

# Managing Profit and Growth

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MASTER THESIS



# Managing Profit and Growth

A study on Swedish Software as a Service companies

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# Abstract

In the last decade, the rise of Software as a Service (SaaS) has reshaped the software industry and has become a leading delivery model of business-to-business (B2B) enterprise software. During this period, the disruptors that established the model and the incumbents that transitioned to it have created tremendous shareholder value. However, the incredible growth has not come without a cost: industry profitability has tumbled and is now only half of what it was just a decade ago.

Given the recent hype surrounding the SaaS model, the purpose of this study is to contribute to the existing literature by describing and exploring the management of high growth and profitability in SaaS companies. Whereas research has primarily emphasized the technical aspects of cloud computing and SaaS, this study primarily looks at SaaS from a business perspective.

The thesis is the result of qualitative research with triangulation methodology, consisting of a thorough literature review, a company survey, and CEO interviews concerning both SaaS and the management of growth and profitability in general. The study consists of descriptive, exploratory, and explanatory components. The descriptive part of the study focused on detailing the properties of SaaS and the unique components of its business model. The exploratory and explanatory components included understanding the factors influencing the management of growth and profitability.

The thesis concludes that the loss-making pattern among SaaS companies is very much a result of the current market dynamics and a managerial decision rather than any shortcoming in the SaaS model itself. Furthermore, the delay in revenues caused by the subscription model amplifies this pattern. The current expectation is that companies trade current earnings for growth and much bigger earnings tomorrow. Additionally, the research concludes that market and management factors are perhaps the most important factors influencing the management of growth and profitability.

**Keywords:** Software as a Service (SaaS), profit-maximization, revenue growth, trade-offs, SaaS metrics, technology.

# Sammanfattning

Under det senaste decenniet har Software as a Service (SaaS) fått stort genomslag i mjukvaruindustrin och blivit en ledande leveransmodell för business-to-business (B2B) programvaror. Under denna period har entreprenörerna som banade väg för modellen och etablerade aktörer som övergått till SaaS skapat enorma aktieägarvärden. Tillväxten som SaaS har fört med sig har dock inte kommit utan kostnad: industrins lönsamhet har dykt och är idag bara hälften av vad den var bara för ett decennium sedan.

Syftet med studien är att bidra till befintlig litteratur genom att beskriva och utforska arbetet med tillväxt och lönsamhet i SaaS-företag. Medan historisk forskning främst har fokuserat på de tekniska aspekterna av molnet och SaaS, fokuserar den här studien främst på de affärsmässiga delarna av SaaS.

Examensarbetet är ett resultat av kvalitativ forskning och använder sig av trianguleringsmetodik, bestående av en grundlig litteraturstudie, en företagsenkät och VD-intervjuer som rör både SaaS och arbetet med tillväxt och lönsamhet. Studien består av beskrivande, utforskande och förklarande delar. Den beskrivande delen av studien är fokuserad på att detaljera SaaS egenskaper och de unika komponenterna i dess affärsmodell. Den utforskande och förklarande delarna av studien fokuserar främst på de faktorer som påverkar hanteringen av tillväxt och lönsamhet.

Studien drar slutsatsen att de stora förlusterna bland SaaS företag i hög grad är ett resultat av den nuvarande marknadsdynamiken och ett ledningsbeslut snarare än någon direkt brist i själva SaaS-modellen. Dessutom förstärks förlusterna av intäktsfördröjningen orsakad av prenumerationsmodellen. I dagsläget är förväntningarna att dessa företag ska investera dagens resultat för att nå större resultat imorgon. Dessutom drar studien slutsatsen att faktorer på marknads- och ledningsnivå har särskilt stor påverkan på hanteringen av tillväxt och lönsamhet.

**Nyckelord:** Software as a service (SaaS), vinst-maximering, tillväxt, trade-offs SaaS nyckeltal, teknologi.

# Acknowledgments

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Lund, January 2021

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# 1 Introduction

*This chapter aims to introduce the reader to the topic of this thesis. Relevant background information, the purpose and research questions of the study is presented.*

## 1.1 Background

In the last decade, the rise of SaaS has reshaped the software industry and has become a leading delivery model of B2B enterprise software. During this period, the disruptors that established the model and the incumbents that transitioned to it have created tremendous shareholder value. Some examples of leading global software businesses with SaaS models are: Salesforce, Slack, and Zendesk. Between 2011 and 2018 the market cap of the global software industry grew at twice the rate of the overall market. However, the incredible growth has not come without a cost: industry profitability has tumbled and is now only half of what it was just a decade ago (Roche & Schneider, 2020).

For many in the software and technology community, it is clear that the days of “growth-at-all-cost” are behind us. Growth still remains one of the most important indicators of firm performance, but an increasing number of people in the tech community are starting to push for sustainable growth – balancing high growth rates with a clear path to profitability (Gnanasambandam & Miller, 2017). As put forward by Dara Khosrowshahi (CEO of Uber) in February 2020: “We recognize that the era of growth at all costs is over ... investors increasingly demand not just growth, but profitable growth”.

Addressing this increased focus on bottom-line health will require SaaS companies to adopt a new playbook. In the post COVID world, success will take a new form as companies must balance growth with bottom-line health. Additionally, classic management literature has been focusing on manufacturing companies and is insufficient to understand these high-growth companies. In order to fully understand these SaaS companies, unconventional and sophisticated frameworks are required.

### 1.1.1 SaaS in Sweden

As with the global software market, SaaS has emerged as a disruptive model in the Swedish software industry as well. According to Stefan Lundell, founder of the Swedish newspaper Breakit, the Swedish software market is currently in a paradigm shift where SaaS is playing a crucial role (Breakit, 2020). While it is difficult to provide a complete overview of the Swedish SaaS industry (there are simply no such reports available as of today) research platform Tracxn reported that there were 786 SaaS startups in Sweden as of August 2019 (Tracxn, 2019). As a comparison, for Artificial Intelligence startups the corresponding number is 209 (as of April 2020). The number of publicly listed SaaS companies in Sweden is still limited, public companies such as Fortnox and Lime Technologies are the exceptions rather than the rule. Up till today, most of the capital put into the segment has gone to unlisted companies and has come from Venture Capital firms. However larger institutions and equity funds have started to take an interest in the segment (Breakit, 2020). In table 1, an overview of the 10 largest Swedish SaaS companies is provided.

**Table 1: Overview of the ten largest Swedish SaaS companies in 2019 (Breakit, 2020). All financials provided in SEK millions.**

<b>Company</b>	<b>Financials</b> Revenues 2019 (Operating profit 2019)	<b>Short description</b>
Fortnox	532 M (172 M)	Cloud-based platform that specializes in accounting software for small to enterprise level businesses.
Benify	451 M (17 M)	Provides web-based total compensation management software. Manages employee benefits such as healthcare, fitness, cars, pension, and insurance.
Epidemic Sound	337 M (-107 M)	Offers a cloud-based music library which allows visual content creators to use professional-quality music with all rights included.
Itello	310 M (35 M)	Develops enterprise resource planning systems for the life insurance and pension industries
Lime Technologies	290 M (52 M)	Offers customer relationship management systems.
Tacton Systems	265 M (-80 M)	Offers CPQ (configure, price, quote) software designed to bring efficiency to sales and connecting suppliers with customers.
Trivec	232 M (-34 M)	Offers a Point-of-Sale system for restaurants, bars and cafés.
Mynewsdesk	224 M (7 M)	Offers a digital public relation (PR) solution for organizations to engage with opinion leaders, customers, bloggers, and other.
InRiver	205 M (-81 M)	Offers a product information management software.
Quinyx	197 M (-52 M)	Software optimizing scheduling based on AI forecasting.

## 1.2 Purpose

The purpose of this paper is to increase the knowledge of the management of high growth and profitability in a SaaS company. Along with doing this, the business model must be properly understood. Therefore, some time will be spent detailing the properties of SaaS companies and the unique components of its business model.

## 1.3 Research questions

**Table 2: The research questions of this study.**

<b>RQ 1.</b>	What is the current growth/profitability configurations among Swedish SaaS companies?
<b>RQ 2.</b>	How can the loss-making pattern of SaaS companies be explained?
<b>RQ 3.</b>	What are the key factors that have influenced SaaS companies to pursue growth or profitability as the primary objective?
<b>RQ 4.</b>	What is the key performance-related metrics companies focus on?
<b>RQ 5.</b>	What factors influences the management of profit and growth?
<b>RQ 6.</b>	How can SaaS companies reach a state of profitable growth?

## 1.4 Delimitations

This thesis will be based on the empirical findings from 5 CEO interviews, a company survey with 21 participants, as well as relevant literature references. The study will be carried out during a 16-week period. Swedish SaaS companies will be the sole focus of this study.

## 1.5 Report structure

### **Chapter 2 – Method**

The work process and method are presented. The method is motivated through a discussion of the research strategy and scope. Concepts such as validity, reliability, representativeness and objectivity are presented and discussed.

### **Chapter 3 – Theory**

An in-depth description of the management of growth and profitability is presented. Several concepts and frameworks are presented. This acts as a theoretical base for the empirical results.

### **Chapter 4 – Cloud Computing and SaaS**

A thorough description of cloud computing and SaaS is presented. Definitions and essential characteristics of the concepts are discussed. Important characteristics of the SaaS business model are discussed from a business-perspective.

### **Chapter 5 – Economics of SaaS**

Presents an overview of the concept of unit economics and important SaaS metrics. The chapter introduces a classification of metrics based on their importance to growth, profitability and sustainability.

### **Chapter 6 – Research results**

Empirical data gathered from interviews and a survey is presented. The empirical data is presented according to themes and related to the theory presented in chapter 3.

### **Chapter 7 – Conclusion and final remarks**

Answers to the research questions and conclusions are formulated. Contribution to theory and research credibility is discussed.

## 2 Method

*This chapter provides a thorough description and motivation of the chosen research strategy and method. Multiple methods are introduced, and the chosen approach is motivated through the research purpose. Furthermore, the actual data collection and data analysis method is described, and justification is provided as to why that method was chosen. Lastly, credibility of the research is discussed.*

### 2.1 Research purpose

When designing research methods, it's helpful to determine the purpose of the study to decide what type of research should be conducted. The purpose of any research can be classified into four different categories; exploratory, descriptive, explanatory, or problem solving (Höst, et al., 2006). Exploratory research is often used for relatively unexplored subjects and addresses issues such as “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light”. Descriptive research focuses on the “what” rather than the “why” of the research and aims to portray an accurate image of a population or phenomena. If the purpose is related to identifying cause-and-effect relationships between variables, the study can be termed explanatory. Finally, a problem-solving approach, most commonly used in engineering studies, can be used to find a solution to a predefined problem (Robson, 2011).

Evaluating the research questions of this thesis, several approaches was needed. Whereas research has primarily emphasized the technical aspects of cloud computing and SaaS, significantly less consideration has been given to the substantial changes within the business perspective. Research on the business aspects of SaaS has been mostly limited to exploring adoption factors from a consumer perspective. To the best knowledge of the author, very little research has been made on the implications the SaaS model has on the growth/profit relationship in a company and how managers balance the trade-offs between these two. Thus, to answer research questions of this thesis, descriptive, exploratory, and explanatory approaches are needed.

Conceivably the most central ambition of this thesis is to map out elements of SaaS companies affecting the growth/profit relationship and which elements are material/important. Elements and their measurability were not known beforehand,



thus strengthening the argument to choose an explanatory design. By its nature, the explanatory design allows for the purpose, scope, and methodology of the thesis to be formed along the duration of the project.

## 2.2 Research strategy

A research strategy can be described as a plan created to achieve the goal of the research. It acts as a broad guide, outlining thoughts, efforts and the actions needed to address the research goals (Denscombe, 2017).

### 2.2.1 Qualitative vs. quantitative research

There are generally two main research strategies: quantitative and qualitative research. Quantitative research refers to the use of numerical data for testing hypotheses and outcomes by using mathematical and statistical analysis. Quantitative approaches focus on a limited number of variables. The alternative strategy is the qualitative approach which takes a more holistic view on the question at hand. This approach uses non-numerical (i.e., observed and not measured) data to produce detailed and descriptive information. The combination of qualitative and quantitative research is often beneficial, providing a complete understanding of the problem (Creswell & Creswell, 2017). A qualitative focused strategy was deemed most suitable for this thesis as it enables flexibility and is oriented towards knowledge discovery from observations and interviews (Almeida, et al., 2017). A few elements of quantitative reasoning were used to provide a more complete understanding where needed. Furthermore, this approach allows for a flexible and iterative process for formulating research questions and for data collection (Denscombe, 2017).

### 2.2.2 Iterative vs. linear-sequential approach

The relationship between data collection and analysis can be approached in either of the two following ways: linear-sequential approach or iterative approach. Linear-sequential means that the researcher first collects all necessary data and then moves forward with analysis. In contrast, an iterative approach allows the researcher to move back and forth between the data collection step and analysis step and allows for more flexibility and allows for modifications/adjustments along the way (Flick, 2018). Given the overall exploratory nature of this paper, the iterative data collection process was selected. An additional motivation to the choice was the author's limited prior knowledge of the subject.

### 2.2.3 Inductive, deductive and abductive research

This thesis uses an abductive research approach, which is a combination of inductive and abductive reasoning. If the research aims to test a theory and hypothesis based on collected data, the deductive approach is best suited. To validate or reject the hypothesis, the rule is simply applied to specific cases and then evaluated (Timmermans & Tavory, 2012). The result is a logical conclusion drawn from the evaluation. On the other hand, the research aims to form a theory from data analysis, the inductive approach is appropriate. It refers to identifying patterns, concepts, and theories from collected data. As the intention of this thesis is both to use existing theories as well as to use observed cases to derive generalized rules, the abductive approach was selected.

### 2.2.4 Work process

A research strategy was created after defining the purpose and scope of the study. A high-level description of this work process is illustrated in figure 1.

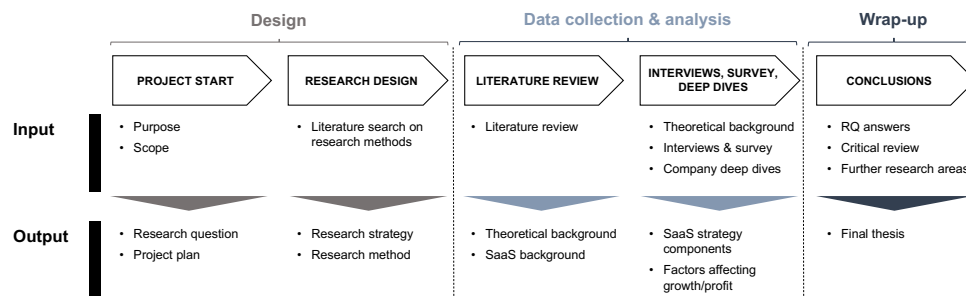


Figure 1: The work process of this thesis.

## 2.3 Data collection

### 2.3.1 Method

Triangulation is the use of contrasting sources of information in the data collection phase (Denscombe, 2017). The approach is not necessarily to cross-validate, but to capture many dimensions of the same subject. To increase validity and credibility of this thesis, triangulation approach was used to collect data.

### 2.3.2 Selection

An implicit formulation of the research agenda is conceived when researchers select cases for their studies (Seawright & Gerring, 2008). Given that studies similar to this in general use very small samples, it's important that the data collected from these samples are selected through an adequate process. This can prove a somewhat difficult task as (1) it may not be easy to identify truly representative cases related to the research question, (2) the chosen cases must have some degree of variation, and (3) background cases often influence (Seawright & Gerring, 2008). This issue could be addressed through random sampling, which would inherently eliminate any selection bias. However, probability sampling (as random sampling) is most suitable for quantitative research. For qualitative research Merriam & Tisdell (2015) instead argues that a more appropriate approach is purposive/purposeful sampling.

As the research aims to investigate, discover and understand rather than measure, the cases selected should be the ones where the most relevant insights can be drawn. Furthermore, the researcher should first determine the selection criteria to ensure the sampling is made according to the purpose of the study. Relevant selection criteria are attributes crucial for the research question (Merriam & Tisdell, 2015).

Following Merriam & Tisdell (2015), purposeful sampling was chosen as the selection methodology for this thesis. The sampling consisted of companies in Sweden. The firms were selected based on the criteria that they applied a SaaS business model to all or some of its products/services. The interviewees were chosen to give a broad picture with several different perspectives on the trade-offs between growth and profit. The studied firms provide a variety in terms of revenue, employees, and industry. This provides the possibility for a more general conclusion that may apply to a larger set of organizations and industries.

In qualitative research, saturation is commonly used as a guiding principle in data collection. The principle states that when additional responses no longer generate new perspectives further data collection is not needed (Saunders, et al., 2018). Although sometimes questioned due to its somewhat vague nature, saturation was a guiding principle when determining whether to add additional interviews.

### 2.3.3 Literature review

When beginning researching a subject, it is important to familiarize yourself with the subject of study and provide an overview of current knowledge. A proper literature review indicates what research has already been made within a subject area, which ensures that new research adds to existing knowledge rather than reinventing the same (Höst, et al., 2006).

In this thesis, the literature review is composed of a variety of scientific research on the SaaS business model, industry, and growth/profit strategy. Apart from providing the necessary background and understanding of the subject, the literature review aimed to act as a base for the interviews and survey.

The sources in the literature review were mainly found through two search engines:

- **LUBSearch** – Lund University’s search engine for academic articles, journals, and more.
- **Google Scholar** – Google’s search engine for academic articles, journals, and more.

Keywords used in the literature search were: “*Software as a service*”, “*Software as a service business model*”, “*Balancing growth and profit*”, “*Winner takes it all market*”, “*Balancing growth and profit*”, “*Rule of 40*”, “*Porter’s five forces*”, “*Scalability SaaS*”, “*critical mass*”, “*economies of scale*”, “*lifetime valuation*”, “*corporate life cycle*”, “*profitable growth*”, “*sustainable growth*”, “*growth premium*”, “*revenue recognition*”, “*SaaS revenue model*”

In addition to academic literature, sources such as news articles, reports from consulting firms, and company publications were used for contextual background. The secondary data consists of 51 journal articles, 17 books, 13 reports, 4 conference articles, 16 web articles, and 2 newspaper articles, in total 103 sources of secondary data.

#### 2.3.4 Interviews

Interviews can be categorized into three types: structured, semi-structured, and unstructured (Saunders, et al., 2012). Structured interviews are based on a standardized set of questions and are subsequently suited for quantitative analysis. Semi-structured interviews revolve around the same set of themes and questions for each interview. Though the format allows the interviewee to speak freely while being led by the interviewer and the exact form may differ based on the context. While the semi-structured approach is less suited for quantitative analysis, the format has the advantage of enabling more in-depth discussions. Lastly, unstructured interviews are characterized by not having a list of predetermined questions. Here the questions and the order in which they are asked can differ from interview to interview. This format is more informal and allows the interviewee to provide their unbiased perspective on the subject.

Due to the qualitative nature of this thesis, a non-standardized semi-structured format was chosen for the interviews. Because of the need to understand the underlying rationale and context of the responses, exploratory research likely benefits from qualitative interview formats (Blumberg, et al., 2008). Moreover, when the interviewee is at a senior level (such as management), interviews can

prove a more effective tool compared to surveys or questionnaires in generating valuable insights (North, et al., 1983).

Before conducting the actual interviews, an interview guide was created based on the research questions in this paper, the final version of the interview guide can be found in the appendix. The interviews were designed to guide participants towards considering the subject of this thesis, mainly managing growth and profitability in a SaaS company. The interviews were conducted according to the interview guide although participants were allowed to depart into subjects that arose during the discussions. At the beginning of each interview, the participants were encouraged to share personal experiences on the dilemma of balancing growth with profitability. This initial question was designed to allow participants to frame the dilemma from their own point of view. Participants were then taken through the line of questioning outlined in the interview guide, ending on the subject of whether a SaaS business could simultaneously balance high revenue growth with profitability and what would be required to reach this state. The interviews were recorded to allow for full analysis of the discussions, observing nuances in the answers.

The selection of the interviewees was highly driven by the general availability. Still, the companies and their representatives have a varied background with years in operation ranging from 2 to 30 years, number of employees ranging from 20 to 80, and revenues ranging from about SEK 150 thousand to about SEK 80 million in 2019. All companies have a subscription-based revenue model. All interviewees represent a unique company and four out of five of the interviewees also answered the survey.

**Table 3: List of interviewees.**

<b>Interviewee</b>	<b>Role</b>	<b>Years in role</b>	<b>Total years of experience</b>
<b>Interviewee #1</b>	CEO and Founder	8	30+
<b>Interviewee #2</b>	CEO and Founder	2	2.5
<b>Interviewee #3</b>	CEO	5	11
<b>Interviewee #4</b>	CEO	4.5	15
<b>Interviewee #5</b>	CEO and Founder	13	22

### 2.3.5 Survey

The survey was designed to collect data regarding the current growth/profitability configurations among Swedish SaaS companies, factors influencing the management of growth/profitability, views on industry rivalry, and what business drivers are considered to be most important.

Through extensive research using primarily Google and LinkedIn as search engines, a total of 98 Swedish SaaS companies were identified by the author and a total of 21 companies answered the survey. The companies in the survey data set have varied backgrounds with years in operation ranging from one to 35 years (median 10 years), employees ranging from one to several hundred (median 32), and revenues ranging from zero to hundreds of millions of SEK in 2019 (median SEK 28 million). For the entire sample the companies are fully or partly owned by founders (86%), employees (62%), business angels (52%), venture capital (29%), private equity (29%), public listed (14%), and family offices/ultra-high net worth individuals (5%). Due to confidentiality reasons, some companies were unwilling/unable to provide answers to all questions in the survey. All companies participating in the survey have a subscription-based revenue model. The complete survey data set can be found in the appendix.

**Table 4: Survey participants.**

Survey participant role	<i>Number of participants</i>
CEO and Founder	14
CEO	6
Vice-CEO and Founder	1

The outcomes from the survey and interviews are in chapter 6 presented according to common themes that emerged. The interview guide and survey questionnaire with collected data can be found in the appendix. The attentive reader might have noticed that the companies in the interview and survey data set have been operational for up to 35 years, while SaaS has come to light during the last decade. This is because several of the companies started out with a traditional software licensing model but have in the recent years transitioned to a SaaS model.

### 2.3.6 Data analysis

The data analysis process includes (1) understand the collected data, (2) join data from different sources, (3) identify patterns and themes, (4) develop and test ideas, and (5) draw and verify conclusions (Saunders, et al., 2012). There are three types

of processes to analyze qualitative research: summarizing (condensation), categorization (grouping), and structuring (ordering). The most general form of analysis is summarizing. It is a tool for researchers to become knowledgeable with main themes from interviews or observations as well as identify relationships. A natural step following summarization is categorization which involves categorizing the data and subsequently placing the collected data in correct categories. This enables the researchers to identify relationships and test propositions. Lastly, structuring data offers a way of assigning context to narrative interview results. It clarifies what the narrative is about, its consequences, and the outcomes, which improves comparability between narratives (Saunders, et al., 2012).

This paper aims to practice all of the above concepts by (1) summarizing interviews results, (2) categorize and structure, and (3) draw conclusions from the processed data.

### 2.3.7 Research ethics

According to Denscombe (2017), four key principles are underlying the code of ethical research:

- Protecting the interest of participants.
- Ensuring that participation is based on informed consent and is voluntary.
- Avoiding deception and operating with scientific integrity.
- Complying with the laws of the country.

These guidelines have been considered throughout the study. The most significant risk identified was the inappropriate use of confidential information obtained through interviews and discussions with firm representatives. To ensure that the ethical code was followed, this risk was mitigated in several ways:

- Collected data has only been available to the author.
- Interviewees were offered to review interview transcriptions.
- The option to remain anonymous was offered to participants and consent was necessary before participation and recordings.

## 2.4 Research credibility

Credibility is the equivalent of the confidence in the truth of the study's findings. Evaluating the credibility of the study, one must consider the *reliability*, *validity*, *generalizability* and *objectivity* of the study (Höst, et al., 2006).

### 2.4.1 Validity

Validity refers to the relationship between the object of the research and the phenomenon being measured. Strong validity implies that the findings in a study are a true representation of the purpose (Höst, et al., 2006). In this thesis, the triangulation approach was used to increase validity, combining several sources of information. For interviews, guides were developed and used with consideration to not direct or bias the respondents toward certain answers.

### 2.4.2 Reliability

Reliability describes to what extent the data collection and analysis is trustworthy, considering random variations (Höst, et al., 2006). Strong reliability means that the study should yield the same results if re-created in a similar setting with the same research instrument (Denscombe, 2017). Given the qualitative nature of the thesis, the selection of a diverse set of interviewees and respondent validation was used to enhance reliability.

### 2.4.3 Objectivity

Objectivity refers to the degree of unbiasedness in the findings of the study (Denscombe, 2017). This means that the results should be free of researcher bias and can be confirmed by other researchers. This thesis has been carried out as a part of the *Industrial Management and Engineering program* at Lund University and is free from any financial incentives or conflicts of interest that could potentially damage the objectivity of the study. In qualitative data collection, interpretations of data can affect the objectivity of the study. This has been mitigated through respondent validation and by discussions with a supervisor at Lund University. However, the conclusions are subjective to the authors' perspective and potential bias. As a general rule, the author strived towards objectivity by reflecting and discussing how data was interpreted – challenging his perspectives.



# 3 Theory

*This chapter presents an overview of current literature and concepts related to the management of growth and profitability as well as industry rivalry and company life cycle.*

## 3.1 Managing growth and profitability

### 3.1.1 The goal of the firm

Milton Friedman's (1970) article "The Social Responsibility of Business is to Increase its Profits", ignited a debate that continues today. In his article, Friedman argued that the only responsibility of a business is "to use its resources and engage in activities designed to increase profits". The idea has been questioned many times over the years where the main argument put forward is that given the current social and environmental challenges that we face today, businesses must act in a broader interest maximizing wider social welfare (Harrison & Wicks, 2013). Possibly the clearest statement regarding the multiple responsibilities beyond making a profit was made by Angelidis and Ibrahim (1993): "maximizing profits for owners and shareholders and for operating within the legal framework. They are also expected to support their employees' quality of work-life, to demonstrate their concern for the communities within which their business operates, to minimize the impact of various hazards on the global environment, and to engage in purely social or philanthropic endeavors". However, the dominating view remain, and the maximization of firm profits is seen as the fundamental driving force of the economy (Gosh, et al., 2011). One could also argue that profit maximization is the most efficient way to maximize shareholder value. Given the fact that shareholders of the firm are entitled to the cash flows of the firm, they will be most incentivized to increase the value of the firm through profit maximization and profit growth (Sundaram & Inkpen, 2004).

This profit-centered goal implies that the performance of a firm is measured largely by its ability to maximize profitability. Therefore, it follows that to improve the performance of a company requires improvement of its profitability. For the purpose of this thesis, the long-term objective of profit-maximization is

accepted as the guiding principle when it comes to balancing revenue growth and profitability.

### **3.1.2 Management objectives**

Several managerial theories put forward the view that management may not necessarily act in the best interest of the firm but instead seeks to maximize their own utility (Baumol, 1962; Williamson, 1963). Baumol (1962) found that in pursuing self-interest, managers were more inclined to maximize sales revenues once an acceptable level of profit had been delivered (Baumol, 1962). In a more recent study, it was found that managers were more motivated to pursue revenue growth over profit-maximization strategies, as their incentives were more closely tied to top-line growth than bottom-line gains (O'Byrne & Young, 2010). Moreover, previous research suggests that managers are more likely to execute investment decisions aimed at maximizing future firm value when their own interests were tied to the outcome of those decisions (Banker, et al., 2011). It is clear that the personal motivations of managers are relevant when considering the context of balancing growth with profitability. The time orientation of managers is also relevant when considering management influences on firm strategy and performance configurations. When studying the decision-making behavior of chief executives related to time orientation, Brauer (2013) found that short-term orientation hurt firm performance in the medium to long term while long-term orientation had a positive effect on the company performance. Furthermore, it is suggested that this observation is a consequence of shorter CEO tenures which is characteristic of today's corporate world. This would in turn cause a myopic behavior where CEOs and managers are only interested in pursuing profit-maximizing strategies over their own occupancy of the role. As put forward by Antia, Pantzalis, and Park, shorter tenures motivate managers to pursue investments "that offer relatively faster paybacks at the expense of long-term value creation." (2010, p.300).

### **3.1.3 Shareholder objectives**

The ownership composition of a firm has a direct effect on what type of business model and strategy will be pursued by the firm (Damodaran, 2015). Investors with a short time-horizon will push managers towards increasing short-term equity values, generally focusing on increasing the share value of the firm (Thanassoulis, 2013). Several studies reveal how the effect of this is that managers as a result will sacrifice long-term projects in order to meet short-term targets in order to please investors and increase the market value of the firm (Bolton & Samama, 2013; Graham, et al., 2005; Thanassoulis, 2013). This phenomenon presents a trade-off between short- and long-term growth/profitability configurations and the

shareholders of the company will to a large extent dictate the pursued strategy of the firm.

#### **3.1.4 Organizational culture**

Organizational culture plays a significant role in forming the orientation of its employees. It typically displays either a growth- or cost-oriented culture (Prajogo & McDermott, 2011). Several studies have shown that there is a strong positive correlation between culture and firm performance (Hartnell, et al., 2011; Prajogo & McDermott, 2011). It is therefore clear that to be able to deliver on strategic objectives, they must be supported by the organizational design and culture, supporting the same mission.

#### **3.1.5 Decision-making ability**

The dynamic managerial ability to identify and reconfigure resources is fundamental to the firm performance (Adner & Helfat, 2003; Teece, et al., 1997). Making managerial decisions involve complex and uncertain settings, trade-offs, and balancing competing forces while also working with imperfect information (Lüscher & Lewis, 2008). In their work *Organizational Behavior 2: Essential Theories of Process and Structure*, Cyert and March (1963) explain how people rather than maximizing their utility of profit functions tend to set more realistic and attainable goals. This is in line with the work by Sims et al. which suggests that complexity and uncertainty cause people to shift their behavioral preferences from long-term to short-term rewards (Sims, et al., 2013). These behavioral theories have significant implications when considering managerial decision-making ability.

#### **3.1.6 Revenue growth, cost containment and profitability**

The two drivers of profitability, and therefore also the value of the firm, are revenues and costs. To achieve sustainable business growth the firm must grow its revenues while at the same time limit costs (Zhou, et al., 2013). Each of these themes is investigated in the following sub-chapter.

##### *3.1.6.1 Revenue growth*

Revenue growth is a key indicator of firm performance and from a capital market perspective, growth is necessary for achieving sustainable growth of profits. They can reward firms handsomely for growing and punish those failing to grow (Ahlstrom, 2010), where one major study found that the equity markets give out hard punishments to those allowing their growth to flatten out. About a third of

those companies lost over one-third of their market capitalization (Corporate Strategy Board, 1998). Growth is also a crucial part when attracting and retaining talent. Growing firms can easily attract the best people, but when growth slows, talented employees can sense that their possibilities of advancement are suddenly constrained. When this happens, companies run the risk of losing many of their most talented employees, negatively affecting the company’s ability to restore growth (Hamel, 1999; Pfeffer, 1998). The rate at which a firm manages to grow is directly depending on the available resources and how effectively it can capitalize on market opportunities (Deo, 2013). Management is tasked with acquiring and allocating the resources in an optimal way to activities or revenue-drivers to create profitable revenue growth for the company (Lévesque, et al., 2012).

There is systematic evidence for the superiority of a balanced growth strategy. Research has shown that companies that stay in a limited growth corridor deliver a higher average return to shareholders than slower- and faster-growing companies (Raisch & von Krogh, 2007). “Smart growers” share several characteristics: their culture is oriented to the long term, they set and maintain realistic growth targets, and they pursue growth and profitability simultaneously. Pursuing both growth and profits has one big advantage: the company’s ability to switch from growth to profit mode is never even tested.

**Table 5: The Growth Corridor, factors determining maximum and minimum growth rate (Raisch & von Krogh, 2007).**

<b>Maximum Growth</b>	<b>Minimum Growth</b>
<p><b>1.</b> Financial limits – Sustainable growth refers to the maximum annual sales increase that a business can achieve without impairing target ratios for debt, return on working capital and dividend pay-outs.</p>	<p><b>1.</b> Competitive growth – Companies that fail to defend their competitive position expose themselves to negative performance and are more prone to failure.</p>
<p><b>2.</b> Managerial limits – A company’s growth rate can be constrained by its ability to find, train and integrate new management of sufficient quality at a fast-enough rate.</p>	<p><b>2.</b> Shareholder growth expectations – There is a reward to meeting long-term growth expectations of shareholders and a penalty for failing to do so.</p>
<p><b>3.</b> Market limits – The only way to reach above-market growth is to capture shares from rivals. A company reaches maximum growth when it begins to purchase share at a lower profitability.</p>	<p><b>3.</b> Productivity growth – A company’s minimum growth requirement to avoid excess capacity and downsizing is indicated by its long-term productivity growth rate.</p>

### *3.1.6.2 Cost containment*

To position the firm for long-term success, firms must simultaneously optimize the costs it can control in the short term, while also making strategic decisions about the future cost structure of the company (Kumar & Kumar, 2011). Limiting costs is essential to the overall profitability of a firm and the primary objective should be to improve efficiencies in the value delivery process (Guni, 2014). As industry

rivalry erodes margins over time, cost containment becomes a core competency to protect profitability. Furthermore, to achieve the benefits of economies of scale the long-range planning of limiting costs becomes essential to ensure sustained profitability (Baumol & Blinder, 2015). The final constraint, motivating the need for cost containment, is the availability and cost of acquiring capital.

Short term cost-cutting strategies are often seen in times of economic downturn as companies seek to lower operating costs to protect short term margins. This type of short-term thinking can have a negative effect on the company's ability to generate future profits (Guni, 2014). The core of cost containment, on the other hand, is to protect or improve profit margins without damaging future growth prospects of the company (Douglass, 2012).

### 3.1.6.3 Revenue growth and cost containment trade-offs

It is not a simple task to achieve sustainable business growth as growth-oriented and profit-oriented strategies require different resources and capabilities. The decision to pursue a particular strategy requires the company to make a trade-off. With a focus on sales growth, a firm might sacrifice profits today in order to achieve a higher market share, anticipating that profits will catch up later. The profit-oriented firm on the other hand might forego growth opportunities by limiting its expenses (Zhou, et al., 2013). Although both strategies might lead to profitable growth, they require different capabilities. Growth strategies are often externally focused, and the company must look to the market in search of opportunities. Opposite to this, profit strategies often mean that the company is internally focused on improving operational efficiencies as a path to profitability. Furthermore, due to the limited resources of the company, it is often seen as an increased focus on one dimension requires less focus on the other. Zhou et al. (2013) explain that the nature of this trade-off is largely governed by the business climate at the time of the decision and that a change in economic climate can lead to a change in strategy, as companies seek to achieve profitable growth over time. This suggestion is supported in the business literature which discusses how firms following the 2008-2009 financial crisis went from profit protection and cost containment to having a renewed appetite for growth (Accenture, 2011).

**Table 6: Four scenarios of growth and profitability (Zhou et al., 2013).**

	<i>High Profitability</i>	<i>Low Profitability</i>
<i>High Sales Growth</i>	<i>I: Profitable Growth – The Ideal State</i>	<i>II: Firms on the Margin – Unprofitable Market Leaders</i>
<i>Low Sales Growth</i>	<i>III: Firms in Waiting – Low Growth but High Profitability</i>	<i>IV: Declining Firms – Low Growth and Low Profit</i>

Revenue growth and cost containment/profits are in many cases seen as a strategic trade-off. However, the ability to balance revenue growth with profitability has emerged as a potential key differentiator for companies seeking competitive advantage (Gannon, 2007).

## 3.2 Company life cycle theory

Corporate life cycle models have been used in business strategy literature since the 1960s (Owen & Yawson, 2010). Life cycle theory proposes that companies will follow a predictable pattern characterized by different stages that cannot be easily reversed. Each stage captures a unique combination of organizational characteristics. Furthermore, transitions between the different stages could arise from changes in both internal factors (i.e., structure, strategies, and decision-making) and external factors (i.e., environment) (Miller & Friesen, 1984). There have been various multi-stage life cycle models proposed over the years. However, the five stages: introduction, growth, maturity, shake-out, and decline are usually preferred in most studies (Hamers, 2017).

The introduction is the period in which companies try to establish themselves as viable entities on the market. This often includes the introduction of a new product or service (Miller & Friesen, 1984). During the introductory period, firms are often highly dependent on external support as they lack legitimacy and resources (Cameron & Whetten, 1981). Generating a competitive advantage over potential competitors is often done through extensive technological innovation (Miller & Friesen, 1984). Moreover, the firm is likely to experience large operating losses, very high reinvestment, and negative cash flow (Damodaran, 2015). As innovation and proactive behavior are critical for success in this stage, flexibility in decision making is one of the key success factors for firms in the introductory stage (Miller & Friesen, 1984; Quinn & Cameron, 1983). Yet, these young and newly formed entities run a high risk of failing – a phenomenon labeled as “the liability of newness” – and thus moving directly from the introduction stage to the decline stage without reaching the other life cycle stages.

If the company is successful in the introductory stage, it could progress to a stage in its life cycle characterized by rapid growth and expansion – the growth stage. In the growth stage, an abundance of profitable opportunities drives substantial reinvestment of profits and firms may also raise additional capital (Grabowksi & Mueller, 1975). These investments do not uncommonly lead to raising barriers of entry and thus improves the firms’ relative position in the market. Furthermore, both operating losses and cash flow usually narrow and to the end of the growth stage are expected to turn positive. The organizational structure becomes less centralized as a result of the increased complexity of the operating environment and more attention has to be paid to coordination and cooperation between

departments (Miller & Friesen, 1984). In the later stages of the growth stage, increases in competition, saturation of the market, and a reduction to available investment opportunities can lead to a decline in return on investment (Grabowski & Mueller, 1975).

The mature stage is characterized by a stabilization of operating performance and the focus of the firm shifts to organizational efficiency (Hamers, 2017). A decline in growth rate and profitable investment opportunities, large operating profits, and cash flow leads to the accumulation of capital. This in turn increases the likelihood of dividend payments or share repurchases (DeAngelo, et al., 2006). The maturity of the firm is often reflected in the formalization of rules, procedures, and organizational goals (Hamers, 2017). Whereas firms in the earlier stages tend to be proactive, mature firms are increasingly reactive to the actions of competitors (Miller & Friesen, 1984). Companies in the mature stage tend to scale down reinvestments, yet innovation still plays an important role in the success of the firm. In contrast to the major innovations in the introduction stage, innovations in the mature firm tend to arise from the firm's accumulated experience over time. Overall, the goal of the firm in this stage shifts from growing the business to focusing on defending its position in the market (Damodaran, 2015).

Some firms are naturally eliminated in the market because they are unable to grow along with the industry or generate negative cash flow. If companies fail to protect and maintain their position in the market they could end up in the shake-out stage (Hamers, 2017). Firms may still be able to reverse the negative trend in their performance. As the formalization of mature firms could cause a restriction in environmental responsiveness and thus a renewed focus on flexibility is a key success factor in turning the company around (Hamers, 2017). Eventually, if the firm is unable to break the downward spiral, it may enter the decline stage. Firms trapped in this vicious stage of poor performance are likely to experience a stagnant business model and difficulties attracting and retaining customers (Miller & Friesen, 1984). Eventually, the poor performance can force the firm to exit the market. Firms in the decline stage could also include firms from other life cycle stages that have failed to establish a viable position in the market.

According to Aswath Damodaran (2015) the life cycle of technology businesses has four defining characteristics compared to tradition industries:

1. **Scaling up is easy:** technology companies often operate in environments where barriers of entry are not very high. The up-front investment is often not significant and scaling up is easy.
2. **Holding on is tough:** Once in the matured phase, companies are generally not allowed long periods to harvest that position. Competitive advantages are short-lived and quickly deplete.
3. **Decline is rapid:** Similar to the forces that allows technology companies to grow fast (i.e., limited barriers of entry, ease of scaling and low

customer switching costs), also make the firms exposed to new entrants entering the market and disruption is always around the corner.

- 4. There is little left in the endgame:** Traditional companies accumulate physical assets over time which allows for potential liquidation should that be required. Technology companies, however, have little to fall back on once times of profitability are exhausted.

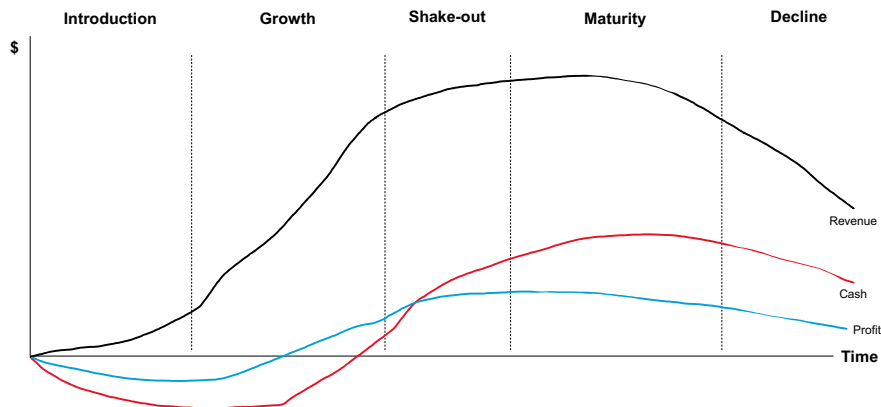


Figure 2: The stages of the corporate life cycle (illustrative).

### 3.3 Competitive forces

In 1970, *Harvard Business Review* published “How Competitive Forces Shape Strategy” by economist Michael E. Porter which started a revolution in the field of corporate strategy. In his article, Porter argued that competition for profits goes beyond direct industry rivals to include four other sources of industry rivalry as well: customers, suppliers, potential entrants, and substitute products. The competitive rivalry resulting from these five forces shapes the nature of an industry and must be analyzed to understand the profitability of an industry (Porter, 2008).



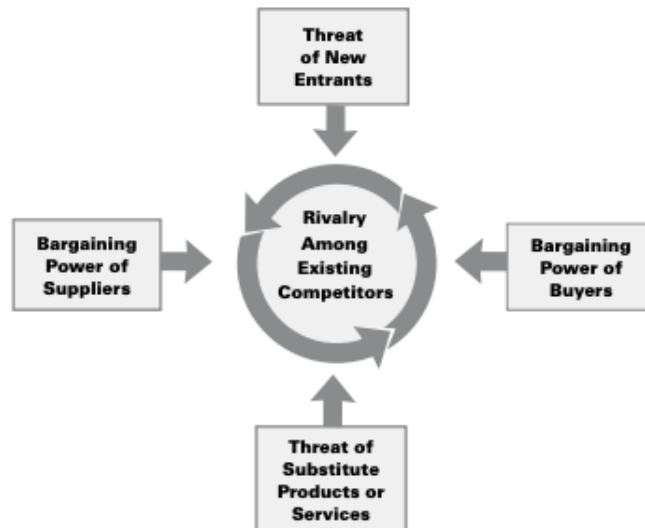


Figure 3: The five forces that shape industry competition (Michael E. Porter, 2008).

### 3.3.1 Threat of entry

The threat of entry refers to the risk that new entrants bring additional capacity and aim to gain market share in an industry. Ultimately putting pressure on pricing, costs, and investment needs. The threat of entry is especially high when new entrants are diversifying from other markets. Examples of this are when Pepsi entered the bottled water industry or when Apple entered the music distribution industry. The threat of entry puts a roof on the profit potential of an industry as companies must lower their prices or boost investments when the threat is high. The determinant of the threat of entry is the height of the entry barriers that are present and to what extent incumbents can be expected to retaliate. The seven major sources of barriers of entry are (Porter, 2008):

- **Supply-side economies of scale:** Arises when there is a decreasing cost per unit with an increase in production. This arises from the possibility of spreading fixed costs over additional units, investing in efficient technology, or negotiating better terms with suppliers. This phenomenon forces new entrants to either suffer a cost disadvantage or enter the industry at a large scale from day one.
- **Demand-side benefits of scale:** Maybe better known as network effects, demand-side benefits of scale, arises when consumer's willingness to pay increases with the number of other consumers using the product or service. When present in an industry, this discourages entry since

customers are less inclined to switch to a product or service with a smaller customer base.

- **Customer switching costs:** Are costs that are related to when a buyer decides to switch supplier. These costs can arise from many sources including training of employees, modify processes or information systems. The larger the switching costs, the more difficult it will be for a new entrant to gain market share.
- **Capital requirements:** Refers to the need for large financial investments required to enter an industry. Examples could be investments related to machinery, inventory or to fund start-up losses. This barrier is particularly high if the capital needed is unrecoverable (such as advertising or R&D) should the venture fail.
- **Incumbent advantages independent of size:** Independent of their size, incumbents are likely to have cost or quality advantages not available to potential new entrants. These advantages may stem from the incumbents' cumulative experience, technology, established brands, etc.
- **Unequal access to distribution channels:** If access to distribution channels is limited then the entry barrier will be high. Sometimes this barrier can be so high that new entrants have to create their own.
- **Restrictive government policy:** Government policy can both amplify or nullify the barriers of entry through regulations and laws. For example, patenting rules, environmental or safety regulations raise barriers of entry. For regulated industries such as liquor retailing, this is very visible.

### 3.3.2 Power of suppliers

Powerful suppliers can squeeze industry profitability by capturing more value for themselves through high prices. Microsoft is a clear example of a powerful supplier as they have contributed to the erosion of PC profitability by raising prices on their operating systems. A supplier group is powerful if (Porter, 2008):

- There are only a few suppliers of that product/component. Microsoft's near monopoly-like position in operating systems is an example of this.
- The supplier group does not heavily depend on that industry for its revenues. If a specific industry accounts for a large part of the suppliers' revenues, however, the power of suppliers is low.
- Industry participants face high switching costs when considering changing suppliers. When switching costs are high, companies can find it difficult to play suppliers off against one another.
- Supplier products are heavily differentiated. For example, companies with patented products have a strong power over hospitals compared to drug companies with generic products.
- There is no substitute for the supplier group's products.

- The supplier group can integrate forward into the supply chain and become a direct competitor.

### 3.3.3 Power of buyers

On the other end of the supply chain, we find the customers. Powerful customers can force prices down or drive costs up by demanding better quality or service. Also, it is not uncommon for buyers to play industry participants against one another, affecting overall industry profitability. In general, buyers are powerful if they have negotiating leverage or if they are price sensitive. Buyers have negotiating leverage if (Porter, 2008):

- There are few buyers or if the supplier is heavily dependent on the business from that buyer.
- Products are standardized or undifferentiated.
- They do not face high switching costs in changing vendors.
- The buyer group can integrate backward into the supply chain and produce the product themselves.

Buyers are price sensitive if (Porter, 2008):

- The product they buy represents a large portion of their total costs. If that is the case the buyers will likely bargain hard to get the best price possible.
- They earn low profits, are under pressure to reduce cost, and are strapped for cash.
- The industry's product has little effect on the quality of the buyer's product or service.
- The industry's product has little effect on the buyer's other costs.

### 3.3.4 Threat of substitutes

A substitute product is a good that can be used for the same purpose however by different means. For example, plastic is a substitute for aluminum, and email is a substitute for mail. The threat of substitute products is always present but can easily be overlooked as they can come from another industry. However, substitute products can have a great effect on industry profitability and force down margins. If an industry does not differentiate itself enough from its substitutes it will suffer in profitability and not uncommonly also in growth potential. The threat of substitutes is high if the substitute offers an attractive price vs. performance trade-off and if the cost of switching is low (Porter, 2008).

### **3.3.5 Rivalry among existing competitors**

Strong rivalry among the existing competitors is very likely to drive down industry profitability. It can take many forms, including discounts, product introductions, advertising campaigns, and service improvements. The degree to which profitability will suffer depends on both to which degree companies compete and which form the competition takes place. Rivalry among existing competitors is great if (Porter, 2008):

- There are many competitors or if rivals are of roughly equal size.
- Industry growth is slow.
- Exit barriers are high.
- Competitors are highly committed to reaching industry leadership.
- Firms lack familiarity with each other and are unable to read the signals from competitors.

The form in which the competition takes place is highly relevant from a profitability standpoint. Intense rivalry is especially destructive if the competition is based on price. It does not only directly affect profitability but is also highly visible for competitors to match, making a spiraling development of price cuts likely. Competition in other dimensions, such as product quality, branding, or services, are less likely to diminish profitability as it improves customer value (Porter, 2008).

### **3.3.6 Implications of industry profitability**

Understanding an industry's competitive forces explains the root causes of industry profitability while also providing a framework for understanding competition (and profitability) over time. If the forces are intense (such as in the airline and hotel industry), almost no company will earn attractive profits. On the other hand, if the forces are weak (such as in the software and soft drink industry), many companies will earn attractive profits. Industry rivalry drives both competition and profitability, regardless of whether the industry produces a product or service, is emerging or mature, high tech or low tech. Many factors can affect industry profitability in the short run – for example, the business cycle – the five forces, however, look at industry profitability in the medium to long run. Moreover, understanding the competitive forces of an industry is crucial when management tries to position the company in the market (Porter, 2008).

# 4 Cloud computing and SaaS

*The following chapter presents existing research and literature on which this thesis is built upon as well as necessary information for answering the research questions. An in-depth background of Cloud Computing and SaaS is presented. Furthermore, key characteristics related to the SaaS business model are presented and explained.*

## 4.1 Cloud computing

### 4.1.1 A fundamental shift in information technology

The phenomenon of cloud computing is transforming the way information technology (IT) services are invented, developed, deployed, scaled, updated, maintained, and paid for. Shifting not only where computing is done, but fundamentally how it is done (Rachna & Anshu, 2013).

As computers continue to become exponentially more powerful, the per-unit cost of computing is falling to levels where it is nowadays considered largely a commodity (Hackett, 2008). However, as computing is becoming increasingly important to organizations, the complexity of managing the entire IT infrastructure of hardware and software has skyrocketed and computing has never been more expensive in an organization than today. Cloud computing promises to deliver all the functionality in existing IT services (and more) while enabling organizations to reduce cost and complexity (Roehrig, 2009).

### 4.1.2 What is cloud computing?

Cloud computing represents a specialized distributed computer paradigm: it is different from traditional models in that (1) it is massively scalable, (2) can be encapsulated as an abstract entity that delivers different levels of services to customers outside the cloud, (3) it is driven by economies of scale, and (4) the services can be dynamically configured and delivered on-demand (Foster, et al., 2008).

In 2011, the National Institute of Standards and Technology (NIST) proposed the following definition of cloud computing (Mell & Grance, 2011):

*“... a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal effort or service provider interaction.”*

As illustrated in figure 4, the cloud computing model is further composed of five essential characteristics, four deployment models, and three service models (Mell & Grance, 2011). These concepts will be discussed in the following sections.

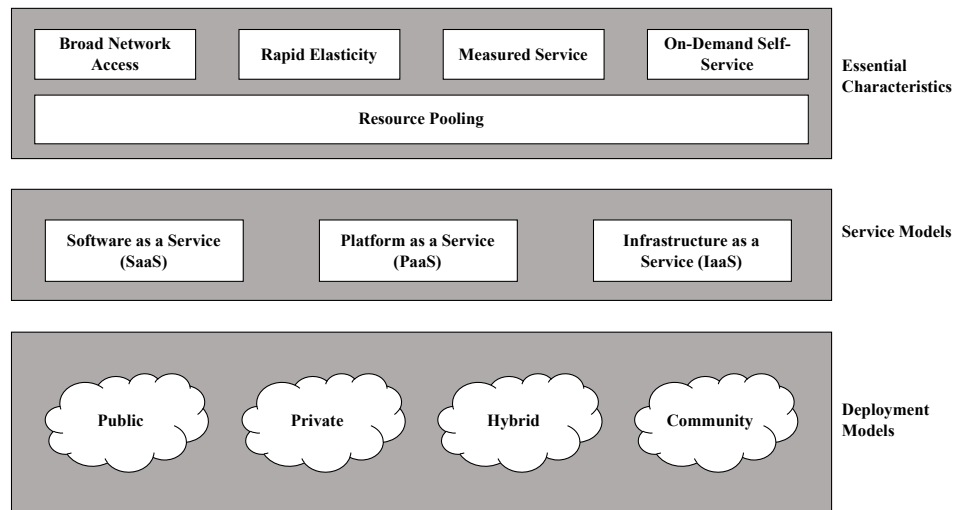


Figure 4: Cloud computing (Mell & Grace, 2011).

#### 4.1.3 Essential characteristics of cloud computing

The five essential characteristics of cloud computing are (Mell & Grance, 2011):

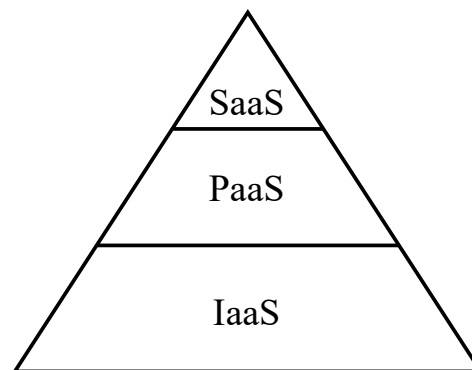
- **On-demand self-service:** Consumers can use computing capabilities (e.g., server time and network storage) without requiring human interaction with service providers.
- **Broad network access:** The computing capabilities are network-based and accessed through standard mechanisms, promoting a variety of client platforms such as mobile phones, tablets, laptops, and workstations.
- **Resource pooling:** Providers serve multiple clients/consumers with provisional and scalable services through a multi-tenant model. Physical and virtual resources are dynamically assigned and reassigned according

to consumer demand. Generally, the client does not control the location of the physical resource (e.g., storage, memory, bandwidth).

- **Rapid elasticity:** The ability to elastically allocate and de-allocate capabilities to scale rapidly proportionate to demand. In a sense, cloud computing resources often seem infinite and can be appropriated in any quantity at any time.
- **Measured service:** Cloud systems automatically leverages a metering capability providing both provider and consumer transparency regarding resource usage. Traditionally invoices and service change agreements would fill the same role.

#### 4.1.4 Service models

As illustrated in Figure 5, there are three layers to cloud computing based on their delivery model: Infrastructure as a service, Platform as a Service and Software as a Service (Mell & Grance, 2011).



**Figure 5: The three layers of cloud computing.**

##### *4.1.4.1 Infrastructure as a Service (IaaS)*

Infrastructure as a service is the basic layer of cloud computing. This layer is basically hardware and network (e.g., processing, storage, networks) where consumers can deploy and run arbitrary software such as operating systems and applications (Mell & Grance, 2011). An important distinction to traditional IT infrastructure provisioning is that IaaS abstracts the infrastructure as services (Dhar, 2012). The service provider manages the underlying infrastructure while the consumer remains in control over operating systems, storage, and deployed applications (Mell & Grance, 2011).

#### *4.1.4.2 Platform as a Service (PaaS)*

PaaS provides consumers the ability to deploy applications onto the cloud infrastructure. In the PaaS model, the service provider manages the underlying infrastructure including, network, servers, operating systems, or storage. The consumer controls the applications and possibly also the configuration settings for the application-hosting environment (Mell & Grance, 2011).

The traditional in-house model requires a group of network, database, and systems management professionals to monitor and keep everything up and running. Under the PaaS layer of cloud computing, these services are provided remotely by the cloud provider (Dhar, 2012).

#### *4.1.4.3 Software as a Service*

SaaS is the top layer of cloud computing and enables the consumer to use the provider's applications, running them on a cloud infrastructure<sup>1</sup> (Mell & Grance, 2011). This layer includes a variety of applications ranging from productivity (e.g., office-type) applications to enterprise applications such as supply chain management, customer relationship management, and enterprise resource planning (Dhar, 2012). The applications are deployed over the internet and accessible through either a thin interface such as a web browser or a program interface. Under the SaaS layer, the provider manages and controls the complete underlying cloud infrastructure as well as individual application capabilities, with the one possible exception of user-specific configuration settings (Mell & Grance, 2011).

### **4.1.5 Deployment models**

One of the key elements of cloud computing is the deployment model. A cloud deployment model represents a specific type of cloud environment, primarily distinguished by ownership, size, and access (IGI Global, u.d.). To simplify, the deployment is basically where the software is running. There are four cloud deployment models: public, private, community, and hybrid (Mell & Grance, 2011).

#### *4.1.5.1 Public cloud*

Is the most common and most well-known deployment model, often used for non-mission-critical tasks such as file-sharing and email service. Many of the most

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<sup>1</sup> A collection of hardware and software elements necessary to enable cloud computing. Includes a physical layer of hardware elements necessary to support the cloud services (e.g., server, storage, and network components), and an abstract layer of software elements deployed on the physical infrastructure.



recognizable public services such as Facebook, Google, and LinkedIn run on the public cloud. Public cloud infrastructure is provisioned for open use by the general public, offers the same services to all users, and may exist on or off premises (Mell & Grance, 2011). With this type of deployment model data are created and stored on third-party servers, owned and managed by the service providers. Hence there is no need for users to buy and maintain their own hardware. Services are usually free of charge or offered through a pay-per-use model (Nils Vold, Visma, 2020).

#### *4.1.5.2 Private cloud*

From a technical point of view, there is little to no difference between a public and a private cloud. However, as opposed to a public cloud, the private cloud infrastructure is provisioned for exclusive use by a single organization. It may be owned and managed by a third party, the organization, or a combination of them both, and it may exist on or off premises (Mell & Grance, 2011). Furthermore, this deployment model allows wider opportunities for customization according to the requirements of the organization. Compared to the public cloud, it's clearly defined who has access to the data and is most suited for sensitive data dependent on a certain degree of security (Nils Vold, Visma, 2020).

#### *4.1.5.3 Community cloud*

A community deployment model can be described as a version of the private one; the one difference is the set of users. It is provisioned for exclusive use by several organizations with uniform requirements (e.g., mission, security, policy, and compliance) (Mell & Grance, 2011). It may be owned and managed by a third party, one or more of the user organizations, or a combination of them. This multi-tenant structure can increase efficiency in cases of joint projects.

#### *4.1.5.4 Hybrid cloud*

The hybrid cloud infrastructure encompasses the best features of the above-mentioned models (public, private, community). It is a combination of two or more infrastructures that remain as unique entities but are bound together (Mell & Grance, 2011). It allows companies to mix and match the aspects of the three types in a way that best suits their requirements. As an example, a company can locate mission-critical workloads of a secure private cloud while running fewer sensitive loads on a public cloud. Taking advantage of the scalability and cost-effectiveness of the public cloud, while protecting sensitive data in the private cloud (Goyal, 2014).

## 4.2 Software as a Service

### 4.2.1 Definitions and key features

SaaS does not have a firm definition; however, some examples are provided below which highlights some key characteristics of the phenomenon.

Kittlaus and Clough define SaaS as (Kittlaus & Clough, 2009):

*“Business and delivery model that allows customers to use software over the internet without having to install it on their own computers.”*

Sun, et al. add to this definition by highlighting the service offering and consumption-based pricing model (2007):

*“...the customer does not specifically purchase a software license. The cost of the infrastructure, the right to use the software, and all hosting, maintenance and support services are all bundled into a single monthly or per-use charging.”*

Salesforce (2020) further extends the previous definitions by stating the responsibility of the SaaS provider:

*“... SaaS applications run on a SaaS provider’s servers. The provider manages access to the application, including security, availability, and performance”*

Reviewing the literature, there indeed exists a variety of different definitions of SaaS, the above mentioned are just a small sample. It is difficult to capture the SaaS phenomenon into a single set of simple criteria for identification purposes. However, according to Lee et al. (2009), six distinct characteristics are typically associated with SaaS:

- **Reusability:** The ability of software elements to serve for the construction of many different applications. In the case of SaaS, the software itself is a target of reuse and is delivered to customers over the Internet and is not tailor-made for each customer. That is, there is a one-to-many relationship when delivering SaaS services.
- **Data managed by provider:** SaaS is a model where the provider remains in ownership of the deployed resources. This means that the service providers are responsible for service installation and data management on their own servers. Customer data is stored and managed by the provider.
- **Service customizability:** Due to inherent characteristics of the cloud, SaaS providers can’t customize their cloud services for each customer. Instead, customers can be given the option to customize their services themselves. In the case when the service provider does not provide customizable SaaS services, the customers simply utilize the services.

- **Availability:** The provider retains ownership over the SaaS which is deployed and run on the provider's servers. Because of this, many SaaS providers put their efforts towards achieving high availability of their services to drive utilization.
- **Scalability:** The service provider is responsible for rescaling resources according to customer requirements without the need of notifying the customers in detail.
- **Recurring or pay per use:** The pricing of the product is based on recurring payments or the actual usage of the product.

Moreover, multi-tenancy is often regarded as critical in many SaaS definitions. In a multi-tenant SaaS architecture, a single instance of the software and the supporting infrastructure serves multiple customers. Each user shares the application and also a single database (each customer's data is isolated and invisible to others). Multi-tenancy increases the utilization rate of hardware resources and simplifies maintenance and deployment of the application (Mäkila, et al., 2010).

#### 4.2.2 Comparison of SaaS and on-premise software

The traditional on-premise model includes purchased or licensed software, where the customer acquires ownership over the software and operates their own IT infrastructure. The customer takes ownership over installation, updates, licensing, and other aspects connected to the software. SaaS brings with it several other differences compared to the traditional software model, some of the most noticeable are pointed out in table 4.

**Table 7: On-premise vs. SaaS (Weston & Kavani, 2009).**

<i>Feature of difference</i>	<i>On-premise</i>	<i>SaaS</i>
Software and hardware	Resides at the location of the customer.	Resides at the location of the vendor.
In-house staff	Typically, complex software implementation and maintenance requirements necessitate hiring of in-house IT experts.	End-user oriented. Non-experts can implement and manage the solution with the assistance of the vendor.
Ongoing maintenance	Customer's responsibility.	Vendor's responsibility.
Implementation time	Possibly months.	Days.
Costs	High upfront capital investment.	Pay as you go fee structure. Per user, per month fees.
Upgrades	Paid for and sporadic.	Free and ongoing.
Customization	Highly customizable.	Point-to-click customization for SMBs <sup>2</sup> .
Remote access	Works best inside company network.	Accessible via the internet on all browsers.
Mobile access	Not typically.	Accessible via mobile browsers.

#### 4.2.3 SaaS revenue models

A revenue model describes the revenue flow from the company's products or services (Dempsey & Kelliher, 2017). As previously touched upon briefly, the essence of SaaS is a pay-as-you-go revenue model which brings a renewable revenue stream. Instead of the traditional one-off and upfront licensing fee, SaaS companies license on a subscription, or rental, basis. In this new model, customers typically pay on a subscription basis after the application has been delivered (Dempsey & Kelliher, 2017). This differs from the traditional software license where customers paying upfront was the norm (Osterwalder & Yves, 2010).

According to Dempsey & Kelliher (2017) there three common pricing structures of SaaS:

- **Freemium:** The subscriber gets "free" access to a basic version of the software for a trial period. The assumption is that the subscriber will

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<sup>2</sup> Small and medium sized businesses.

ultimately upgrade to “premium” use of the software once the trial period ends.

- **Subscription fee:** The subscriber gets full access to the software over the subscription period. Often fixed monthly or annual payments over a contracted period. Once the period has ended, the subscriber can either (1) renew the contract under existing terms, (2) negotiate a new contract, or (3) not renew the contract.
- **Usage-based:** The subscriber is charged based on the actual usage. For example, pay-per-user or pay-as-you-go.

Although some literature actually refers to the traditional one-off license as potential SaaS revenue models. This model outside of most SaaS definitions and should not be considered for “true” SaaS providers (Sun et al., 2007; Lee et al., 2009).

Considering the most popular B2B revenue models (subscription-based and usage-based), table 7 provides a summary of the main advantages and disadvantages with both models.

**Table 8: Advantages and disadvantages of B2B SaaS revenue models (Dempsey & Kelliher, 2017).**

<i>Revenue model</i>	<i>Advantages</i>	<i>Disadvantages</i>
Subscription-based	Facilitates recurring revenues. Diversifies the customer base. Increases profit when customers remain loyal. Attracts investors, since it causes recurring revenues.	Risk of not recouping development costs. Relatively low switching costs for customers.
Usage-based	Diversifies the customer base. Increases profit when customers use the software above average.	Risk of not recouping development costs. Relatively low switching costs which may facilitate churn. Less profit when customers only use the software occasionally/intermittently. Monitoring usage metrics effectively can be costly.

This paper will hereafter take a strategic rather than operational perspective on revenue flow. SaaS usage-based and subscription-based revenue model will not be separated, and the paper will simply refer to “subscription model” or “subscription payments” when discussing the revenue model of SaaS.

## 4.3 SaaS business model characteristics

Compared to traditional software businesses, SaaS businesses have a particularly hard time generating profits during start-up and early-growth phases. To explain this, there are three main differences between on-premise software and SaaS business concerning revenues, expenses, and operating profits: revenue recognition, impact of customer churn, and the delivery cost structure (Bandulet, 2017). A basic understanding of these differences is essential to grasp how the SaaS business model<sup>3</sup> works.

### 4.3.1 Revenue recognition

The basic idea of revenue recognition is this: regardless of when a customer payment arrives in your bank account, it cannot be counted as revenue until you have delivered the product or service the customer paid for. In the traditional perpetual license model, revenue is typically based on the standalone sale and delivery of a software product and revenue is recognized upfront. In most cases, this recognized revenue exceeds the customer acquisition cost (CAC) for that period or sale.

The SaaS model is built on subscription payments where revenue is driven by subscriptions rather than individual sales (Guo & Ma, 2018). The period varies depending on businesses and type of software, but generally monthly or annual subscriptions are used. For the SaaS business, this leads to a customer acquisition model where the company pays upfront for acquiring customers and gets paid back in revenue over time (Gardner, 2015). SaaS revenues cannot be recognized upfront but are instead recognized when delivered. Now, it's important to note that there exists a magnitude of contract models, but the following example shows the implication of SaaS on revenue recognition: If a customer signs a three-year subscription contract and pays the total fee upfront, the amount is recognized ratably over 36 months as the service is delivered. Effectively, many SaaS businesses start out with a loss since a single subscription fee does not cover the related customer acquisition cost. Furthermore, the more customers a SaaS business acquires, the heavier the initial losses will be. Evaluating SaaS businesses, deferred revenue is therefore an important indicator (Bandulet, 2017).

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<sup>3</sup> A business model can be defined as “a plan for the successful operation of a business, identifying sources of revenue, the intended customer base, products, and details of financing” (Oxford languages, 2020).

To illustrate the effects of these differences we consider an example company that is spending \$6 000 to acquire a single customer and receives \$500 per month in subscription fees, this example is shown in figures 6 and 7.

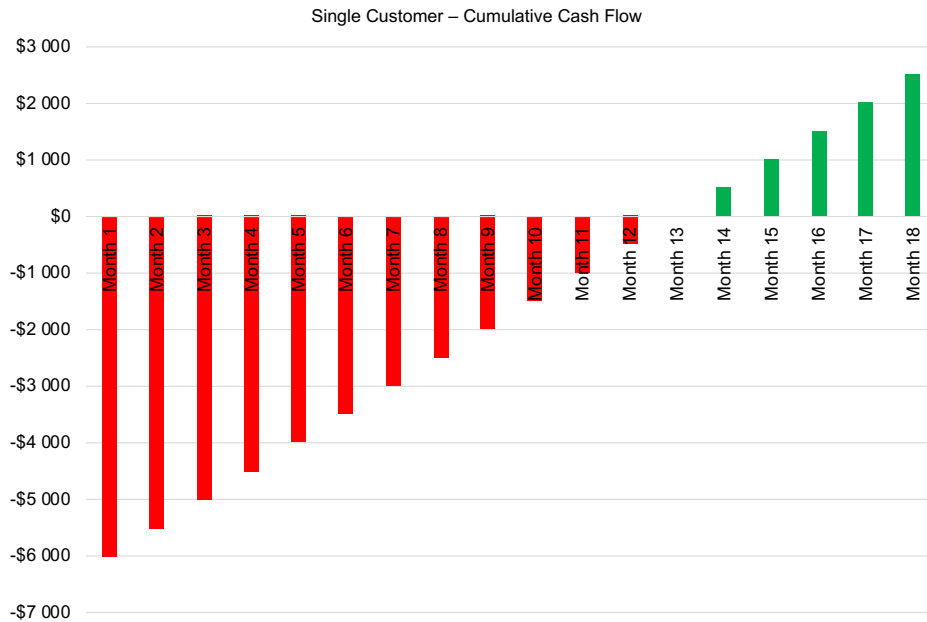


Figure 6: Cash flow of a single customer for a SaaS business.

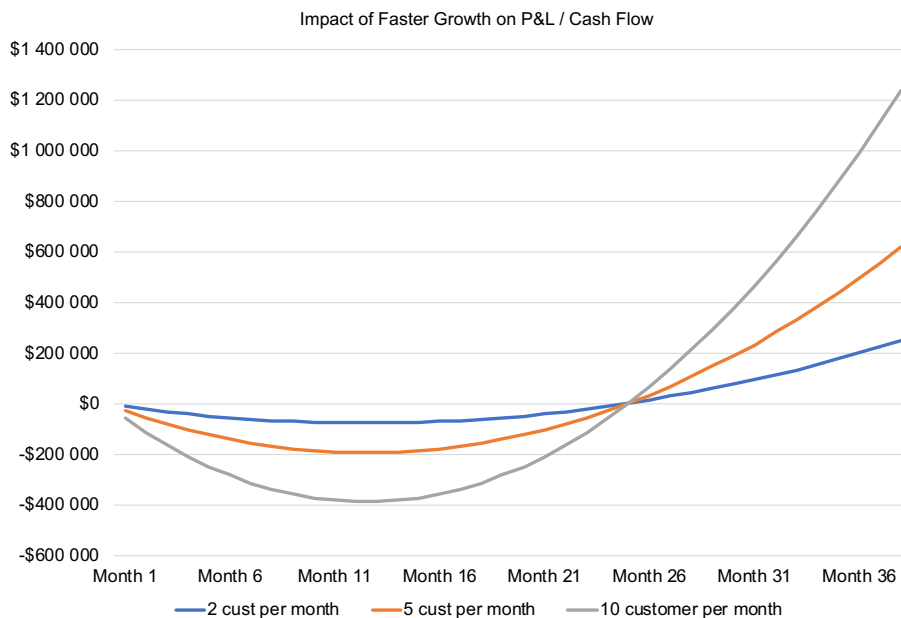


Figure 7: Impact of faster growth on profit and loss (P&L) and cash flow.

It's worth noting that the way accounting principles are applied in reality may not always comply with the above principle. As the Swedish business executive and founder of Avanza Bank and investment company Creades points out (Lundell, 2020):

*“What worries me is the accounting. The auditors approve that the companies book all income during the first year. Although it can take much longer than that to get all the money in the account”*

The effect of revenue being booked in advance is an artificially high turnover and it's the turnover (or size of annual recurring revenue) that drives the company valuation. If you are not aware of this accounting problem, it is easy to get it wrong when evaluating a SaaS company (Lundell, 2020).

#### 4.3.2 Customer churn

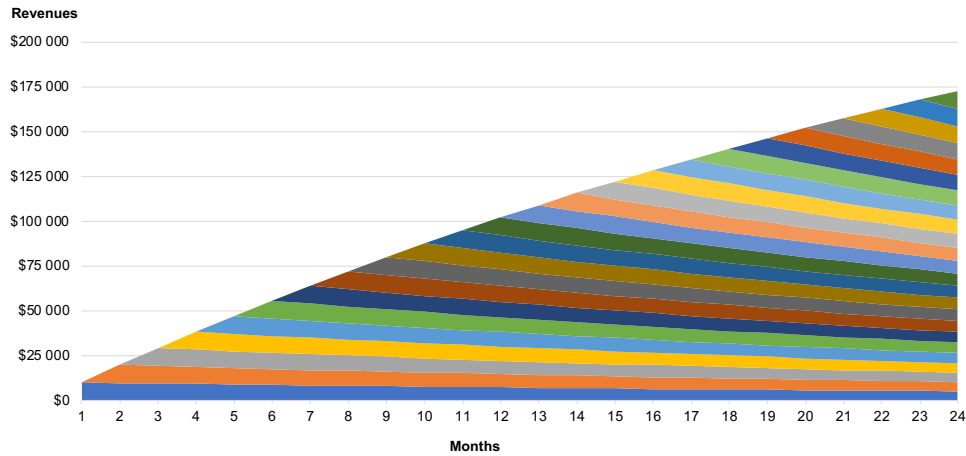
In the case of traditional software licensing, the company is unaffected by customers deciding not to use the software anymore. The company may lose out on maintenance or support revenues but since the initial payment most likely covered the CAC the loss is not critical to the business (Bandulet, 2017). For subscription models, churn is the proportion of customers that cancel their subscriptions and can be interpreted as the probability of which a customer will cancel their subscription (York, 2012). SaaS businesses are highly affected by churn, especially if a customer decides to cancel their subscription before fees paid to date have covered the upfront acquisition cost (Bandulet, 2017). This creates a fundamental difference to a traditional software business – basically two sales have to be accomplished:

1. Acquiring the customer
2. Keeping the customer (to maximize lifetime value)

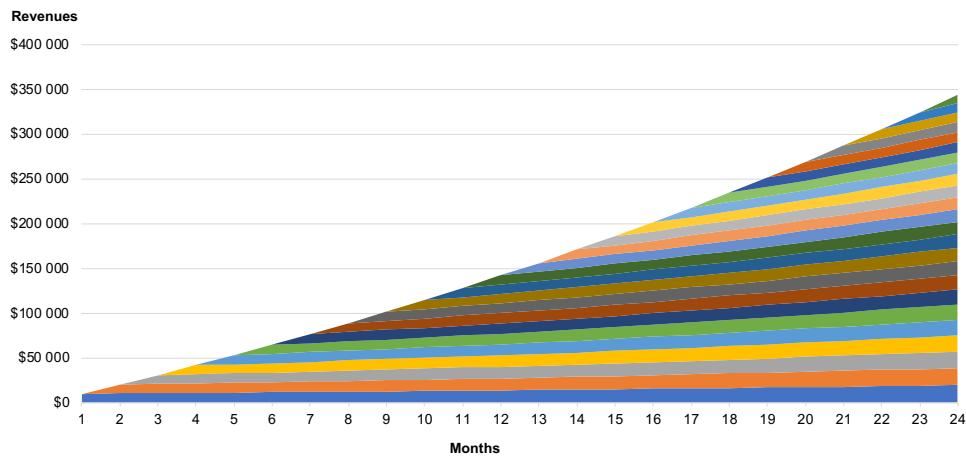
Net revenue churn can be negative, known as net negative churn. This happens when expansions/up-sells/cross-sells to the existing customer base exceeds the loss of revenue from churn (Cadambi & Easwaran, 2016). Net negative churn can fuel great success as it works in the same way as a high yield savings account.

To illustrate the power of churn, we will consider two SaaS businesses with constant bookings of \$10,000 each month for 24 months. Company A has a monthly churn rate of 5% while company B has a net negative churn rate of -5%. At the end of the period company A will have revenues of \$173,000 while company B will have revenues of \$344,000 which is almost twice as much. The plots for the two companies are shown below.





**Figure 8: Company A, constant booking of \$10,000 and 5% monthly churn rate.**



**Figure 9: Company B, constant booking of \$10,000 and -5% monthly churn rate.**

In both cases the companies have the identical bookings from customers over the entire period, but the end result is very different. The example clearly demonstrates the power of churn and why it is crucial for SaaS companies to keep churn low.

#### 4.3.3 Delivery cost structure

Software products often require high R&D investment before the first customer can be won. This complication can be avoided by starting the business based on a custom development project. The fact that the provider retains intellectual property rights ensures that the software then can be delivered to the next customer at a

much lower cost. Hence, it becomes a customizable product with a low marginal cost when delivered to the next customer. Given that the acquisition cost is covered by initial revenue in traditional software licensing, they do not risk falling into any profitability complication. A SaaS business must however both invest in initial R&D to create the software and must also run it. Meaning there is a higher marginal cost related to each customer (Bandulet, 2017).

A few observations can be drawn from the key differences regarding revenue recognition, delivery cost structure and churn (Bandulet, 2017):

- **Delayed revenues:** Revenues for SaaS companies are delayed compared to a software business.
- **Steeper expense curve:** The expense curve of a SaaS business is steeper than for a software business and the faster the company decides to grow the immediate losses become worse.
- **Predictable revenues:** The revenue of a traditional software business is more volatile, caused by the fact that for each period the sales reps must bring in deals to meet quotas. The revenue of a SaaS is steadier once a solid base of subscriptions has been established and forecasts can be made with higher reliability. These predictable recurring revenues are one of the main attractions for investing in a SaaS business (Desjardins, 2017). However, the SaaS business is more exposed to customer churn.

## 4.4 Economies of scale

Economies of scale exist when there is a positive relationship between the number of units produced and the efficiency (most often measured in average production cost) (Tirole, 1988). Therefore, in the presence of economies of scale, larger firms have cost advantages. Economies of scale is a well-known property of traditional software businesses. The cost of reproducing and distributing software is in many cases negligible after the initial R&D cost incurred for producing the first copy of the software (Schmidt & Schnitzer, 2003).

For SaaS businesses, economies of scale are widely regarded as one of the key contributors to the strength of the business model. Gartner states that “sharing resources and economies of scale” is one of the main components of SaaS (Desisto, 2010), given the multi-tenant nature of SaaS and the fact that the IT infrastructure is owned and managed by the vendor. Furthermore, it is also often stated as one of the major benefits over traditional software businesses (Computer Weekly, 2009; Desisto, 2010; Toesland, 2019). For example, trade magazine Computer Weekly state that “the sheer economies of scale achieved by public cloud providers will inevitably mean they dominate in the future” (Computer Weekly, 2009).

Economies of scale, if present, are important in both the vendor and the customer perspective. Firstly, strong economies of scale lead to a winner-takes-all situation (Ge & Huang, 2014). This would have important implications for the management of the SaaS business and executives should then tune their strategies to build as a large customer base as possible and as soon as possible, even at the cost of making losses. Secondly, from the point of view of an investor, investing in a SaaS business is riskier as a company can either take the entire market or will be forced out of business. Lastly, customers should use the services of the largest vendor, regardless if the service is not the best fit, given that the smaller vendors will likely be forced out of business (Ge & Huang, 2014).

The presence of economies of scale has not been widely empirically tested in the literature but is seemingly accepted by trade magazines and industry experts. However, in a study from 2014, Ge and Huang suggest that this broadly accepted notion may not be correct. The authors presented several potential sources for this. Firstly, SaaS firms simultaneously sell software and offer the IT infrastructure. The fact that IT infrastructure does not have zero variable cost reduces the economies of scale. Secondly, SaaS businesses are a lot less labor-intensive than traditional software firms. Lastly, the return of R&D investment seemingly decreases with scale. As a result, SaaS firms display smaller economies of scale than traditional software firms (Ge & Huang, 2014).

#### **4.4.1 Business model scalability**

The term scalability is often used in a technological context where it describes a system's ability to scale with an increased workload (Hill, 1990). However, in the business context, it is generally related to the company's ability to exploit economies of scale (Stampfl, et al., 2013).

The business model is often considered one of the most important factors for company growth and success. Where scalability is a particular characteristic of a successful innovative business model (Amit & Zott, 2001). Business model scalability can be defined as "a business model's ability to increase revenues faster than the corresponding cost base" (Hallowell, 2001). Successful companies such as Dropbox, Slack and Salesforce share the common characteristic of highly scalable business models which allowed them to quickly become relevant competitors on the web (Stampfl, et al., 2013).

In today's business environment it is often the fast-growing firms quickly responding to change that end up winning. As a consequence of this, investors often look for "infinite scalability" flowing the rationale: investing early in a phase of low profitability may provide high returns once the company scales and becomes profitable following amortization of fixed costs and by a large customer base (Hallowell, 2001).

#### **4.4.2 Network effects**

The strategic importance of network effects or network externalities has been discussed in numerous studies. The concept relates to a scenario where “consumers value a product more, the more other consumers use it” (Conner, 1995). In cases where the network positively affects the value of the product, it is also seen as one of the determinants of success (Shim & Lee, 2012). A clear example of the network effect in the context of internet-based business models are social networks. The value of companies like Zoom or Slack, for example, increases with every active user that uses the service. Network effects are an important scalability factor as it can fuel growth as well as fuel decline in the case of user loss (Stampfl, et al., 2013).

#### **4.4.3 Critical mass**

In business, critical mass is a crucial point in the growth stage of a company as it is the point when the business becomes self-sustaining. It is the point when the company is profitable enough to grow by itself and not require additional investments to remain financially viable (Kenton, 2019). In terms of scalability, critical mass has both favorable and unfavorable consequences. For an early venture, it might lead to failure if it is unable to reach the critical mass, but on the other hand, once the critical mass has been reached, it might boost growth even further without costs having to follow (i.e., exploiting economies of scale) (Stampfl, et al., 2013).

# 5 Economics of SaaS

*Due to recurring revenues, scalability, and cost structure, SaaS companies must not only be managed differently than traditional software companies but also require different metrics than a traditional company when looking at their performance (Shengli, et al., 2017; Cadambi & Easwaran, 2016; Skok, 2017). Traditional business metrics fail to capture the key drivers of SaaS performance. This section aims to provide an overview of the most important SaaS strategic drivers. These are presented in detail for growth, profitability, and sustainability drivers. This is not in any way a complete list but includes some of the most critical metrics used when building and evaluating a SaaS business.*

## 5.1 Growth metrics

### 5.1.1 Annual or monthly recurring revenue

As previously explained the SaaS model is based on recurring revenue: once a customer has been acquired you will receive recurring subscription payments until the customer cancels the subscription. There are mainly two types of SaaS businesses: those with monthly contracts and those with annual contracts. Annual recurring revenue (ARR) is the revenue that the company gets over every year from its subscriptions and MRR is simply the revenue that the company receives every month (Skok, 2017).

### 5.1.2 Annual contract value

Annual contract value (ACV) is simply the average annualized revenue per customer contract. Annualizing a 3-year contract worth \$30,000, the ACV is \$10,000. A high ACV means a larger contract value but also implies that users cost more to acquire due to personal selling, assistance from sales engineers, customization, and implementation requirements. On the flip side, a low ACV means smaller contract values and implies a low cost of acquiring customers and a higher user count (Campbell, 2019). Low ACV further implies that the way to grow is by acquiring a large customer base.

### 5.1.3 ARPU and ARPA

The average revenue per user (ARPU) and average revenue per account (ARPA) are defined as the average revenue that each user / account generates in a month or year. It is straightforward to calculate as:

$$ARPU = \frac{\text{Total MRR/ARR}}{\text{\# of users}}$$

$$ARPA = \frac{\text{Total MRR/ARR}}{\text{\# of accounts}}$$

### 5.1.4 Customer lifetime value and LTV:CAC

Given the subscription model of SaaS businesses, measuring the customer lifetime value is a very insightful metric. It can however prove to be a difficult metric to track given that it includes variable drivers such as churn and gross margin. Still, it is critical for the success of the SaaS business as it helps focus on customers bringing the highest lifetime value and is also acts as a critical “roof” for the customer acquisition cost (CAC). The general rule of thumb is that customer lifetime value (LTV) should be three times higher than the CAC for a SaaS business to be healthy, especially given the high-risk nature of SaaS where technology shifts can prove significant (Cadambi & Easwaran, 2016). If the LTV:CAC ratio is below three, the company should focus on boosting sales efficiency first and foremost before investing in growth (Croll & Yoskovitz, 2011). The LTV:CAC ratio is possibly the most crucial part of SaaS unit economics as it tells you how much customers are worth compared to the cost of acquiring them. To calculate customer lifetime value, one divides ARPU with the churn rate:

$$LTV = \frac{ARPU}{Churn}$$

## 5.2 Profitability metrics

### 5.2.1 Customer acquisition cost and payback period

One of the key determinants of SaaS profitability is the customer acquisition cost (Cadambi & Easwaran, 2016). It is the total cost of sales and marketing efforts needed to acquire a customer and is closely monitored together with LTV to optimize the CAC payback period. The challenge of CAC is to spend the correct

amount on driving new customers to subscribe to the service, without jeopardizing the customer lifetime value of revenues (McBride, 2015).

The CAC payback period measures the time it takes to recover the customer acquisition cost. A company may have viable unit economics and an LTV:CAC ratio above three but can still experience cash flow problems. This is often prevalent when the customer lifetime is long, and it takes a long time to recover the upfront spend on customer acquisitions. CAC payback period is an important metric from a cash flow perspective as it can help determine how much cash the company needs to grow (Skok, 2017). CAC payback period is calculated by dividing CAC by the difference between MRR and the average cost to serve (ACS).

$$CAC \text{ payback period} = \frac{CAC}{MRR - ACS}$$

### 5.2.2 Average cost to serve

Average cost to serve tells you how much it costs to serve and support one customer. There is no distinctive definition of what should be included in this but should possibly include costs related to technical support & service, hosting, delivery, account management, and R&D amortization (Murray, 2020). When used in isolation it's not very insightful. However, when used in combination with ARR/MRR and CAC it becomes a compelling metric.

### 5.2.3 Sales and marketing cost as a percentage of ARR/MRR

Sales and marketing cost as a percentage of ARR/MRR shows the relative amount spent to the company's steady income stream. Sales and marketing are some of the largest expenses for a SaaS business. In FY 2019, Salesforce spent 46% (\$7.9 billion) of total revenue on this cost item according to their annual report. Bandulet (2017) showed that there is a positive statistical relationship between revenue growth and sales and marketing spend. These expenses are decisive drivers of the success of a SaaS business, both from a growth and profitability perspective.

## 5.3 Sustainability metrics

### 5.3.1 Sales effectiveness

The Growth Efficiency Index (GEI) is a measure of revenue growth efficiency and looks at the relationship between costs incurred to increase growth and the actual revenue increase. Growth expenses generally include sales and marketing, and customer success expenses. The GEI is calculated by taking the total growth expense divided by the growth in ARR. A general target is to have a GEI of less than one, which means that revenue growth exceeds costs incurred by the company. If GEI is over 1 it's an indication to recalibrate sales and marketing efforts (Cadambi & Easwaran, 2016).

### 5.3.2 Churn

Churn is the proportion of customers that cancel their subscriptions and can be interpreted as the probability of which a customer will cancel their subscription (York, 2012). For SaaS businesses, churn is one of the most important metrics to track as it is the direct opposite of growth. A high churn means that customers don't believe it's worth paying for that company's product. Even at a low rate, churn can have a substantial impact on revenue, profitability, customer lifetime value and therefore directly impacts the valuation of a SaaS business (Cadambi & Easwaran, 2016). One normally looks at net revenue churn which measures the revenues lost during a period caused by the loss of customers or lower run rate caused by reduced features or users. It is calculated as the net loss of MRR/ARR after adding any increase in revenue from existing customers (Skok, 2017).

## 5.4 Performance metrics over time

In the previous sections, we have focused on some of the key metrics related to the unit economics of SaaS businesses. As already stated, there are many other relevant metrics that will not be covered in this report. However, in their report "Transforming your SaaS business", KPMG suggests a strategic framework for managing growth, profitability, and sustainability for each stage in the SaaS business life cycle. The report identifies three key stages of growth: Launch, Scale & Optimize, and Stabilize, and which metrics should be tracked and measured in each stage. An overview of this framework can be found in the appendix (Cadambi & Easwaran, 2016).



## 5.5 The rule of 40

The rule of 40 captures the fundamental trade-off between investing in growth and profitability for SaaS companies. It states that a healthy SaaS business should have a combined growth rate and profit margin (EBITDA) of at least 40% (Depeyot & Heap, 2018).

$$\text{Rule of 40} = \text{Growth rate} + \text{Profit margin}$$

The rule recognizes the impact on profitability caused by a focus on growth, primarily driven by CAC and the fact that CLTV takes longer to realize. Based on the rule of 40, achieving a yearly growth rate of 80% but produces a negative EBITDA of 40% is acceptable. The inverse relationship – 80% margins and negative growth – is not viewed favorably by investors given the premium attached to growth (Cadambi & Easwaran, 2016).

As several industry experts point out, young companies often beat the rule of 40 due to their rapid growth and for these companies, the optimum point should be as high as possible. Older companies, whose growth has tapered off, need to balance performance to hit the target of 40 (Cadambi & Easwaran, 2016; Depeyot & Heap, 2018).

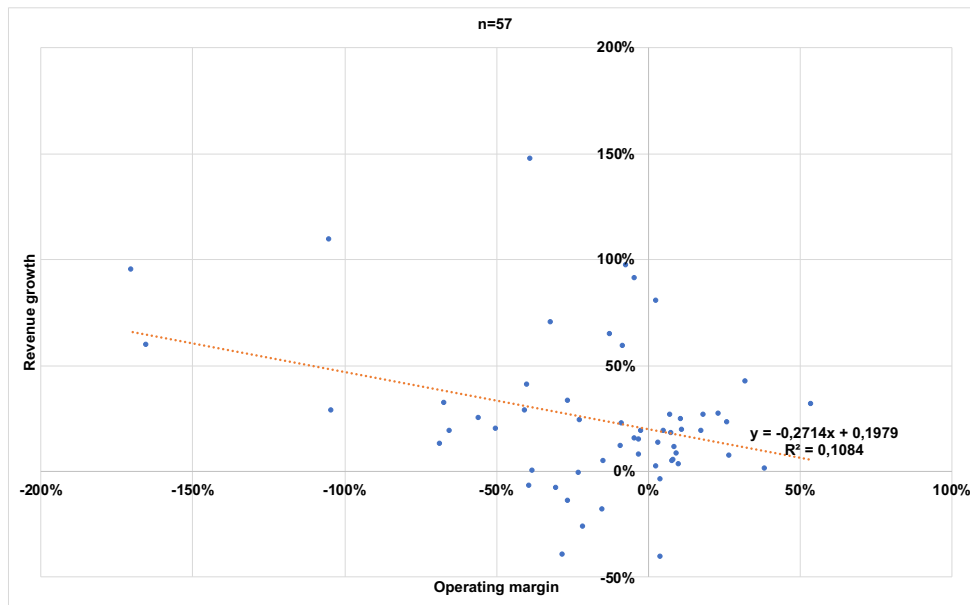
# 6 Research results

*This chapter presents the relevant empirical findings and collected data. The findings are based on survey data and semi-structured interviews with business managers. The purpose is to complement existing theory and literature with insights into the management of these fast-growing technology companies. The findings are structured and presented according to themes and related to existing theories.*

## 6.1 Growth and profitability configurations

### 6.1.1 The Swedish SaaS industry

To assess the growth and profitability of the Swedish SaaS industry, the author collected data for 57 Swedish SaaS companies. In the collected data, revenues span between SEK 1 million and SEK 800 million in 2019. The empirical evidence shows that there is a weak relationship between revenue growth and operating margin for Swedish SaaS companies. There is a negative correlation between operating margin and revenue growth (coefficient -0.27). Several companies are delivering high revenue growth and high margins simultaneously, yet the majority of the companies are incurring losses. The average revenue growth is 25.5% and the average operating margin is -17.5%. The evidence shows that the Swedish SaaS industry is not yet profitable, however, it is showing strong growth. Furthermore, the data suggests that companies are sacrificing current profitability for growth.



**Figure 10: Growth and profitability data of 57 Swedish SaaS companies (2019).**

The collected data was supported by the interviewees who provided the following comments:

*“It may not be entirely reasonable that we should have high profitability either. That would show that we do not reinvest in our product in a way that we should.” – Interviewee #1*

*“The thing is that if you are profitable, you can grow faster, that’s it.” – Interviewee #2*

*“We could make a lot more money if we wanted to in the short term” – Interviewee #3*

*“Our current revenues pay for the development we make, and the development gives us further growth in the future” – Interviewee #4*

### 6.1.2 Growth and profitability over time

The survey participants were asked to rate their priority between growth and profitability and how they expect that priority to change in the coming years. The results can be viewed in table 7. As expected, the companies display a focus weighted towards growth and it is not expected to change significantly over the coming three years. However, the survey participants seem to expect an increased focus on profitability in 5 years.

**Table 9: Growth and profitability priority over time (survey results).**

<b>Scale</b>	<i>Today</i>	<i>In 1 year</i>	<i>In 3 years</i>	<i>In 5 years</i>
<b>Profit (0)</b>	0	0	0	0
<b>1</b>	1	0	0	1
<b>2</b>	1	0	0	3
<b>3</b>	0	1	0	0
<b>4</b>	0	1	2	0
<b>5</b>	1	1	3	5
<b>6</b>	2	2	2	3
<b>7</b>	3	4	5	4
<b>8</b>	2	1	5	4
<b>9</b>	5	3	2	1
<b>Growth (10)</b>	6	8	2	0
<b>Total responses</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>
<b>Mean</b>	<b>7.7</b>	<b>8.0</b>	<b>7.0</b>	<b>5.8</b>

### 6.1.3 Factors influencing current choice of priority

Certain factors chosen by the survey participants, influence the priority between growth and profitability. Some factors are more pronounced than others in affecting the growth/profitability configurations and factors may be more or less dominant depending on which context the firm operates in. In total 12 factors emerged from the survey. These factors were then ranked according to the number of participants that chose each driver. The list of business drivers and their ranking is presented in table 8 below.

**Table 10: Ranking of most important factors influencing the priority between growth and profitability (survey results).**

<b>Ranking</b>	<b>Factor</b>	<b>Number of participants</b>
1	Future company valuation	15
2	Objectives of founders	15
3	Competitive positioning & market share	14
4	Future exit opportunities	7
5	Stage in company life cycle	5
5	Shareholder expectations	5
6	Economies of scale	4
6	Nature of the market (e.g., winner takes it all)	4
6	Objectives of company management	4
7	Current funding	3
7	SaaS business model characteristics	3
7	Ability to find, attract and keep talent	3
<b>Total</b>		<b>82</b>

#### 6.1.4 SaaS business drivers

Certain drivers chosen by the survey participants, are considered more important for managers of SaaS companies. The participants were provided with 44 business drivers uncovered in the literature review and asked to choose the five they considered being the most important for their business. Participants were also given the opportunity to provide additional drivers in the case that they missed any in the provided options. These drivers were then ranked according to the number of participants that chose each driver. The list of business drivers and their ranking is presented in table 9 below. In total 34 business drivers were chosen, of which CAC payback period, net revenue retention, and employer satisfaction emerged as drivers provided by the participants. Drivers that only one participant chose are grouped and called “other”. Of the business drivers chosen, 51% are classified as growth metrics, 34% as sustainability metrics, and 15% as profitability metrics.

**Table 11: Ranking of most important business drivers (survey results).**

<b>Ranking</b>	<b><i>Business driver</i></b>	<b><i>Number of answers</i></b>	<b><i>Category</i></b>
1	ARR/MRR	16	Growth
2	Annual contract value	10	Growth
3	Net revenue churn	8	Sustainability
3	Number of customers	8	Growth
4	Customer lifetime value	7	Growth
4	Customer acquisition cost	7	Profit
5	Net promoter score	6	Sustainability
6	Dollar-based net expansion rate	4	Sustainability
7	Bookings	3	Growth
8	Gross revenue churn	2	Sustainability
8	ARR sales per FTE	2	Sustainability
8	Backlog	2	Growth
8	Subscriptions per customer	2	Growth
8	Gross margin	2	Profit
8	Recurring margin	2	Profit
8	Free cash flow	2	Profit
8	Products per customer	2	Sustainability
8	Customer churn	2	Sustainability
9	Other drivers	15	Mixed
<b>Total</b>		<b>102</b>	

In section 5, the literature review provided several examples of important metrics and drivers when looking at SaaS performance. SaaS experts and thought leaders stress the importance of managing and optimizing these metrics. In reality, the amount of importance put into tracking these metrics varies a lot. If a company is early on in its life cycle or has a small number of customers (for example enterprise customers) it is not possible to collect good enough data to produce any insights. One interviewee explained that early on in the startup cycle calculations are made “back on the envelope”, and it’s more important to make sure that the general feeling surrounding the venture is positive. Furthermore, three out of five interviewees mentioned that they had just recently been exposed to these metrics, even though they had been running SaaS businesses for many years. As an

example: instead of measuring churn, one company had focused on customer happiness which ties into churn. The interviewee explained that they had just recently started looking into actual churn numbers after being in contact with venture capital and private equity firms.

The interviewees provided the following insights on how they work with SaaS metrics and business drivers:

*“It might be a little hard to believe, but we have not set any specific targets or measured SaaS specific drivers. The goal has been to grow as fast as possible and preferably make some profit along the way” – Interviewee #1*

*“We do not have data to produce insights of real value. We are only really driven by our turnover at this point. In the future we will need to have those numbers of course, the excel must work as it is called” – Interviewee #2*

*“You can’t say that it is growth at all costs. You must look at more figures, for example churn. You can grow insanely fast in some segments, but if you lose 20% of those customers every year then it is some kind of artificial growth and that is why these metrics are extremely important” – Interviewee #3*

*“The key figures say a lot about how well the company and the product is doing. I wish I had known about them earlier on. Then I would have been better equipped to have a reporting and a product that supports them.” – Interviewee #4*

*“The key figures are really growth and profit. We have not broken it down further” – Interviewee #5*

It is clear that there exists a wide variety of how these companies are managed and what weight are put to measuring and improving key performance metrics related to the SaaS model. As one of the interviewees pointed out:

*“If you interview someone who is in the SaaS hype for real, churn is the most important thing in life and growth over 40% is more important than ever making a profit” – Interviewee #5*

## 6.2 Managing growth and profitability

### 6.2.1 Company valuation and the growth premium

As covered in section 3.1, the performance of a firm, and therefore also its valuation, is measured predominantly by the long-term objective of maximizing profitability. In the empirical data, future firm valuation emerged as the key factor influencing the firm priority between growth and profitability. Both firms and investors see revenue growth as the key indicator of firm performance. There is

also a significant premium attached to growth in the current business climate. Investors are rewarding those who manage to grow with increasing valuations and punish those who fail to grow. The general view is that growth is the foundation upon which to build profitability and that profitability will eventually come. The findings are in line with those of Ahlstrom and Cadambi & Easwaran.

*“Growth is a prerequisite for achieving profitability, so I think it is always a priority... profitability will come eventually.” – Interviewee #1*

*“Unit economics and growth are what people care about in the SaaS world. The bottom line is red because everyone attaches a premium to growth and counts on that profitability will come eventually” – Interviewee #2*

*“Sometimes you feel that you are unsexy just because you are de facto making money at the same time as you grow, it is almost as if the one with the highest burn rate is the coolest kid on the block” – Interviewee #4*

*“At the moment we see companies making losses but still have growth are valued much more than a company that has growth but is profitable” – Interviewee #5*

However, pouring money into a business that is not optimized can turn out to be disastrous. Here, profitability- and sustainability-related SaaS metrics can be useful to ensure the company is ready to grow:

*“We have had to focus on improving our operational efficiencies before we start growing for real. We are focusing on improving our profits and metrics like CAC:LTV, CAC payback period and GEI today, but once we feel that we have a tight operation we will go all in on growth.” – Survey participant 6*

As described in chapter 5, it is often not enough to look at the bottom line of SaaS businesses as they must invest heavily before revenues catch up to expenses. As long as the company is investing for growth, there is simply a lot of value that is not reflected in the traditional income statement. Instead, investors assess the unit economics of the business. If the unit economics look good, then at least in theory, the company will be profitable further down the road. Of course, and as one interviewee pointed out, inefficiencies start to creep in as the company grows and effective management is key to realize the potential.

## 6.2.2 The SaaS model

The mismatch between revenues and costs caused by the subscription model which SaaS is built upon presents managers with a dilemma regarding how to prioritize between growth tomorrow or profits today. As previously mentioned by Bandulet (2017), this leads to a model where SaaS businesses pay upfront today for both R&D and acquiring customers while getting paid back over time. This does not only mean a steeper expense curve but also, the faster the company



decides to grow the immediate losses will become worse. The revenue of a SaaS is steadier once a solid base of subscriptions has been established and forecasts can be made with higher reliability. The interviewees reported the following insights:

*“What I think feels incredibly nice in the role I have is that with SaaS and a high proportion of recurring revenue, I can control my profitability exactly as I want. I know my lowest level of revenues over the next five years and with growth I can improve it. This allows me to control the profitability almost to the last crown.” – Interviewee #1*

*“This is where profitability and growth end up in a tight spot, because sometimes you have to invest resources that you don’t have ... as long as you can justify the reason why you need so much money, that your CAC is this and LTV is that, so that in three years given that all else is the same, it will be good.” – Interviewee #2*

*“Of the 20 million (in customer lifetime value) we only see a small portion this year, but we already incurred the costs to win the deal. I think that connection means that we get this discussion that many choose to invest in growth now, because they know that there will be profitability and that profitability is lagging behind.” – Interviewee #3*

*“If you disregard the product development and the overstaffing of sales and marketing, which we make to take future market shares, we have a very good profitability in our core business.” – Interviewee #4*

*“Churn was not a parameter during the first ten years but now we have it and that is because it is so easy to change SaaS suppliers today” – Interviewee #5*

### 6.2.3 Economies of scale

As discussed in section 4.4, economies of scale are widely regarded as one of the key strengths of the SaaS business model. This is because of the multi-tenant nature of SaaS and a large fixed cost base due to the fact that the IT infrastructure is owned by the vendor. Four survey participants answered that economies of scale were one of the main reasons for their current focus on growth. Furthermore, all interviewees agreed that scalability has important implications for the company’s ability to maximize future profitability. The interviewees expressed the following perspectives:

*“It is necessary to pass a certain critical level of customers and revenues [to be profitable], this is where the economies of scale come in. We are now at a state where our customer base can grow without the costs having to follow in the same pace.” – Interviewee #1*

*“That’s what’s great about SaaS companies, we have a fixed cost that is quite large. But as long as the business is optimized, the only thing that costs us more is*

*our customer acquisition cost. That's what's good about the scalability and that's why you can reach insane profitability in SaaS companies” – Interviewee #2*

*“If you have an effective and scalable business model, a large amount of the revenues from each customer will be returned in the form of profits or can be used for product development, this creates a positive spiral” – Interviewee #3*

*“We don't have to scale our costs in the same pace as our revenues, so the profitability will come eventually” – Interviewee #4*

Current literature presents managers with an important question for managers to consider: will the presence of economies of scale lead to a winner-takes-all situation? If the company believes this is the case, the focus should be to build as a large customer base as possible, as soon as possible, or face the risk of being forced out of the market. Furthermore, in order to achieve the benefits of economies of scale, long-range planning to optimize costs becomes essential (Baumol & Blinder, 2015). Four survey participants answered that the nature of their market, more specifically a winner takes it all market, had influenced their choice of strategy.

Limitations to economies of scale emerged as one of the major profitability pitfalls for SaaS businesses. It might be tempting to prioritize short-term growth over building a scalable product, by doing additions or tweaks for individual customers, especially when experiencing periods of low growth. However, by doing this, companies are likely setting themselves up for major obstacles once the business starts expanding. Customizing the product for individual customers has two important implications. Firstly, it greatly limits the company's ability to reap the benefits of economies of scale. Secondly, it often requires an extensive support organization.

#### **6.2.4 Objectives of founders and management**

As discussed in section 3.1.2 the personal objectives and motivations of managers are relevant in the context of balancing growth with profitability. 15 of 21 survey participants answered that the objectives of the founders were a main factor influencing the current growth/profit configuration. Four participants indicated that management objectives were one of the main factors. It is clear that managers vary in their motivations to grow the firm, and those motivations affect both the adopted strategy and the growth achieved. The research found that growth-oriented managers are likely to align their firm with more aggressive and potentially riskier growth targets, investing heavily for future growth. Conservative managers are more risk-averse by nature and are more motivated toward adopting a more balanced strategy. The interviewees reported the following comments relating to the personal objectives of the founders and management:

*“If I look at other startups and entrepreneurs, many start the business with the objective to sell. I do not think that creates a healthy business because it does not build long-term values. It can build personal fortunes but to build a long-term business you must put growth and profits in some kind of balance” – Interviewee #1*

*“And we are aligned, the company should get as big as possible, period. And if it does not, then there will be bankruptcy or somewhere in between it will be sold along the way.” – Interviewee #2*

*“So that is our ultimate goal, to build as much company value as possible and then exit” – Interviewee #4*

*“Our goal from the beginning has been to run a company and in my world a company is profitable” – Interviewee #5*

In the survey sample, 15 out of 21 companies still have founders among the management team (14 as CEO) and 18 out of 21 companies are fully or partially owned by the founders. As a result of this, when speaking to the interviewees it was clear that the goal of the founders and management team was closely aligned to the company goals as their own interests were tied to the performance of the company. If the company goal was to quickly scale up and grow, or to adopt a more balanced strategy, it was very much due to the personal objectives of the owners and management. One interviewee clearly expressed a sense of urgency to exit the company in the coming years and therefore adopted a strategy to rapidly increase the valuation of the company. Another interviewee wanted the benefits of paying dividends and therefore adopted a strategy where the company was profitable. The results are in line with the findings of Baumol, O’Byrne & Young, and Banker et al. presented in section 3.1.2.

### **6.2.5 Managerial limits**

The ability to manage additional growth emerged as a key constraint for several of the interviewees.

*“There is a limit to how much growth we are able to handle. How many customers can we manage? How many employees can we onboard etc. This has been something we have had to grapple with a lot.” – Interviewee #2*

*“We have had to fire several employees who did not keep up with the pace. It is hard to find and onboard people at a fast-enough rate.” Interviewee #4*

*“I do not think we have the ability to grow faster. We have not even managed to reinvest the profit we make today. We would need people from outside the company to help us but that could mean that the company and our customers suffer.” – Interviewee #5*

These results are in line with those of Raisch & von Krogh (2007), suggesting that a company's growth rate is constrained by the growth in management capacity and capabilities.

### 6.2.6 Shareholder expectations

Literature suggests that the ownership composition has a direct effect on the business strategy of the firm. As discussed in section 3.1.3 the expectations of shareholders of the company will to a large extent dictate the strategic focus of the firm. Five out of 21 survey participants indicated that shareholder expectations were one of the main factors for their current focus. The interviewees provided the following comments on ownership and shareholder expectations:

*“We have felt that external capital comes with demands and expectations and we want to do our own thing” – Interviewee #1*

*“The investors do not make any demands; they do not dare to” – Interviewee #2*

*“Owners always have the goal of delivering a good return on investment, but what is common to both me and the owners is that we are very long-term with this company” – Interviewee #3*

*“All owners want the company to perform well, in a way that we have growth and profit.” – Interviewee #5*

Literature also tells us that the time orientation of shareholders is a major influence on the choice of strategy. The need for short term profitability versus long term growth can vary a lot and both venture capital and private equity often have specific time horizons.

### 6.2.7 Financing

As discussed in section 3.1.6.1, financial limits put a cap on what growth is possible to achieve in a sustainable way (Raisch & von Krogh, 2007). The research found that financing is necessary in order to achieve high growth in SaaS companies. At the same time, whether or not to raise capital is a big decision and several interviewees stressed the importance of aligning the goals of the current owners with the goals of potential investors. The research found that a lack of or limited current funding forces companies to adopt a more balanced priority growth/profitability or temporarily focus on cutting costs in order to boost profitability. This was also evident among the survey participants as the three companies with the most focus on profitability today indicated that their current funding situation was one of the main reasons for this focus. Financing is seen as a major enabler of investing for future growth. As illustrated in figure 6 and 7, SaaS

companies are heavily dependent on investing upfront capital in order to grow. The interviewees expressed the following perspectives on financing:

*“We are self-financed and have not had external owners or financing. That makes you motivated to keep track of both growth and profitability because it is your own money that goes into the business” – Interviewee #1*

*“But again, had we not felt that we needed to grow so fast, then we could have brought in less capital to grow more slowly and chill a little.” – Interviewee #2*

*“As soon as you bring in capital you kind of cross the border where it is all in growth. Generally, no investor agrees to anything less.” – Interviewee #2*

*“We have two paths to take. One is to raise capital to increase the pace, or we let the machine grind on, develop further and get paid when exiting in a few years. The thing is, I can get 15 million to grow but it does not really change that much other than the fact my share gets diluted.” – Interviewee #4*

Furthermore, the main risk raised by the survey participants concerned running out of cash. Running out of cash might force the current owners to raise additional capital resulting in equity dilution. This could in turn result in the loss of the current long-term vision or direction of the company. Moreover, running out of cash in combination with a lower growth rate forces companies to raise capital at a lower valuation:

*“What happens with funding if we prioritize growth and growth takes a long time to materialize? We would need to raise money at a lower valuation with lower growth.” – Survey participant #14*

### **6.2.8 Culture, talent & employee morale**

Corporate culture was identified by the interviewees as an important aspect in successfully achieving the chosen strategic focus of the firm. Managers of the firm tend to inspire coworkers and set the mindset of the team. One participant identified the risk of building a culture too focused on growth. The impression was that the company would struggle with future cost containment measurements as the culture simply would not support it. Similarly, an organization with a cost containment culture would struggle with implementing initiatives aimed at growing the business.

The interviewees agreed that it is difficult to transform the culture. But that one of the critical tasks of the management team was to align the culture and mindset with the overall goals of the firm. Prajogo & McDermott and Hartnell et al. found a positive correlation between organizational culture and firm performance. Furthermore, Raisch and von Krogh stress the importance of having a culture oriented to the long term; setting realistic targets; and pursuing growth and profits

simultaneously as key characteristics of a smart grower. The participants provided the following comments on organizational culture:

*“I see a risk that we are building a culture without focus on profitability” – Survey participant #3*

*“We have used monthly meetings to ensure everyone knows what is important and how each individual can contribute to the overall goal of ARR growth” – Interviewee #3*

*“Culture is absolutely crucial. It has been a major determinant of growth over the last five years” – Interviewee #4*

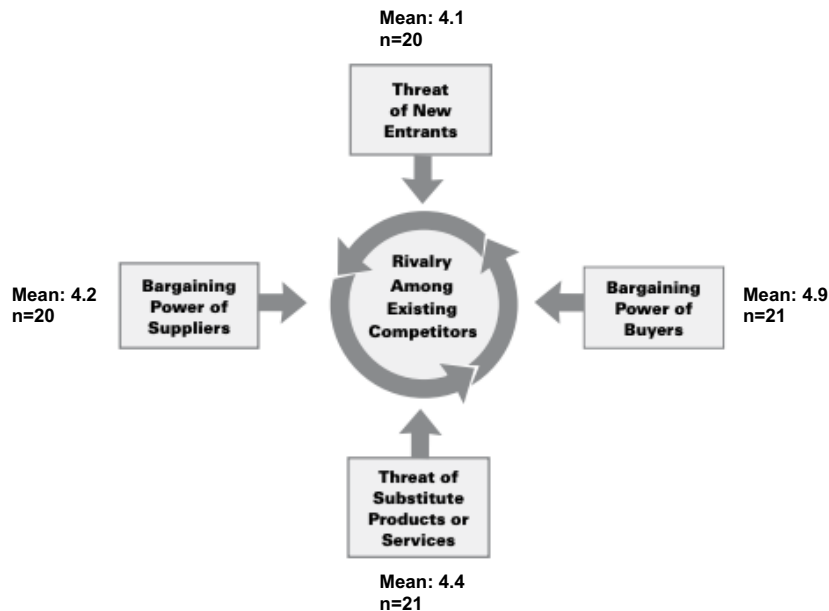
The issue of employee morale and the ability to attract talent is an important factor to consider when determining the dominant business strategy. Focusing on profitability generally means cutting costs such as luxurious offices, business travel, or other perks typically designed to enhance employee’s working experience. Beyond this, more serious measures such as reducing the workforce are likely to introduce significant tensions on employee morale.

*“The current focus on profitability above growth means keeping costs down and that can be demotivating for some employees, potentially affecting employee retention.” – Survey participant #7*

Moreover, three survey participants indicated that the ability to find, attract and retain talented employees was one of the main factors behind their choice of pursuing a growth-oriented strategy.

### **6.2.9 Industry structure**

The specific industry and market are significant factors influencing the management of growth and profitability. As put forward by Porter (2008) the five forces of industry competitiveness will determine the general profitability of the firm and influence the company’s ability to adopt a more aggressive growth approach or one geared towards keeping costs low. Furthermore, the industry structure can provide insights for positioning and the chosen strategy can act as a defense against competitive forces. The SaaS companies in our sample were asked to describe their views on the threat of substitutes and new entrants, and the bargaining power of suppliers and buyers, by providing a number between 0 (low) and 10 (high). Figure 11 presents an aggregated view of the findings and the complete data set can be found in table 21 in the appendix.



**Figure 11: Survey results (industry rivalry).**

As evident by the data in table 21 there is significant variation in how strong/weak the companies perceive the competitive forces. Even if neither of the forces stand out (on average) as particularly strong the survey revealed that 14 out of 21 participants viewed competitive positioning and market share as an important factor affecting their choice of strategy. Indicating that even if the forces are considered relatively weak, they have a great effect on the companies chosen strategy. This view was shared by the interviewees who provided the following perspectives:

*“The industry determines your profit and growth potential...We strive to be the market leader which gives you a bit more control over profitability.” – Interviewee #1*

*“We do not see any immediate threats but given the industry and competition we face we felt that we had to put the pedal to the floor to be successful in the long-term.” – Interviewee #2*

*“It is very dependent on the industry and segment” – Interviewee #3*

Furthermore, the intensity of the forces has a clear connection to what “sense of urgency” to take market shares that the company experiences. An attractive market with many competitors and new entrants can bring the desire to gain market share quickly and in many industries market share is a key driver of profitability. On the contrary, by finding a blue ocean without any clear competition the sense of urgency can be reduced.

*“What happens when you act in a blue ocean without a clear competitor is that you are not in such a hurry anymore. You should not be slow, but it is not as critical to take market share since there is no market.” – Interviewee #2*

The intensity of the forces is also affected by how narrowly the company defines its market. One interviewee reported that they saw their market as global with 5-10 global brands as their main competitors. Given the size and financing behind these brands, they had to quickly scale and grow. Another company reported that they narrowed their market to Sweden and did not see the global players as direct competitors even if they provided services for the same customer need.

### 6.2.10 Business life cycle

The stage of business maturity is an important consideration for the management of growth and profitability. Five out of 21 survey participants indicated that the life cycle was a main factor of their current strategy. Early on in a company's venture, emphasis is put on growing and scaling the business. Later on, once growth opportunities become increasingly limited, companies increasingly shift towards operation efficiency to increase profits.

The research found that compared to traditional software businesses, SaaS companies have a particularly hard time generating profits during start-up and early-growth phases. This is caused mainly by the fact that costs for software development and customer acquisition have to be recognized upfront, while revenues are recognized ratably. Many of the companies in the sample share characteristics such as dependence on external capital, large operating losses, high reinvestment, and negative cash flow. These characteristics are usually associated with growth and early maturity stages in the life cycle. Several interviewees explained that a current abundance of opportunities in the market drives reinvestment in both product line-up and marketing.

## 6.3 Reaching profitable growth

Given the clear loss-making pattern among the SaaS companies in the sample, one might contemplate whether these companies can reach a state of profitable growth (high growth and high profitability). If so, what does it take to get there? Four out of five of the interviewees agreed with the statement that it is possible. It is not an easy task but concepts such as critical mass, economies of scale, and network effects are important to reach this state at scale. The interviewees provided the following insights:



*“You must pass a certain critical mass of customer and revenues. But this is where the economies of scale come in. If you get to the point where you can grow your customer base without the costs having to follow you will achieve profitable growth” – Interviewee #1*

*“If you are profitable that means you can grow faster. I am a firm believer that growth and profit are complete opposites. That’s my way of seeing it, but maybe you should not take it to the extreme but instead find a healthy middle way” – Interviewee #2*

*“First of all, you must have a very good product. I think that is always the basis. Secondly, looking at companies such as Fortnox, they build ecosystems around their products which strengthens their position and provides more value.” – Interviewee #3*

*“It’s definitely possible but not all can do it. If you have an odd product and business model you might have to buy shares to even get the chance to exist in the market.” – Interviewee #4*

## 7 Conclusion and final remarks

*In this chapter, conclusions and final remarks are presented. This includes answers to the research questions, suggestions for future research and critical review.*

### 7.1 Answers to research questions

#### **7.1.1 What is the current growth/profitability configurations among Swedish SaaS companies?**

In the last decade, SaaS offerings have emerged as a disruptive force in the enterprise IT market. SaaS has become a hyped offering on the market but is yet to deliver profits. The average revenue growth and operating margin in 2019 among 57 Swedish SaaS companies was 25.5% and -17.5% respectively, showing a clear growth focus in the SaaS industry as a whole. Furthermore, as evident by the survey results presented in table 7, this pattern cannot be expected to change in the short-term unless the economic cycle suddenly takes a downturn. Putting these numbers in relation to the Rule of 40, the industry overall is clearly missing the mark.

#### **7.1.2 How can the loss-making pattern of SaaS companies be explained?**

The loss-making pattern among Swedish SaaS companies can be viewed as the result of an innovative disruption of the enterprise technology industry. High revenue growth, sales and marketing expenses, and product development play a key role in this pattern. It is very much a result of a discretionary management decision and not because of any shortcomings in the SaaS model itself. However, the delay in revenues caused by the subscription model amplifies the observed loss-making pattern. The profitability is expected to increase once the companies mature and sales, marketing, and product development can be reduced or if the capital markets decide that profitability contributes to more value creation than growth. Furthermore, the low profitability is based on traditional accounting

principles, thus ignoring values such as customer lifetime value and unit economics.

The business life cycle likely also plays an important role in explaining the current loss-making pattern. Many companies share characteristics commonly associated with the growth phase in the business life cycle: dependance on external capital, large operating losses, high reinvestment, and negative cash flow. Furthermore, compared to traditional software companies, SaaS companies have a particularly hard time generating profits before reaching late growth to the maturity phases. The fact that these disruptive companies are still comparably early in their ventures to many other industries offers an explanation as to why such emphasis is put on growth.

A key enabler of the loss-making pattern is that owners and investors, in general, seem to agree that the future operating margin is much more important than the current when valuating these growth companies. The expectation is that companies trade current earnings for growth and much bigger earnings tomorrow. However, it is easy for management to sacrifice profits today, but the managerial challenges associated with switching from growth focus to profit focus should not be underestimated. Growth- and profit-oriented strategies require different resources and capabilities and changing the corporate culture can present itself as a challenge.

If the author were to give any recommendation it would be to consistently ask companies for profits. The twofold goal of pursuing both growth and profit have one big advantage: the company's ability to switch from growth to profit does not have to be tested. It is important to note that in the case of SaaS companies, it should be based on the lifetime valuation and unit economics, not on current earnings. In doing so, one should separate positive growth that leads to future profitability and artificial growth that promises meager returns or worse, increases losses.

### **7.1.3 What are the key factors that have influenced SaaS companies to pursue growth or profitability as the primary objective?**

The current focus on growth among Swedish SaaS companies is very much a result of a discretionary management decision to prioritize growth over profits and current market dynamics. Several factors were identified as highly influential: 1) For most, growth is premiated over profits when it comes to increasing firm valuation, 2) the founders objectives is often to increase company valuation and therefore also growth, 3) growth is important to position the firm in the market and gain market share, 4) to position the firm for a future exit, growth is seen as the main instrument while profits can be improved short-term, 5) most companies share the characteristics of being in the growth and early maturity stage. Furthermore, factors such as economies of scale, winner-takes-it-all market, talent,

and characteristics of the SaaS business model have influenced companies to adopt a growth focus.

Although the data on profitability focused organizations is much more limited, a couple of conclusions can be made. An organization is likely to adopt a profit focus to maximize profit in the short-term perspective and as a reaction to changes in the market dynamics. The research found that it is mainly driven by the economic cycle and financing of the company.

#### 7.1.4 What is the key performance related metrics companies focus on?

SaaS companies require different performance-related metrics than traditional companies. Traditional metrics fail to capture many drivers of SaaS performance. Experts and venture capitalists stress the importance of optimizing these drivers. However, the research found that the metrics are not always used in practice. The reasons for this observation are several: 1) It is not always possible to draw insights from these metrics due to an insufficient amount of data, this is common if the company is young or if it serves a small number of customers, 2) the knowledge of the metrics varies, several companies in the sample were not aware of them until recently. However, understanding the metrics is important. By tying specific drivers to relevant company objectives, managers can efficiently drive performance where it matters. The research found that companies focus on metrics that are predominantly growth-focused which is in line with their overall focus on growth. The top five performance-related metrics used by the 21 SaaS companies in the survey sample are presented below.

**Table 12: Top 6 business drivers.**

<b>Ranking</b>	<b><i>Business driver</i></b>	<b><i>Category</i></b>
1	ARR/MRR	Growth
2	Annual contract value	Growth
3	Net revenue churn	Sustainability
3	Number of customers	Growth
4	Customer lifetime value	Growth
4	Customer acquisition cost	Profit

### 7.1.5 What factors are relevant for the management of growth and profit?

The research emphasizes that market and management factors are perhaps the main factors behind which strategy is adopted. The dominant strategy is a result of the current market dynamics and resulting managerial reactions. The current literature supports these statements where Guni (2014) states that cost-cutting strategies are common during economic downturns. Revenue growth strategies are seen as the key indicator of firm performance and favored when it comes to maximizing profit potential (Ahlstrom, 2010). Business life cycle, market conditions, and industry structure are important factors when considering market dynamics. Objectives, time orientation, and managerial limits are important factors when considering management's reaction to market dynamics. Furthermore, the research uncovered several factors at the business level that are relevant to consider: the characteristics of the SaaS business model, organizational culture and employee morale, shareholder expectations, and financing.

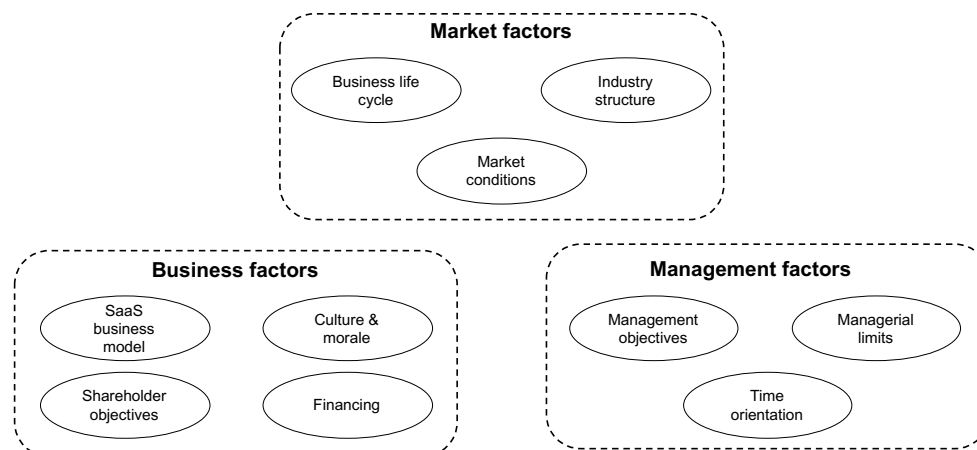


Figure 12: Relevant factors when considering the management of growth and profitability.

### 7.1.6 How can SaaS companies reach a state of profitable growth?

To achieve sustainable business growth the firm must grow its revenues while at the same time limit costs. It cannot be a blind chase for further growth but must be accompanied by profits, this is where the concept of profitable growth comes in. There is systematic evidence for the superiority of a balanced growth strategy. Research has shown that companies that stay within the limitations of the growth corridor deliver more returns to shareholders than those who grow faster and slower (Raisch & von Krogh, 2007). There are several characteristics shared among these smart growers: their culture is oriented to the long term, they set and

maintain realistic growth targets, and they pursue growth and profitability simultaneously.

For SaaS companies, the concepts of critical mass, economies of scale, and network effect are key enablers of continuously delivering high growth and profitability. The works of Cadambi & Easwaran and Depeyot & Heap tells us that the Rule of 40 can act as a guide for SaaS companies on how to, in practice, manage growth through the life cycles. It acts as a “golden rule” for companies to benchmark themselves against. For young companies, the optimum point should be as high as possible. But as companies mature and initial growth tapers off, companies must balance the trade-offs between growth and profit to hit the target of 40, or at least as close as possible. Hitting the target in a single year is on its own an admirable performance, but the greater challenge is balancing growth and profitability to hit the rule of 40 year after year.

At the end of the day, what specifically constitutes profitable growth varies by firm and it is up to the current owners and management to decide exactly what that is. Financial, managerial, and market limits put a cap on what growth is sustainable, while competitive forces, shareholder expectations, and productivity set the minimum growth required. Both growth- and profit-oriented strategies might lead to profitable growth, but they require different resources and capabilities and are therefore often seen as a trade-off. Considering the long-term objective of profit-maximization as the goal of the firm, the winners will be those who are successful in acquiring and allocating resources to create both long-term growth and profitability.

## 7.2 Contribution to theory

It is important to point out that it was never the intention of this thesis to draw general conclusions about SaaS companies or even the management of growth and profitability. For that, a much larger survey and interview sample would have been required which was intentionally deemed out of scope for this project. Still, the research in this paper can be used as a foundation to build further research upon and serve as inspiration for anyone interested in the SaaS business model. Particularly somebody considering embarking on the journey of starting a SaaS business could find this work interesting.

There is a limited amount of research on SaaS from a business perspective. The author set out with the goal of investigating the current growth focus in the SaaS industry with the help of traditional management theories. The thesis reinforces several management theories while bridging the gap between what is known to SaaS managers and experts, but yet to be studied in an academic setting. Furthermore, this work is the first trying to look at the Swedish SaaS industry as a

whole and not only at individual companies. In total, the author has sampled data from 66 Swedish SaaS companies across multiple industries.

### 7.3 Critical review

The answers to the research questions are based on an extensive literature review and a much more limited empirical data set. The results are dependent on the individual firms and representatives. Potentially important aspects concerning the research questions may therefore have been overlooked and it is difficult to draw general conclusions about the management of SaaS businesses. Qualitative interviews with five companies were conducted. One problem with the interview sample was that none had a profit-oriented strategy. This can clearly be explained by the fact that very few SaaS businesses seem to be profit-focused. However, it presents a limitation in what kind of analysis and conclusions that could be drawn regarding the management of a profit-oriented organization.

### 7.4 Suggestions for future research

This study has been focused on understanding the management of growth and profitability in SaaS-businesses from a broad perspective. There are several areas suited for further research.

Firstly, the study was mainly done through the eyes of managers and could benefit from being complemented by additional research from the perspectives of investors. It would also be valuable to examine the rationale behind the extensive venture capital backing of some of these firms. What features are investors looking for in SaaS businesses and why is growth seemingly so important?

Secondly, it would be valuable to examine the outcome of different profit and growth configurations over time. There is a theoretical extreme of achievable growth and also the alternative of being bootstrapped<sup>4</sup>. Would it be possible to define a sweet spot in-between these two extremes through empirical data or theories?

Lastly, as these firms continue to grow and get listed on the stock exchange there is value in looking into how reporting should be structured. As this study has concluded, company value and performance are not reflected in the regulated

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<sup>4</sup> Building a company without any external capital.

“traditional” financial reporting. In order for investors to make fair assessments of company performance they rely on non-regulated data for metrics such as LTV and CAC. There is a lack of clarity around definitions and calculations of these metrics. The hard fact is that companies use different definitions for the same metric and the numbers are easily manipulated. This could potentially prove to be a challenge as more SaaS companies transition from being privately owned to being public entities.

#### **7.4.1 Final remarks**

This master thesis was carried out during the fall of 2020. While a U.S. election, armed conflicts, and a pandemic created turbulence around the world we have seen stock markets at all-time highs, very much driven by technology stock performance. Low interest rates and stimulus packages have created a shift towards risk in search of returns. Never before have investors and companies been as forward-looking as of today. For many companies, fundamental challenges remain to be solved but the markets count on these being solved as the company positions itself for market leadership. We have come a long way in digitalization and IT-infrastructure since 2000 but it is difficult to not be reminded of the dot-com bubble. There are many similarities between the business climate surrounding the stock market bubble in 2000 and today. Needless to say, understanding of these disruptive and digital ventures is crucial and a lot is still unanswered regarding the long-term sustainability of the SaaS business model.



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# Appendix A Survey Design

## A.1 Survey consent form



This survey is being conducted with the purpose of gathering information for a master's degree project part of the Industrial Management and Engineering program at Lund University.

The thesis aims to understand the growth and profitability configurations Swedish software as a service companies. To do this the author will conduct a literature review, survey and interviews. The results of the thesis are intended for research purpose only and is therefore not being conducted in collaboration with any third party which could have a financial incentive in the results of the research (e.g. company or organisation).

The survey is anonymous and as there is no interest in the individual firm performance, the answers of this survey will be processed in aggregated form, i.e. individual firm performance will not be analysed and presented in the thesis. Furthermore, in order to mitigate the risk of inappropriate use of any information provided in this questionnaire the collected data will only be available to the author of this thesis and not shared with anyone else.

If you have any questions, please feel free to reach out to the author of this thesis, Gustav Geier, at [gustav1geier@gmail.com](mailto:gustav1geier@gmail.com). Alternatively to the university supervisor for this thesis, Lars Bengtsson, at [lars.bengtsson@design.lth.se](mailto:lars.bengtsson@design.lth.se)

## A.2 Survey questions

**Table 13: Survey questions.**

<i>No</i>	<i>Question</i>	<i>Answer format</i>
1	What is your position in the company?	Text
2	How many employees does your company have?	Text
3	How many years has your company been in operation?	Text
4	Please provide the following financial information:	
4a	Total revenue 2019 and 2020E	SEK thousands
4b	Total revenue growth rate (year over year) 2019 and 2020E	Percentage
4c	Annual recurring revenue (ARR) 2019 and 2020E	SEK thousands
4d	ARR growth rate (year over year) 2019 and 2020E	Percentage
4e	EBIT and EBITDA margin 2019 and 2020E	Percentage
4d	Sales and marketing spend 2019 and 2020E	SEK thousands
5	How is the current ownership structure of your company?	Multiple choice
6	Which are your five most important business drivers today?	Multiple choice
7	How would you rank your firm's priority between growth (10) and profitability (0) today?	0-10
8	How do you see your firm's priority between growth (10) and profitability (0) one year from now?	0-10
9	How do you see your firm's priority between growth (10) and profitability (0) three years from now?	0-10
10	How do you see your firm's priority between growth (10) and profitability (0) five years from now?	0-10
11	Do you have a clear strategy addressing the balance between growth and profitability?	Yes / no
12	What are the main factors that have influenced your choice of strategy/priority between growth and profitability?	Multiple choice
13	Do you have well defined criteria's which must be fulfilled before changing the current focus of your firm?	Yes / no / don't know

14a	Do you see any risks with your firm's current choice of strategy / priority?	Yes / no
14b	If yes on 14a: What risk are those?	Text
15a	How would you describe your firm's threat of substitutes?	0-10 (0=low, 10= High)
15b	How would you describe your firm's threat of new entrants?	0-10 (0=low, 10= High)
15c	How would you describe the bargaining power of your customers?	0-10 (0=low, 10= High)
15d	How would you describe the bargaining power of your suppliers?	0-10 (0=low, 10= High)

## A.3 Collected survey data

### A.3.1 Question 1

**Table 14: Data collected from question 1.**

<b>Survey participant role</b>	<b><i>Number of participants</i></b>
<b>Founder and CEO</b>	14
<b>CEO</b>	6
<b>Founder and Vice-CEO</b>	1

### A.3.2 Questions 2-4

Table 15: Data collected from questions 2-4.

<b>Data point</b>	<b>Median</b>	<b>Data points (n)</b>
<b>Years in operation</b>	10 years	21
<b>Number of employees</b>	32	21
<b>Revenue 2019 (growth rate)</b>	SEK 28 million (18%)	19 (16)
<b>Revenue 2020E (growth rate)</b>	SEK 32 million (29%)	18 (18)
<b>ARR 2019 (growth rate)</b>	SEK 20 million (35%)	17 (16)
<b>ARR 2020 (growth rate)</b>	SEK 24 million (28%)	17 (17)
<b>EBITDA margin 2019 (2020E)</b>	4% (5%)	13 (11)
<b>EBIT margin 2019 (2020E)</b>	3% (3%)	13 (11)
<b>Sales and marketing spend as percentage of revenues 2019 (2020E)</b>	20% (22%)	15 (14)

### A.3.3 Question 5

Table 16: Collected data question 5.

<b>Owner type</b>	<b><i>Number of participants</i></b>
<b>Founder</b>	18 (86%)
<b>Employees</b>	13 (62%)
<b>Business angels</b>	11 (52%)
<b>Venture capital</b>	6 (29%)
<b>Private equity</b>	6 (29%)
<b>Publicly listed</b>	3 (14%)
<b>Family offices / ultra-high net worth individuals</b>	1 (5%)

### A.3.4 Question 6

**Table 17: Collected data question 6 (categorization according to Cadambi & Easwaran, 2016, \*categorized by author).**

<b>Ranking</b>	<b><i>Business driver</i></b>	<b><i>Number of answers</i></b>	<b><i>Category</i></b>
1	ARR/MRR	16	Growth
2	Annual contract value	10	Growth
3	Net revenue churn	8	Sustainability
3	Number of customers	8	Growth
4	Customer lifetime value	7	Growth
4	Customer acquisition cost	7	Profit
5	Net promoter score	6	Sustainability
6	Dollar-based net expansion rate	4	Sustainability
7	Bookings	3	Growth
8	Gross revenue churn	2	Sustainability
8	ARR sales per FTE	2	Sustainability
8	Backlog	2	Growth
8	Subscriptions per customer	2	Growth
8	Gross margin	2	Profit
8	Recurring margin	2	Profit
8	Free cash flow	2	Profit
8	Products per customer	2	Sustainability
8	Customer churn	2	Sustainability
9	Other drivers	15	Mixed
<b>Total</b>		<b>102</b>	

### A.3.5 Questions 7-10

Table 18: Collected data questions 7-10.

Scale	<i>Today</i>	<i>In 1 year</i>	<i>In 3 years</i>	<i>In 5 years</i>
<b>Profit (0)</b>	0	0	0	0
<b>1</b>	1	0	0	1
<b>2</b>	1	0	0	3
<b>3</b>	0	1	0	0
<b>4</b>	0	1	2	0
<b>5</b>	1	1	3	5
<b>6</b>	2	2	2	3
<b>7</b>	3	4	5	4
<b>8</b>	2	1	5	4
<b>9</b>	5	3	2	1
<b>Growth (10)</b>	6	8	2	0
<b>Total responses</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>
<b>Mean</b>	<b>7.7</b>	<b>8.0</b>	<b>7.0</b>	<b>5.8</b>

### A.3.6 Question 11

Table 19: Collected data question 11.

<b>Do you have a clear strategy addressing the balance between growth and profitability?</b>	<i>Number of participants</i>
<b>Yes</b>	21 (100%)
<b>No</b>	0



### A.3.7 Question 12

**Table 20: Data collected question 12.**

<b>Ranking</b>	<b>Factor</b>	<b>Number of participants</b>
1	Future company valuation	15
2	Objectives of founders	15
3	Competitive positioning & market share	14
4	Future exit opportunities	7
5	Stage in company life cycle	5
5	Shareholder expectations	5
6	Economies of scale	4
6	Nature of the market	4
6	Objectives of company management	4
7	Current funding	3
7	SaaS business model characteristics	3
7	Ability to find, attract and keep talent	3
<b>Total</b>		<b>82</b>

### A.3.8 Question 13

**Table 21: Collected data question 13.**

<b>Do you have well defined criteria's which must be fulfilled before changing the current focus of your firm?</b>	<b>Number of participants</b>
<b>Yes</b>	11 (52%)
<b>No</b>	8 (38%)
<b>Don't know</b>	2 (10%)

### A.3.9 Question 14

Table 22: Collected data question 14.

Do you see any risks with your firm's current choice of strategy/priority?	Number of participants
Yes	16 (76%)
No	5 (24%)

### A.3.10 Question 15

Table 23: Collected data question 15.

Scale	Threat of new entrants	Threat of substitutes	Bargaining power of buyers	Bargaining power of suppliers
Low (0)	1	0	0	1
1	1	2	2	3
2	4	3	0	3
3	4	1	4	3
4	3	1	3	0
5	4	10	4	4
6	0	2	3	2
7	0	1	3	1
8	0	0	1	0
9	2	1	1	3
High (10)	1	0	0	0
Total responses	20	21	21	20
Mean	4.1	4.4	4.9	4.2

# Appendix B Interview guide

## B.1 Information to participants

Thank you for participating in my research. I am trying to understand how growth and profitability is managed among Swedish SaaS companies and your views will be invaluable in helping me understand this. The interview will take 35-45 minutes and most questions will be of the open nature. The interview is anonymous but with your consent I would like to record our conversation. All data is confidential, and no comments will be linked back to you or your specific company. If we touch upon information or a subject which you would like me to withdraw from my thesis that can be done at any time.

## B.2 Interview guide questions

**Table 24: Interview guide.**

No.	Question									
1	Please tell me a little bit about your personal background and about the company you're currently with (2 minutes)									
2	Have you had to grapple with the dilemma of balancing growth vs. profitability? Would you like to share this experience with me and any potential results? (5 minutes)									
3	What do you consider being your company's most important growth driving activities? (3 minutes) <ul style="list-style-type: none"> <li>- Do you target specific metrics or KPIs related to growth?</li> </ul>									
4	What do you consider being your company's most important profitability driving activities? (3 minutes) <ul style="list-style-type: none"> <li>- Do you target any specific metrics or KPIs related to profitability?</li> </ul>									
5	Would you describe your company as growth focused or profitability focused? What has motivated you to take that focus? (5 minutes)									
6	What do you see as the trade-off between growth and profitability? (5 minutes)									
7	In general, would you say that it differs between SaaS companies and more traditional companies in how one manages growth and profitability? (5 minutes)									
8	If you consider the matrix below: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th><i>High Profitability</i></th> <th><i>Low Profitability</i></th> </tr> </thead> <tbody> <tr> <th><i>High Sales Growth</i></th> <td><i>I: Profitable Growth – The Ideal State</i></td> <td><i>II: Firms on the Margin – Unprofitable Market Leaders</i></td> </tr> <tr> <th><i>Low Sales Growth</i></th> <td><i>III: Firms in Waiting – Low Growth but High Profitability</i></td> <td><i>IV: Declining Firms – Low Growth and Low Profit</i></td> </tr> </tbody> </table> <p>Would you say it's possible for SaaS companies to reach a state of profitable growth? What does it take to reach this state? (5 minutes)</p>		<i>High Profitability</i>	<i>Low Profitability</i>	<i>High Sales Growth</i>	<i>I: Profitable Growth – The Ideal State</i>	<i>II: Firms on the Margin – Unprofitable Market Leaders</i>	<i>Low Sales Growth</i>	<i>III: Firms in Waiting – Low Growth but High Profitability</i>	<i>IV: Declining Firms – Low Growth and Low Profit</i>
	<i>High Profitability</i>	<i>Low Profitability</i>								
<i>High Sales Growth</i>	<i>I: Profitable Growth – The Ideal State</i>	<i>II: Firms on the Margin – Unprofitable Market Leaders</i>								
<i>Low Sales Growth</i>	<i>III: Firms in Waiting – Low Growth but High Profitability</i>	<i>IV: Declining Firms – Low Growth and Low Profit</i>								
9	Is there something we have not covered which you consider relevant to the subject of this thesis? (1-5 minutes)									

# Appendix C Metrics blueprint for SaaS businesses




Key stages of growth	Launch ▶	Scale and Optimize ▶	Stabilize ▶
<b>Strategic Drivers</b>   <b>Growth</b>	<b>Customer Growth</b> – Customer Lifetime Value – Number of customers  <b>Revenue Growth</b> – Total Contract Value – Backlog – Annual Contract Value (ACV) and Average ACV – Bookings – ACV to Billings ratio – Recurring Revenue (ARR/MRR/QR)R) – Average Revenue per User or per Account – Deferred Revenue – Time to recognize deferred revenue	<b>Customer Growth</b> – Customer Lifetime Value – Subscriptions/customer – Billings Customers  <b>Revenue Growth</b> – Total Contract Value – Backlog – ACV and Average ACV – Bookings – Calculated Billings – ACV to Billings ratio – Recurring revenue – Average Revenue per user or per account – Deferred revenue – Time to recognize deferred revenue	<b>Customer Growth</b> – Customer Lifetime Value – Billings/customers  <b>Revenue Growth</b> – ACV – Bookings – Calculated Billings – Recurring revenue
 <b>Profitability</b>	<b>Costs</b> – Customer Acquisition Costs – Research & Development Costs/Sales – Sales costs/Sales – Marketing costs/Sales  <b>Margins</b> – Recurring Margins – Gross Margins – Service Margins Mix  <b>Cash flow</b> – Cash flow from operations – Operating cash flow margins – Net cash per share – Free Cash Flow – Months up-front	<b>Costs</b> – Cost to Serve – Research & Development Costs/Sales – Sales costs/Sales  <b>Margins</b> – Recurring Margins – Gross Margins – Service Margins Mix  <b>Cash flow</b> – Cash flow from operations – Operating cash flow margins – Net cash per share – Free Cash Flow	<b>Costs</b> – Cost to Serve  <b>Margins</b> – Recurring Margins – Gross Margins  <b>Cash flow</b> – Cash flow from operations – Operating cash flow margins – Net cash per share – Free Cash Flow
 <b>Sustainability</b>	<b>Sales Effectiveness</b> – Growth Efficiency Index – Sales and marketing efficiency – Lead Velocity Rate – Sales cycle length – Average Contract Length – Renewal Rate – Customer Acquisition by Channel – Typical acquisition path – Leads-to-trial conversion rate – Trial-to-paying-account conversion rate  <b>Retention</b> – Customer churn – Gross revenue churn – Quick Ratio  <b>User adoption</b> – Products per customer – Number of features accessed per customer – Net Promoter Score – Altitude metric	<b>Sales Effectiveness</b> – Growth Efficiency Index – FTE's drivers (i.e. ARR/Sales FTEs) – Sales and marketing efficiency – Lead Velocity Rate – Sales cycle length – Average Contract Length – Renewal Rate – Leads-to-trial conversion rate – Trial-to-paying-account conversion rate  <b>Retention</b> – Customer churn – Gross revenue churn – Dollar-based Net Expansion Rate  <b>User adoption</b> – Products per customer – Number of features accessed per customers – Volume and type of Support Tickets Raised – Net Promoter Score – Altitude metric	<b>Retention</b> – Gross revenue churn – Net revenue churn – Dollar-based Net Expansion Rate  <b>User adoption</b> – Volume and type of Support Tickets Raised – Net Promoter Score

Figure 13: Measuring metrics over the company life cycle (Cadambi & Easwaran, 2016).