribed verbatim immediately after each interview to allow direct citations from the respondents. After all the interviews had been transcribed for one case company, the data was examined and matched with the protocol questions to ensure all required data had been collected (see Section 2.3). All data pertaining to the interview guide were collected through the interviews.

Table 2.1: The respondents of the study

Name	**Position**	**Company**
Ole Jørgensen	CEO	Alpha Protect
Hans Andersen	CTO	Alpha Protect
Stine Olsen	CCO (communication)	Alpha Protect
Jørn Rejndrup	EVP and head of support and sales	Uniconta
Per Pedersen	EVP and head of sales and marketing	Uniconta
Claus Klein-Ipsen	CFO and head of international distribution	Uniconta

The respondents of this study are listed in Table 2.1. Names of the respondents from Alpha Protect appear under aliases. One contact for each firm was a key informant (Yin, 2003) or the single point of contact the researcher had with the company. Key informants are extremely valuable because they can provide access to other respondents and information within the firm.

2.4.2 Secondary data

Triangulation was used to increase the validity of the case studies (Saunders et al., 2006). It involves using two or more sources of data or methods to collect data in a study. This is useful to supplement interviews that are prone to informant bias. The type of secondary data used for this research are publicly available information found online, such as news articles, and archival records provided by the case-companies, such as employee records. The employee records serve as the quantitative analysis in the current study to identify the firms' high growth episodes (see Section 2.1.4). Hence: "the events or facts of the case study have been supported by more than a single source of evidence" (Yin, 2003, p. 98). The case study analysis was sent to the key informant of each participating company for verification (Saunders et al., 2006). This was done both to ensure validity and accuracy of data, and to protect confidentiality. Furthermore, the final draft of the thesis was sent to each participating company for revision prior to publication.

2.5 Analysis of data

The data collected was stored and organized in a case study database (Yin, 2003). All case study notes, documents and recordings were stored electronically on the researcher's PC and backed up in a cloud for easy retrieval and access to data in the research process.

The first step of the analysis was to answer the protocol questions as completely as possible and cite relevant material from the case study database (Yin, 2003, p. 104). This 'narrative' served as a basis for the writing of the case study report. More importantly, the narrative connected the concepts in the framework to specific evidence. Second step was coding the interview transcripts. Theory-driven thematic analysis was adopted in the coding process, serving as an analytic technique to organize and analyze the data for each case. This approach involves deriving themes with the use of pre-existing theoretical concerns (Braun & Clarke, 2006; Howitt & Cramer, 2008). In this thesis the themes are derived from the concepts or topics included in the conceptual framework. The framework, as described in Section 2.2.2, was inferred from the literature review and then "tested" by seeing how well the data supported it (Yin, 2003, p. 133). Subsequently, upon completion of the first case study analysis the methods and approaches used in the first case were applied to the second case. Finally, both completed case study analyses were compared to identify similarities and differences between them. The outcome of this work is presented in Chapters 4 and 5.

To sum, the analytic strategy followed a theory led approach based on the theoretical foundation summarized in the conceptual framework in Figure 3.2. This foundation is laid out in the next chapter.

Chapter 3

Literature review

In this chapter research on high-growth firms is reviewed and the conceptual framework presented.

3.1 Identifying high-growth firms

Based on the literature search performed by the author of this thesis, a clear majority of the research done on high-growth firms (HGFs) involve descriptive studies using quantitative methods. Additionally, the methodologies used are quite disparate and no consensus exists on how to define high-growth firms or gazelles. For this reason results across studies were inconsistent as different metrics were used to analyze growth.

The terms used for HGFs include gazelles, high-growth SMEs and high-growth new venture or new venture growth. None of these terms were affiliated to any industry. This came as a surprise as age, size *and* industry affiliation was found to have a significant impact on the revealed growth pattern of firms (Delmar & Davidsson, 1998).

3.1.1 Identifying and assessing high-growth firms

One of the most heavily cited articles on Google Scholar about high-growth firm research is a meta-analysis by Henrekson and Johansson (2010). By examining 20 studies on employment contribution of gazelles the two authors found a small proportion of firms (or gazelles) to be outstanding job creators and their young age more than small size is associated with rapid growth. These results are interesting as they challenge earlier findings that exhibit small size to be a contributing factor to boost employment (cf. Moreno & Casillas, 2007). The research by Henrekson and Johansson (2010) has contributed to an increased interest among scholars and policy makers on the growth of young ventures.

Research in this field is disperse and cross-disciplinary. It is a complex phenomenon that requires researchers to choose between multiple measures and growth indicators (Davidsson, Delmar, & Wiklund, 2006). The common denominator across all these studies is that firm growth is measured by firm size. However, as pointed out by Rogers (1995, p. 359), “size is probably a surrogate measure of several dimensions that lead to innovation”. These dimensions include resources, organizational structure etc. that are not well understood and not easily measurable. Although Rogers (1995) may have dismissed firm size, for the current research it is paramount.

Employment and sales, i.e. growth indicators related to firm size, are most commonly used in high-growth research (Daunfeldt, Johansson, & Halvarsson, 2015). These indicators have returned similar results suggesting that either one of them is acceptable when studying the phenomena (Coad, Daunfeldt, Hölzl, Johansson, & Nightingale, 2014; Petersen & Ahmad, 2007). The growth is measured either in absolute or relative terms. The former seems to favor large HGFs while the latter over represents smaller ones. The choice of a growth indicator and whether it is measured in absolute or relative terms depends on the research question being addressed (Coad, Daunfeldt, Hölzl, et al., 2014; El Hakioui & Louitri, 2017).

In addition to indicators, there are a couple of other issues that need to be taken into account when measuring firm growth (Delmar & Davidsson, 1998): the period studied; and the process of growth. Three- or four-year periods are used in most previous HGF studies, although some studies have used shorter and longer periods (Henrekson & Johansson, 2010). This is to correct the one-off expansions and reduce statistical variations. However, this does not eliminate the problem that most HGFs experience their high growth event in one year (Coad, Daunfeldt, Hölzl, et al., 2014; Hölzl, 2014). Furthermore, HGFs have been identified either as a certain share of the fastest growing firms during a particular period, or use growth above a particular rate (Daunfeldt et al., 2015).

The OECD has been one of the most noticeable actors both initiating and contributing to new research in the field. Attempting to unify the definition of a 'high-growth firm' between member countries it suggests the following:

> All enterprises with average annualised growth greater than 20% per annum, over a three year period should be considered as high-growth enterprises. Growth can be measured by the number of employees or by turnover (Eurostat - OECD, 2007, p. 61)

Since its inception in 2007 the OECD definition have been diffused into the high-growth firm literature (see e.g. Coad, Daunfeldt, Johansson, & Wennberg, 2014; Daunfeldt et al., 2015; Mohr, Garnsey, & Theyely, 2014; Hölzl, 2014). Researchers have criticized the cut-off proposed, as it excludes many small firms (< 10 employees) and new jobs these firms generate (Daunfeldt et al., 2015). The main reason for this cut-off, however, is to exclude small firms that have contributed only one or two new employees in the examined time period (Eurostat - OECD, 2007). Not all countries use the same cut-off value. For example, Denmark uses five employees as a threshold (Statistics Denmark, n.d.).

Another important issue relates to two different growth modes, organic growth and acquired growth. While organic growth is related to new employees that is internal to the firm, acquired growth refers to gains in employment that occurs though external mergers and acquisitions. Due to the lack of data, total growth (i.e. both internal and external growth) is usually studied (Daunfeldt & Halvarsson, 2015). However, McKelvie et.al. (2006) studied HGFs in Sweden to see if there was a relationship between firm size and growth mode. Their findings show that small firms grow mainly organically while acquisition growth predominates among large firms. This can partly be explained because larger firms primarily grow by acquiring other firms, while smaller firms must rely on organic growth because of their limited resources. Thus, the choice between organic or acquired growth, or total growth in HGF research can have a major impact on the results (Davidsson & Wiklund, 2006).

3.1.2 Different views on growth

Empirical evidence has confirmed the following: Firm growth is neither homogeneous nor continuous; growth patterns and trajectories vary between firms. More importantly the pace of growth is different, and the fastest growing firms seem to generate most new jobs. This has become a focus area among policy makers to identify and nurture the companies that display high growth. Unfortunately, most focus has been on which firms grow rather than how and why they grow resulting in knowledge that has limited practical use (Lopez-Garcia & Puente, 2012).

Although there is strong evidence that indicates that high-growth firms are younger companies, one study found that it was not firm age but rather size that had a bearing on the growth (Hamilton, 2012). In his study, Hamilton (2012) examined the growth paths of growth firms in United Kingdom over a period of 13 years. He found that smaller sized firms grew with more continuity than did larger firms and that their growth paths were episodic, i.e. they grew in one or two relatively large steps. Hamilton's (2012) findings are in line with other studies that have confirmed that growth patterns are not random but in part the result of demographic affiliation, including age and size (Delmar & Davidsson, 1998).

Whereas the influence demographic affiliation has on growth of firms varies between studies, there is a consensus among researchers that most jobs are created by a small number of firms (or gazelles) and that this growth is not disproportionate in one industry. Also, it has been noted in a new literature review on HGF research that concrete policy advice remains thin (Zupic & Giudici, 2017). The next section will explore the literature on high-growth startups and how industry affiliation can affect growth paths of said firms.

3.1.3 Operationalization of the term scaleup

Startups have received increased attention in the literature in recent years. Where most startups that do not attain sufficient high growth in early years fail, research on high-growth startups is valuable. Knowledge derived from such research could be leveraged not only by other academics but also by practitioners and policy makers. High-growth startups are essentially high-growth SMEs with entrepreneurial tendencies. These firms belong to all industries but are more prevalent in fast growing markets.

For the current study a scaleup is defined as a new technology venture in a state of high-growth (see also Section 2.1.4). But what can be said about the characteristics of scaleups? The author of the current study argues that it is necessary to understand what characterizes scaleups to get a complete comprehension on how and why they grow. To this end, empirical studies with description of characteristics of new growth ventures were chosen (Kazanjian & Drazin, 1990; Morris, Neumeyer, Jang, & Kuratko, 2016; Siegel, Siegel, & Macmillan, 1993). Based on these and the author's own observations, a scaleup is a company characterized by:

Lean organization with little overhead	Efforts focused on one proprietary product offering
Inventive and risk-taking	Utilizes and specializes in advanced technologies
Strategic and focused on quality	Competes in a fast growing, high-velocity market
Management has substantial industry experience	

Figure 3.1: Scaleup characteristics

Furthermore, new high-growth ventures are past the 'development phase' (Siegel et al., 1993, p. 173). This suggests that firms go through different stages in development. In their work, Kazanjian and Drazin (1990) define four stages in the evolution of new technology ventures, i.e. (i) inception, (ii) commercialization, (iii) growth stage and (iv) stability. The third stage is where scaleups reside (see Section 3.4.0.2). However, not all firms become scaleups and many remain small and some fail. The ones that do scale need to consider both internal and external factors when strategizing for growth. These matters are taken up in the next section.

3.2 Conceptual framework

In this second section of the literature review the conceptual framework is presented in Figure 3.2. The framework forms the basis of the research design and structure of the analysis (See also Chapter 2).

By offering an integrated framework the current study aims at providing a more complete analysis on the phenomena of rapid growth of scaleups. In the following subsection the theoretical perspectives behind the model are stipulated. In subsequent subsections different dimensions of the framework as well as the related research is presented.

3.2.1 Theoretical development

Scholars have used different theories to explain the growth and performance of new ventures. The theories supporting the proposed conceptual framework include resource-based view (RBV) of the firm, dynamic capabilities and contingency theory. The definitions and example of studies where these theories have been applied can be seen in Table 3.1 First, RBV is based on Penrose's (1959) theory of the growth of the firm and it views the firm in terms of its resources and capabilities. The RBV has received a lot of criticism. It leaves out the important strategic concept of 'value', which is

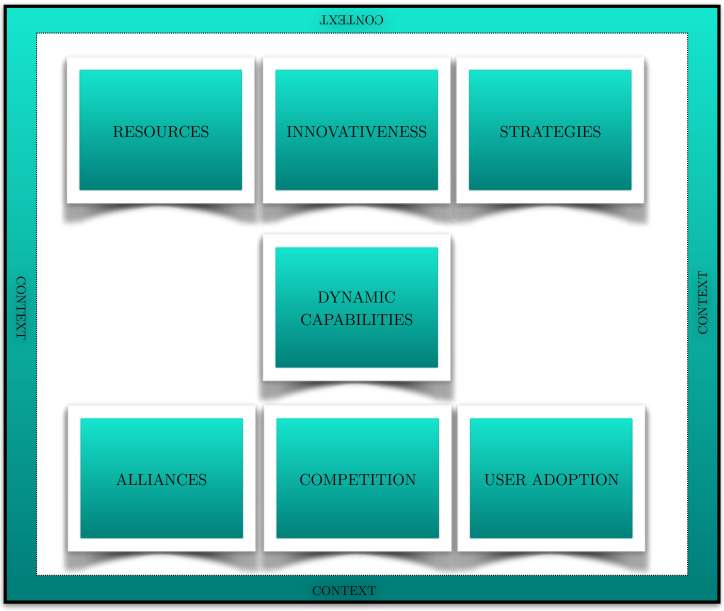

FIGURE 3.2: The Integrated Framework of Scaleup Growth

arguably a critical factor for entrepreneurial success (Priem & Butler, 2001). In addition, D. Miller and Shamsie (1996) criticized RBV for not considering the context in which the firm's resources might be of value.

Priem and Butler (2001, p. 33-34) reported that in the literature, RBV was commonly used as a static model and that this had limitations for research. The static argument was found to be too descriptive and processes kept in a black box. Furthermore, it was argued that a high level of

TABLE 3.1: Theories and definitions

Theory	Author(s)	Definition	Cited in
Resource-based view	Wernerfelt (1984, p. 180)	A framework to analyze different growth paths and create growth strategies using firm-specific resources and capabilities. Strategies involve "striking a balance between the exploitation of existing resources and the development of new ones"	Hornberger, König, Zerr, and Baltes (2017); Katila and Shane (2005)
Dynamic capabilities	Teece et al. (2003); K. M. Eisenhardt and Martin (2000)	"the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 2003, p. 190)	Wiklund and Shepherd (2003)
Contingency theory	D. Miller and Shamsie (1996)	How different types of resources have different importance to firms depending on the external environment. The two authors theorized: "...whether or not an asset can be considered a resource will depend on the context enveloping an organization as on the properties of the asset itself"	Katila and Shane (2005)

abstraction was found in this static approach. The concept of dynamic capabilities has been used to extend the RBV, thereby providing deeper insights into the underlying factors leading to the development of a firm's sustainable competitive advantage (Douma & Schreuder, 2012).

Contingency theory has been adapted to include the resource-based perspective on the organization. D. Miller and Shamsie (1996) presented a resource-based contingency theory, created in the context of firm resources, to examine the performance of movie studios in the US. They split resources into knowledge-based and property-based resources. They found that the former type was more valuable in uncertain environment, while the latter were more important during periods of certainty. On the basis of their hypothesis and findings the two authors developed their theory (see Table 3.1.

Katila and Shane (2005) applied all three theories in their study on new technology ventures. The two authors examined environmental characteristics that give rise to innovation in firms that have yet to develop resources, considering competition, access to financial resources and market size. The two researchers argued that dynamic capabilities explain how these firms innovate. The external growth factors chosen for this thesis are (external) *resources*, *competition*, *user adoption* and *alliances;* while the internal growth factors are (internal) resources, *innovativeness*, *strategies* and *dynamic capabilities* (depicted by turquoise colored boxes in Figure 3.2). In addition, *context* involves the setting in which the firm is situated (represented by the turquoise colored frame in Figure 3.2).

3.3 Internal and External Growth Factors

3.3.1 Resources

Based on prior research, resources internal and external to firms were found to be a determining factor in their ability to grow. Therefore, both are included in the conceptual framework (see Figure 3.3).

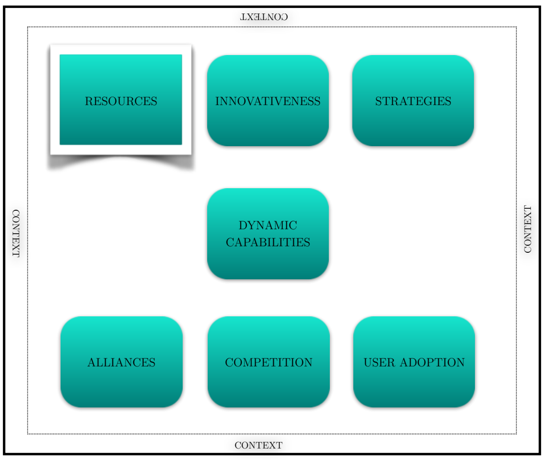

Figure 3.3: Internal and External Resources

Internal resources are the intangible and tangible assets owned by the firm, such as brand name, technological know-how, human capital, financial capital and procedures (Wernerfelt, 1984, p. 172).

Resources that have been of most interest in the HGF literature include human and financial resources. Furthermore, the most commonly mentioned barrier to growth in the literature on new venture growth was resource limitations, including human capital and financial constraints (Zupic & Giudici, 2017).

Human capital seems to be important determinant for growth of new technology ventures (Almus & Nerlinger, 1999; Zupic & Giudici, 2017). In particular, the size of the entrepreneurial team and its background are considered important factors (Almus & Nerlinger, 1999; Siegel et al., 1993; Song, Podoynitsyna, Bij, & Halman, 2008). The larger the size of the team and the more industry and marketing experience the entrepreneurs have the better the firm performed (Hornberger et al., 2017; Song et al., 2008). This is logical as bigger teams have a greater advantage over smaller ones and can better leverage more diverse set of experiences and capabilities. Moreover, skills from several domains complement one another in a team and may give the firm a competitive advantage (D. Miller & Shamsie, 1996). On the other hand, smaller teams that have more experience can have leverage over larger teams that consist of less experienced members. Additionally, in a study on fast growing firms in Spain human resource practices at the firm were found to be important for high growth (Lopez-Garcia & Puente, 2012). In the same study, Lopez-Garcia and Puente (2012) reported that having permanent workers rather than temporary workers and high quality human capital increased the probability of fast growth. Together these results show that high quality workers and a versatile entrepreneurial team are resources that can be valuable for scaleups that want to achieve fast growth.

Furthermore, during a rapid growth scaleups' resources might become overstretched. They must increase their capacity to meet growing demand. To be able to scale and sustain their growth, scaleups can either rely on their own stock of resources or seek external support. Mohr et al. (2014, p. 235) have noted that entrepreneurs can resource their venture not only through loan servicing but also by:

1. providing equity in return for resources
2. drawing on their initial resource-endowment, or
3. through "creative" strategies

Firstly, private investors or institutional investors provide venture capital in return for equity stake in the scaleup. Secondly, some firms might rely on their own resources instead of relying on their bank. In this thesis it is assumed that the second option proposed by the authors is not feasible for many scaleups. This is because the urgency of growing the business fast and scaling with it makes it difficult for scaleups to rely solely on their own resources, unless of course the founders have extensive resources to draw from. Third, by adopting "creative" strategies, e.g. improving operational efficiency or forming alliances (see Section 3.3.4.2). Furthermore, the ties formed to the outside by the firm and by its employees is another important aspect of the ability of the firm to access funding and form alliances (Prashantham & Dhanaraj, 2010).

In the HGF literature, better access to finance was found to facilitate the expansion of firms (Lopez-Garcia & Puente, 2012). However, financial constraints can negatively affect the success of startups (Stucki, 2014). Capital in return for equity (VC) is how scaleups often meet their financing demand (Gilbert, Mcdougall, & Audretsch, 2006). Private investors, such as business angels and venture capitalists, can provide VC and access to valuable networks (Markova & Petrovska-Mircevska, 2010; Mohr et al., 2014). Furthermore, depending on the situation, the investors can support the scaleup with valuable experience and knowledge (Klingler-Vidra, 2016). In return for the funding the investors get an equity stake in the scaleup in hope that the company is eventually put on IPO or sold, thereby receiving the proportionate share of the selling price. Important to note here is that recent empirical studies on this topic indicate that startups that rely heavily on VC do worse than the ones that do not rely on VC (Mohr et al., 2014; Stucki, 2014). Therefore, it is argued that relying on external funding to accelerate growth in the early stages (e.g. seed stage) is a feasible option if it is in the form of patient capital. For this purpose, VC seed funding is viewed as a key source of patient capital for a broad range of companies in the digital market (Klingler-Vidra, 2016).

3.3.2 Innovativeness

Innovativeness was inspired by a review paper by Priem et al. (2012). There the authors call for studies that consider demand-side factors within entrepreneurship research, including HGF research. The authors identify theories within entrepreneurship that support the demand-side perspective and propose future research within the field to explore the relationship between the market (demand-side) and innovation (supply-side) and how these two sides complement each other. The concept of innovativeness therefore includes innovation and product diversification on one hand, and the interaction between the market and product innovation on the other.

In the current thesis the author argues that scaleups are characterized by a high-level of innovativeness. First, as young firms they have limited resources and need to find ways to use the resources they have in novel ways (cf. Katila & Shane, 2005). For the same reason they must rely on organic growth, leaving little room to acquire innovation from other companies (see Section 3.1.1) Second, their organizational structure is flat facilitating higher levels of communication between employees and faster decision-making across the firm (see Section 3.1.3). This allows scaleups to quickly mobilize ideas to improve current products or processes or develop new ones.

During the growth phase the scaleup needs to allocate resources into product development and R&D. Its ability to innovate is dependent on the availability of resources, including financial capital and human capital (see previous section). During resource constraints the scaleup's innovativeness manifests in its ability to do things more efficiently and effectively. Another important aspect of innovativeness is the involvement of the scaleup's users in its R&D efforts. This can for example be meeting unique requirements of key customers. Innovativeness of the firm can thus influence its ability to both attract new users and retain current ones. In the next section, dynamic capabilities are explained in the context of firm growth. Researchers have used this perspective to explain why new firms are effective at innovation (Katila & Shane, 2005).

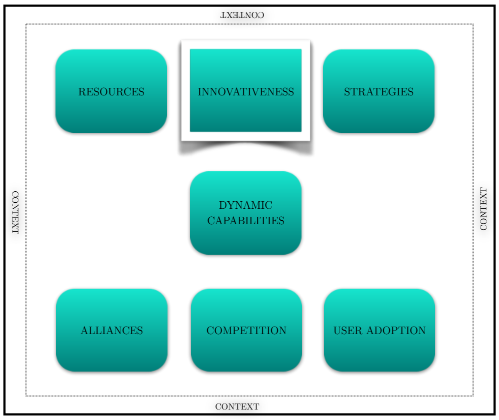

Figure 3.4: Innovativeness

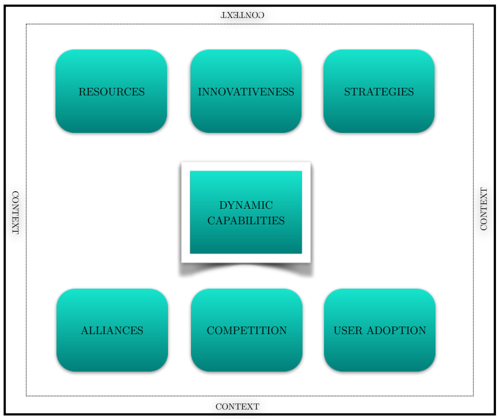

Figure 3.5: Dynamic Capabilities

3.3.3 Dynamic capabilities

As mentioned in Section 3.3.1, internal resources can be divided into intangible and tangible assets. D. Miller and Shamsie (1996) classified them further into two types, property-based and knowledge-based resources, where each type has either discrete or systemic characteristics (D. Miller & Shamsie, 1996). According to D. Miller and Shamsie (1996), the knowledge-based resources include marketing skills and technical capabilities. These capabilities can be discrete knowledge-based resources or systemic. To be qualified as the latter, they need to be coordinated and configured well. This definition aligns with Teece et al. (2003) definition of capabilities. Capabilities is adapting, integrating and reconfiguring organizational skills, competences and resources to match the requirements of a changing environment. What makes capabilities 'dynamic' is the capacity to change competence or adapt to changing business environment (Teece et al., 2003).

K. M. Eisenhardt and Martin (2000) provide another perspective. According to the two authors the firm's dynamic capabilities are effective as long as they create resource configurations (i.e. innovations) leading to long-term competitive advantage. Teece et al. (2003) state, similarly, that dynamic capabilities involve the firm's ability to achieve competitive advantage. However, K. M. Eisenhardt and Martin (2000) claim that dynamic capabilities do not lead to such advantage by themselves. In fact, "long-term competitive advantage lies in the resource configurations that managers build using dynamic capabilities, not in the capabilities themselves. Effective dynamic capabilities are necessary, but not sufficient, conditions for competitive advantage"(K. M. Eisenhardt & Martin, 2000, p. 1106).

Furthermore, in high-velocity markets the two authors state that the dynamic capabilities crystalize in the firm's ability to learn quickly and create new, situation-specific knowledge. Such rapid learning can be achieved through prototyping and testing in an iterative fashion (K. M. Eisenhardt &

Martin, 2000). This is logical as knowledge in changing or high-velocity markets changes rapidly and information quickly become outdated.

Prior findings have reported that technical capabilities and marketing skills are important predictors of growth and performance (Ahmadi, O'Cass, & Miles, 2014; Chen, Zou, & Wang, 2009; Song et al., 2008). As the concept of dynamic capabilities covers both the management of internal resources and the external marketplace (Priem et al., 2012), it has a central position in the conceptual framework (see Figure 3.5).

3.3.4 Strategies and alliances

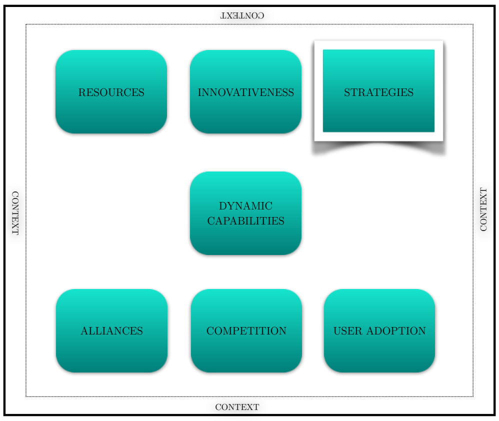

FIGURE 3.6: Strategies

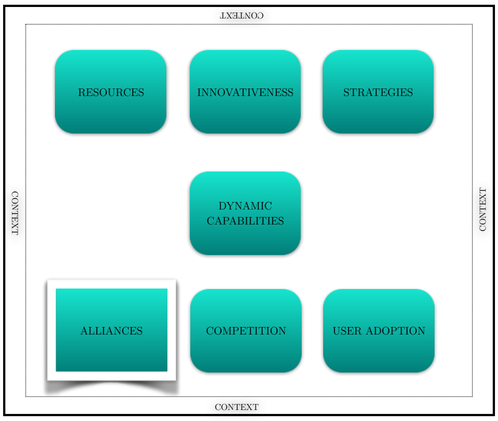

FIGURE 3.7: Alliances

According to Porter (1996), strategy is to perform activities differently than rivals or to perform different activities. Strategy is also about whom to serve. Serving a sub-set of customers and designing activities accordingly is to follow a niche strategy, while serving many customer groups and performing a set of activities to meet their common needs is to follow a broad positioning. Strategic positioning is to choose activities that are different from rivals, and tailor them based on variety, needs, access or a combination of the three. Furthermore, Porter (1996) emphasizes the importance of choosing appropriate approaches to growth. This includes to have a focused position instead of broadening it and thereby compromising it for short-term gains. For example, entering new markets or targeting customers where the company has little value to offer could undermine competitive advantage and reduce its profitability. A company should rather focus on deepening its position by making its activities more distinctive and communicating the strategy to appropriate audience. He adds that globalization aligns well with a focused strategy: "expanding globally is likely to leverage and reinforce a company's unique position and identity" (Porter, 1996, p. 77).

Porter (1996) stresses the importance of continuity of a strategic position and states that frequent shifts in positioning are costly. However, in his paper he uses examples of established companies not paying attention to startups. Ries (2011) talks about the importance to pivot in the startup phase if the value proposition or growth hypothesis prove to be erroneous. For scaleups, on the other hand, these hypotheses have been tested and verified making room for a well-defined strategy. Given that the scaleup no longer relies on leaps of faith but stands on a firm basis of facts, it must have a strategic agenda in place to reinforce and extend its position (Porter, 1996, p. 78). Thus, the choice of strategies is contingent on the firm's position in its external environment and stage of development. This matter and related issues involving creative strategies are taken up in the section follows.

3.3.4.1 International operations

Another important driver for growth is expanding internationally (Chen et al., 2009). A study on thousands of tech firms in Cambridge UK reported that not only alliances but also international operations are predictors of rapid growth (Mohr et al., 2014). In their research on hundreds of high-tech startups with international operations, Zahra, Ireland, and Hitt (2000) found that international expansion had a positive effect on a firm's performance. Startups that create a product that works locally on a small scale can potentially scale the solution if it is replicable. One example is OpenTable, an online restaurant-reservation service company, which started its services in San Francisco in 1998. First it only served few local restaurants but gradually expanded by replicating its services in different cities across the country. Now its services cover more than 30,000 restaurants in the US and in major cities around the globe (Wikipedia contributors, 2018).

3.3.4.2 Alliances

To meet growing demand for their product, scaleups may resort to forming alliances. As mentioned in Section 3.3.1, alliance formation belongs to an alternative of loan servicing, referred to as "creative" strategies (Mohr et al., 2014, p. 236). These strategies include 'lean venture' strategies through which firms seek to improve their operational efficiency, 'soft starts', where service revenues support product development (e.g. consulting services), and alliances. The last mentioned is the focus of the current study (see Figure 3.7) and is defined as "a relationship based on similarity of interests, nature, or qualities" (*alliance*, 2018).

According to Gulati (1998, p. 311) the creation of an alliance is an important strategic action, undertaken by firms based on strategic complementarities that they have to offer each other. To compensate for their newness scaleups might form partnerships with larger, more established firms. This can help the former by signaling quality and help overcome legitimacy barriers faced by scale-ups (Zupic & Giudici, 2017). Thus, forming alliances allows the scaleup to leverage expertise and infrastructure of other firms instead of having to constantly reinvent the wheel. For example, Tesla relied on a partnership with Lotus to build its first minimum viable product before building its own production capacity (Stringham, Miller, & Clark, 2015).

Prior research has found that forming alliances can promote growth by providing firms with (Zupic & Giudici, 2017; Moreno & Casillas, 2007; Hornberger et al., 2017; Almus & Nerlinger, 1999): access to key resources and capabilities they do not possess; better cooperation with suppliers; strong ties with the outside; know-how, capital and networks.

The value of partnering with other entities in a network is not assessed in terms of quantity, but in the depth and quality of relationships, alignment with the growth strategy and the capacity to internalize and broaden knowledge (Hagen & Zucchella, 2014). Hagen and Zucchella (2014, p. 519) performed a case study on born global firms (i.e. international startups) and found that networks can boost growth by contributing knowledge where there is lack of it, sharing and contributing to learning and by enhancing reputation.

In addition, one review paper suggested that alliances could facilitate complements, i.e. some products might work better jointly than apart to “synergistically create value for a particular market segment” (Priem et al., 2012, p.367).

3.3.5 Competition

Resources and dynamic capabilities have value if they are systemic and configured well. The best way to assess how valuable dynamic capabilities are is to apply them in a competitive environment. As such, competition was added to the framework (see Figure 3.8).

In chancing and demanding environments, such as many scaleups are up against, dynamic capabilities can be a source of competitive advantage (Teece et al., 2003). In previous sections it has been theorized that a firm’s competitive advantage is determined by its resources and dynamic capabilities (see Section 3.3.3) and product market position (see Section 3.3.4). Teece et al. (2003) argue that competitive advantage rests fundamentally on processes, such as a set of routines, that are hard to imitate. If those routines can be easily replicated or imitated by competitors they can lose their value. Returning to D. Miller and Shamsie (1996) classification of resources, knowledge-based resources are usually harder to imitate than property-based resources. For example, a software can be easily imitated by competitors whereas the technical capabilities and marketing skills are hard to imitate. The same applies to tangible and intangible assets belonging to a firm. Using the same example of a software firm, its source code (i.e. tangible assets) is easy to imitate, whereas it’s brand and reputation (i.e. intangible assets) is hard to imitate

Furthermore, competition is a market-making factor and impacts the rate of market penetration or user adoption (Moore, 2014). Consequently, scaleups need to consider the competitive dimension when formulating their strategy.

3.3.6 User adoption

The literature suggests that it is critical for scaleups to examine and understand demand-side factors (Priem et al., 2012). This involves understanding unique characteristics of different adopter categories (Rogers, 1995) and managing user expectations (Shapiro & Varian, 1999). In addition,

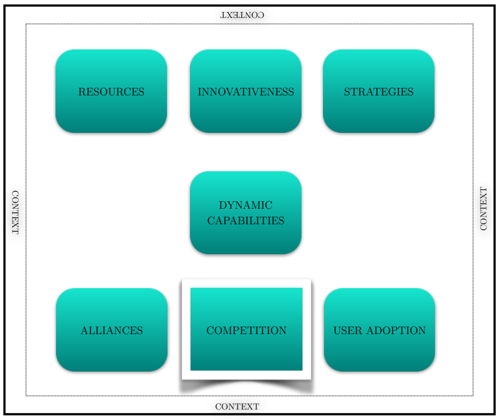

Figure 3.8: Competition

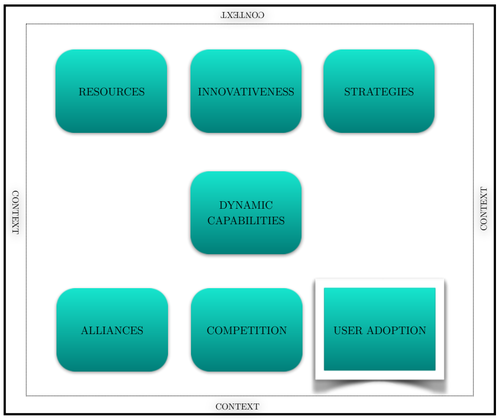

Figure 3.9: User Adoption

accelerating early user adoption of the product is considered a key success factor in crossing the chasm (Moore, 2014). Therefore, user adoption is included as a construct (see Figure 3.9).

As previously mentioned, scaleups are past the development phase and are in the process of scaling (see Section 3.1.3). Their product has already been adopted by some users or early adopters. Rogers (1995) defined five adopter categories, i.e. innovators, early adopters, early majority, late majority and laggards. What differentiates the individuals in the five adopter categories is different dominant attributes or values. For example, the late majority is skeptical and conservative, only adopts proven solutions, and pressure of peers is necessary to motivate adoption. His model (sometimes referred to as Rogers' bell-curve) has been extended and interpreted in different ways. For example Moore (2014) used it in the context of B2B high-tech companies in the US. He states that for high-tech commercial products there is a vast chasm between the early adopters and the early majority. For scaleups it is vital to narrow this chasm and accelerate adoption across every category (Moore, 2014). Scaleups therefore need to consider different user needs or attitudes between the two adopter categories and plan accordingly when crossing the chasm. (Rogers, 1995, p. 249-250). Based on the premises regarding scaleup characteristics (See Section 3.1.3) it is not unlikely that scaleups are placed in or in the process of crossing the early growth chasm. Assuming that the scaleup succeeds in attracting critical mass of users it is important that it is able to keep user retention high enough to become a profitable and sustainable business. For example, it took AirBnB 36 months to achieve critical mass while it took Facebook only half of that time to do the same. The difference between the two firms is that the latter enjoyed viral growth with virtually no customer acquisition costs while the former did not and had to rely on marketing activities to attract users to its platform. Despite these differences both firms enjoy strong network effects. This matter and others involving positive feedback and standards are taken up in the following section.

Network externalities and standards

Network externalities (usually referred to as network effects) refer to the increased value of a network when more users join the network. A great example of this is the Internet, the larger it becomes, the more value it delivers to its users. Network effects do not only apply to communication networks, as pointed out by Shapiro and Varian (1999). They are also powerful in what the two authors call 'virtual' networks. In the current study it is argued that e-commerce networks are virtual networks, where users benefit from more products and services being made available online. Sellers similarly see value in more users that are willing to make a purchase online. Additionally, the intermediaries and suppliers see opportunities in more sellers adopting software and hardware to have the necessary technical capacity to conduct business online (see Section 1.1).

> Because these virtual networks [such as e-commerce networks] of compatible users generate network externalities, popular hardware and software systems enjoy a significant competitive advantage over less popular systems. As a result, growth is a strategic imperative, not just to achieve the usual production side economies of scale but to achieve the demand side economies of scale generated by network effects (Shapiro & Varian, 1999, p. 14).

Positive feedback is a prerequisite for digital businesses to obtain critical mass. It works in the same way described in the example provided in the introduction with the merchants that felt compelled to put up a website because they expected their competitors to do the same (see p. 1). Hence, one of the keys to leverage network effects, according to Shapiro and Varian (1999), is to manage customer expectations. If users expect that a system will become a standard it will most likely become one.

Interoperability is vital to e-commerce networks as different system components need to be compatible with one another:

> From an economic standpoint, interface standards are central to any discussion of network externalities [...] One-component producers make important contributions to the process of collective innovation within the e-commerce network. The economic viability of these companies depends on the strong network externalities associated with common standards. In the absence of common standards the market would be too fragmented to afford them a profitable niche (Windrum, 2002, p. 130)

Thus, scaleups within e-commerce networks need to rely on common standards to capture value from the network. E-commerce networks rely on the same standards as the Internet, i.e. universal standards. As an open standards system available to all users of the network it reduces market entry costs of new ventures (Laudon & Traver, 2016). This is, for obvious reasons, beneficial to startups in e-commerce because of the global reach of the Internet, low entry costs and a common technology. Consequently, the competition is fierce.

Furthermore, firms that enjoy strong network effects generally have high user retention and switching costs are perceived high for their users. Customer retention is therefore a good metric to assess the strength of network effects. For example, this metric can be viewed in terms of daily actors by monthly actors in social networks or the trend of number of visitors that make a purchase over time in e-commerce networks.

Accelerating or sustaining growth

Sustaining high growth is a challenge for many startups. Recent studies indicate that firm growth is not persistent over time. Daunfeldt and Halvarsson (2015) studied HGFs in Sweden to find out if high growth is persistent over time. Their results show that the HGF status is only sustained for a brief period. Similarly, Hölzl (2014, p. 225) studied HGFs in Austria and his findings show only modest growth after a high growth event and: "most HGFs are not able to replicate their high-growth event and are 'one-hit-wonders'". However, Lopez-Garcia and Puente (2012) examined HGFs in Spain and reported findings that are at odds with previous studies. According to the two authors there exists a true state dependence in fast-growth rates, i.e. previous growth episodes increase the probability of current fast growth of firms. The findings from the HGF literature are therefore inconclusive in regard to sustained growth of HGFs and this requires more research.

For the current study, it is not necessarily a question of how long the growth phase lasts for scaleups but rather the extent of growth achieved in that period. If the growth rate is not sufficiently high in early stages it may affect the scaleup's competitive position. Thus, the most important consideration regarding the challenge of sustaining growth is to fuel the engines of growth within a limited time-frame to ensure a strong competitive product market position. As stated, the rate of market penetration is contingent on the context or the external environment (see Section 3.3.5). This leads to the last element in the conceptual framework, the external environment or context in which the scaleup operates (see Figure 3.10).

3.3.7 Context

All the concepts in the framework must be viewed in the context of the individual firm. According to resource-based contingency theory, resources should not only be assessed based on their properties but also the environment surrounding the organization (D. Miller & Shamsie, 1996). In addition, Wiklund (2006) noted that internal factors leading to firm growth need to take external factors into account. For example, a specific strategic orientation is not equally suitable in all environments. Where the environment plays a role in a firm's choice of strategies, interaction effects should also be investigated (Wiklund, 2006, p. 143).

The culture and the economic structure represent external factors that may influence growth of firms. Generally, external factors are beyond the control of the firm opposed to its internal factors

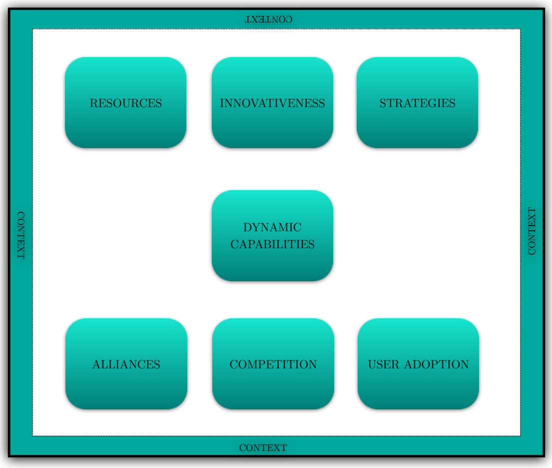

FIGURE 3.10: Context

that are orchestrated or managed by the firm (at least to an extent). Most studies examining the antecedents of growth take into account external characteristics and their influence on growth. These characteristics include: local characteristics (e.g. population density) and average wage and salary rates (Almus & Nerlinger, 1999); environmental munificence and heterogeneity (Wiklund & Shepherd, 2003); sector, industry stage, external links and financial capital (Chen et al., 2009); macroeconomic situation, external consulting, market position and market share (Hornberger et al., 2017); international operations and partnerships (Mohr et al., 2014) and; environmental dynamism (Wiklund, 2006).

In the above the constructs or concepts in the conceptual framework have been specified and some links have been made between the (sometimes overlapping) concepts. This matter and others including processes and stages models is taken up in the last sections of this literature review.

3.4 Relationships and processes

3.4.0.1 Relationships

A scaleup has demonstrated an ability to acquire customers and making money. This makes it a better candidate to receive external funding than a startup still developing its product (Klingler-Vidra, 2016). This suggests that user adoption influences access to external resources, including financial capital.

Recently a study was conducted on new technology ventures' first product commercialization (Ahmadi et al., 2014). The study reports the importance to examine both innovation and marketing functions of the firm to understand the source of first product advantage. In particular, Ahmadi et al. (2014) investigated resources and capabilities (R-C) simultaneously taken their interdependent influence on the performance into account. New technology ventures that rely on both marketing and technology R-C in a complementary manner were able to obtain first product advantage. Their results indicate that there is a strong relationship between the two concepts.

Chen et al. (2009) studied new technology ventures in China and how they grew. In China, networking is considered an important capability to gain access to necessary technologies, distribution channels and customer base. The authors found that interpersonal relationships gave firms the ability to identify more growth opportunities through learning, cooperation, and exchanging favors. In addition, the authors examined the relationship between technological capabilities and strategy. Whereas technological capabilities was found to enhance organic growth of firms, it weakened the effect of external growth. While the former growth strategy involves leveraging existing technologies, the latter relies more on acquiring technologies from external partners (Chen et al., 2009, p. 302). For the framework in the current thesis, their findings suggest that resources and dynamic capabilities influence the firm's choice of growth strategies.

K. Eisenhardt and Schoonhoven (1996) did a study on high-tech firms in the US, where they examined factors influencing formation of alliances. They found (1) vulnerable strategic position (e.g. high competition) leads to the formation of alliances, and (2) management team characteristics (e.g. social position) affect the rate of alliance formation. The findings of the two authors indicates a relationship between strategic actions and human capital of the management team. In addition, K. Eisenhardt and Schoonhoven (1996) argue that a firm's chances of forming alliances are relative to their size, causing a dilemma for firms that are resource constrained. This suggests that primarily large firms gain from alliances. Taken together their results demonstrate both firm- and industry-level factors to be relevant in determining alliance formation. K. Eisenhardt and Schoonhoven (1996) also report similar results when they studied the influence of said factors on growth and innovation of firms, thereby supporting many elements in the conceptual framework of the current thesis. More importantly their work establish relationships between the concepts and their combined effects on firm-level outcomes, including growth.

3.4.0.2 Processes

In a recent review paper on studies on growth of startup firms by Pugliese, Bortoluzzi, and Zupic (2016), different studies are analyzed and categorized based on methodological approaches. The analysis shows a large majority of studies relying on quantitative variance-based approaches, while process-based approaches are rare. While the former allow for hypotheses testing on various drivers of growth, the latter provide a better understanding how the growth process occurs over time and how various circumstances can influence it (Pugliese et al., 2016). For the study of scaleups, which are in the early growth stage of development, both approaches are useful to get a more complete understanding about their rapid growth.

It is rare that HGF studies apply both variance-based and process-based approaches to analyze firms' early growth, with a few exceptions. A study on VC backed new technology ventures used a stage-contingent model to explain how performance (i.e. firm growth) is contingent on different stages in ventures development (see Kazanjian & Drazin, 1990). The model contains four stages including a growth stage (see Section 3.1.3). To reach this stage, ventures must achieve 'fit' or consistency between corresponding stage and organizational structure, including decision-making and specialization in different areas, such as marketing and technology. In the growth stage the ventures' decision-making becomes more decentralized and there is more specialization in marketing, while specialization in technology remains high through all stages.

Another study by Hornberger et al. (2017), used a life cycle model, containing three stages (seed, startup and growth), shows how various growth factors effect new technology ventures differently depending on stage. Cooperation with customers is an important driver of growth for startups and cooperation with suppliers promotes growth for scaleups. On the other hand, cooperation with customers on the seed stage has a negative impact and the same applies for cooperation with suppliers on the startup stage.

In the current study, stage-specific growth factors are examined in the case of rapidly growing scaleups. The conceptual framework discussed in the previous sections is firmly based on theory and is supported by HGF studies and other related studies using variance-based, process based and combined approaches. To sum up, firm's performance is rooted in their competences and capabilities and shaped by their positions and paths (Teece et al., 2003). Teece et al. (2003) argue that it is not only product market position that matters, there are other factors influencing a firm's position in its external environment. Thus, other considerations should be made by the firm other than its product market position, when formulating strategy.

Chapter 4

Analysis

In this chapter, findings of the case studies are presented (see a description of participating firms in Section 2.1.2). Findings from each case study appear in seperate sections, followed by a section with their comparison.

4.1 Case 1 - Alpha Protect

4.1.1 Background of management team

Alpha Protect's founders (see Table 2.1) all have multiple years of experience in information technology. Ole has been involved in systems development, consulting and management and Hans has experience in development, project and people management prior to starting Alpha Protect. Stine has experience with business development in B2B IT solutions. The tree founders all have an MBA degree.

The founders had been working together at a rapidly growing IT company approximately 6 years before starting their own company. They have good working relations and agree that their different backgrounds and competencies supplement each other well. As the team had experience working together they didn't have to sort out many organizational hurdles. Instead, they could "just get straight to business", says Stine.

Moreover, their shared vision, ambition and desire to build something and have the freedom to do so in a controlled way has influenced many of their decisions on how to grow the business. In the beginning they had no customer examples to share and all trust was put on the three of them.

The division of tasks between Alpha Protect's founding team is roughly as follows: Ole is responsible for sales, business development and finance (CEO). Also, he is responsible for the US company, Alpha Protect Inc. Hans handles development and support (CTO). Stine handles marketing, communications and HR (CCO).

4.1.2 The high-growth period

Based on the employment records received from Alpha Protect, the highest three-year growth period was in the years 2015-2017. When this is written, the company employs 67 people, 5 in US and 62 in Denmark. Majority of the workers are full-time, but it also employs part-time student workers as well as interns.

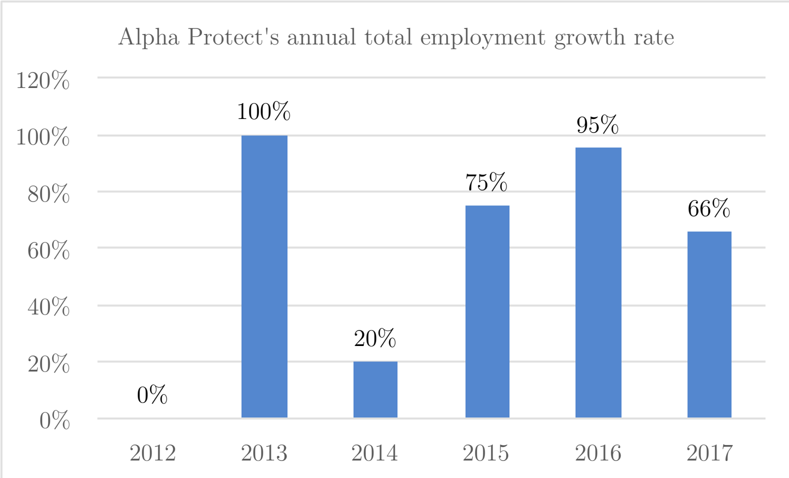

FIGURE 4.1: Growth of Alpha Protect in Terms of Annual Relative Growth

Figure 4.1 shows the growth rate for the period 2012-2017, two years after Alpha Protect was founded. The growth is calculated by using Equation 2.1. In the graph there is a cut-off at 2012. This is because the firm reached (or exceeded) the size threshold in 2011. A spike occurred in 2013 where the total number of employees doubled but no growth was reported in 2012. In both absolute and relative terms, the three-year period where the firm has grown the most is between 2015-2017, 56 and 336% respectively. This outstanding growth episode constitutes the topic of discussion in the interviews conducted with Ole, Hans and Stine, the founders of Alpha Protect (henceforth referred to 'The CEO', 'The CTO' and 'The CCO', respectively).

4.1.3 Resources

For Alpha Protect the main challenges faced during its high growth was to make sure that the resources, e.g. employees, match with the predicted future revenue stream and paying customers. The CEO reports:

> So, you take some decisions now on the amount of people and resources that you can afford and then you need to hope that you are able to get that amount of new revenue into the business. That is matching sort of the cost base you have put yourself into.

Apart from earning capital to grow and invest in the growth recruiting the right talent was also considered one of the main challenged faced by the company during its rapid growth. The CTO says: "There is two [main challenges]. One is recruiting the right talent and the other is getting capital to grow or invest in the growth".

Alpha Protect found that money and finding the right competences or talent to be the biggest constraint during the scaling of the business. Concerning competences and knowing which ones to look for can also be considered a constraint. This is, according to the CEO, normal when doing something that has never been done before. He says: "you don't know what competences you actually need because you are sitting and digging into something completely green field, so you would not know what the specific need is, because it depends on how the customers reaction is to what you are doing".

In its first year, Alpha Protect received external capital from investors in return for equity stake in the company. This cost them a considerable share in the company for "a relatively small amount", as the CEO puts it. He adds that the amount is approximately equivalent to the cost of running the company for one month at current pace. The share is less than one third of the company which means that the founders hold most of the equity. The initial funding was used for running the business, e.g. paying salary, for its first two years. The deal was neither fair nor unfair, but standard when dealing with investors.

Thus, investment in growth has primarily been done through their own efforts, only relying on external investment in the startup stage. Majority of the growth has been achieved by relying on paying customers, whatever is earned is used on growth. The CTO says:

> ... we took in investment after ... 6 months or something like that. So, in the first year - two years we relied on that and since then it has been, more or less, organic ... meaning that whenever we earned some money we used it on growth.

All the founders agree that it was very important for them from the beginning to remain in control of the business and have the freedom to go their own ways. The firm could have relied on a VC to fund their growth, leaving the founders with a minority share. Instead, Alpha Protect chose a more balanced strategy involving a more slow and controlled growth. The CTO says:

> We grow 50% per year and if we had taken in money we could maybe grow 100 or 200% a year ... of course the idea is nice that it is better to get a small part of bigger pie, but the problem is that it is very difficult to grow the pie sufficiently given the terms you are given from investors.

Alpha Protect did not have difficulty gaining access to funding when it was needed. The founders did not have experience negotiating with investors which made it more difficult for them to assess if the deal they got was a fair deal. According to the CTO, the contract they got was just the standard, which is not very good seen from the founder's perspective.

Hiring the right talent in the beginning was considered important for attracting more talent during Alpha Protects growth, according to the CEO. Therefore, high quality human capital attracts more of the same. The CTO mentions that it was easier for Alpha Protect than other very fast-growing and VC backed startups to find talent. He adds that these firms have lost some of their employees because the workers were neglected, left in a corner in a company with no culture. This suggests that firms with very high growth rates may face challenges hiring and retaining the right talent to sustain their growth. In a way the firm benefitted from the failure of these startups to retain their talent as some of them came to work for Alpha Protect.

However, there have been challenges filling some of the positions Alpha Protect has advertised locally. According to the CCO, these positions include specialized digital marketing talent, developers and technical engagement personnel. Not being able to hire developers in a timely manner has made it harder for Alpha Protect to scale its business. She says that technical engagement personnel is hard to find as this is not a recognized as a profession in Denmark. To overcome these challenges, Alpha Protect has had to acquire developers from outside Denmark. However, this has created other problems as the barrier to get foreign workers into the country is quite high. The process takes around 3-4 months and requires a large amount of paperwork, which is not acceptable for fast growing firms like Alpha Protect.

Alpha Protect received external advice when the founders were strategizing how to enter foreign markets with their product. The advice they received was disappointing. The trade commission suggested that they rolled out by country, starting with countries closest to them. However, this turned out to be a completely wrong strategy. This was due to a variety of reason, such as culture and history. The CEO explains that this could have been expected as the trade commission did not have experience working with SaaS companies in a global rollout. They have experience helping companies achieve foothold in foreign markets with very different products, such as in manufacturing and agriculture. Also, what Alpha Protect learned was that probably no external consulting would have helped get it to where it is today.

4.1.4 Dynamic capabilities

Alpha Protect has focused on organizing itself in a timely manner to manage the high demand for its products through the high-growth phase. Its dynamic capabilities lye first and foremost in the way the product and service has been delivered to customers. Alpha Protect delivers a business-critical application where failure is not an option. The CEO says that for the larger accounts, failing once would mean that they would be out of the game. Further he states that literally all Alpha Protect's customers will say that its product and service are top of the line: "approximately 100% of the customers will say we are a world class company in the product and the service". This consistent high-quality service has been delivered throughout the high-growth period even during resource constraints. The CEO describes this as an integral part of the firm's culture where everyone contributes to "build the best platform in the world".

Alpha Protect started hiring vice presidents and managers once the firm started to grow. The founding team realized that they would not be able to be personal managers for all their employees. Hiring managers in a timely manner has been a way Alpha Protect's organization has been built and then expanded.

The CEO describes Alpha Protect's culture as a team effort where everyone, including himself, the other co-founders, participate to deliver the best possible product and service. This cultural aspect is not something that is formalized into procedures or processes but more of an attitude towards the customers. Its service culture has been built and maintained inhouse relying on Alpha Protects own resources and capabilities. To this end, all development is done inhouse by employees and none of the critical parts of the business are outsourced. However, the firm outsources its IT infrastructure and hosting to a third party. The software is hosted on Amazon Web Services (AWS).

When it comes to less critical parts, such as marketing, Alpha Protect occasionally hired contractors. The CCO mentions an advertisement agency that assisted Alpha Protect publishing stories in the US press. The contract with the agency lasted for one year. She says that it was successful in the sense that the initiative met its objectives but measuring the result is problematic. She reports: "We got the stories in but it's super hard to see exact return on investment on something like that ... But it's one of these branding type activities that don't necessarily generate direct leads".

Thus, Alpha Protect relies entirely on its own capabilities when it comes to product development and support, which the founders classify as critical activities. When it comes to other activities, such and sales and marketing, Alpha Protect mostly relies on its own efforts but occasionally hires outside contractors to handle tasks that are not high-priority. Alpha Protect specialized in marketing early on, prior to its rapid growth. The CCO says that the founding team employed a marketing manager quite early (their 2nd or 3rd hire). Furthermore, Alpha Protect has acquired the necessary marketing skills to fuel its growth through an adaptive approach and learning. "And we are still learning", the CEO reports.

4.1.5 Strategies and alliances

To position itself on the market, Alpha Protect had to become familiar with the competitive environment and create a new product category. It is a first mover into a category the founders label as virtual waiting room solutions. In the beginning they did not know who their competitors were nor that they had to build a product category. The CEO says:

> But it turns out that there were competitors, alternatives and that is basically what we have positioned [ourselves] to trying to be the best company in that ... category. You need to build a category together with selling your solution and building that category is probably the biggest surprise for us, that we needed to do that.

The CCO sees being a first mover to be both an advantage and a challenge. It has built a brand-new product category and has become a market leader in that category. She states that Alpha Protect possesses, "by far, the largest customer base [of our rivals in the category], but we are also a few years ahead of them of course". However, the product category did not come by itself. The CTO uses an analogy to make the point more clearly:

> ...if you can make a running shoe and just say 'OK, this is faster than anybody else out there', but people still know what a shoe is. Now we go out and say, 'you need a virtual waiting room', and people have no clue what that is.

On a similar note, the CCO reports that the challenge that comes with being a first mover and an innovator is not having a category to tap into. This has made online marketing troublesome: "Nobody is going to search for a 'queue system' or 'virtual waiting room' unless they know that it exists", she states.

One of Alpha Protect's ways of positioning itself is as an alternative solution to known strategies. These solutions belong to another, much bigger product category, i.e. website optimization solutions. Within that category there are multiple companies offering solutions including CDNs, cloud hosting and load balancing. The CTO states that some of these solutions have been used by IT professional for 20-30 years, which has made it time consuming to build this new niche. The CCO responds in a similar way by saying that it has been difficult to get some conservative decision makers onboard because they are accustomed to using proven solutions that they know.

Thus, from the customer investment perspective there are alternatives to Alpha Protect's solution. The need for Alpha Protect arises when end-user peaks occur during some online events involving transactions, such as ticket sales to popular concerts or arts exhibitions and large sales events on days like Black Friday. According to the CEO, the alternatives include: "scaling, not doing anything, buy more load balancing . . . [or] make sure that you don't have peaks by evening the load over longer time spans". For example, instead of having Black Friday a one-day event, retailers could extend it to a week or two weeks thereby having the time slots long enough to not run into any issues. This alternative would probably not be a very clever selling technique by the reseller, but it would make Alpha Protect's use case nonapplicable.

4.1.5.1 International operation

Alpha Protect was determined from the start to operate and grow internationally. It is a niche product which makes the Danish market too small. Alpha Protect's common language is English and it employs people from all over the world. Also, the product itself, including architecture and documentation, is in English, and is designed with a multi-language support. This has been part of its design from the get go. The CCO says that: "it's always been the idea that we would be an international company and that is the way it has actually been".

It's strategy to internationalize was first done in a rollout fashion, starting with Norway and Sweden. This strategy turned out to be wrong, according to the CEO. He adds: "we figured out that we needed to take a way more agile and jazzy approach to it". This involved a more tactical approach with a focus on a specific market segment, namely ticketing. Alpha Protect chose this segment for a number of reasons: because it is a relatively small industry; easy to identify the 'household names' in each geographical region (e.g. Billetten in Denmark); it is receptive to the product; and it is a portal into other markets.

Part of its internationalization involves hiring people from different countries. The CCO reports that employing people from different ethnicities has allowed for a broader cultural understanding of how business is conducted in different geographies. This way, Alpha Protect has been able to deploy required resources for international operations without reliance on external advice or assistance, such as from business advocates or consultants.

Another important element in its strategy to internationalize is described by the CEO as an adaptive approach: "So it's a very sort of adaptive market approach. Where we go for ticketing and then we learn. Get the information and the feedback from the market and see what is going on". He emphasizes the learning aspect and says what they found and the information they acquired was not done through research but by doing. Furthermore, the adaptive approach is a process involved in iterating, building and learning and then repeating the process. This is done in a continuous fashion. Applying this method is how Alpha Protect, according to the CEO, was able to succeed in its internationalization and learn how the product fits into the market.

4.1.5.2 Alliances

Alpha Protect has strategic commercial partnerships with Tessitura network and Toptix, and technology alliances with Amazon, Distil Networks and Cloudflare. Its first commercial alliance was formed in 2012 with a ticketing software provider and the CEO says it took around 1.5 years before they started to see commercial benefit from it. This is about the same time Alpha Protect started to experience its rapid growth. The alliance with the ticketing partner has contributed to of approximately 15% of all of Alpha Protect customers. The CEO describes the process of the formation of the alliance which provides an important insight into the human aspect and its influence on alliance formation. The CEO of the potential alliance partner visited Alpha Protect's old office, which accommodated only around 12 employees at that time. The CEO says this about their meeting: "We planned to show him the product and a lot of slides and so forth, but the reality is that he was basically only interested in one thing and that is are we nice people that are able to help him drive a shared vision. So, it's extremely dependent and relying on persons and chemistry not plans and ideas and so forth. So that chemistry actually turned out to be there and now we have a fantastic partnership with them". The other two founders agree that the alliance has been successful. The CCO says there are two main reasons. First, there is a real match on the business side, and second, people on both sides have been "dedicated to the project of making these two organizations come together".

Thus, trust and trustworthiness of people in the company played a large role in the alliance formation, which supported Alpha Protect's early growth. Everyone on the founding team agrees that trust is essential. The CEO says that trust applies especially in the type of business they are in where communication with customers plays a significant role. According to the CCO, "trust is one of the fundamental needs for being functional with other company's services ... [trust] needs be there if it's not you cannot engage with that other partner".

Alpha Protect is hosted on Amazon's cloud and its queuing engine runs on Amazon Web Services (AWS). Thereby, Alpha Protect has an important partnership with Amazon on the development side. Other than being the cloud fundament for its product the cooperation between the two has been limited. Initially some good ties were formed but because Amazon is a very large organization it has been hard to leverage those connections.

One of the challenges in forming alliances is to find a commercial partner where selling Alpha Protect is in line with the partner's type of business. For example, Alpha Protect attempted forming commercial alliances with hosting providers, which failed. The reason is simple, hosting providers want to sell more servers. Alpha Protect can, however, drastically reduce the need of additional web servers by implementing a queue that offloads visitors to a waiting room thereby taking the load off the website. In this case it is obvious that the commercial interest of the two parties do not fully align which makes forming an alliance difficult.

The CCO sees alliance formation as an opportunity for future growth. Forming partnerships with large enterprises, such as Magento (popular e-commerce platform), requires considerable investment of Alpha Protect. Also, finding the right alliance, as the one formed with the ticketing partner, calls for additional resources. She says that this is an investment the company is willing to dedicate its resources to, but currently only the founding team handles alliance formation. Consequently, the resources are limited due to time constraints. Therefore, having a dedicated person that handles alliances and partnerships might be required to fully exploit the promising opportunities these initiatives can have on expanding the company further.

4.1.6 Competition

Alpha Protect's competitors are positioned in two product categories, the virtual waiting room category and website optimization category. In the first category there are a handful of competitors, like Crowdhandler, Traffic Defender, Peak protect and Akamai visitor prioritization. In the second are CDN providers, including Akamai CDN. However, CDNs only solve half of the problem and are therefore not direct competitors.

Alpha Protect's competitive advantage is its focus on the product and service. As a one-product company it has 100% focus on what it is doing. In comparison, the rivals mentioned above are delivering other services and products. According to The CEO this means that the competition has different prioritization where the focus is more on selling hours instead of on the product. Whereas the former is an easier approach in terms of selling and getting paid, the latter requires much more effort in terms of resources invested into developing the product and selling it. The CCO says that one of the main competitive advantage Alpha Protect has over its competitors is that it is has a few years lead on its competition. The CEO claims that Alpha Protect has become a market leader in ticketing by securing some of the largest customers in that segment. These large, valuable contracts enable it to invest more in the next development cycle.

Furthermore, having smart people and technologies has also contributed to Alpha Protect's competitive advantage. The CCO says that the technology behind the product is different from the competitors. Whereas Traffic Defender uses DNS to redirect users from the customer's website, Alpha Protect uses JavaScript or server-side implementation that handles the redirects. In layman's terms this means that companies using Alpha Protect are in total control of their server settings and data while the Traffic Defender solution involves changing the DNS to route all traffic (and data) through a 3rd party server. This enables Alpha Protect to deliver its "service to the largest online retailers, governmental organizations and financial institutions" (internal document).

4.1.7 User adoption

Alpha Protect's customers are mainly within three segments, ticketing, online retail and the public sector. These include names like JD Sports, AT&T, Carnegie Hall and Nestlé to name a few. Its total number of paying customers is over 400 generating over 2 billion end-user traffic through Alpha Protect's platform. The CTOs says that its potential customers are any website that has transaction behind it and experiences a spike in traffic. These transactions include purchase transactions, registrations or logging in to a website. The spike in traffic means that many people simultaneously flock to a website for information retrieval or submission, to purchase etc. causing overload on the website and its server. Thus, the combination of the transactional dimension and the traffic spike is how the need for a solution like Alpha Protect materializes.

In addition, there is an interaction between Alpha Protect and its client's customers or end-users. This interaction takes place when the end-user is in a queue and needs assistance, such as answer to a question or solve an issue. The CEO says that end-user's experience is mirrored to the customer and is therefore "a part of the value proposition". Alpha Protect's website contains an article where the value proposition the CEO refers to is depicted. It contains a description of the end-user journey where a "happy end-user" is placed in a virtual waiting room during peak traffic and informed about the wait, such as its duration and place in line. On the other hand, it describes a contrary scenario where an unprotected website is overloaded and/or fails, resulting in a "frustrated end-user". Thus, Alpha Protect's value proposition is delivering positive user experience for its clients' customers or consumers. This means that the firm needs to be resilient on at least two fronts, one facing the end-users or consumers (i.e. people in the queue), and the other facing Alpha Protect's clients (i.e. event organizers).

The main tactics Alpha Protect has applied to acquire customers are outbound sales and inbound lead generation. Outbound sales are based on a premise that respondent of a message, such as an email or a phone call, can relate to the message very fast. In the beginning this was a challenge because the terms 'online queue' or 'online waiting room' were not known. It was in 2015 that Alpha Protect experimented again, after failed initial attempt, with outbound by deploying a small sales team. This time it turned out to be successful and the company scaled the team and added a business development team that supplements its outbound efforts. Inbound lead generation involves attracting traffic to the website and ignite an interest in learning more about Alpha Protect. Also, participating in trade shows, public relations, joint seminars and talks have been undertaken by the firm to get the message across to prospective customers.

The CEO says that apart from the inbound and outbound tactics described above, the conversation that takes place between professionals in organizations about "what to do and what not to do and what suppliers to use". To be able to put Alpha Protect in a positive conversation in situations beyond its control requires a delivery of excellent product and services to customers. According to him, influencing positive feedback is mostly about perception because some people make decisions based on what they experience not what they read.

The CCO says that the tactic they have applied to reinforce positive feedback is by generating content focused on customer success. Several success stories or case studies was found on its website . There are currently 25 case studies about companies from all its main customer segments, of which most are in retail and ticketing (22). Alpha Protect has seen proof of the positive effects of customer feedback through inbound leads coming via referrals.

According to the CTO, Alpha Protect's tactic in the beginning was to focus on a particular segment, namely ticketing. The use case there is obvious and something that people in that segment can relate to and understand. Penetrating that segment first was successful, not only in bringing in new customers, but also to open up other segments. As the CTO puts it: "ticketing has been the spearhead into new markets". The CCO says that IT professionals in retail have in some cases been placed in a queue, waiting to buy tickets, and have seen the Alpha Protect logo. This has been the case for some of the inbound leads. She gives an example:

> So, you have 2 million people in Chile and queuing up for a festival or something they want to buy tickets for. Then out of those there is a very high probability that a handful of them will be relevant influencers or decision makers or people that would have an opinion about where they should have a queue on their websites themselves

There is a focus in the marketing department to enable these prospects to find Alpha Protect through internet search. The reason is that these prospects have a good understanding of the context in which the product applies because they have experienced it as end-users. Once the need arises for a queue, perhaps weeks or months later, the prospects will likely search online. Figuring out which search words they'll use, whether they will use 'waiting room' or 'queue' or perhaps even the context of the event they were queuing for etc. Furthermore, making it clear once the prospect finds his or her way to the website that the message concerning the product and service is clear: "we need to ... make it very clear what it is that we provide because there is room for a lot of confusion both with web performance but also within physical queue management".

Thus, Alpha Protects main sales channel is direct sales. It has only to a small extent relied on resellers, the only one being the ticketing partner mentioned above. The inbound tactic deals with prospects who want to learn and buy, and the outbound where Alpha Protect needs to educate prospects first to build a desire to learn more and buy.

4.1.7.1 Innovativeness

The two user groups described in the previous section (4.1.7) have both played an important role in development at Alpha Protect. Firstly, the company has a tight dialogue with its customers and try to learn from them. In the beginning this feedback loop was very tight because developers were handling all customer support. Therefore, developers had direct contact with users on a daily basis. The CTO says that in the beginning any idea a customer came up with was implemented immediately. As the firm grew, a technical engagement department was established to handle customer support and this organizational structure has been in place to date. The technical team has a close interaction with developers about customer feedback. Customer ideas regarding new features are assessed and if they are considered useful for other subscribers the feature is built and then implemented and made available for all customers. The CTO adds that this assessment involves evaluating trade-offs, that is the resources put into developing this new feature, on the one hand, and the value it will create for the business, on the other.

Secondly, the company actively seeks end-user feedback to improve its product. The CEO describes how Alpha Protect does this in a proactive way: "[End-users] actually play a relatively large role in understanding what is going on". He adds that the company leverages social media to find what the end-users are seeing: "looking into a tons of Facebook posts on the end-user's experience ... simply by looking into what they have posted on for example Facebook". Looking at both positive and negative feedback can provide important insights, "especially when there are some strong opinions, what is it that the person is actually telling us and saying to us and that has of course been extremely helpful".

4.1.7.2 Accelerating growth

Resources dedicated to acquiring new customers have been getting higher in relation to the input or costs. The CEO says it is a challenge to make predictions regarding the increased input and its effect on output or sales. The level of uncertainty makes the evaluations more difficult for scaleups if compared to slow-growth companies. He explains, companies like Alpha Protect, with growth rates around 50%, are vulnerable to additional input, such as one more employee: "because it is very difficult to actually figure out if that additional resource is adding or subtracting for the total output". He states that a firm's uncertainty on the output is relative to its growth. A company that grows by 50% has 10 times more uncertainty than a firm growing by 5%, the CEO gives as an example. Also, evaluating the impact of additional input is hard for scaleups because of their growth trajectory. The CEO describes:

> It's going to take a long time before you actually see if that has taken you in the right direction or not ... because you are already on a trajectory that is going in a certain direction. When you are coming four periods further forward it's difficult to understand, is that a consequence of the trajectory you were already on or is this also impacted by the additional resources that you have put in along the way.

During high-growth it can be hard for a firm to define or assess its current position to make future predictions. The CEO summarizes:

> The higher the growth the higher the uncertainty is on all this here, because what you are seeing is a time series where things are depending on the previous period. And when you're coming to the next period you cannot know the contribution I see here is that a consequence of the previous period or a consequence of what I have done in this period.

This suggests that scaleups need to be willing to take certain risks if they intend to sustain their high-growth.

Compared to other venture backed startups, the CTO says that Alpha Protect has been slightly risk-adverse when it comes to growth, compared to other venture backed startups. This partly explains why the founding team decided not to rely on venture capital to accelerate its growth. The CTO adds,

> ...we didn't want to end up in a situation where we were burning external cash at a pace where the risk of not building enough business to take over once that cash is burnt is just too high risk. So, we have been bit risk adverse because we believe so much in this.

More importantly, the team didn't want to end up in a situation where they had to fire people, says the CTO with a more serious tone. Instead, Alpha Protect's has always had the principle to hire workers supplied with its own resources and with the intention to continue to have them on board.

The CCO says that the team has been relatively conservative when it comes to equity funding, but something they discuss regularly within the founding team. They could get more funding, i.e. selling some of the shares and get more investment. However, this means that their ownership is reduced. The CCO poses this question to emphasize this choice: "do you want to have a small part of something really big or do you want to have a big part of something smaller?". The CTO uses the pie analogy, but to emphasize the trade-off when going for the former option (see quote p. 31).

4.1.8 External environment - Context

The founding team described various external barriers to firm growth, including fair access to capital and moving foreign workers to Denmark. When it comes to access to capital, the CTO says that the local banks lack an understanding of what a SaaS company is and its potential. Compared to the US, Danish banks are far behind. Concerning access to foreign workers, the CCO says that they are working with politicians to make the process more efficient. However, this takes a long time and is beyond Alpha Protect's control. The CEO also mentioned competition, tax regulations, markets out of reach and legislative barriers. He also emphasizes the importance of the firm's ability to understand the external market place, which he describes as large and unlimited.

The founding team described various external opportunities for firm growth, including partnership programs, gaining foothold in new markets and tech clusters in Copenhagen. Currently Alpha Protect is engaged in a conversation with a large e-commerce platform provider about releasing an extension in its app store. According to The CCO, this is still in a planning phase. The CEO says that Alpha Protect has only a small proportion of the retail market, which he states is 100 times larger than the ticketing industry. He sees an opportunity for Alpha Protect to occupy a larger space in that industry than it currently has. The CTO mentions the Bay area in the US and sees it as an example for Denmark. He would like to see more tech clusters in Copenhagen or in Denmark which can attract more tech talent

4.2 Case 2 - Uniconta

4.2.1 Background of management team

Out of the four key people in Uniconta, three knew each other before starting the company. That is Erik, Jørn and Per had worked closely together as business associates or partners. They all have extensive experience in the IT and ERP industry. Per has experience in software to channel, Jørn has experience as managing director in several companies and Erik has experience developing successful ERP systems. The fourth key person at Uniconta, Claus, is an exception as he has no prior experience with ERP systems and did not know anyone in the founding team. He was introduced to the team when the firm received external funding in 2017. The investor proposed him to take on the role of

CFO. Claus has considerable experience growing businesses internationally, marketed and sold B2B software solutions in both US and Europe. Claus has an MBA degree.

Jørn says he has known Per and Erik for 20 years from the ERP business. Jørn used to work at System Partners which is an old Damgaard partner. Per was the EVP of Damgaard and later Navision. Therefore, the founding team had been working in the ERP business before and were quite familiar with its channel. Per says they knew exactly what they wanted to do and how to do it and that the partners trusted them because they had built a relationship prior through Damgaard. For a startup, the founding team is quite mature, the average age of the team is 56 years. Jørn describes Uniconta as a "grown up startup".

Jørn says that Claus turned out to be a valuable addition to the management team because he has experience in international operations. This is a capability that was needed in the team. Claus has a corporate background and states that working for a startup is very different from corporate. He found it appealing to be part of something new and growing. He was offered the position as a CFO and accepted. Part of the reason, he says, is that he liked the founding team and thought there was good "chemistry". Claus believes diversity is important. Different perspectives and backgrounds of the team members is complementary, in his opinion. The inexperienced ask questions to those with more experience, leading to discussion on how things can be done differently, he concludes.

The division of tasks between member of Uniconta's management team is roughly as follows: Per handles the partner or reseller sales and marketing channel in Denmark, Jørn is responsible for the accounting sales channel in Denmark and technical support, Erik oversees the development and design of the product, and Claus handles the finances and international distribution (henceforth they will be referred to as 'EVP of sales', 'EVP of support', 'CEO' and 'CFO', respectively).

4.2.2 The high-growth period

Based on the employment records received from Uniconta, annual growth rate of number of employees remains high from time of founding or over 40%. Uniconta was founded in the start of 2016 and is therefore in its third year of operation. 21 employees currently work for the firm, 15 in Denmark and 6 in India. Majority of the workers are full-time employees but it also employs student workers.

Figure 4.2 shows annual total employment growth in relative terms for Uniconta since it was founded. How the growth rate is calculated can be seen in Equation 2.1. By its mid-first year (2016) the firm exceeded the cut-off or minimum number of employees. Therefore, the growth (40%) is displayed for that year as the growth rate where the cut-off value is used as a baseline relative to the number of people employed by the end of 2016. The highest growth year for the company is 2017 in both relative and absolute terms, 294% and eight employees respectively. Due to the firm's newness and its current rapid growth, 2018 is also shown in the graph. When this is written six new persons

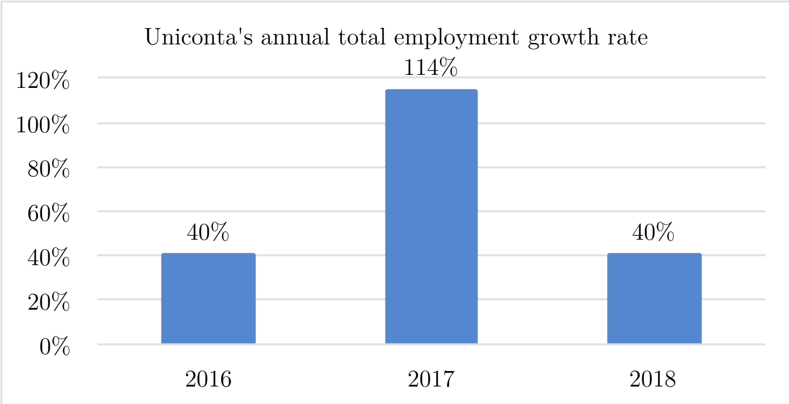

FIGURE 4.2: Growth of Uniconta in terms of annual relative growth in number of employees

started working for the company in 2018. If Uniconta continues to hire people at its current pace 2018 will probably represent its highest growth year since the firm was established, at least in absolute terms.

Furthermore, annual net sales growth in relative terms between the years 2016 and 2017 was 41% (*Enhedsvisning*, n.d.). However, it should be noted that Uniconta did not start to invoice its customers until October 2016, according to the EVP of sales.

4.2.3 Resources

It is essential to consider some aspects to understand Uniconta's organization and what makes it different from other startups: its sales channels; the inventor of this new ERP system; and the human capital of founders. First, the firm relies on indirect sales channels, where the firm acquires resellers and distributors to handle its sales and distribution. The official launch of Uniconta was in May 2016, where Erik Damgaard announced his new product. It received considerable press coverage and attention from multiple partners that had done business with Damgaard Data in the past. The reaction to the product was also positive. Uniconta received many new partner sign-ups during the summer of 2016, where over 100 resellers joined the company to become partners. No outbound sales calls were required. The EVP of sales, the sales and marketing executive, says, "all the people called us to be partners". Second, what contributed to this attention is the person who invented Uniconta, Erik Damgaard. Apart from being the CEO, he is also the lead designer and developer at Uniconta. The CFO says that he is considered a "guru" in the ERP business. The EVP of sales says that Uniconta has leveraged his name to brand their product. Third, the founding team has extensive experience in the ERP business, some of them have 30-year experience. The two EVPs emphasize throughout the interviews the implications their network has had in regard to acquiring resources and capabilities, as well as onboarding new partners needed for Uniconta's growth.

The CFO reports that in the beginning funding was a challenge. In August 2016 the firm started to seek external funding. In April 2017 it raised an outstanding $9.5 million in funding from MP

Pension. EVP of support says that up until that time, the CEO was financing Unicontas on his own. Uniconta did not start to generate revenue until October 2016 when first invoices were issued to customers.

Once the funding was secured Uniconta could start hiring people. Until then the firm had the people it needed to run the company. In a way, Uniconta had secured the required resources prior to launch as it had a product that was considered good and skilled people involved in development and support, the two departments that are critical for onboarding of new customers. During its growth phase an increasing load has been put on support. For this reason, the company has had to scale support faster than other departments in the company. In addition, new clients also bring new ideas about product features. The CFO says: "... as we grow we have clients who have some excellent ideas of what we could also do with our product. That means we have to develop it and so we have also increased the development staff". He adds, on the other hand, that Uniconta needs to be cautious regarding hiring too many staff members. There is a limit because it increases its expenditure above optimal levels: "So keeping that balance is important". The EVP of support says that his department has grown faster than other departments and has experienced a lot of pressure. However, this is considerably smaller department compared to support departments of the competition.

During its early rapid growth Uniconta was able to recruit all the talent it needed. All respondents say that it has been easy for the firm to acquire human capital. For example, the two EVPs state that they had a list of people they could choose from, either from their personal networks or individuals that had shown interest in working for the company. None of them turned down an offer to work for Uniconta. Therefore, Uniconta was able to leverage the founding team personal network to find human capital to handle the increased workload during its growth. The EVP of sales says, "we have people we knew we could ask to go to Uniconta instead of their normal job". Most of the people employed at the firm, he reports, have been "handpicked" from founders' personal networks. These employees are people from the ERP market, which had business ties with the founders "from the old times", like the sales EVP phrases it.

Additionally, Uniconta has relied on external recruiter to find talent. The EVP of support says she found the last seven employees hired by the firm. According to him all the workers she has found are "highly skilled people" and he believes "she's doing an excellent job" in finding the right talent for the firm. The CFO states that Uniconta is offering higher salary than some other startups. "We pay market salaries", he says. Having the resources to pay market salary puts Uniconta in a position where it can compete with other established companies on the market to find the best talent. Lastly, hype around the brand and high growth were reported as important for attracting talent to Uniconta. The EVP of support says, "... it [Uniconta] is a hype in this kind of business". He explains that this hype is due to the name of the inventor, publicity and initial success. People find it exciting to be part of something new that is growing fast, "close to 200-300 percent", the EVP continues and concludes by saying "...everyone has accepted an offer".

Raising the financial capital in 2017 was a turning point in Uniconta's history. All the respondents report that the funding was crucial for its growth. This enabled the firm to acquire additional resources (e.g. staff) needed to expand its business. One reason Uniconta raised funds is, according to the EVP of support, because it is expensive to grow this kind of business internationally. He adds that the capital increase has made things easier as the firm can focus on expanding the business instead of making ends meet every month. The CFO says that Uniconta aims to become cash-positive in 2020, and he is convinced, based on the current projection, that the company will reach its target on time. Once this has been reached they plan to have not used more than 2/3 of the capital. Therefore, Uniconta has been able to raise a large sum that it does not intend to spend in its entirety on growth. He explains how he foresees Uniconta's situation by mid-2020: "so we haven't even spent all our money at that point in time. If our forecasts hold through which so far does so in that sense".

To acquire the financial capital Uniconta relied on an external consultant, a person from founders' personal networks. The investor is MP Pension, a large Danish pension fund. The EVP of support says that they had a meeting with MP Pension, presented their company and product and were offered funding in return for equity stake in Uniconta. According to him this was the first and only meeting the company had with an investor concerning funding. The conditions made by MP Pension were fair, according to the respondents. The CFO reports that the firm is satisfied with the shareholders and their terms. Where venture capitalists and angel investors can be "...much more hands on", institutional investor like MP Pension "that has much more long term, hands off approach", he states. The latter being much more appealing as it enables the firm to focus on running and growing its business. One of the requirements was that the founding team hired an additional member to the management team of Uniconta. This person should be CFO and the fund suggested Claus to take on that role. The founding team agreed and now he is part of the management team and a shareholder in the company. The CEO owns a majority, then MP pension owns most of the remaining share. The remainder of shares is owned by the other members of the management team.

Although some of the members of the management team were consultants prior to joining Uniconta, they have also relied on external consulting during its high growth. First, they relied on a consultant to raise funds, as already mentioned. Other consulting it has received is from lawyers and legal advisors on various matters, such as IT security certifications, General Data Protection Regulation (GDPR), license agreements, distribution agreements and partner agreements. The CFO says that external consulting is critical for the firm: "certain areas where we rely on external resources and that is critical for us". The reasons, he explains: "[There are] two reasons: we don't have the bandwidth and the competency". The CFO differentiates between the two because lacking bandwidth involves simply not having the time to do something although one has the competency. By competency he means sometimes they lack the specific knowledge required to perform a task: “as a startup you have to do a lot of stuff yourself but at some point ... it becomes limiting in terms of other things you need to do also”. Trying to do everything on its own slows down the firm “in terms of where [it] can put the most effort”, he says, and says that the most effort is put into scaling up and growing the top line.

4.2.4 Dynamic capabilities

Uniconta still relies on the same structure as it did when it was founded. When the CFO was introduced to the team he took over the responsibility of financing and international distribution. He states that “the [organizational] structure hasn’t changed but there has been some learnings in the sense that we weren’t fully set up in terms of how we prioritize development”. The reprioritization involved how the core product was developed and how localization was applied to the system in collaboration with distributors in each country. The firm learned that it needed a procedure for this and to this end a documentation was developed. The CFO explains: “now we have produced a guideline document that outlines exactly how we go to market and including the localization and the product development aspects of going into different markets”. The Uniconta platform is currently available in 27 different languages. Furthermore, the system offers localization functionality making it fairly easy to get started in a new market. For example, it includes country specific value-added tax (VAT), settlement and bank upload formats. A minimum level of localization is a prerequisite for introducing Uniconta to new markets as different countries vary not only in terms of language but also in terms of tax regulations, file formats etc.

Uniconta has a relatively flat structure and so far it has not introduced middle managers. The EVP of support foresees that this might change as the firm continues to grow. The respondents seem to be content with the current structure and given their testimonies this relatively lean structure benefits the company in making faster decisions and adapting to changing circumstances. Also, adding a level of management adds to the complexity of running an organization. “It will become a little more complex when we go into have middle leaders but we don’t have that yet”, the EVP explains. Thus, no significant changes have been made to the firm’s structure but in terms of how things are done, the firm has adapted.

Uniconta has a team of back-end developers in India and a front-end developer at its office in Denmark. The Indian developers are contracted through another company, but they are exclusively working for Uniconta. There is a tight interaction between the support and development. If there are any issues with the software, users can report it by submitting service requests. These requests are routed through the support department to development in cases where the involvement of the latter is needed, such as in the case of bugs in the software.

Uniconta is a complex system composed of multiple integrated modules. These modules include components such as accounting, supply chain and project management, and CRM. Uniconta's partners or resellers support the end-users of the system. This requires certain competences or skills on the partner's behalf. Uniconta supports the partners, supplying them with resources needed for knowledge transfer, including training courses and seminars. The more partners sign up as resellers, the more strain is put on Uniconta's support. According to the EVP of support the company acquires between 100-200 new customers a month. He says. "everybody has to learn the product from scratch ... so just getting them up to speed takes time and resources".

The firm receives service requests either electronically, e.g. via support tickets, or via telephone. Uniconta tries to accommodate all customers who call the support. To this end, the company has outsourced the call center to a third party who picks up the phone when Uniconta's support staff is unavailable. Therefore, one of Uniconta's critical capability is supplying its partners and distributors with resources or the knowledge they need to sell and service the product. In addition, the firm must carry out the knowledge transfer at a pace the firm can handle but still fast enough to be able to onboard all new customers in a timely manner. The EVP of support states that if Uniconta is not able to automate the support the support organization will continue to grow.

Uniconta is open towards outsourcing some of its activities as previously stated. This is because the firm is conscious about where its capabilities provide the most value for its business. For example, it does not operate its own IT infrastructure. Uniconta's hosting is outsourced to a third party in a data center in Denmark, run by a company called Zitcom. The CFO says:

> But as a startup you have to do a lot of stuff yourself. But at some point there are certain things it becomes limiting in terms of other things you need to do also. Jörn can do most of the stuff himself but he only has 24 hours a day. And if you are small startup and you cannot afford external help then you're screwed. Then you have to do everything yourself. And that slows you down in terms of where you can put the most effort.

He concludes that in order to scale up the firm must prioritize to be able to get "...traction on the top line". In his opinion this prioritization justifies the cost of outsourcing or hiring external consultants to handle the firms bookkeeping, for example. However, in order to prioritize or get things done immediately, the CFO states it is important to rely first and foremost on firm's own resources. Essentially, when it comes to technology and marketing, the respondents say that the firm mostly relies on its own capabilities.

Furthermore, Uniconta needed to acquire the appropriate marketing skills to market and promote its ERP product in Denmark and internationally. To this end, the company recruited a marketing manager in May 2016. It is an individual who used to work in the marketing department at Damgaard

Data. The CFO reports, ”we've hired experienced people from the ERP business that have done marketing in that field”.

4.2.5 Strategies

The Uniconta product is designed to fulfil a specific need. It is cloud-based and customizable. The CFO describes the product as a displacement of on-premise solutions.

Uniconta positions itself in the SME space for all firms except manufacturing. The respondents refer to this market as the "mid-tier market", where firms from two users up to 100 users reside. The EVP of support says, "...this is our market. This is where we want to be the best and this is where our product has its positioning". Its position is the same in every country and in every market. The company does not position itself in the high-end or the low-end market, where requirements in regard to functionality are either too complex or too basic, respectively. However, they also have a position "in the bigger, small-tier" market, according to the CFO. These are firms that are outgrowing simpler solutions and need more sophisticated ones to meet their needs.

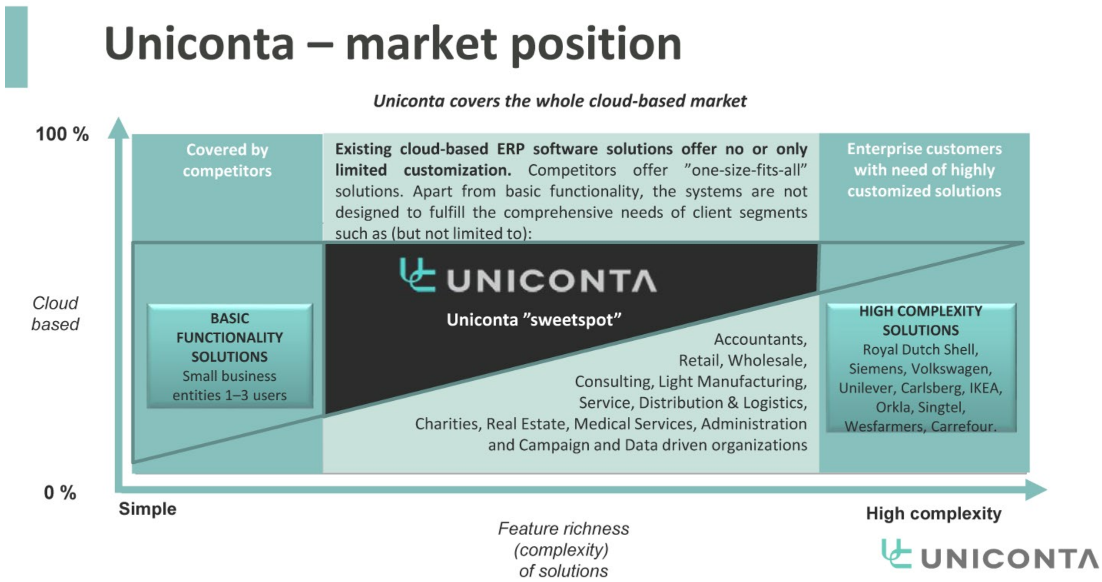

FIGURE 4.3: Uniconta's product market position

In Figure 4.3 (taken from a presentation provided by the firm) the positioning of the firm is displayed graphically. It shows on the X-axis the level of complexity ranges from simple or limited functionality to highly customizable solutions. The Y-axis, on the other hand, represents the level to which the solutions are cloud-based, from on-premise (i.e. hosted on site) or 100% cloud (i.e. hosted in a data center, only accessible online). Uniconta's "sweetspot" is in the center, i.e. mid-range in terms of complexity and cloud. One of its value propositions is that Uniconta is a cloud-based software with the ability to run as a desktop app on different platforms, including mobile. This feature makes it faster in comparison to other solutions that only are running on web browsers. Furthermore, it offers a wide range of functionalities and customization.

The EVP of sales claims that compared to its competitors Uniconta offers a rich set of functionalities for a relatively low price. It operates on a subscription model or SaaS. On its website it offers three types of subscriptions on the range of 99-249 DKK per user per month (€14 - €40). He explains that its rollout strategy involves starting with a lower price and then gradually raising the price. This price change will not affect its position. Even after the higher price it will still be lower than that of the competition. Thus, according to the EVP of support, the pricing is in the range of lower-end products, but the functionality is at par with the higher-end products.

The EVP of sales referred the researcher to articles published online written on Uniconta. In one of the articles there is an interview with Uniconta's CEO, Erik Damgaard (Bech, 2016). The article describes the history of some of Damgaard's ERP products. When Microsoft acquired Navision in 2002, it inherited an ERP product called Concord C5. C5 served a small- or mid-tier market and shares other similarities with Uniconta when it comes to positioning and functionality. The reason is simple. The chief architect of the solutions is the same individual, Erik Damgaard himself. Today thousands of small Danish companies use C5 to conduct their business. However, C5 is no longer supported and is therefore a discontinued product. This has left a gap in the market for new entrants. Uniconta is, according to The EVP of sales, the first one to exploit that opportunity.

4.2.5.1 International operation

Uniconta's focus is currently on Danish market but they have started to scale internationally. It's strategy to internationalize was the intention from the start. The respondents mention several reasons for this, the most important mentioned by all interviewees is access to financial capital. First, having a scalable solution is important for investors and second, the capital was required for them to internationalize.

In the design of Uniconta careful consideration was made to make it work cross-border. A company who operates in multiple countries can use the same solution for each of its branches, home and away. This includes the localization aspect mentioned before and multi-language support.

To internationalize the firm relies on distributors in the destination country. For the distributor to be successful the firm must transfer knowledge to the distributor. The product is knowledge intensive and cannot simply be shipped to users. An Uniconta distributor works with a reseller in each country, providing them with support and training, like previously stated. Consequently, Uniconta must provide the distributor with the resources needed to provide the support. To this end, Uniconta has a developed a project that ensures that each rollout is a success. The CFO says that this project is to ensure replicability of its services around the globe. It is a "go to market model that the distributors can replicate everywhere".

The CFO reports that the strategy to internationalize has been to start with adjacent countries, i.e. Norway, Iceland and Netherlands. Starting with countries closer by is easier to manage, he says. It chose a 100% distributor model because it is faster and less capital intensive way of growing. The EVP of sales says that Uniconta considered the subsidiary model to go international, i.e. setting up branches in each destination country, but realized that it would be too expensive way to grow.

Uniconta has distributors in 10 countries. However, distributors in these countries are not actively selling yet, except in Iceland. The EVP of support says that Iceland has the same market penetration as in Denmark. Greenland has also been successful but that is part of Denmark.

Currently focus is on Denmark because it is important to prove the business case first locally before going global. Once Denmark is won the firm will focus its resources on international expansion. The EVP of support says that it is too soon to say whether Uniconta has been successful in its globalization and that time will tell.

4.2.5.2 Alliances

Uniconta follows a ”partner strategy”, as the EVP of support phrases it. This involves relying on alliances or partnerships to sell and distribute the firm’s product in Denmark and internationally.

First, resellers (i.e. partners) represent the main alliances. It is Uniconta’s go to market approach. The resellers benefit from the alliance by growing their business and generating income through sales or value-added services.

Second, the integration partners are valuable allies of Uniconta. Through the system’s open architecture, the partners can integrate their products with Uniconta by using its API.

Respondents did not share the same understanding of what constitutes an alliance. Whereas some respondents found that Microsoft and Zitcom (see Section 4.2.4) could be qualified as a technological partnership, others did not. Irrespective of its affiliation with those companies, Uniconta relies on technologies from both of them. For example, the Uniconta platform is built on the Microsoft stack of products. On its website Uniconta states: “Uniconta is an amalgam of the best of the previous ERP systems developed by Damgaard, *combined with the latest new technology from Microsoft*” (emphasis added, see *Uniconta*, n.d.-a).

Thus, Uniconta relies on a variety of alliances or partnerships to deliver its product and services to its end-users. The CFO states that they are open towards building new alliances or build on top of existing ones in the future.

4.2.6 Competition

Uniconta has more than a hundred competitors, says the CFO. These are local solutions and global solutions. Essentially, they are competing with all other ERP systems in the mid and small tier. The EVP of support and the EVP of sales say that their main competitors are on-premise solutions with the possibility to customize. The two EVPs claim that Uniconta is the only "ERP product in the cloud with the possibility to change functionality", says the EVP of sales. This change, they explain, involves adjusting the product to user needs, such as adding fields and tables. "We are the only [ERP] cloud-based solutions where you can change every company's data structure actually and what you can do in a company", the EVP of support concludes.

According to the EVP of sales, Uniconta's competitive advantage revolves around four dimensions: functionality, speed, pricing and conversion tools. The three first mentioned have already been mentioned in the previous section. The last one enables users of on-premise ERP solutions to convert to Uniconta. He states that this is can be done quickly: "they [the clients] can convert on Monday and run Uniconta on Tuesday". In addition, the firm's advantage lies in the fact that it is a brand-new platform. The other (older) solutions must build something new on an old platform. Both the EVP of sales and the CFO say that they have not noticed any reaction from the competition so far. The EVP of sales explains:

> It sounds crazy but basically we have no competition right now and nobody is doing something . . . [The] last two years we have no competitors who have tried to change their strategy or their price or anything. Basically, we have open space just to work.

Rival solutions claim that they have cloud solutions when actually they do not have a "true" cloud solution, The CFO reports. This is because they take legacy systems and put them on the cloud. The CFO continues:

> The fact that we are true cloud solutions that is much faster than anybody else, we're able to rollout globally. A lot of these solutions only work in a country. If you want to have users in your company in multiple countries covering multiple legal entities. You are struggling with that. We can do that, so we have some benefits there that really nobody else has in the same way and we try to move fast with that.

Similarly, the EVP of support reports, Uniconta is the only company operating in the low-end segment that can go cross-border, meaning that Uniconta can support all countries. For firms that needed an ERP system with that capability faced high fixed costs prior to Uniconta's entry to the market.

Thus, Uniconta enjoys a first mover advantage into this market of true cloud-based customizable ERP for SMEs. Also, it has the unique position to be a displacement for discontinued, on-premise solutions.

4.2.7 User adoption

Most of Uniconta's customers are migrating from a discontinued ERP product. The EVP of sales says that it can be an obstacle to change from a system that a firm had in place to a new one. One of the reason could be: “Because some of them had a . . . [system] that’s running perfectly”, he explains. Another reason can be that the user had already purchased the software and therefore did not have any cost associated with running the software. Some will not convert to Uniconta, he explains, but the ones who want to have a new technology and perhaps want to get rid of the physical infrastructure that accompanies the old software, “they will go to the Uniconta’s cloud”. Principally, companies adopting Uniconta are thereby replacing or “displacing” an existing system. The CFO claims that Uniconta’s strategy in its user adoption involves finding user’s pain point stemming from an older system that “justifies the change, and that’s what we’re going after”, he concludes.

Uniconta defines its customers broadly. The firm does not use segmentation in terms of industry or sector. The EVP of sales states, if taken a sample of, let’s say, 100 customers of Uniconta, they would belong to ”all branches, all sizes and all industries”. However, the partners may in some cases rely on segments in their sales efforts. “We sell through partners”, he explains and adds that Uniconta’s marketing activities are to generate inbound leads. These leads are then converted to customers by the partners or resellers.

Uniconta’s resellers can therefore be classified as its customers or business partners. A large majority of the partners have been selling an discontinued ERP system and are in need of a new product to sell, “basically all partners have been selling ERP before”, says the EVP of sales. In addition, accountants recommend Uniconta to their customers. The resellers and accountants represent the two main strings in the company’s sales channel. “The sales channel is basically all the channel partners here . . . the value added reseller (VAR) channel . . . basically we have two strings. We want to sell through the VARs and we want to be recommended by all the accountants”, The EVP of sales explains.

Uniconta’s task, he continues, is to encourage the accountants to recommend its product. The tactic the firm uses to get this apparently valuable referral from the accountants is to offer them incentives.

Working closely with resellers and assisting them in their sales efforts with outstanding support is what triggers positive feedback for Uniconta. Also, the company publishes success stories from companies who use Uniconta. Resellers can leverage those stories in conversations with prospective customers. On Uniconta’s website there are three success stories and a number of quotes from satisfied customers . However, the CFO reports that only a few success stories have been documented out of many. From his experience most referrals the company has received is a result of “verbal face to face recommendation about Uniconta”

The reseller and accountant channels were chosen as the main sales channels because of the background of the founding team, the EVP of support reports: “Erik [the CEO] and Per [the EVP of sales] comes from the reseller channel [and] I come from the accountants channel”.

The respondents state the importance of Uniconta distributors in user adoption. The characteristics or qualification the firm is looking for, when assessing possible candidates taking on the role of a distributor, include: having enough financial resources; the correct ERP experience; and network. The EVP of support claims that it is not possible to become a distributor without sufficient financial capital. The CFO says that Uniconta tries to support distributors because it is in the interest of the firm that they succeed in their endeavors. For example they have purposefully only started to invoice distributors to a small extent. "We want to help them get started", the CFO reports.

In addition, distributors can leverage a strong brand to promote the product. He says this is important because if the name is not known the channel will not adopt the product. "In our case we have Erik with an amazing brand", he explains and gives an example of business partners that have devoted their full attention in selling Uniconta. However, this is not always the case as some partners have other products they can sell. Uniconta stresses that its partners focus more or less entirely on its ERP product, "but it requires that the channel [resellers] take you serious", the CFO concludes.

As previously stated, Uniconta has a marketing department that pulls in prospective customers to its resellers. Uniconta's largest marketing event to date were two large campaigns on Danish television in 2017. The EVP of support says he is happy with its results and that the response was positive from the market. It had notable influence on its growth. "This really put Uniconta onto the map", he claims. Other promotional activities mentioned by the respondents include display ads on social media and in magazines for accountants.

4.2.7.1 Innovativeness

Uniconta takes user and customer feedback into consideration when developing its product. Users can send requests to the firm's support e-mail, what they wish to see in the next release. In the case of Uniconta there is no direct dialogue between the end-users and the firm. A user who submits a feature request receives a reply from the company. The message includes a thank you and a statement that all requests are considered and prioritized. The users can see what is included in the latest version of Uniconta on its website (*Uniconta*, n.d.-b). The CFO states that the firm listens to all wishes and some are implemented right away. The EVP of support reports that they receive "four wishes per day". Thus, there is room for improvement and the users are active in voicing their ideas. In addition, the CFO says the firm is in an ongoing dialogue with its resellers and accounting partners. "So, we are very much on dialogue with end-users, end-clients and our sales channel in terms of where we need to put in the effort of developing the product".

The ideas Uniconta has received that are not implemented right away need to be prioritized. The respondents report that the request prioritization is based on criteria such as features that align with the firm's goals. Essentially, decisions on which wishes or feature requests to develop are taken by the CEO. Once a decision has been made to add a feature it is developed and deployed in the next release. These features are generally made available for all users but in some rare instances they are only used in one country. The proportion of users feature requests of total amount of new features has been growing since the product was launched. Currently, the EVP of support reports, 75-80% of all new features are the result of customers' requests.

4.2.7.2 Accelerating growth

The financial capital increase has enabled Uniconta to accelerate its growth. The EVP of sales says receiving the capital increase has been allowing the firm to grow faster. All the respondents report that growing rapidly has been Uniconta's intention from the start. The EVP of support claims the reason is time constraints: "You have to grow fast because you know you don't have 10 years. You might have 5,6,7 years. And we wanted do it in three and a half – four years to be [cash] positive". This ambitious goal would be very difficult to reach without the funding, he reports. Investing more money on growth, he expects, enables Uniconta to grow faster resulting in scaling up more rapidly. Consequently, the firm has been focusing much of its efforts on accelerating growth, The CFO reports. The firm is investing in the product, support and sales, which he believes are crucial elements "in order to grow the top line", he says. Also, the funding has been enabling the firm to promote the brand and "recruit the people [partners] who can make the pressure on the market", the EVP of sales explains.

4.2.8 External environment - Context

The management team describe various external barriers to firm growth, including knowledge on foreign markets, finding the right distributors and resellers, imitators and brand awareness. First, it is important to be knowledgeable about the rules and regulations of the destination markets. For example some countries have restrictions about moving data cross-borders. Some countries have very strict regulations which make it impossible for firms like Uniconta to enter the market. Second, finding the right distributor can be a challenge and the firm has experienced difficulty finding suitable distributors taking its products to market in few instances. Finding the right resellers is also considered important by the respondents and some have been more successful than others. Third, competitors may imitate Uniconta and bring a similar solution to market in the near future causing problems for the former. Lastly, some markets have been more successful than others. Uniconta is, according to the EVP of support, not very well known everywhere. The name effect holds in countries where Damgaard used to operate, such as Denmark, Greenland and Iceland. While other markets are not familiar with the name which makes it hard to leverage the brand, such as the US.

The management team described various external opportunities for firm growth, including finding the right partners, internationalization and winning larger share of the market. All the respondents see a large potential for growth in the future. Both in Denmark but more importantly in other markets.

The CFO describes the importance to stay true to the firm‘s strategy and not to deviate into adjacent areas because this will result in the firm “digressing from the core”. He believes focusing on the core will result in the firm being able to reach its full growth potential. The EVP of support emphasized the importance to find the right partners to work with and he claims that the partners will succeed in what they are doing if they believe in themselves and the product. He explains: “And then we have all the possibilities in the world. It’s finding the right people. This is not done automatically even though it’s an Internet product. It’s not a game”.

4.3 Comparative analysis

Based on the previous explanations of the growth of the case companies, a few reoccurring themes emerged from the data. These themes include external factors, such as the effects of external financial capital and alliance formation on the growth of the scaleups, and internal factors, such as how the human capital of founders influence the firms’ choice of growth strategies. Moreover, how to grow the company was the red thread throughout the interviews.

A theme emerged from the data in regard to being in control of the firm’s own resources and capabilities. For example, in both cases the respondents talk about the importance to not outsource critical aspects that the firms require to deliver their services to customers. In addition, it is considered important to not give too much control over to investors and have a level of freedom or breathing room to run the business.

There are multiple factors that differentiate the two cases. Whereas Alpha Protect has been experiencing rapid growth from 2015, Uniconta only recently started to go through its high-growth phase (see Sections 4.1.2 and 4.2.2). This has important implications for the comparability between the two cases. For example, while Alpha Protect has been hiring VPs and managers to organize the firm and expand, Uniconta has been relying on the same organizational structure from the start (see Sections 4.1.4 and 4.2.4). In terms of employees, Alpha Protect is three times bigger than Uniconta. This difference is probably because of the age different between the firms, i.e. the former is five years older than the latter, and the sales channels, i.e. the former is using direct sales while the latter is using resellers (see Sections 4.1.7 and 4.2.7).

Uniconta experienced its rapid growth earlier than Alpha Protect. The reasons for this are explained in Section 4.2.3. In addition, the firm’s sales channels can explain Uniconta’s rapid growth. It has attained hundreds of partners (e.g. VARs) selling Uniconta to their customers (although their dedication may vary), extending its user acquisition capabilities. All of Uniconta’s VARs are in the ERP business so selling its product matches their interests well. Furthermore, the founder and CEO of the firm is well known in Denmark, which gives the firm better chances to succeed going through the VAR channel than if it were a new ERP product from an unknown producer. In comparison Alpha

Protect has had to build its product, brand, reputation and a new product niche starting with almost no resources.

When it comes to accelerating growth the tactics the two firms use are very different. On one hand, Alpha Protect focuses on growing the bottom line first to invest in growing the top line while, on the other hand, Uniconta has been relying on its funding to grow its top line to have a positive bottom line. This is of course understandable as the latter received a large investment it intends to use on accelerating its growth. Lastly, as has been the case in the impressive capital raised by Uniconta, the firm required a large investment to bring a new ERP product to market. Also, should the firm succeed in its attempts to gain international market traction with its product (or crossing the chasm), the company could become extremely valuable in the future.

Appendix C shows a comparison of the topics that play a role in the growth and expansion of the case companies and lists the tactics the firms employ to achieve rapid growth.

4.4 Summary of findings

Table 4.1 on page 57 contains a summary of the main findings of the analysis. In the next chapter these findings are discussed in terms of their implications for research, theory and practice.

Table 4.1: Summary of findings (Alpha Protect = AP & Uniconta = UNI)

No	Finding
1	Both firms have experienced high-growth in recent years, 2015-2017 for AP and 2016-2018 for UNI. Based on testimonies provided by the founding teams, there is nothing that suggests this growth will slow down soon
2	Both firms share the following characteristics: they have flat organizational structures and small overhead (i.e. lean); they focus on one proprietary product offering; their founding teams have substantial technical capabilities and marketing skills and; they utilize advanced technologies
3	Industry experience and know-how of members in the founding teams have been shaping the firms' choice of growth strategies. Ties of UNI's team in the same market contributed to its early growth. Both firms consider they possess high-quality human capital
4	Seed funding was important for AP while UNI relied on its own resources in the start but received funding when it had experienced some growth. UNI received access to both network and finance from the investor
5	The demand-side is important for product innovation in both firms. AP works closely with its customers while UNI relies on intermediaries, thus not directly in dialogue with its users. Also Alpha Protect proactively seeks feedback from end-users on social media
6	UNI differentiates itself from its competitors by offering a mid-tier ERP product on cloud. AP created a new product and a new product category. Both have focus is on one product offering, hence they have a niche strategy. Both firms offer global solutions. UNI relies on a rollout approach while AP applies an adaptive strategy in its internationalization
7	Both firms rely on alliances to facilitate their expansion. Important factors contributing to formation of alliances were trust, in the case of AP, and reputation and ties for UNI
8	AP follows an organic growth strategy while Uniconta adopts a partner strategy. The former involves gradual and controlled growth and the latter facilitates rapid growth relying on external resources
9	One of UNI's concerns is to accelerate its growth before the competition imitates. UNI's hypothesis is that they have less than 3.5 years to become profitable. AP on the other hand has become the market leader in its most important sector. This is partly become of the firm's first mover advantage
10	UNI is attemtping to become the standard in its particular position, i.e. mid-tier market. AP has become the de facto standard in the virtual waiting room category within ticketing. It sees opportunities in other segments where there is a potential need, e.g. in retail, but the use case is not always obvious
11	AP's capabilities are not formalized into procedures or processes but is manifested in its culture. UNI's capabilities are more formalized, e.g. go to market model for distributors. These capabilities were developed in-house in both cases
12	For both firms recommendations and referrals concerning the product is vital for customer acquisition and growth. Recommendations between peers the most effective

Chapter 5

Discussion

5.1 Discussion of main findings and propositions

Both internal and external factors of the case companies were examined, where resources internal to the firm were used to assess its size. In this study, employment was chosen to measure firm growth. This was found to be an appropriate indicator to identify high-growth periods of scaleups. The results (finding 1 in Table 4.1) do not support prior findings where it was stated that most HGFs experience their high-growth event in one year (Coad, Daunfeldt, Hölzl, et al., 2014; Hölzl, 2014), but in line with Hamilton (2012) research where he stated that small firms growth paths are episodic.

Furthermore, demographic characteristics of the case companies, including size, industry and age, were found to be important factors when viewing their growth patterns. Therefore, this study's findings support prior research (Delmar & Davidsson, 1998) that had confirmed that growth patterns are not random but partly the result of demographic affiliation.

In the literature review the term 'scaleup' was conceptualized (see Section 3.1.3) and some characteristics common to this type of firms were stipulated. Finding 2 (see Table 4.1) confirms and supports those characteristics and thereby the studies in which they were described (Kazanjian & Drazin, 1990; Morris et al., 2016; Siegel et al., 1993).

On the basis of findings 1 and 3 (see Table 4.1), showing performance of the firms and quality of human capital of their founding teams, the following is suggested:

`there is a positive association between the two, mediated by the firms' choice of growth strategies.`

This proposition is in line with other studies investigating the relationship between human capital of founders and growth of new ventures (Colombo & Grilli, 2005; Cooper, Gimeno-Gascon, & Woo, 1994; Hornberger et al., 2017; Song et al., 2008). Furthermore, prior research reported that prior work experience in the same industry and industry-specific know-how contributed to both survival and growth (Colombo & Grilli, 2005; Cooper et al., 1994). Although founding teams in both case companies have experience in the IT sector, Uniconta has an advantage over Alpha Protect. The founders at the former company possess experience, knowledge and relationships in the same product market. This provided the firm with leverage to overcoming barriers that have been associated with firm's newness (cf. Cooper et al., 1994).

Finding 3 underscores the importance to have a diverse set of members in the management team, reported in prior studies (D. Miller & Shamsie, 1996). This is because different background of members will likely complement one another thereby making the team stronger (see findings 2 and 3 in Table 4.1). Furthermore, based on finding 3 the author posits:

`including members with different backgrounds in the founding team can support firm growth because (1) they cover critical important domains of the organization and; (2) division of tasks between them becomes easier`

The second one could become a challenge if there are more members with similar background or competencies it could lead to confrontations when delegating tasks and potentially delay growth.

Acquiring high quality human capital was considered important for the scaleups to grow their business (see finding 3 in Table 4.1), which aligns with prior studies(Almus & Nerlinger, 1999; Zupic & Giudici, 2017). Starting with highly skilled employees was, according to Alpha Protect's founding team, a success factor in attracting subsequent technical talent. Technical talent presumably has intrinsic motivations to learn and grow in their profession. This resonates with the case of Uniconta as the extensive experience and network of the founding team within ERP as well as the reputation of Erik Damgaard, the inventor, attracted people within the ERP industry to join the firm. Thus, these findings suggest that:

`scaleups with high quality human capital of founding team, both in terms of the members' personal networks and competencies, have higher chances to acquire subsequent talent`

This proposition may explain why high quality human capital was found to increases the probability of fast growth (cf. Lopez-Garcia & Puente, 2012).

Finding 4 (see Table 4.1) represents a major difference between the two cases, both in terms of access to and need for funding in the early stage. Uniconta relied on a person from the founders' personal network to help find investors (a pension fund) and had great funding need in comparison to Alpha Protect (this is explained in Section 4.2.3). Not relying on early VC funding allowed Uniconta to retain all its equity, putting it in a better position when negotiating terms with the investor in its growth stage. Alpha Protect, on the other hand, decided to receive early VC funding (i.e. seed funding from an incubator), which cost the founders a considerable equity in the firm (this is explained in Section 4.1.3). In addition, Uniconta had experienced early growth prior to the VC funding event and had initial resource endowments to draw from. These findings suggest that:

`the terms entrepreneurs are given by investors partly rely on (i) type of investor, (ii) available equity, (iii) growth attained prior to VC funding event and (iv) the background of the founding team`

This proposition is partially supported (iii) by the literature. Mohr et al. (2014) study found early growth to attract VC to firms, while Davila, Foster, and Gupta (2003), did not. This aspect requires further research. Furthermore, finding 4 (see Table 4.1) is in line with other studies which reported that investors can provide venture capital and access to valuable networks (Markova & Petrovska-Mircevska, 2010; Mohr et al., 2014). In addition, better access to finance can facilitate the expansions of firms (Lopez-Garcia & Puente, 2012), and personal networks of founders allow them to access external resources they do not possess (Zupic & Giudici, 2017).

Finding 5 (see Table 4.1) shows how demand-side factors can influence the R&D of scaleups. In both cases the firms considered user involvement to be very important in the development of new features. This finding is in line with Priem et al. (2012) that suggested that the demand-side arguments in combination with the supply-side argument could be used to explain how firms innovate. The results clearly show an important interaction between the two sides. However, the level of involvement of users is different between the two firms. Alpha Protect has a close interaction with it's customers and end-users, on the one hand, while Uniconta relies on resellers to service its products, on the other hand. For Alpha Protect the firm has leveraged user input to make iterations and improvements to its product, thereby making it superior in quality in comparison to the firm's rival product. Hence, the author posits that:

`innovativeness manifests in scaleups through their involvement of users or customers in the development of new products, features or services. Furthermore, high-level of innovativeness can be a source of competitive advantage for scaleups.`

Finding 6 (see Table 4.1) has only partial support from Porter (1996) classical theory on strategic management. Whereas he suggested that a firm must differentiate itself from its competitors by offering better product or service or lower prices, Alpha Protect is a new entrant in a product category that did not exist before. The company had to first build the category before it could position itself on the market. As the premise in Porter's theory involves that a firm must uphold a strategic position in a predefined market, it fails to consider the unique context of first-movers. (Lieberman & Montgomery, 1988) stated that a first-mover could enhance its first-mover advantage by deterring entry through strategies of spatial preemption. In Alpha Protect's case it involves a strategy of preemption of locations in product characteristics space. Essentially, this means occupying a large enough 'product characteristics space' or niches, leaving too small room for subsequent entrants. Finding 10 (see Table 4.1) suggests that the firm has already acquired this position in one of its more important niches or segments.

Together finding 2 and 6 (see Table 4.1), show how Uniconta and Alpha Protect have a focused strategy and offer a solution that has international growth potential. This supports Porter (1996) view that a focused strategy aligns well with international expansion. However, strategies to internationalize were quite different between the two scaleups, where Alpha Protect decided to apply an adaptive approach, while Uniconta used a more structured approach, gaining foothold domestically and gradually rolling out in adjacent countries. The former is unorthodox and worth further inspection. Here the author posits:

`an adaptive strategy to internationalization is an iterative learning process through interaction with clients in new markets`

This proposition is in line with a study from the born global literature. For example, (Hagen & Zucchella, 2014) found that firms experienced a jump in knowledge when entering complex markets, contributing to new opportunities and innovation. Furthermore, international expansion has been the primary growth driver for Alpha Protect from the start and is likely to become a larger part of Uniconta's business in the future. Therefore, the two firms follow a growth trajectory consistent with high-growth technology firms with specialized products and customers, reported in the literature (Mohr et al., 2014).

Findings 7 and 8 (see Table 4.1) show an important relationship between international expansion and alliances. Both firms have relied on alliances to be in a better position accessing key resources (Moreno & Casillas, 2007), and to facilitate their growth in foreign markets. Alpha Protect's ticketing software partner helped the firm gain traction in a foreign market and some Uniconta's distributors have been succeeding in penetrating a few foreign markets. For both firms, mutual trust and alignment of interests was considered important to build and maintain relationships with alliance partners. Prior research on social capital show that ties deteriorate over time (Prashantham & Dhanaraj, 2010). However, the results in the current study show that ties can be sustainable if the partnership facilitates complements creating value for a particular market segment (cf. Priem et al., 2012).

The results show a strong relationship between the background of management team and choice of growth strategies (see findings 3 and 8 in 4.1). Uniconta chose partner strategy because of the teams experience in that field. Alpha Protect, on the other hand, chose an organic growth strategy relying on the firm's internal resources. These represent important strategic choices and suggest:

`firm's choice of growth strategy may affect firm's growth trajectory and can be path dependent`

Path dependence means that past choices shape a firm's future choices. In this context it refers to the choice of domains of competence (Teece et al., 2003) and learning from past failures.

As previously explained (see Section 4.3) emphasis was put on relying on the firms' own resources and capabilities. This matter concerns finding 11 (see Table 4.1). For Alpha Protect, its culture has been built and maintained internally, relying on the firm's own resources and capabilities. Its culture could be qualified, using D. Miller and Shamsie (1996) classification, as a discrete knowledge-based resource which is hard to imitate by rivals. It revolves around Alpha Protect's and its staff's absolute devotion to "build the best platform in the world". For Uniconta, on the other hand, it revolves around its core values and devotion to helping their partners and distributors in succeeding. This was exemplified in the results with a go-to-market model that can be replicate across markets, and a strong support. In the second case these services would be classified as systemic knowledge-based resource using D. Miller and Shamsie (1996) classification but as a dynamic capability if relying on Teece et al. (2003) definition of that term (see Section 3.2.1). In either case, the author posits:

`scaleups are customer-focused organizations and their competitive advantage lies in their knowledge-based resources or dynamic capabilities, allowing them to configure their services to either meet or exceed their customers' expectations`

Finally, finding 12 reveals the importance of positive feedback for both scaleups. It involves peer recommendations attracting users to the product, reflecting the interactive effects that operate in virtual networks. Uniconta successfully managed to build expectations leading to its product launch, creating a hype around the product. Alpha Protect attracted innovators and early adopters from another customer segment to its product by placing the firm's logo on the queue page, visible to millions of visitors waiting to get tickets to a popular concert. Thus, "growth is a strategic imperative" (Shapiro & Varian, 1999, p. 14) to accelerate user adoption in every adopter category directed toward crossing the chasm (Rogers, 1995; Moore, 2014).

5.2 Practical and theoretical implications

5.2.1 Practical implications

Being in control of the firm's own resources and capabilities gives managers the freedom they need to follow their vision, define their own strategies and organize themselves in a way that does not undermine their focus on the most important thing, their customers. The evidence shows that both firms primary concern concerning investors was how much autonomy they had to sacrifice. For example, in the case of Alpha Protect the founders were slightly risk-adverse when it came to raising financial capital to accelerate growth because of unfavorable terms given by some private investors. In the case of Uniconta, the founders were able to negotiate favorable terms with an investment fund as they were assured that the fund would give the firm a sufficient level of autonomy to run and grow its business. Therefore, the analysis indicates that the more risk-taking managers are the more willing they are to accelerate growth with the support of venture capital. On the other hand, the tradeoff between relying on venture capital and relinquishing control of the firm seems to be a determining factor for managers when it comes to choosing between alternative ways to scale their business. Nonetheless, this is contingent on many factors, such as access to venture capital and funding needs (see previous section).

Based on the analysis there are possible external barriers for growth of scaleups which have implications for policy makers. These barriers are listed in Table 5.1 contrasted with possible external opportunities.

Table 5.1: Barriers and opportunities for growth

Barrier	**Description**	**Opportunity**	**Description**
Access to capital	Loan servicing not available for many scalups in Denmark	Partnerships	Finding the right partners.
Workforce mobility	Lengthy process of getting foreign workers to Denmark	New markets	Gaining larger market share on current or new market
Legal barriers	Complex regulations and restrictions for cloud-based SaaS companies	International ops	Gaining foothold in foreign markets
Knowledge	Knowledge about foreign markets, e.g. laws and regulations	Tech clusters	A way to attract talent to Denmark is establishing tech clusters
Competition	Competitors may imitate		

Gaining access to resources for SaaS scaleups is important and loan servicing should be an option available to them. However, according to the current study, this is not the case. Thus, options for scaleups to finance their growth is lacking. Loan servicing rules for firms and requirements concerning possession of property-based resources should reconsidered. In addition, access to human capital with suitable competences for a SaaS scaleups in Denmark is necessary for it to be able to scale its business. Hiring technical talent from abroad was reported to take up to four months. Making this process more efficient would facilitate the continuous growth and performance of scaleups.

International scaleupss may require storing data outside of the country it operates. The regulatory environment in the EU region must be flexible enough for these firms to operate in all its markets. The regulations must also be harmonized to facilitate needs of e-businesses, e.g. in regard to movement of data. In addition, knowledge about laws and regulations in foreign markets is important for SaaS scaleups, especially firms with applications processing financial and personal information. The EU must ensure that the digital single market in the EU facilitates the unified regulations on digital businesses to enable replicability and scalability of solutions from one EU country to the next, allowing friction free dissemination of digital products throughout the region.

One way of attracting technical talent to a place is to build technical clusters that accommodate high-tech startups and scaleups. This strategy is in place in both US and India and these places are known to have abundance of technical talent. Due to the scarcity of technical talent in Denmark, this kind of initiatives could prove to be a worthy investment and would give a serious signal to the international market that Denmark is a world leading hub of high-tech startups and scaleups.

5.2.2 Theoretical implications

In this thesis firm growth was viewed from different theoretical angels using a qualitative approach. These perspectives view firm's internal and external resources, and the context. This approach was required to get a more complete understanding of the growth process and causal relationships between different elements in the conceptual framework.

Applying a stage-contingent model applicable to scaleups in the process of high growth helped the researcher to view factors in the context of the stage of develpment of the firm. For example, in the case of Alpha Protect, alliance formation was important for its early growth. This finding is supported by both the interviews and employment data. The stage-contingent framework also gave the author an understanding of the differences between the two firms, including their different funding needs, sales channels etc. and how it affected their growth patterns.

The growth modes found in the HGF literature included organic and acquired growth. This study identifying a third growth mode, namely partner strategy. It is fundamentally different from both the other growth strategies. It is a more cost efficient way for knowledge-intensive service providers to gain foothold in foreign markets. This mode has substantial implications for HGF researchers as the positive relationship between firms operating internationally and their high growth has been confirmed (Mohr et al., 2014). The thesis author encourages future researcher conducting to incorporate these three growth mode into their studies on high growth firms.

Chapter 6

Conclusion

This thesis explains how resources, capabilities, strategies, innovativeness, alliances and the market influence the growth of scaleups. Based on a conceptual framework and explanatory case study of two scaleups in the Copenhagen software industry, the author found that firm culture and high quality human capital to be very valuable resources for firm growth and competitive advantage of scaleups. These findings suggest that fostering the right firm culture can attract and retain talented employees that are essential for the scaling up of a firm. Prior research on the role of firm culture on performance showed, firms that have a culture with certain attributes can obtain sustained superior performance from their cultures (Barney, 1986).

An integrated conceptual model was derived from the literature review to examine different growth paths of the scaleups. Although the model proved to have a level of validity, as it was applicable to each case, the constructs in the model varied in their significance between the case companies. This can be explained by the different sales channels used by the firms, differences in the human capital of founding teams and financial capital. Nonetheless, the framework proved to be a useful tool to investigate growth patterns of these types of firms. The framework, coupled with an in-depth case study analysis on each firm's high-growth stage, provides a comprehensive explanation of all the important consideration and choices a scaleup faces during the growth period, both internal and external to the firm.

The results show how external growth barriers can directly affect scaleups and inhibit their growth rate. In the case of Alpha Protect, first the need to employ foreign talent because of, what the founders state as shortage in the Danish labor market. These results indicate that there is room for improvement in academia and the government in terms of curriculum design and policy making, respectively. Secondly, Alpha Protect reports that they cannot access foreign workers in a timely manner and that it impedes its growth potential. These results show that the government can make improvements to its regulatory framework to support scaleups in Denmark, such as promoting the mobility of foreign workforce. Thus, there are plenty of tasks (long- and short-term) for both policy makers and educational institutions to support scaleups in Denmark.

For practice the implications of this study findings mostly are internal to the firm. The managerial implications include assessing the trade-offs between remaining in control of, or include investors to take over, the steering wheel of the firm. The results show that the former option can result in the firm growing at a more slow and controlled pace while the latter means more rapid growth where the acceleration is put in 'full throttle'. The choice is contingent on multiple factors, such as the management team's risk-taking orientation and the market conditions. If the market is characterized by many rivals in the same product category space, who are likely to imitate, the risk of not accelerating might outweigh the alternative.

6.1 Limitations and future research

The first limitation of this study is time. Conducting research on firm growth is best suited for longitudinal research over extended periods. This allows the researcher to examine the development of a firm and its growth in real time, not only viewing the history of the firm. On the other hand, as the growth phase has been an ongoing process in both firms the events that are under examination in this thesis are contemporary and only partially retrospective.

Another limitation of this thesis is relying only on employment data to assess growth of the scaleups. According to Davidsson and Wiklund (2006) the appropriate measure when looking at growth of firms is sales growth, employment growth and assets. The last one is harder to measure in the cloud-based software industry, as intangible assets are not reflected in the firm's balance sheets. Net sales were not attainable for one of the companies and therefore employment growth was used. To give a complete picture of the growth, the two authors suggest, both inputs (employment and assets) and outputs (sales) should be assessed. However, the objective of the study was to examine the process of high-growth event of a scaleup rather than the performance of its activities. Using an objective measure to establish when the high growth phase took place was therefore sufficient for the scope of the current thesis.

This study contributes to the field of HGF research and new technology venture growth. The conceptual framework presented was intended to guide the researcher in his effort to understand the phenomenon of high-growth. It is an integrated model that is based on popular theories from multiple disciplines, including entrepreneurship, economics and strategic management. The framework was designed with e-businesses in mind during the scaleup stage. It is therefore both stage and industry contingent. As such, these study findings can be further tested in another case study applying the same replication logic accompanied with survey data enabling variance-based research and in-depth analysis of the findings. Also, it is suggested that longitudinal research is applied to be able to investigate growth strategies taken by firms and their long-term effects.

Appendix A

Description of case companies

Three individuals from Denmark founded Alpha Protect, all of which were professionals in IT and former work colleagues. They decided to start a software company and design their own product. To do that they needed upfront capital so they started a consulting company in 2010. In July the same year they launched Alpha Protect. Its first client was a Danish public company selling hunting licenses and their second company a UK-based company. Alpha Protect offers online queuing software, primarily to e-commerce retailers and e-ticketing companies, helping them to handle peak traffic during popular sales events.

A renowned Danish entrepreneur, Erik Damsgaard, who specializes in the development of ERP systems, founded Uniconta in the beginning of 2016. He is the architect behind, for example, Concorde AXAPTA (now Microsoft Dynamics AX) and co-founded Damgaard Data with his brother Preben in 1984 (later merged with Navision and acquired by Microsoft in 2002). In May 2016, Erik and his founding team launched a new system, Uniconta. By the end of 2016, 100 resellers and 75 accountants had already signed up to resell or use Uniconta, respectively (Bech, 2016). Thus, Uniconta relies on value-added resellers (VARs) as its sales channel. Businesses using Uniconta are SMEs and they use it for handling financials, logistics and projects. The system is offered through distributors in Denmark and internationally ("New Online Systems ApS," 2018). Uniconta acts as the distributor in Denmark but relies on allies to distribute its products internationally.

Appendix B

Case study protocol / interview guide

B.1 Case study protocol

Research question: How does a set of internal and external growth factors influence the rapid growth of scaleups?

Employee data

• How much has the firm grown in terms of employees since it was founded? • What is its annual absolute growth of employees? • What is its current size? How many employees does the firm currently employ, full time and part time, in all their offices?

Introduction to the interview

-The topic of the thesis is to examine scaleups and how they grow -Is it OK I record the interview? You can stop the recording at any time. You are not required to answer all questions. -You will be able to review what is repeated after you prior to publication.

B.2 Interview guide

• What is your industry experience prior to starting the company? • What was your relationship with other members of the management team prior to starting the company? • What are/were the main challenges the company faced during its high growth?

Resources and dynamic capabilities

• Which resources were constrained during the scaleup? • How did the background of the founding team benefit the company in its rapid growth? • How much did the company rely on investors to accelerate its growth? • How easy or hard was it for the firm to gain access to funding? • How easy or hard was it for the firm to find human capital to handle the increased workload during the growth? • (How much did the firm rely on external consulting during its high growth?)

Alliances, strategies and competition

• How did the firm organize itself during rapid growth and was it done in a timely manner to manage the high demand for its products? • To what extent did the firm rely on its own capabilities? Which activities did it outsource? What kind of alliances did it form and why? • How did it position itself on the market? • What is its strategy or strategic position? • Who are its competitors? • What is its competitive advantage? • How determined was the firm initially to operate and grow internationally? Why? • What was involved in its strategy to internationalize and was it successful?

User adoption and innovativeness

• Who are its customers? • What role did users play in the product development or RD? • What tactics did the firm use to ignite positive feedback or network effects? • How did the firm acquire the necessary marketing skills and resources to fuel its growth? • Which sales channels did the firm choose to sell its product and why? • How much emphasis was put on accelerating growth? Why?

Context • What are possible external barriers to growth? • What are possible external opportunities for growth?

Getting consent for using name of respondent in the thesis

• Is it OK I mention your name in the thesis?

Appendix C

Comparison between cases

Table - comparison between cases

	Case 1 (Alpha Protect)	Case 2 (Uniconta)
Resources		
Capital raised	~$600.000 seed investment from an incubator Majority of growth funded by paying customers	~$9.5 million investment from a pension fund Majority of growth funded by raised capital
Constraints	Finding the right talent and money constraints	Money was a challenge in the start
Challenges	Ensuring input matches with the predicted future output because of high-level of uncertainty	Keeping the balance, i.e. not increasing input above the optimal level - Support department grows fast
Human capital	To scale it needed to recruit technical talent from outside Denmark	Its employees mostly through personal networks and an external recruiter - Can compete with larger firms for the best talent
Dynamic capabilities		
Focus and culture	Primary focus on high-quality product and services - Firm's culture where everyone contributes, a team effort	Knowledge-transfer a critical capability for the firm
Technical capabilities	Critical – Development and support managed in-house, but hosting outsourced	High-importance – Some activities are outsourced but emphasis put on being in control
Organizational structure	VPs and managers hired to manage its expansion	Unchanged organizational structure - Flat structure without middle managers
Martketing skillz	High-importance – Specialized early in marketing Acquired through adaptive approach and learning	High-importance – Specialized early in marketing Acquired by hiring a marketing manager with ERP background
Strategies		
Positioning	Created a new product category – First mover	Created a displacement product

Table - comparison between cases (continued)

	Case 1 (Alpha Protect)	Case 2 (Uniconta)
	Possesses market leadership in a strategically important market segment Positions itself as an alternative solution to known solutions	Positions itself in the mid-tier market of ERP products
International operation	Determined to grow and operate internationally – Used an adaptive strategy and has a branch in the US	Determined to grow internationally – Uses a distributor model in its internationalization Primary focus is on the Danish market
Alliances		
Commercial	Has commercial alliances with ticketing software partners	Relies almost entirely on alliances to sell its product
Technical	Has technical partnerships with e-commerce software companies	Technical alliances with system integrators
Competition		
Competitors	Direct and indirect competition – Direct competitors are late movers	Its competition is all ERPs operating in the mid- and small-tier market
Competitive advantage	Product focus gives it an advantage over its rivals Advanced functionality enables it to win large accounts	First and only true cloud-based customizable ERP for SMEs It is a global solution which gives the firm an advantage over its competition
User adoption and Innovativeness		
Customer base	Over 400 paying customers	Around 1000 resellers and 1800 users
Value proposition	Protects websites from failing during end user peaks	Relieve user pain points stemming from and old ERP system
Sales channel	Direct sales through outbound and inbound tactics	Sales through Uniconta partners and Univisors
Role of referrals in the growth	High – ”ticketing has been the spearhead into new markets”	High ´”we want to be recommended by all the accountants”

Table 4.1 - comparison between cases (continued)

	Case 1 (Alpha Protect)	Case 2 (Uniconta)
Role of users in R&D	High – ”what is it that the person is telling us has been extremely helpful”	High – “we are very much in dialogue with [customers] in terms of where we need to put in the effort of developing the product”
Growth acceleration tactics	Much emphasis put on growth – rely on the bottom line to grow the top line	Much emphasis put on growth – rely on external capital to grow the top line

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