Developing a Framework for Management Control Systems in Start-ups

How Management Control Systems can be used in fast-growing technology start-ups to support controlled growth

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Abstract

The purpose of this study was to find what appropriate Management Control Systems exist that can help fast-growing start-ups to achieve a controlled and healthy growth. We also studied how the control systems can be used together, and balanced between each other. To find appropriate control systems, we conducted a literature review of important factors for implementing management control, that ended with a tentative framework of control systems. After that, we conducted a multiple case study including several fast-growing technology start-ups to see how they use the collection of control systems in our tentative control framework, and analyzed what effect they have on the organization’s activities and how they balance between them. After the case study, a cross-case analysis was conducted were differences and similarities between the cases were analyzed and related to the theoretical concepts from the literature review. This led to conclusions regarding how start-ups tend to use and balance the control systems, which in turn led to the finalized control framework for fast-growing start-ups, which is shown below.

This framework provides a set of control systems that start-ups can use that are relevant for supporting growth and managing the most common challenges that fast-growing start-ups face. By using different levers of control, the control systems complement each other and create a dynamic tension, which increases performance. For start-ups that are in a product development phase, the balance of the control systems is mostly on growth and innovation, which supports
exploration of opportunities. However, there is still a little focus on control and efficiency to keep the organization focused. For start-ups with an already developed and commercialized product, the balance of control systems is more towards the middle. The most focus is put on growth and efficiency, with a little less emphasis on innovation and control. This is a way to keep an even balance between exploration of opportunities and exploitation of current resources.
Preface

We are studying the final year of the Industrial Engineering and Management program at Linköping University, with a master degree specialization within corporate strategies and management control. The latter is the focus of this thesis and we both have a genuine interest in the topics of management control and strategic management, which helped us gain better insights throughout the research.

Most of the management control literature today is focused mainly on large corporations, which leaves a need for research about the use of control systems in start-ups (Brenhall, 2003). The deliverables of this thesis are important for academic reasons to provide some more insight to this topic. They are also important for practical reasons by providing guidance and recommendations to managers, which is why we decided to conduct our research in collaboration with a start-up company.

The company that acted as our employer for this master thesis was Wematter, an innovative company that sells both 3D-printed objects on-demand, as well as 3D-printers for on-site production. It is a start-up located in Linköping and they are growing fast in terms of employees and turnover, which increases the need for introducing control systems since it will be harder to maintain the control of the company results and employee behavior as the organization grows.
Acknowledgements

We would like to express our sincere gratitude to everyone that have been involved in this thesis. Special thanks go out to all the companies and individuals that we have interviewed and that have provided us with a lot of valuable information. We know that time is limited, especially in management positions, and the fact that we got the chance to do in-depth interviews is something that we greatly appreciate. This thesis would not have been possible without the information provided from the interviews.

Therefore, we would like to thank Stefan Asplund, Lars Bengtsson, Christian Lundquist, Nina Forsvall, Mikael Hult, Billy Hill and Carina Hansson for taking time to answer all our questions.

Furthermore, we appreciate the help that we received from Fredrik Malmström and Carina Nordström, by giving us suggestions of companies to include in our study, as well as allowing us to use their contact network.

We would also like to thank our supervisor, Emelie Eriksson, for taking her time to meet us regularly and helping us throughout this thesis, as well as our opponents, Jesper Lehtonen and Joakim Lindner, for providing valuable feedback and comments. Our gratitude also goes out to our examiner, Alf Westelius, for the guidance and feedback that we have received.

Finally, we would like to direct our gratitude to our employer, Wematter, for allowing us to conduct this thesis together with them, as well as providing us with an office space and including us in their organization.

Magnus Forzelius
Linköping, June 11, 2017

Tobias Lundell
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1 Introduction

In this initial chapter, we describe the background of our thesis, as well as the research problem. We also introduce the research areas that are covered in the following literature review. This chapter concludes with a statement of the purpose of the study, as well as a number of research questions that must be answered to fulfil the purpose. Finally, we present the limitations of this study.

1.1 Why study Management Control Systems in start-ups?

Technological innovation is a major driver for growth in today’s global economy, since it opens new market opportunities and leads to the emergence of new market segments, and entrepreneurs with new and evolving business models are at the center of it (The Global Innovation Index, 2017). This makes it interesting to study specifically start-ups in market segments that have emerged because of technological innovation.

Sweden provides a hot climate for start-ups. Per capita, Sweden is the second most productive technology start-up region in the world, with 6.3 companies per million people founded after 2003 that have reached a valuation of at least $1B, only beaten by Silicon Valley’s 8.1 (Davidson, 2015). Swedish technology start-ups are also attracting plenty of venture capital. In 2015, $1.1B of venture capital was invested in Swedish technology start-ups (Goldberg, 2016). This equates to $120 per capita, which is almost twice as much as UK’s $70 per capita and almost four times as much as France and Germany’s $30 (Goldberg, 2016). A comparison in amount of venture capital invested per capita in the four mentioned in 2015 is illustrated in Figure 1-1.

![Figure 1-1: Amount of venture capital raised in 2015 (Goldberg, 2016).](image)
In 2016, the total amount of venture capital raised by Swedish technology start-ups increased to a new record level of $1.6B and the number of active investors increased from 250 to 575 (Bergström, 2017). The increase in venture capital raised and number of investors in Sweden is illustrated in Figure 1-2. This indicates that there is a big interest and belief in Swedish start-ups from investors.

![Figure 1-2: Total amount of VC raised and number of active investors in Sweden 2015-2016 (Bergström, 2017).](image)

However, successfully running a start-up is not an easy task. According to Atsan (2016), as many as 50 percent of European start-ups fail within their first five years as a company. According to Patel (2015), the failure rate is even higher with only a 10 percent success rate.

Everett and Watson (1998), in a study of 5,196 start-ups, found that the most common reasons for failure in start-ups is that their management lack the skills required to lead a company and to control the organization to secure future growth. Management Control Systems (MCS) are used by managers to keep track of the company’s performance and to control employee behavior (Anthony & Govindarajan, 2014). This means that, by implementing MCS it could be easier to manage the company and it could be a useful tool to avoid company failure, and to achieve growth and success. The meaning of growth in this thesis is how the company grows in terms of turnover and number of employees.

Anthony and Govindarajan (2014) describe how companies use MCS in order to implement their strategies. They argue that, through financial and non-financial control systems, the companies can control the employee behavior so that they are all working towards the company objectives. This gets more important when the companies grow bigger, as they are divided into business sub-units and the management want to be sure that all parts of the organization work towards the right goals (Anthony & Govindarajan, 2014).

In order for companies to grow and outperform their competitors, they must have competitive advantage. According to Nilsson and Rapp (2005), to achieve strong competitive advantage and consequentially strong performance, it is important that the company’s strategy is well-
aligned and consistent in all the levels of the organization. It is also important that the strategy is well-adjusted to the factors in the organization’s environment. This is called external fit. Finally, it is important that the control system is well-aligned with the strategy to implement this the correct way. This is called internal fit. The model presented in Figure 1-3 illustrates how the external factors, strategy, and control systems together make up the basis of competitive advantage, which in turn leads to company performance and growth.

Building on the model developed by Nilsson and Rapp (2005), Jannesson et al. (2014) conclude that MCS is an important tool for formulating and implementing strategies by guiding management decision making and employee behavior, which is in line with the statements by Anthony and Govindarajan (2014).

1.2 Reasons for using Management Control Systems in start-ups
Davila et al. (2010) give six reasons why start-ups usually adopt Management Control Systems, these are presented in Table 1-1.
Table 1-1: Reasons for adoption of MCS in start-ups (Davila, et al., 2010).

<table>
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<tr>
<th>Reason</th>
<th>Situation</th>
</tr>
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<tbody>
<tr>
<td><strong>Proactive</strong></td>
<td></td>
</tr>
<tr>
<td>Manager Background</td>
<td>When managers of the start-ups add management tools in the company, since they have experience with larger companies that used MCS. They are accustomed to the tools and know the value of adopting them.</td>
</tr>
<tr>
<td>Need to Focus</td>
<td>When managers adopt MCS so that they could facilitate more growth and improve communication and control throughout the organization.</td>
</tr>
<tr>
<td><strong>Reactive</strong></td>
<td></td>
</tr>
<tr>
<td>Chaos</td>
<td>When the start-up faces unexpected bad outcomes, such as negative cash flow or deadline failure. The MCS is adopted to avoid similar problems in the future.</td>
</tr>
<tr>
<td>Learning</td>
<td>When control systems are used to formalize knowledge in the company and spread it throughout the organization, to minimize dependency on individuals with tacit knowledge.</td>
</tr>
<tr>
<td><strong>External</strong></td>
<td></td>
</tr>
<tr>
<td>Legitimize</td>
<td>When the company wants to look professional for its surroundings. Control systems are adopted to show customers, investors and partners that they have plenty of business knowledge in the organization.</td>
</tr>
<tr>
<td>Contracting</td>
<td>When control systems are adopted due to regulations, for example government regulations.</td>
</tr>
</tbody>
</table>

This shows that there are several reasons for start-ups to adopt MCS other than just implementing strategy and achieving goal congruence throughout the organization.

In an international empirical study of 170 rounds of external financing spanning over 66 start-up companies, Davila et al. (2015) found a significant correlation between the valuation of start-ups by external financers and the use of MCS. The results showed that start-ups that employed MCS in an early stage were higher valued by external equity financers than other start-ups that did not employ this. According to the study, this is especially true for start-ups in highly competitive environments with high growth rates. This indicates that investors perceive MCS as an indicator of the firm’s quality and future potential. These findings are also supported by Davila and Foster (2007) that show a positive association between companies that are backed by venture capital and the adoption of MCS. They found that start-ups that have received funding from venture capitalists have a higher adoption rate of MCS than those that are not backed by venture capital. This indicates that control systems are something that venture
capitalists perceive as important for determining the future potential of the firm. Several studies have shown that external financing acts as a catalyst for growth in start-ups and small enterprises (Davila, et al., 2003; Keuschnigg, 2004; Silvola, 2008). According to Davila et al. (2010), the companies receiving venture capital have been shown to grow twice as fast in their first 40 months compared to start-ups without venture capital. Keuschnigg (2004) states that, while the entrepreneurs and founders of start-ups contribute with the technological knowledge, the investors often have more management experience and knowledge which they can bring into the start-up and use to professionalize the firm. That combination of management expertise from investors and technological knowledge from the founders could lead to higher innovation and growth of the company (Davila, 2005; Freeman & Engel, 2007). As we can see above, further potential growth, in several ways, through venture capital is another reason to adopt a professional MCS in start-ups.

1.3 The definition of start-ups in this thesis

There is no universal consensus of the definition of a start-up company and how long an organization can be considered a start-up. Granlund and Taipaleenmäki (2005) discuss a term called "New Economy Firm" (NEF) that they define the following way:

"[...] NEFs include businesses targeting at fast growth or already fast-growing firms that operate in the information and communications technology business and biotech (life sciences) industry, and are characterized by their R&D and knowledge intensity, as well as venture capital finance, particularly in the early stages of their life cycle."

(Granlund & Taipaleenmäki, 2005, p. 22)

We use Granlund and Taipaleenmäki's definition of NEF as the base for our definition of start-up. However, our study is not limited to the information and communication technology industry, but rather all young companies focusing on technological innovation and targeting fast-growth. Therefore, our definition of start-up used in this thesis is as follows:

Start-ups are firms in the early stages of their life-cycle targeting at fast growth, or already fast-growing, that focus on technological innovation, and are characterized by their R&D and knowledge intensity.

This definition is useful because it excludes for example e-commerce companies that only sell products, without any R&D or product innovation. That makes the definition more focused, so that the results can be more generalized within the defined start-up domain.

We stated in Chapter 1.1 that it is interesting to study start-ups in industry segments that have emerged because of technological innovation. Klepper (1997) claims that theorists have identified three main stages in the evolution of new industries. These stages are the exploratory (emerging), growth and maturity stage. Klepper (1997) states that during the first stage the market volume is low, product design is primitive and unspecialized tools and machinery are used to manufacture the products. Many firms enter the industry and competition with product innovation is high. During the growth phase, market volume increases and the product design
stabilizes with a declining product innovation. The number of new entrants in the industry also declines. During the maturity phase, market growth slows down and market shares stabilize and innovations are less significant. Manufacturing routines, as well as other processes become more refined. In this thesis, we study start-ups that are active in market segments that are in the first two stages of evolution described by Klepper (1997).

1.4 What is the problem?

Traditionally, most of the literature regarding MCS has been focused on larger, established corporations (Brenhall, 2003). More recent studies have been conducted regarding the effectiveness of individual control systems in small and fast-growing firms and how they contribute to the firm’s growth (Voss & Brettel, 2014). However, since these studies have focused on isolated control systems and have not addressed relationships and interdependencies with other control systems, there is still a lack understanding of how broader control systems drive organizational performance in start-ups (Voss & Brettel, 2014). While research has shown a positive correlation between company size and the extent to which MCS is used, studies have also shown that MCS can be an important tool for small and fast-growing start-ups as well (Davila & Foster, 2007). Adopting MCS in an early stage of the organizational life-cycle could be a way of mitigating the risks associated with delegating work tasks and decision making to lower levels of the organization, as it can assure that the employees make decisions that are in line with the business strategy. Greiner (1972) argues that delegation can lead to insular attitudes among lower-level managers followed by crisis due to lack of control from top management, with urgent need for introduction of control systems.

Since most of the literature regarding MCS has been focused on large corporations, the frameworks for MCS are naturally developed bearing these types of corporations in mind. This could pose a problem since the business challenges that small, fast-growing start-ups face are likely very different from the business challenges in large corporations. Although more research has been conducted in recent years showing the importance and effect of MCS in start-ups, it has not explored whether the frameworks already developed are valid for smaller companies as well or if they need to be revised to better support small, fast-growing businesses. In this thesis, we want to explore this subject and suggest a customized MCS framework for fast-growing start-ups focusing on technological innovation.

When developing an MCS framework for fast-growing start-ups in the technology industry, one must consider which factors that could influence this framework. As illustrated in Figure 1-3, according to Nilsson and Rapp (2005), the basis for competitive advantage is to have a good fit between environment, strategy and control. Therefore, the assumption could be made that both environment and strategy would be factors that influence the MCS framework. While confirming the importance of a good fit with strategy and environment, contingency-based research over the last 20 years has also considered some other contextual factors that are believed to influence the design of MCS. These additional factors are: technology, organizational structure, size and national culture (Chenhall, 2003). Together these factors make up what is called the organizational context, and thus adds a broader scope than only considering strategy and environment. However, for this particular thesis, we do not believe
that differences in national culture provides much value to the analysis since the study is limited to companies in Sweden only and thus they all have the same national culture. Therefore, national culture is excluded as a factor for the rest of this thesis. Also, size should be an important part of the design of MCS in start-ups, but since the focus of this thesis is only on small enterprises, size will influence all other factors and is therefore not included as its own factor. The characteristics of the companies that are of interest in this thesis was described in Chapter 1.3.

Although contingency-based research has identified the factors included in the organizational context as the most vital factors to consider when designing an MCS, we want to make the framework more start-up specific. Therefore, we also want to study common challenges that start-ups face, as it is obvious that they have to handle plenty of challenges when targeting fast-growth to support further growth. Thus, the five factors that we believe are the most important to study when developing a MCS framework for start-ups are environment, technology, organizational structure, strategy and challenges in start-ups. These factors and their influence on the development of an MCS framework are illustrated in Figure 1-4. All the factors are explored in-depth and translated into areas of control that the MCS framework should cover. These areas of control are compared to existing frameworks to identify control systems that could be suitable for controlling the respective areas. The identified control systems compositely make up a tentative control framework (presented in Chapter 2.7).

![Figure 1-4: Factors affecting the development of MCS framework for technology start-ups.](image)

From the discussion above, six main research areas about development of an MCS framework were identified: (1) existing MCS frameworks and control systems; (2) the main challenges in
start-ups; (3) the environment that the company acts in; (4) the technology of the company; (5) the company’s organizational structure; and (6) the company’s strategy. These areas are examined and related to MCS in start-ups one-by-one in Chapter 2, and each area has its own contribution to our tentative control framework. The control systems in our tentative framework are analyzed through case studies in order to create the finalized MCS framework for start-ups. The thesis concludes with recommendations to managers in fast-growing technology start-ups for how to use the MCS framework and the control systems in it.

1.5 The purpose and research questions of the study

The purpose of this thesis is to study how Management Control Systems can be used in fast-growing start-ups focusing on technological innovation, in emerging and growing market segments, to support the company on its continued growth path.

This is done by first identifying important areas of control for start-ups and find appropriate control systems that can support these areas, which then yields a custom tentative framework for management control in fast-growing start-ups. Then a finalized framework for Management Control Systems is created by comparing the theoretical findings and tentative control framework with an empirical case study. The thesis finally concludes with a practical contribution through our recommendations to start-up managers, that are based on our finalized framework.

To fulfill the purpose stated above, the thesis sets out to answer three main research questions. These are:

1. Which Management Control Systems exist that are appropriate for fast-growing start-ups focusing on technological innovation?
2. For what purpose can the different control systems be used?
3. How have the different control systems been used and balanced against each other in fast-growing start-ups to support growth in a controlled manner?

1.6 The limitations of the study

The thesis is mostly concerned with how the research areas, presented in Chapter 1.4, affect the design and implementation of MCS in start-ups, and not how the MCS itself affect the areas. This means that the we look at the relationship between MCS and the research areas mostly in one direction.

No companies that were in direct competition with Wematter, our main collaborator for this thesis, or any of the other case companies were studied because of the risk of conflicting interests, which limited the amount of potential case companies.

For the interviews in the case studies, we chose to limit them to individuals that were either founders or managers that had been in the case company for a longer time. This was because these individuals were believed to have the most holistic view of the organization and it helped
us to decrease the number of interviews needed, which was important since time was a limiting constraint, both for us as interviewers, as well as for the case companies.

1.7 Disposition

*The report is divided into seven main chapters, and the content of each chapter is described briefly below.*

**Chapter 1: Introduction**

In the first chapter the background of the thesis is presented, including background information of the research topic and the problem description, purpose and research questions used in this report.

**Chapter 2: Frame of Reference**

Here we present different theories, frameworks and information that is relevant for each research area. The chapter ends with a tentative control framework that is used for analyzing the case companies later in the report.

**Chapter 3: Methodology**

The third chapter contains information of how the research and case studies were performed, as well as which different theories and techniques support these choices. In the end of the chapter, critique of the methodology is presented to highlight possible sources of errors in the research.

**Chapter 4: Case Studies**

In this chapter, the cases are divided into their own sections, and are described and analyzed individually.

**Chapter 5: Cross-case Analysis**

Here all the cases are analyzed together in the cross-case analysis section to find patterns and generalizations between them, and they are related to the literature review.

**Chapter 6: Conclusions**

In this chapter, the outcomes of the cross-case analysis are combined into our finalized MCS framework for start-ups. The conclusions end with recommendations to start-up managers for how to use the framework, and the control systems in it.

**Chapter 7: Discussion**

In this chapter, we discuss what we have contributed with by conducting this study, the generalizability of the results is also discussed, as well as factors that could have influenced the results. Suggestions for future research are also given.

**References**

This chapter contains a list of all the references that is used throughout the report.
2 Frame of Reference

In this chapter, all the research areas are covered separately. Relevant theories and findings from academic researchers are cited, compared to findings from other researchers and related to start-ups that are the focus of this thesis. We start with an introduction to some existing MCS frameworks to get a better understanding of MCS and what different control systems exist, as well as their purpose. We then go on to describe how the rest of the research areas affect the MCS, in order to select appropriate control systems for start-ups that answer the question of what control systems exist that start-ups can use to support growth in a controlled manner. Each research area ends with a summary of the most relevant findings covered in that area, and their contribution to the tentative control framework. The chapter finally concludes by combining the findings from the different research areas and composes them in to a single tentative control framework.

2.1 What is Management Control Systems?

Management Control Systems are tools for formulating and implementing the firm’s strategy (Simons, 1990; Nilsson & Rapp, 2005). However, Simons (1990) also views MCS from a broader perspective that builds upon the concept of guidance rather than compulsion, as well as learning and boundaries. Thus, the role of MCS is more multi-faceted than just formulating and implementing strategy and it is used for multiple purposes, such as: observing, learning, signaling, constraining, surveilling and motivating (Simons, 1990). In 1995, Simons introduced a framework that he calls the Levers of Control, which contains four different key constructs that must be understood for effective strategy implementation, and each construct is controlled by different control levers (Simons, 1995). The framework proposed by Simons (1995) has received a lot of attention in contemporary management control research (Tesser & Otley, 2012; Kruis, et al., 2016), with currently almost 3,200 citations (Google Scholar, 2017). Simons’ framework is described further below. After that, the concept of MCS as a package by Malmi and Brown (2008) is explained, as well as the theory of Human Resource Management (HRM), since several researchers state that managing the personnel is considered extra important in start-ups (Hatch & Dyer, 2004; Colombo & Grilli, 2010). The levers of control framework is interesting to study in this thesis to help answer the question of what purpose different control systems can be used for, as well as how they can be balanced against each other. MCS as a package, as well as HRM, are important for identifying which control systems that are available
for start-ups to use, which acts as the fundament for answering the research question about which control systems that start-up can use to support growth in a controlled manner. Malmi and Brown’s (2008) concept of MCS as a package is chosen because it provides a comprehensive view of different control systems that exists.

2.1.1 Levers of Control – Balancing opposing forces

The four control levers that Simons (1995) introduces are belief systems, boundary systems, diagnostic control systems and interactive control systems. He states that the strength of those levers are not how they are used individually, but how they complement each other when they are all used at the same time. Simons (1995) resembles the levers with the Chinese philosophy Yin and Yang, where belief systems and interactive control systems create the positive and inspirational force (Yang). Boundary systems and diagnostic control systems on the other hand represent the negative force (Yin), that creates constraints and ensures compliance with orders. By balancing the levers of control, organizations create dynamic tension that allows for effective control of strategy (Simons, 1995). However, Simons provide little clarity on how these levers should actually be balanced. Balance can be achieved in several different ways, and the emphasis that should be put on each lever depends on the strategic challenges that the firm faces and the circumstances in which it operates (Kruis, et al., 2016). Kruis et al. further state that organizations need to balance exploitation, by predictable goal achievement, and exploration, by strategic renewal and innovation. Belief systems and interactive control systems expand the opportunity space (Simons, 1995) and motivate the employees to be creative in new ideas (Simons, 2000). This relates to exploration. Boundary systems and diagnostic control systems on the other hand constrain the opportunity space (Simons, 1995) and creativity to keep the organization focused (Simons, 2000). This relates to exploitation.

Furthermore, McCarthy and Gordon (2011) relate the levers of control to certain strategic goals. They say that belief systems can help the organization to inspire the employees to overcome inertia, and to contribute to the strategic goal of growth. The boundary systems create boundaries to limit the freedom of the employees and increase trustworthiness in processes, and can therefore contribute to the strategic goal of control (McCarthy & Gordon, 2011). McCarthy and Gordon also state that the diagnostic control system can measure the performance, and thus help to put focus on maximizing productivity, and thus contribute to the strategic goal of efficiency. Lastly, they mention that an interactive control system can contribute to the strategic goal of innovation, since it promotes exploration and learning. The levers of control, as well as the relations between them, are illustrated in Figure 2-1 and the different levers are described in detail below.
Belief Systems – Commitment to the grand purpose

Simons (2000) stresses the importance of a common belief within the company, that everyone shares the company’s core values. It is therefore important that managers define values that specify what purpose, principles and directions they want the employees to have (Simons, 2000). Simons writes that as the organization grows, they must adopt more formal belief system, which he defines in the following way:

“Belief systems are the explicit set of organizational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organization.” (Simons, 1995, p. 34)

By having a common belief system, managers make sure that employees make better decisions that are in line with the company’s business strategy, and do not make decisions that are best for the employee herself or something that could harm the company image (Simons, 2000). Simons claims that the company strategy is derived from its core values and the mission that the company has set up. The mission works as a compass for the employees, and influence all the decisions and actions in the company (Mintzberg, 1987). In innovative companies, like the ones in the scope of our thesis, it is not good to have a military form of control, since the
entrepreneurship in them will be hindered (Simons, 2000). Instead they should have a culture that supports innovativeness and creativity. The belief system guides the employees to come up with their own solutions and the outcome of them can be measured (Simons, 2000).

Boundary Systems – Setting the boundaries

While the organization should encourage innovation and creativity to reach the objectives, creativity must be kept within certain boundaries. Simons (1995) describes another lever of control called boundary system that intends to set up rules and limits as boundaries for the employees to work within, in order to avoid major risks in the company. He defines it the following way:

“Boundary systems, the second lever of control, delineate the acceptable domain of activity for organizational participants. Unlike belief systems, boundary systems do not specify positive ideals. Instead, they establish limits, based on defined business risks, to opportunity-seeking.” (Simons, 1995, p. 39)

Simons (2000) claims that boundary systems ensure that the business activities in a firm is carried out within the acceptable market domain and within acceptable levels of risk. Simons (1994) further mentions that boundary systems are rules and limits that can come in the form of codes of business conduct, strategic planning and capital budgeting systems.

Diagnostic Control Systems – Getting the job done

Diagnostic control systems include performance variables to evaluate how well the company is achieving the strategic goals according to its business strategy (Simons, 2000). Simons further defines diagnostic control systems in the following way:

“Diagnostic control systems are the formal information systems that managers use to monitor organizational outcomes and correct deviations from preset standards of performance.” (Simons, 1995, p. 59)

Diagnostic control systems represent the traditional feedback role of MCS, where information is fed back to the management for evaluating how well the pre-established goals were achieved (Simons, 1991; Henri, 2006). This means that strategies are developed (and/or approved) in advance by top management and these strategies are communicated downwards throughout the rest of the organization (Simons, 1991). It is used to provide direction for how to achieve the goals set by management. It focuses on finding and correcting deviations from pre-set standards (Henri, 2006). Significant variances are reported for managers to act on and follow up (Simons, 1991). Henri (2006) claims that it uses formal performance measures that are considered to be critical factors for monitoring and coordinating the implementation of intended (deliberate) strategies (described in Chapter 2.6.2).

Interactive Control Systems – Position for tomorrow

In an uncertain environment, the management must adapt their strategy and control systems to the changing surroundings. By adopting interactive control systems, managers are able to see
important changes in the environment and act accordingly (Simons, 2000). Simons defines interactive control systems in the following way:

“Interactive control systems are formal information systems managers use to involve themselves regularly and personally in the decision activities of subordinates.” (Simons, 1995, p. 95)

Control systems that managers direct a lot of attention to and use to actively monitor and involve themselves in the decisions of subordinates, can be labelled as interactive (Simons, 1990, 1991). The intervention of management promotes debate and continual challenge, which requires regular attention to the control system from subordinates in all levels of the organization (Simons, 1990; Henri, 2006). According to Simons (1991), interactive control systems typically have the four following characteristics:

1. the information from the MCS is an important and recurring topic for top management;
2. frequent and regular attention is required throughout all levels of the organization;
3. the data from the MCS is discussed face-to-face between members of different hierarchical levels; and
4. there is continual challenge and debate regarding data, assumptions and action plans.

An interactive control system collects information and directs attention to strategic uncertainties and can be used for signaling, surveillance and decision ratification (Simons, 1990). Simons (1991) describes the relationship between strategy and interactive control systems illustrated in Figure 2-2.

![Figure 2-2: Relationship between strategy and interactive control (Simons, 1991).](image)

According to Simons (1991), interactive control system provides signals to the organization, which guide information gathering and search for understanding. He claims that, as members of the organization get involved and respond to the signals provided by the control system, by setting agendas for challenging and assessing new information, it leads to organizational learning and the emergence of new strategic initiatives. This means that the interactive control system guides organizational learning and can thereby unobtrusively influence strategy.
formulation. This is supported by Henri (2006), who claim that interactive control systems stimulate new ideas and bottom-up emergence of strategy. This means that interactive control systems are important tools for guiding and supporting emergent strategy (described in Chapter 2.6.2).

2.1.2 Management Control Systems as a package

There are a number of different definitions of what Management Control Systems are and what should be included and what should not (Chenhall, 2003; Malmi & Brown, 2008). Different researchers view MCS differently, and different terms are used as well. Management accounting, management accounting system, organizational control (Chenhall, 2003; Malmi & Brown, 2008) and performance management systems (Ferreira & Otley, 2009) are examples of different terms that have been used by different researchers. MCS can be seen as the broader term that encompasses the other terms (Chenhall, 2003). According to Chenhall, the definition of MCS in contingency-based research has broadened from mostly focusing on formal, financial control to also include external information about customers and competitors, non-financial information about processes, decision support mechanisms, predictive information, and informal personal and social controls. Although the definition has broadened, research regarding MCS has often focused on a single theme or a particular component of MCS without considering the relationships to other components and without recognizing that the component is part of a broader control system (Chenhall, 2003). Fisher (1998) claims that studying a single MCS without considering the relationship to other components may lead to inaccurate conclusions. This is supported by Chenhall (2003), who claims that studying specific elements of MCS in isolation risks leading to serious under-specification of theoretical models.

The need to study MCS elements as part of a broader system was recognized by Malmi and Brown (2008), who introduced a framework that views MCS as a package consisting of different groups of control systems. The framework is illustrated in Figure 2-3. Malmi and Brown (2008) argue that viewing MCS as a package is useful since organizations usually have several types of MCS. They argue that, if all of these were designed and coordinated intentionally it could be considered as one system, but in most cases these systems are introduced at different times and with different intentions, which makes the whole a package of systems rather than a single system. We use the framework presented in Figure 2-3 as fundament for identifying appropriate control systems for fast-growing start-ups.
Malmi and Brown (2008) divides MCS into five different categories: (1) *cultural controls*; (2) *planning*; (3) *cybernetic controls*; (4) *reward and compensation*; and (5) *administrative controls*. The following sections give a brief description of each of the different categories and the controls included in each of the different categories. Malmi and Brown (2008) discuss another type of control called personnel controls, which include for example employee selection, placement and training. They did not add personnel controls as a part of their package with the argument that it is covered by other perspectives in different parts of their package. For example, Malmi and Brown (2008) include selection as a cultural control, placement as organizational structure and training as policies and procedures. However, several researchers have stated the importance of recruiting, training and retaining the employees with the right values and competences in start-ups (Hatch & Dyer, 2004; Colombo & Grilli, 2010). Therefore, personnel controls should be an important part of an MCS framework for start-ups. Human Resource Management (HRM) includes different personnel controls (Wright & Snell, 1991) and has been shown to have a positive effect on company growth (Huselid, 1995). Because of this significant impact that HRM is believed to have on start-ups, the topic is described in more detail in Chapter 2.1.3.

### Cultural Controls

Organizational culture can be defined as a set of values and normative patterns within the organization that guide employee behavior, as well as practices and policies, by providing appropriate customs of behavior and ratification for them (Flamholtz, et al., 1985). Flamholtz et al. claim that cultural control represents a type of social control where the socialization process enables incorporation of the organizational values and goals with members of the organization. This creates goal congruence throughout the organization which increases the chance that the behavior of organizational members leads to achievement of organizational objectives. Malmi and Brown (2008) divides cultural controls into three different types: *clans, values and symbols*. 

![Figure 2-3: Management Control Systems as a package (Malmi & Brown, 2008).](image)
In an organization with different occupational groups, there are likely different sub-cultures between the groups (Dent, 1991). These sub-cultures are labeled as clans in Malmi and Brown’s (2008) package. The concept of clans builds upon Ouchi’s (1979) idea that individuals in a particular group are exposed to a socialization process which indoctrinates a common set of norms, values and beliefs within that group and thereby form a clan. Clan controls are usually subtle and unnoticeable for the untrained eye (Ouchi, 1979) and relies on the rituals and ceremonies of the clan to establish common values and beliefs (Malmi & Brown, 2008).

Values refer to the organizational definitions that managers communicate and systematically reinforce to provide a purpose and to steer the organization in a certain direction (Simons, 2000). According to Simons, values provide guidance to employees in situations when rules and standards cannot and the core values of the organization are often a reflection of the personal values of top management. They define the views of management on trade-offs, for example short-term profits versus long-term responsibilities. Formal documents such as mission and vision statements, as well as statements of purpose are examples of value controls that can be used to communicate beliefs throughout the organization (Simons, 1994). According to Malmi and Brown (2008), the values of the organization can affect the behavior of members within the organization on three different levels. The first level is when the organization intentionally recruit individuals with values that match those of the organization for a good cultural fit. Second level is when employees go through a socialization process and have their values changed to fit the organization’s. The third level is when employees behave according to explicit organizational values, even though they do not personally relate to them.

The final type of cultural control that Malmi and Brown (2008) include is symbol-based controls. This means that the organization can create visible expressions to establish a certain culture. For example, they can use on open office space to create a culture of communication and collaboration or dress-codes to establish a sense of professionalism (Malmi & Brown, 2008).

**Planning Controls**

Planning controls are pre-formulated plans that specify functional goals and objectives for the organization and provides standards to be achieved relative to these goals (Malmi & Brown, 2008). This helps clarify the level of effort expected from the members of the organization and it can also support coordination by aligning goals between different functions and sub-units and make sure that they are in line with the overall objectives of the organization. Malmi and Brown (2008) include two types of planning controls, *action (short-range) planning* and *long-range planning*. Action planning has a tactical focus and sets the goals and objectives for the immediate future, usually 12 months or less. Long-range planning has a more strategic focus by setting medium and long-term goals and objectives.

**Cybernetic Controls**

Cybernetic controls represent the traditional feedback loop of control systems and have been in central focus in MCS research for a long time (Malmi & Brown, 2008). Green and Welsh (1988) defined cybernetic control as a process that represents a feedback loop by settings standards of performance, measuring the performance of the system, matching the performance to set
standards and detecting variances that are fed back which leads to modification of the system’s behavior. Malmi and Brown (2008) includes four basic types of cybernetic controls in their package, which they claim have been identified in previous MCS research. These are: budgets; financial measures; non-financial measures; and hybrid measurement systems that includes both financial and non-financial measures.

According to Malmi and Brown (2008), budgeting has a central role in MCS and is used in virtually all organizations. This is because budgeting is a way of tying together different threads of the organization and formulate a comprehensive plan with multiple purposes. It serves both as a tool for ex ante performance planning, as well as ex post performance evaluation in comparison to the plan (Malmi & Brown, 2008). Malmi and Brown claim that the focus of budgets as control mechanism is to establish acceptable levels of behavior and evaluate performance against those levels.

Financial measurement systems exercise control by holding organizational members accountable for specific financial measures (Malmi & Brown, 2008). Malmi and Brown claim that financial controls are usually linked to budgets, by using data from the budget and for setting goals and measuring goal achievement based on budgetary targets. However, financial measurements have a narrow scope and are limited to only control activities of which data can be translated into concrete financial data. Therefore, to overcome this limitation, non-financial measurements have received more attention in modern organizations (Malmi & Brown, 2008). The focus on both financial and non-financial measurements has led to the emergence of hybrid measurement systems, which include both financial and non-financial measures (Malmi & Brown, 2008).

There is particularly one hybrid measurement system that has become dominant in recent times, both in research and in practical use, the Balanced Scorecard (BSC) (Malmi & Brown, 2008). The BSC links the firms mission/vision and strategy and translates these into operational objectives and measures (Simons, 2000; Gumbus & Lussier, 2006). Thereby, the BSC is a way of operationalizing the company’s strategy and vision into action. It is a comprehensive framework with four different perspectives: Financial; Customer; Internal Business Processes; and Learning and Growth (Simons, 2000; Stewart & Carpenter-Hubin, 2001; Gumbus & Lussier, 2006). The BSC with the different perspectives is illustrated in Figure 2-4.
According to Simons (2000), a BSC is developed through a four-step sequence by identifying critical performance variables for each perspective and relevant goals and measures for them in the following order:

1. Financial
2. Customer
3. Internal Business Processes
4. Learning and Growth

The scorecard should be constructed in such a way that the measures in the different perspectives are consistent and mutually enforcing (Simons, 2000; Gumbus & Lussier, 2006). This means that they should all be targeted to one single strategy. Simons (2000) claims that linkages between different perspectives and measures should incorporate both performance drivers, as well as outcome measures. Performance drivers are measures that are hypothesized to have an effect on future performance and thereby act as input (leading indicator), while outcome measures evaluate the performance as it was (lagging indicator). By having an integrated scorecard with both lagging and leading performance indicators, the strategy is translated into a set of measures that indicates both long-term objectives, as well as how those objectives can be achieved (Simons, 2000). Simons finally claim that a well-designed scorecard establishes a chain of cause-and-effect relationships through the different perspectives. He illustrates this with the example shown in Figure 2-5. In Simons' (2000) example, increased employee skills in the learning and growth perspective lead to an increase in process quality and a decrease in cycle time in the internal business perspective. That in turn leads to an increase in number of on-time deliveries which leads to increased customer loyalty in the customer perspective. Finally, increased customer loyalty leads to an increase in return on capital employed (ROCE) in the financial perspective.
According to Gumbius and Lussier (2006), using BSC helps firms in the six following ways:

1. **Promotes growth** by focusing on long-term objectives and not only short-term profits.
2. **Tracks performance** by measuring results that can be compared against targets to correct and improve.
3. **Provides focus** on what is important to the company.
4. **Alignment to goals** throughout the organization by measuring what is important with measures that are linked and mutually enforcing.
5. **Provides goal clarity** by making clear to employees how their contributions help the firm achieve its goals.
6. **Creates accountability** by assigning individuals as owners of metrics.

The effectiveness of a BSC is dependent on the firm’s ability to identify strategic measures. These are measures that drive the organization’s competitive success and define and measure success in achieving the strategic goals (Simons, 2000).

**Reward and Compensation Controls**

Reward and compensation is another type of control that is focused on motivating and increasing performance of individuals, as well as achieve congruence between employee goals and the goals of the organization (Malmi & Brown, 2008). To achieve this goal congruence, it is important that the goals and objectives that the reward system uses for evaluating performance and determining incentives are aligned with the company’s overall objectives. Bonner and Sprinkle (2002) claim that monetary incentives based on explicit targets has a
positive effect on the effort and motivation of employees and increases their focus on the task. Increased focus on the task can affect performance in three different ways by: (1) directing the effort of the individual to the important tasks; (2) affecting how long individuals devote themselves to a certain task; and (3) affecting the intensity of attention that individuals devote to the task (Malmi & Brown, 2008). Malmi and Brown also claim that although reward and compensation systems are often linked to cybernetic controls, they can also be used for other reasons and linked to other control systems. For example, their purpose can be to retain highly skilled employees or encourage cultural controls through group rewards (Malmi & Brown, 2008).

**Administrative Controls**

The last type of control system that Malmi and Brown (2008) include in their MCS package is administrative control. They claim that administrative controls direct behavior throughout the organization by organizing individuals, monitoring behavior and specifying accountability, as well as specifying how tasks should or should not be performed. The three following controls are included as administrative controls in the MCS package: *organization structure; governance structure; and policies and procedures*.

Firstly, organization structure relates to how individuals are organized in the organization. It can function as a control device by using a design and structure that enforces certain types of communications and relationships (Malmi & Brown, 2008). Malmi and Brown also claim that establishing a clear organizational structure is a way of increasing predictability by reducing variances in behavior. Secondly, governance structure relates to the company’s composition and includes board structures, as well as management and project teams (Malmi & Brown, 2008). It can be seen as the formal ways of authority and accountability. It also includes systems to make sure that the different functions coordinate their activities in a both horizontal and vertical manner. Finally, policies and procedures refer to the bureaucratic way of postulating behavior in the organization and includes, for example standard procedures and practices, rules and policies (Malmi & Brown, 2008).

### 2.1.3 Human Resource Management – Managing human capital

According to Seldon and Roberts (1987), HRM is mainly about how companies recruit employees with the right qualifications, as well as train and develop the existing workforce as the firm grows. In that way, they remain a valuable resource for the company and help the company to reach success. Seldon and Roberts (1987) further list a set of principles for recruitment and states that small companies that follow them are proven to reach higher performance and growth rates than those who do not. The principles are about recruiting the right people, with the right qualifications, that are willing to do the job, and clearly spelling out the job expectations to them early.

The employees are one of the strongest resources in a start-up, and their education, experience, knowledge and skills are called human capital, which is often found to have a positive relationship with company success (Unger, et al., 2011). Hatch and Dyer (2004) say that human capital selection, education requirements in the recruitment process, together with development through training effectively improve the organizational learning, which support success in
companies in uncertain environments. However, they state that learning performance is reduced when recruiting human capital with previous industry experience and knowledge that is specific for a rival firm. In those cases, it is important that the start-up has a culture of thinking innovatively, constantly finding new solutions to problems and wanting to learn from changes in the environment. Bosma et al. (2002) also state that human capital, namely education and experience of leadership and the industry, influences the performance of the company in a positive way.

Wright and Snell (1991) describe a cybernetic model of HRM, where HRM is used in a system of input, throughput and output. The input to the system is human capital, as knowledge, skills and abilities, which is controlled by selection and training. Next in the system is the throughput, which is when the employee with the right skills is in the organization. Here the managers need to control that the individual’s behavior is in line with the company strategy and values, through evaluation and reward systems. Wright and Snell (1991) states that the output consists of both performance, as productivity and turnover, and affective outcomes, as job satisfaction. They further explain that the outcome of the human resource is evaluated and controlled through rewards and compensation. It is therefore important that reward and compensation controls are well-aligned with the firm’s strategic objectives to direct employee behavior accordingly.

Huselid (1995) found that investments in HRM lead to lower employee turnover, and performance improvements both financially and regarding the productivity of the firm. Huselid and Becker (1997) support the statement that HRM has a positive effect on firm performance and Huselid (1995) states that efficient use of HRM could increase the probability of firm survival with up to 22 percent. Further support for HRM’s contribution to firm performance is received from Delery and Doty (1996). They say that by adopting the best HR practices, as profit sharing, results-oriented appraisals and better employment security, companies will generate greater returns.

Zingheim et al. (2009) state that it is crucial for high-growth companies to retain the employees that deliver good results and have the right competencies to implement the company’s strategies. They claim that this is done by letting important and talented employees feel that they are adding value, and that they are included as an important part of the company’s future. However, Zingheim et al. (2009) state that early start-ups should strive to retain all employees so that they have a sustainable workforce. As they grow, the company should focus on retaining the high performers with bonuses and other performance incentives, and encourage unwanted employees to look for another job by adopting a suitable pay strategy for that. We discussed the reward and compensation systems further in Chapter 2.1.2.

It is hard to compete with the larger companies’ employee development programs in the beginning for start-ups regarding how they can offer good career growth, according to Zingheim et al. (2009). They say that in the long run, the start-up should focus on employee growth and development through training and development, as the start-up will grow while the employees grow.
2.1.4 A Tentative Control Framework

In this initial chapter of the frame of reference, we described two well-known frameworks and theories of management control; levers of control (Simons, 1995) and MCS as a package (Malmi & Brown, 2008). The MCS package is combined with HRM, and they together act as the fundament for our tentative control framework. Since reward and incentive structures are a part of HRM, we replaced Reward and Compensation controls from Malmi and Brown’s (2008) package with HRM to get a broader perspective that includes recruiting and retaining the right individuals as well. HRM also includes selection, placement and training, and thereby replaces those factors from other parts of Malmi and Brown’s (2008) package. The modified MCS package is used for identifying appropriate control systems for each of our research areas. These control systems can be used and combined in several ways. To easier analyze how the case companies use the control systems, we add keywords that appear throughout the literature related to the control systems in the tentative control framework, which help us relate the case studies to the literature. By studying how the control systems are used in the case companies included in this study, and relating that to the levers of control framework, the case studies give examples of how successful start-ups can use the different control systems. The full tentative control framework with control systems, and their keywords, that are appropriate for start-ups is illustrated in Chapter 2.7.
2.2 Challenges in Start-ups

To answer the question regarding what control systems that are relevant for start-ups to support their growth, it is interesting to study what challenges fast-growing start-ups generally face, and also what factors that commonly are the reasons for company failure, as well as how MCS can be used to handle these challenges, and thus support further growth.

2.2.1 Common challenges and reasons for failure in start-ups

Reasons for company failure can be divided into two major categories, internal and external factors. The internal factors are mainly about organization, leadership and finance while the external factors are, for example, that the competition is getting stronger and customers are choosing other alternatives (Atsan, 2016). External factors could also be government regulations that stop the company and other macro-economic reasons, according to Atsan (2016). In his case study of several failed start-ups, Atsan (2016) found that young and smaller firms are mainly vulnerable to internal factors, such as lack of experienced management, not having a sufficient amount of capital and resources to proceed with the business, and having problems with their financial planning, often in terms of cash-flow management. Atsan also claims that trouble with relations internally is a common factor for smaller companies to fail, since they no longer strive for the same objectives and results. The fact that start-ups and small growing firms’ problems mostly stem from internal factors is also emphasized by Ooghe and De Prijcker (2008). Moores and Yuen (2001), find that the quality of a company’s product and service is a critical success factor, and having information about modern technology and market demand helped to achieve this. Moores and Yuen (2001) claim that organizations do not put that much focus on quality in the birth phase, which means that failing to achieve a certain degree of quality is a potential failure factor for start-ups.

Other than lack of management skills (mentioned in Chapter 1.1), Everett and Watson (1998) also state that not having enough money in the organization usually makes small companies fail, which are the same reasons as Atsan (2016) mentions. The factors of inexperienced management and insufficient resources are mentioned in a large amount of research (Watson, et al., 1998; Ooghe & De Prijcker, 2008; Ropega, 2011). The challenge with internal relations is related to the recruitment of employees with the right knowledge and values that are in line with the company as a whole. If the employees do not have the same values and thought of where the company is heading, it can lead to internal relations problems. The critical factor of acquiring the right individuals to the start-up is mentioned by Ditillo (2004).
Furthermore, Greiner (1972) states that when a company grows to the point where the management is unable to make decisions in all different units in the company, they have to decentralize the decision making to lower-level managers. However, then the management may lose control of the company, if the sub-unit managers make their own decisions that profit their unit more than the company as a whole (Greiner, 1972). Therefore, it is important to have an MCS that supports decentralization of the company and makes sure that all units work in the same direction.

Another internal factor that is mentioned is that management takes too much risk in their decisions, especially in ambitious growth companies (Ooghe & De Prijcker, 2008). That reason is also mentioned by Atsan (2016). Watson et al. (1998) further identifies lack of marketing as a reason to why small businesses fail to reach their objectives. Both factors could be due to the previous mentioned factor that the company has an inexperienced leader and that the management lacks the required skills to manage the company.

2.2.2 How MCS can be used to handle the challenges

First of all, the challenge that the founders and managers may lack leadership and management skills could be mitigated by adopting MCS in the company, since it makes sure that the employees in the different sub-units in the organization work in the same direction and towards the same objectives (Anthony & Govindarajan, 2014). It also makes it easier for the management to supervise the company and detect problems that must be solved.

The challenge with poor cash flow can be handled through short-range planning with cash-flow management. That means that start-ups should carefully plan and measure when money comes in and goes out of the company to ensure that they always have sufficient liquidity. If the business is generating a negative cash flow, cash-flow management could also be in terms of measuring the company’s burn rate, which is an estimation of the time that is left until the company’s capital runs out with the current costs and revenues (Goetz, 2015).

- Short-range planning including cash-flow management as a keyword is added to the tentative control framework.

Lack of resources was mentioned as another challenge for start-ups. Therefore, it is important to set boundaries of what the employees and sub-units should do, and allocate the available resources throughout the organization efficiently, which can be done through budgets. Budgetary control is a powerful way of communicating the intended direction of the company and what they should focus their resources on.

- Budgets with resource allocation as a keyword is added to the tentative control framework.

The culture in the company is a powerful way of controlling employee behavior. Vision statements from the management could be an important tool for communicating the vision of the leaders to the rest of the organizational members. By doing such, the organization is guided towards the direction that the management wants. The problems with internal relations in start-ups could be handled by introducing clear vision statements, along with company core value statements. By constantly reminding the members in the organization of the core values, these
values are taught and the employees are more likely to act by them. By ensuring that the organization has a homogeneous set of core values, it becomes less risky for top management to delegate responsibilities to lower levels of the organization since the core values reflect the priorities of top management. Thereby the decisions and actions in lower levels of the organization are more likely to lead to achievement of organizational objectives and fulfillment of the management’s vision, as well as making sure that the sub-units work towards the same goals. This type of value control affects organizational behavior on the second level discussed by Malmi and Brown (2008).

- **Values** with **vision statements** and **core value statements** as keywords is added to the tentative control framework.

To further support the culture within the company, they could set up symbols that support the values and culture. As stated in Chapter 2.1.2, an example of a symbol is an open office space to stimulate a culture of communication and collaboration. The symbols’ form can vary, as they depend on the strategy and culture in the specific start-up.

- **Symbols** with **strategic and cultural symbols** as keywords is added to the tentative control framework.

To mitigate the risk of conflicting values within the organization, start-ups should also try to affect behavior on the first level by recruiting individuals with values that align well with the organization’s values. Along with values and symbols, HRM can help the start-up to recruit and retain the employees that perform well and in line with the company values.

- **Human Resource Management** with **match between company and employee values** as keywords is added to the tentative control framework.

Furthermore, to attract and recruit the best employees to the company, they can use signing bonuses and stock options as rewards to give them incentives to choose their company and show them that they believe in them. This is supported by Zingheim et al. (2009), who state that young companies often adopt those kinds of reward systems.

- **Human Resource Management** including **signing bonus and stock options** as keywords is added to the tentative control framework.
2.3 Environment

It is interesting to study how the environment affects the design of MCS and relate this to the characteristics of the environment that start-ups face. This is a way of further identifying appropriate control systems for start-ups, as well as the purpose for which they can be used.

2.3.1 External uncertainty and hostility in start-ups

When studying the environment of an organization, it is important to identify which variables within the environment that are the most important to study. In contingency-based research, uncertainty has long been considered one of the most important variables (Chenhall, 2003; Otley, 2016). The impact of environmental uncertainty on MCS has also been explored by Hartmann (2000). Khandwalla, in his book from 1977 (cited in Chenhall, 2003), provides a more comprehensive taxonomy consisting of four different variables: turbulence, hostility, diversity and complexity. Of the variables mentioned above, uncertainty and hostility are the ones that have received the most attention in contingency-based research and have been shown to have the greatest impact on MCS design (Otley, 2016). Therefore, uncertainty and hostility are chosen as the two variables explaining the environment around an organization.

Uncertainty is not an absolute and objective measure. Duncan (1972) claims that uncertainty is dependent on the perceptions of the members of an organization. Some individuals are more tolerant to ambiguity and perceive the situation as less uncertain whereas less tolerant individuals perceive it as more uncertain. This is supported by Otley (2016) who claims that it is the perceived uncertainty that mostly affect the behavior of individuals and therefore it is the most relevant aspect to study. Since perceived uncertainty strongly influences the behavior of the management, and the design of the firm’s MCS is a product of the management’s decisions, perceived uncertainty should have strong impact on MCS.

Courtney et al. (1997) argue that companies that are active in emerging industry segments face high uncertainty in their environment as they, for example, may have a hard time to foresee demand from the customers. They must be able to adapt to the environment and stay in the game by investing in, and driving, new innovations and finding new customer needs by having good customer relations (Courtney, et al., 1997). If the company is not responsive to the uncertainty in the environment, they might for example miss favorable opportunities or face unexpected changes in demand or performance. Courtney et al. (1997) state that companies driven by technological innovation often face uncertainty, as it is hard to estimate costs and performance of their investments in new products. The company is presented with a wide range
of possibilities with uncertain outcomes and therefore different strategic moves can generate very different results depending on the situation.

Environmental uncertainty can be argued to have increased generally over the years (Otley, 2016). According to Otley, this can be explained by the increasing rate of technological change and globalization. Organizations are no longer immune to developments happening far away. Markets have been moved to the global arena, which has dramatically increased market potential, but also the number of potential competitors. Another explanation can also be found in the move to the post-industrial economy (Huber, 1984) and the emergence of service and knowledge-intensive firms that it brings with it (Ditillo, 2004). According to Ditillo, the work of these types of organizations tends to be focused on innovation and problem-solving and include activities characterized by uncertainty. This means that knowledge-intensive firms likely face higher perceived uncertainty due to the nature of their business. The start-ups that are the focus of this study are knowledge-intensive organizations since they rely on the skills and knowledge of their employees to develop new technological innovations, and therefore it is important to study how they are affected by this uncertainty and what implications it has on the MCS design.

However, contingency-based research seems to have produced somewhat conflicting conclusions regarding the impact of environmental uncertainty on MCS. On the one hand, environmental uncertainty has been linked to MCS with broad scope and timely information, less reliance on incentives as payment, and more focus on non-financial performance measures rather than budgets and profits (Chenhall, 2003). On the other hand, researchers have also shown that environmental uncertainty is linked to more pressure on reaching financial targets (Merchant, 1990) and an emphasis on budgets for evaluation (Ezzamel, 1990). Increased financial control and pressure to meet financial performance targets has been shown to increase participation and interaction between managers and subordinates (Ezzamel, 1990). The accuracy of this correlation is supported by Chapman (1998), who claims that financial control has an important planning role, but is relatively incomplete in uncertain environments. This requires increased interaction and participation between managers and subordinates to make sure that the control system can respond quickly to changes in the environment. This can be related to Simons’ (1995) definition of interactive control systems, since it stimulates interaction and dialogue throughout the organization.

Simons (1990) found that entrepreneurial companies in uncertain environments tend to use plenty of long-range planning and budgeting, with high participation. The relationship between environmental uncertainty and focus on participation is something that is also supported by Chenhall (2003). This means that members from multiple levels of the organization participate in the discussion and setting of budgets and plans. This creates better goal congruence and commitment to the goals and objectives throughout the organization (Chong & Chong, 2002). Chong and Chong claim that participation in budgeting also enforces information spreading by making employees more committed to finding and exchanging relevant job information, and thereby increases performance.

The fact that environmental uncertainty is linked to both a wider scope and focus on non-financial measures, as well as greater emphasis on financial control, can likely be explained by
two reasons. First, wider scope and non-financial measures could provide a more external focus to detect and better understand changes in, for example, competitor behavior or customer demands. Second, greater emphasis on financial control is likely because the unpredictable environment leads to short-term focus because of the difficulty of making reliable long-term plans and it could also be a way of restricting the perceived uncertainty. By having control systems that rely on timely information, managers have a way of monitoring the organization in real-time and quickly acting on unpredictable events. This could reduce the uncertainty perceived by managers. Another finding so far is that control systems in uncertain environments should be flexible and able to adjust to changed conditions, which requires greater participation and interaction between managers and subordinates. That way the control system becomes a two-way communication tool.

A hostile environment is characterized by unstable industry settings, high-competition, tough business climate and small exploitable opportunities (Covin & Slevin, 1989). Hostile environments have been related to the use of more formal accounting control systems and an emphasis on traditional budget control (Chenhall, 2003; Otley, 2016). This is likely a way of controlling and minimizing costs, which is considered important for being competitive in the harsh market space. However, a too strong emphasis on budgets and limiting costs could potentially harm the innovative power of the organization, something that Covin and Slevin (1989) claim is important for small firms in hostile environments. In their study, Covin and Slevin found that these firms should strive to achieve an entrepreneurial strategic posture and have a competitive profile characterized by long-term goal-orientation, high prices and an awareness of changes in industry trends. Entrepreneurial strategic posture means frequent and extensive innovation, aggressive competitive orientation and a management that is willing to take risks.

Budgetary control and entrepreneurial posture are, in many ways, opposite forces and there is a challenge for the MCS of how to balance these forces. Important features of such a control system is setting long-term goals, setting budgets that sets boundaries but still promote innovation, and to have non-financial measures that can detect changes in industry trends.

2.3.2 How MCS can be used in uncertain and hostile environments

Start-ups should have an MCS that measures external factors such as competitors, customers, and industry trends, which could be done by non-financial measures. This is a way of staying responsive to, and detecting changes in, the uncertain environment. The quality issues regarding processes and products that we mentioned in Chapter 2.2 could also be helped by implementing non-financial measurement. However, the uncertain environment also calls for an internal focus on financial controls. This is a way of increasing participation and interaction within the organization, as well as monitoring and quickly acting on unpredictable events to keep the organization in control. Therefore, a hybrid measurement system of both financial and non-financial measures can be used.

- Hybrid Measurement Systems with an internal and external focus as keywords is added to the tentative control framework.
The start-up should also set boundaries through budgets, but still allow for innovation to occur in the organization. In that way, the company can show what focus the innovations should have and make sure that the business stays within its scope and does not waste time on the wrong actions.

- **Budgets with innovation within boundaries** as keywords is added to the tentative control framework.

Furthermore, the start-up should have long-range planning with focus on growth and performance objectives. In that way, the employees know what to strive for but they are not restricted to reach the results in a certain way. Thus, the strategic direction is set, without suppressing innovation and creativity in the organization.

- **Long-range planning including growth and performance objectives** as keywords is added to the tentative control framework.

To further handle the problems with internal relations and that the employees are not working in the direction they should, which is mentioned in Chapter 2.2, the start-up should include as many employees as possible in the short-range planning, long-range planning and budgeting. This would make sure that everyone is on the same page, involve them in strategic discussions, as well as increase performance and thereby support growth in start-ups.

- **Short-range planning, long-range planning**, as well as **budgets with participation** as a keyword is added to tentative control framework.
2.4 Technology

To answer the question of what control systems that are relevant for start-ups, as well as their purpose, it is interesting to study how start-ups use processes, employees and knowledge, which Chenhall (2003) labels as parts of technology, and how this affects the design of MCS in start-ups. Chenhall (2003) states that the technology types that influence the company’s MCS the most are complexity, task uncertainty and interdependence. This definition of technology should not be mixed up with technological innovation that is referred to throughout this thesis. The former definition refers to process technology, whereas the latter is concerned with the product.

2.4.1 Complexity, task uncertainty and interdependency in start-ups

Pursuit of opportunities is characterized by both technological, as well as market and competitive, uncertainty (Shane, 2003). This means that start-ups must remain flexible and able to adapt to unexpected problems. Therefore, entrepreneurs tend to minimize investments in process-specific assets, but rather invest in assets that can be re-used easily (Shane, 2003). Because of the entrepreneurial uncertainty, as well as the environmental uncertainty that start-ups face (discussed in Chapter 2.3), they cannot follow any mass-production or highly standardized processes. Chenhall (2003) states that companies with little standardization face uncertain processes which lead to many exceptions in the production and that it is hard to analyze the processes. This means that the organization must be flexible, with high interdependencies between the customers, suppliers and the organization’s business units. Thus, from Chenhall’s (2003) description, it can be said that fast growing start-ups focusing on technology innovation have high complexity in their production, high task uncertainty and high interdependencies within the value chain. The implications of those attributes are further described below.

Companies without standardized processes normally adopt more informal MCS (Chenhall, 2003). And due to the need for flexibility, they rely less on budgets and budgetary control according to several researchers (Merchant, 1984; Dunk, 1992). Furthermore, companies with high task uncertainty, cannot rely on standard plans and procedures, but must be flexible and allow for unscheduled events, for example impromptu meetings, and not be afraid of making mistakes (Daft & Macintosh, 1981). Hirst (1983) argues that these companies often do not rely on financial performance measures. The appropriateness of this is supported by Abernethy and
Brownell (1997), that claim that they should rely on personnel control more than financial controls to be more successful.

Companies with high interdependence have less budget control, and they interact more between all levels in the company (Chenhall & Morris, 1986). This supports the findings in Chapter 2.3 about high interaction in the organization. Companies with high interdependence also have broader scope of their MCS, which intends to create more integration and aggregation throughout the organization, so that information can flow within the organization. That leads to faster responsiveness to the changing environment (Chenhall & Morris, 1986).

Souder and Moenaert (1992) state that, in order to successfully manage innovation, the organization must integrate knowledge between all the sub-units, which is in line with the statement above by Chenhall and Morris (1986), and is supported by Cooper (1979) and Rothwell et al. (1974). This means that the R&D unit needs information from the marketing division, so that they know the customers demand (Souder & Moenaert, 1992). Information from other organizational parts are also important, such as sales and finance. However, Souder and Moenaert (1992) also claim that companies should not integrate too much, since it is time and resource consuming, rather they should find a balance between formal processes and informal communication. In that way, they can be both efficient and responsive to the uncertain environment.

Davila (2000) concludes that when it comes to product innovation, the MCS cannot only rely on financial data, but non-financial measures must be considered as well. He further states that performance is supported by cross-functional knowledge integration in the organization. Furthermore, Davila (2000) suggests that MCS should be used to reduce uncertainty, rather than monitor the product innovation, so that it does not suppress innovation. This is in line with the findings in Chapter 2.3. He also mentions that time measures, such as time-to-market, are not suitable in some cases as it can hinder the innovation which would be costly in the long run (Davila, 2000).

Zmud (1980) describes how milestones often are set up in software development processes to deal with the high task uncertainty. The milestone approach is in line with the focus on long-term planning (that was added to the tentative control framework in Chapter 2.3), instead of monitoring every detail in the innovation process. McCarthy and Gordon (2011), like Davila (2000) above, state that non-financial control is important. They mention that values and freedom within boundaries are important aspects of the MCS in innovative companies. They also state that R&D is much about keeping and developing knowledge in the firm, but that knowledge is hard to measure. So, the MCS must encourage knowledge development and spreading.

2.4.2 How MCS can be used to handle complexity, task uncertainty and interdependency in start-ups

From the discussions above, it is found that high-technology start-ups have high task uncertainty in their processes and therefore must be flexible with less focus on formal financial controls (Hirst, 1983; Merchant, 1984; Dunk, 1992) and focus more on informal (Chenhall,
2003) and personnel controls (Abernethy & Brownell, 1997). This is supported by the values, symbols and HRM that was added to the tentative control framework in Chapter 2.2.

Because of the high interdependency, it is also important with high interaction within the organization to stay responsive to the uncertain environment (Chenhall & Morris, 1986) and high knowledge integration between sub-units to successfully manage innovation (Rothwell, et al., 1974; Cooper, 1979; Souder & Moenaert, 1992; Davila, 2000). This means that it is important to have an organization structure that supports this with well-developed communication processes and cross-functional collaboration. This is further described in Chapter 2.5. It is also important for start-ups to use non-financial controls to measure innovation (Davila, 2000; McCarthy & Gordon, 2011), which is supported by the hybrid measurement system that was added to the tentative control framework in Chapter 2.3. The freedom within boundaries, that McCarthy and Gordon (2011) mention is important in innovative companies, is already supported in the tentative control framework through the budgetary boundaries and long-range planning that was added in Chapter 2.3.

To further support the freedom within boundaries and ensure that the personnel work in line with the company’s interests, start-ups could use an incentive system that gives monetary or non-monetary rewards for such actions (Merchant & Van der Stede, 2012). When it comes to reward and compensation systems, there is no best practice or standard solution that works well in all situations. Heneman et al. (2001) claim that organizations must design a unique reward system that is tailored to its business strategy, organizational structure and culture to drive company performance above industry average. Heneman et al. (2001) define a certain type of reward system appropriate for organizations with a prospector strategy (described in Chapter 2.6), organic structure (described in Chapter 2.5) and involvement culture. This alignment between organizational systems is common in many start-ups (Heneman, et al., 2001).

According to Heneman et al., high technology start-ups, that are highly concerned with expenses, often use reward systems as return on investments, where each piece of reward to employees must return a payback to the firm. In an early stage of the company, employees tend to be rewarded by stock options and signing bonuses at hire (discussed in Chapter 2.2), and as the firm grows, the reward system changes to focus more on performance bonuses (Heneman, et al., 2001; Zingheim, et al., 2009). Zingheim et al. (2009) explain that it is more appropriate for fast-growth companies to move away from stock options as they grow bigger to stabilize the workforce. That is because stock options can foster a gambling attitude, and the company should target the reward system more on retaining highly skilled employees rather than just attracting new ones.

Talented employees will go where they get the best deal and the best offer (Zingheim, et al., 2009). Therefore, start-ups and fast-growth companies must have a base pay that is at least on level with the rest of the market and competitors to be able to compete for the talent (Heneman, et al., 2001; Zingheim, et al., 2009). Heneman et al. (2001) claim that rewards beyond the base pay can take many different forms in start-ups. They can be non-monetary benefits that are directed towards employees’ specific needs, for example being able to bring pets to work or support of non-traditional working hours.
Zingheim et al. (2009) focus on monetary rewards and claim that fast-growth companies should have a variable bonus on top of the base pay that pay for performance in terms of results, skills, value added or contributions to the company objectives. The variable bonus is usually in the form of cash incentives and should use agile metrics that change and are update as business directions and plans change (Zingheim, et al., 2009). This is supported by Heneman et al. (2001) who claim that reward systems in start-ups are highly dynamic and can differ from reward period to reward period. They further state that reward systems in start-ups should focus on results on business unit level rather than individual performance and the reward system should be decentralized and managed on business unit level.

- **Human Resource Management** with *reward high performance* as a keyword is added to the tentative control framework.
2.5 Organizational Structure

How the company is organized and structured is another interesting factor to study for identifying appropriate control systems for start-ups, since the type of control system required is very dependent on the structure of the organization. Since organizational structure is something that the firm can change, Malmi and Brown (2008) view it as a control system itself. Therefore, we want to study how organization structure in start-ups can be used to support growth.

2.5.1 Efficiency and flexibility in start-ups

The organizational structure means how different functions and roles are specified and divided, which has impact on how employees carry out their work and how efficient the processes in the organization are (Chenhall, 2003). According to Burns and Stalker, in their book from 1961 (cited in Chenhall, 2003), an organization’s structure can be either mechanistic, organic or a combination of both. The mechanistic structure is formal and centralized, with a clear division of responsibilities and functions. This means that it is a functional organizational structure. The organic structure is less formal and the organization is decentralized and divided into cross-functional teams. Organic organizations are more focused on long-term objectives in their control. The organic structure is often better for handling uncertain environments, according to Chenhall (2003). He also mentions that some research identifies that differentiated organizations are the best to deal with diverse and uncertain environments. Differentiated organizations refer to self-organizing sub-units, with managers that can act as quasi-entrepreneurs. Nevertheless, differentiation of the sub-units could lead to integration problems in the company and companies could benefit from a hybrid between the functional and organic structures to get a specialized and differentiated structure that is still cross-functional and integrated (Chenhall, 2003).

According to Shane (2003) start-ups tend to use an informal structure in an early stage of their development with little specialization of labor. Shane argues that the reasons for this are: (1) that the organizational members must respond to crises and improvise because of the uncertainty in exploiting entrepreneurial activities, which is something that generalists are better at then specialists; and (2) that the benefits that come from specialization are limited until the necessary processes and competencies that the firm needs to exploit its opportunity have been developed. This means that the organization structure in start-ups is organic in an early stage and becomes more functional and formal as the organization grows and uncertainty in
opportunities increases. This is also supported by Child and Mansfield (1972) who state that growth companies reach a certain point where they need to adopt more formal controls and organizational structures and decentralize the organization into more functional areas to avoid chaos and continue their growth path. Davila et al. (2010) further state that, as companies grow, they must go from a personal to a more professional management style to avoid the entrepreneurial crisis. The entrepreneurial crisis is the moment when the entrepreneurial company founder must start making management work, which he or she may not be interested in. However, despite the fact that the founder might be unsuitable for leading the company, he or she is unwilling to let someone else run the company, which can lead the company into the crisis. MCS is a management tool that can help the leaders to run the company through crisis into success, instead of failure (Davila & Foster, 2007). If the company can establish a professional management structure by adopting MCS, it supports higher company growth and it has also been shown that it leads to lower CEO-turnover in the company, which could lead to more stability and focus on growth (Davila, 2005; Davila & Foster, 2007; Davila, et al., 2010).

Shane (2003) further states that, during the organization process, entrepreneurs must also establish internal and external communication mechanisms. A high degree of internal communication is because of the uncertainty in entrepreneurial opportunity exploitation. Employees tend to have different perspectives on opportunities and how they should be exploited. Internal communication mechanisms create a collective understanding so that employees can take common action (Shane, 2003). However, start-ups must also establish external communication mechanisms, since exploitation of opportunities requires information from stakeholders, such as customers, suppliers and investors. The development of control mechanisms can be related to product quality, as well as performance of new ventures (Shane, 2003). This can be related to the discussion in Chapter 2.2, where we mention that start-ups must have information about market demand and new technologies in order to have good quality in their products and services. The need for information about modern technology could be helped by the specialization within the R&D function of a hybrid organization, whereas the cross-functional collaboration from the organic structure could let information about market demand reach R&D through the marketing department. By having good collaboration and communication between marketing and R&D it also creates a feedback-loop between the users and R&D, which can make R&D more aware of quality issues.

However, too much professional management structure through MCS could lead to bureaucracy and hinder the entrepreneurial creativity in the organization (Freeman & Engel, 2007). The bureaucracy would lead to a waste of money for insufficient processes and delay innovation, while too little MCS would lead to organizational chaos. Therefore, it is crucial that start-ups find a balance between creativity and control in their organization (Davila, et al., 2010), which is in line with the theory of levers of control by Simons (1995), presented in Chapter 2.1.1. The balance of creativity and control is supported by the hybrid organization mentioned in this chapter, where the functional part supports a formal control and the organic part supports creativity through cross-functional collaboration and informal ways of communicating.

An alternative to formalizing the organization structure when the start-up grows with a functional division of labor, is to use a scalable agile organization. Such an organization
structure can support high flexibility, quality and responsiveness to market changes, as well as allow the organization to grow painlessly without the need for restructuring (Hardy, 2016). Thus, it could be a way to support controlled growth in start-ups. The most famous example of a scaling agile organization is Spotify, that organizes their employees in Tribes, Squads, Chapters and Guilds (Hardy, 2016). An example of this kind of organization structure is illustrated in Figure 2-6.

![Figure 2-6: Example of a scaling agile organization structure with Tribes, Squads, Chapters and Guilds (Hardy, 2016).](image)

In this type of organization, tribes represent a business area that includes a set of squads, where each squad is a self-organizing scrum team of usually 5-7 members, as well as a product owner (Hardy, 2016). Each tribe has usually up to 100 members. Typically, the members in a squad have different roles and competencies, and Hardy (2016) resembles this to the crew of a ship, where each member of the crew has its own role to ensure that the ship stays on course. Further, there are also chapters, which consists of members with similar roles in different squads. This is a way of supporting team collaboration and knowledge exchange, that stimulates innovation (Hardy, 2016). Finally, there are guilds that represent communities of members with similar interests. A guild can include members with different roles, from different squads, as well as different tribes. This is further a way of integrating and exchanging knowledge throughout the organization (Hardy, 2016). Guilds can be related to interests regarding for example product development, but it can also be related to any other personal interest.

Since start-ups have rather small organizations, they would likely not benefit from separating the organization into different tribes. However, the concept of squads and chapters can be related to the hybrid organization, where chapters can be seen as the functional division, and squads represent the more organic structure, where members can be reorganized according to the current project that they are working on. The cross-functional collaboration that comes from combining squads and chapters supports knowledge integration and competence development, and thereby innovation.
2.5.2 How MCS can support flexibility and efficiency in start-ups

To find a balance between efficiency and flexibility in the organization, start-ups can adopt the characteristics of a hybrid organization with a functional division of units, but with a lot of cross-functional collaboration and knowledge integration, which also helps balancing formal and informal control as wanted in Chapter 2.4. As an alternative to a functional division of units, the hybrid organization could also be organized according to the concept of squads and chapters. By using a hybrid organization structure, start-ups can reduce variance in behavior by establishing routines, but also promote communication and collaboration between the different teams/functions of the organization. Through the hybrid organization, the start-up is also able to be more externally focused and able to react to changes in the environment, which are challenges that are mentioned in Chapter 2.2 and Chapter 2.3. The hybrid organization also supports knowledge integration throughout the organization, which also supports further innovation, and is something that we found important in Chapter 2.4. To further support knowledge integration and development, start-ups can adopt the concept of guilds by using interest forums, where employees can exchange ideas and knowledge in areas that are interesting for them.

- An organization structure in the form of a hybrid organization with cross-functional collaboration and knowledge integration as keywords is added to the tentative control framework.
2.6 Strategy

Strategy has been believed to have a straightforward effect on MCS design in several different ways (Otley, 2016), and the relationship between strategy and management control has been the focus of many publications. Considering the vast body of research that has focused on this topic, studying the impact of strategy on management control seems imperative for designing MCS. By studying strategy and relating it to fast-growing start-ups, we can find appropriate control systems to support the typical features of strategy in these types of companies and how they can be used to support growth. As seen below, this chapter supports several statements from previous chapters about what control systems should be used in start-ups and how to use them. However, since this is the last research area, there are not that many additional contributions to the tentative control framework in this chapter. Nevertheless, by supporting previous contributions, the chapter helps to build a stronger foundation for the tentative framework.

2.6.1 What is strategy?

Strategy lacks a universal and clear-cut definition. Michael Porter, a prominent researcher in the field of strategy, puts it the following way:

“The essence of strategy is choosing to perform activities differently than rivals do.”

(Porter, 1996, p. 64)

This suggests that strategy is how an organization separates themselves from their competitors and competes in the market. However, strategy has many different perspectives, and most research has chosen a specific perspective and analyzed the relationship between MCS and strategy only from that chosen perspective (Otley, 2016). Although this can provide some valuable insights to the chosen perspective, there is a risk of missing aspects and other valuable insights that could come from other perspectives. Therefore, we take a wider approach in this thesis and consider the relationship between MCS and strategy from several different perspectives.

Strategy can be classified at two different levels; the strategic choice level and the capability level (Henri, 2006). The strategic choice level represents the traditional view of strategy (Henri, 2006) and includes perspectives such as: strategic typology (Miles, et al., 1978); generic strategies for competitive advantage (Porter, 1980); and strategic mission (Gupta &
Govindarajan, 1984). The capability level represents the more contemporary view of organizations, the resource-based view (RBV) (Henri, 2006), where strategy is how the resources and capabilities are exploited relative to the external opportunities (Grant, 1991).

By studying and integrating all these perspectives, we believe that we can provide a comprehensive view of the relationship between strategy and management control. Specifically, in terms of explaining the relationship between MCS and the strategy formation process with deliberate, emergent and realized strategy (Mintzberg & Waters, 1985), as well as the process of effectuation and causation (Sarasvathy, 2001). These concepts are explained and explored in detail in the following sections.

2.6.2 Strategy formation in start-ups

What an organization intended to do and what it actually did is often quite different. Mintzberg and Waters (1985) label the former as intended strategy and the latter as realized strategy. Mintzberg and Waters describe the process of going from intended to realized strategy. However, how entrepreneurs decide what to do and which strategy to follow can also be explained by the process of causation and effectuation. The former focuses on deciding between sets of means to reach a given effect, whereas the latter focuses on deciding between different effects that can be achieved through a given set of means (Sarasvathy, 2001). Both of these processes are described in more detail in the following sections.

From intended to realized strategy

The process of going from intended to realized strategy, as described by Mintzberg and Waters (1985), is illustrated in Figure 2-7. The part of the intended strategy that can be carried out in the intended way, or at least close to it, is called deliberate strategy. Patterns of actions that appear along the way and that were not intended from the beginning, usually come from external forces and ‘learning as you go’. This is called the emergent strategy. The deliberate and emergent strategy together make up the total strategy that is then realized. The part of the intended strategy that cannot be implemented, often because of changes in environment, is called unrealized strategy. Thus, a strategy is to a certain degree deliberate and to a certain degree emergent. A purely and perfectly either deliberate or emergent strategy is very rare and unlikely, if not impossible, in practice (Mintzberg & Waters, 1985).
According to Mintzberg and Waters (1985), an emergent strategy is flexible and responsive towards changed conditions and when the management allows, and is comfortable with, emergent strategy to form, it indicates a willingness to learn. They also claim that this type of strategy is of extra importance in unstable environments since it enables the management to respond to the reality as it evolves rather than planning from a stable fantasy. This means that emergent strategy is important in start-ups since they exist in uncertain environments. However, they probably cannot rely only on emergent strategy. Mintzberg and Waters (1985) argue that the leader’s vision that sets the company’s direction (even though it is not planned in detail) can be considered (to some extent) deliberate.

_Causation and effectuation in entrepreneurship_

The differences between a causation and effectuation process, as described by Sarasvathy (2001), is presented in Table 2-1.

_Table 2-1: The differences between causation and effectuation processes (Sarasvathy, 2001)._
<table>
<thead>
<tr>
<th>Competencies used</th>
<th>Exploiting knowledge</th>
<th>Exploiting contingencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant context</td>
<td>More common in nature.</td>
<td>More common in human action.</td>
</tr>
<tr>
<td>Underlying logic</td>
<td>To the extent we can predict the future, we can control it.</td>
<td>To the extent we can control the future, we do not need to predict it.</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Gaining market share in existing markets through competitive strategy.</td>
<td>Creation of new markets through cooperative strategies.</td>
</tr>
</tbody>
</table>

Sarasvathy (2001) explains a causal reasoning processes related to the decision of a new business venture with the following steps:

1. Define the total market (universe).
2. Define segmentation variables and choose target segment based on market analysis.
3. Select positioning strategy and develop offering.
4. Develop marketing strategies to attract target customers.

An effectual reasoning process on the other hand would follow the opposite order (Sarasvathy, 2001). The entrepreneur would start with testing her offering on a few friends or relatives and in case they like it she could test it on their friends. Thereby, she would build up a demand and customer base so that she eventually can start her business venture. Alternatively, in case her friends and relatives do not like her offering, she can transition into another business idea and do the same process over again. Eventually she would get a business venture going.

Sarasvathy (2001) claims that a causation process is better at exploiting preexisting knowledge, whereas effectuation is better at exploiting contingencies. This can also be related to exploitation of current resources, which corresponds to the right-hand side of Simons’ (1995) framework, and exploration of opportunities, which corresponds to the left-hand side of Simons’ (1995) framework, where causal reasoning is more dominant in exploitation and effectual reasoning is more dominant in exploration (Sarasvathy, 2001).

Successful entrepreneurs in new industries are more likely to have used an effectuation rather than a causation process (Sarasvathy, 2001; Sarasvathy, 2008) and as effectuators they are more likely to build participatory cultures rather than hierarchies and formal procedures. They are also more likely to focus on short term rather than long term in their strategic planning, as well as use more informal controls (Sarasvathy, 2001). The focus on short-term rather than long-term planning is contrary to Simon’s (1990) findings that entrepreneurial companies in uncertain environments tend to use plenty of long-term planning. Sarasvathy (2001) further claims that effectuators fail more often, but are also able to handle the failures more effectively
with smaller consequences, and are more effective in creating larger and more successful firms in the long run. However, they are likely less efficient in running larger organizations and might therefore need to hire other professionals for that purpose (Sarasvathy, 2001). That entrepreneurs are often effectuators could be an explanation to the fact that many start-ups fail, mentioned in Chapter 1.1, and that they are less effective in managing larger organizations could be related to the entrepreneurial crisis, mentioned by Davila et al. (2010).

By relating Mintzberg and Waters’ (1985) process for strategy formulation with Sarasvathy’s (2001) research about causation and effectuation processes in entrepreneurship, it can be said that the deliberate strategy is the implemented part of the intended strategy that was developed through a causal reasoning process. The emergent strategy on the other hand is developed through an effectual reasoning process based on contingencies and unforeseen events in the environment. Thereby, according to Mintzberg and Waters’ (1985) strategy formulation process, the realized strategy is formulated through both causal and effectual reasoning processes.

2.6.3 Strategic Choice

A company can choose different ways of competing on the market in order to gain competitive advantage. Below, we will go through the theories of strategy typology (Miles, et al., 1978), strategic mission (Gupta & Govindarajan, 1984), as well as generic competitive strategies (Porter, 1980). Finally, we also relate the strategic choice to MCS in start-ups.

*Strategic typology – Prospector, defender, analyzer or reactor*

In a quantitative study including 1,225 firms, Covin and Slevin (1990) investigated how strategic posture was related to performance in new ventures depending on the industry life cycle. Strategic posture is defined as the firm’s placement on the continuum ranging from entrepreneurial to conservative, and it is dependent on how inclined managers are to take risks by favoring change and innovation to gain a competitive advantage (Covin & Slevin, 1989; 1990). Entrepreneurial firms are those that are inclined to take risks, favor change and innovation, and act proactively (Covin & Slevin, 1990). The entrepreneurial strategic posture is similar to Miles et al’s (1978) strategic type prospector (Covin & Slevin, 1989). Conservative firms on the other hand are risk-avert and non-innovative, and act reactively, which is similar to Miles et al’s (1978) defender type (Covin & Slevin, 1989).

Other than prospector and defender, Miles et al. (1978) also introduced two other classifications called analyzer and reactor in their work with strategy typology. Each of the four types has its unique type of strategy for positioning themselves in their respective market. Miles et al. (1978) claim that defenders, prospectors and analyzers have a market strategy that is consistent with their technology configuration and processes, whereas reactors have inconsistencies between these and therefore cannot be successful over time (Miles, et al., 1978).

Covin and Slevin (1990) found that an entrepreneurial posture has the most positive effect on new venture performance in emerging industry segments. The results from the study showed that the positive relationship on performance by adopting an entrepreneurial posture in new ventures decreases as the industry matures (Covin & Slevin, 1990). In growing market segments,
an entrepreneurial posture was less strongly (but still positively) related to performance in new ventures, and in mature industries it was negatively related. This suggests that start-ups in emerging (mature) industries should adopt the characteristics of a prospector (defender). Prospectors create an environment that is more dynamic than the rest of the industry (Miles, et al., 1978). The goal is to identify, create and exploit new market opportunities, and managers in these types of organizations tend to face higher uncertainty than other managers in the industry.

Covin and Slevin (1990) suggest that managers should also focus on other concerns outside of the conservative – entrepreneurial continuum. The research from Anderson and Zeithaml (1984) suggests that marketing activities focused on building market share may be critical for performance in growing market segments.

**Strategic mission – Build, hold or harvest**

Building market share relates to the strategic mission *build* introduced by Gupta and Govindarajan (1984), who defined strategy along a continuum of the strategic mission between *pure build* and *pure harvest or divest*. In between these two extremes is also the *hold* strategy. According to Gupta and Govindarajan (1984), the intent of the build strategy is to increase market share. The harvest strategy on the other side of the continuum, represents an intent of maximizing short-term profits and cash flows and not increasing market share (Gupta & Govindarajan, 1984). The other possible end of the continuum is the divest strategy, which simply means divesting and exiting the product or market domain. The hold strategy represents an intent of protecting the current market share and strategic position while achieving equitable results (Otley, 2016). Fisher and Govindarajan (1993) claim that build strategies are common in organizations with small market-share in high-growth industries, which is the case for the start-ups that we focus on in this thesis. They further state that businesses following a build strategy tend to be resource users, which means that their short-term profits and cash flows often are negative due to the heavy investments required to build their competitive position.

**Competitive strategy – Cost leadership, differentiation or focus**

Yet another way of classifying strategy is according to the generic competitive strategies *cost leadership, differentiation and focus* introduced by Porter (1980). The competitive advantage of a cost leadership strategy comes from having the lowest costs in the industry and thereby being able to offer lower prices and/or higher margins than the rest of the industry (Porter, 1980). This is made possible by economies of scale and efficiency throughout the organization (Otley, 2016), and requires large investments in advanced process technology to achieve this high-efficiency (Porter, 2004). The competitive advantage of a differentiation strategy comes from offering something that is perceived as unique in the industry and something that customers are therefore willing to pay a premium for (Porter, 1980). Uniqueness can be achieved in many ways, for example through design or brand image, technology, features, customer service or dealer network (Porter, 2004). Both the cost leadership and the differentiation strategy can have an either industry-wide or focused scope. Focused strategy means targeting a specific group of buyers, product-line segment or geographical market (Porter, 2004).
Because of the high investments in process technology, large market share and economies-of-scale required to follow a cost leadership strategy and the flexibility, creativeness and uniqueness required for a differentiation strategy, start-ups focusing on technological innovation are more likely to pursue a differentiation strategy rather than cost leadership. Shane (2003) states that following a focus strategy increases the likelihood of survival for new ventures. It also reduces the amount of external capital required in the firm since they can use internally generated cash flow that is generated from exploiting a focused market segment to exploit another (Shane, 2003). Therefore, start-ups can begin with a focused differentiation strategy to test their product and create a proof-of-concept for a particular segment, and later possibly scale it to other segments as well.

**Strategic choice and Management Control Systems in start-ups**

Langfield-Smith (1997) studied the compatibility between different strategic perspectives, which is illustrated in Figure 2-8. Langfield-Smith found that prospectors should follow a build strategic mission, together with a differentiation strategy. Defenders, on the other hand, should follow a cost leadership strategy, combined with either a hold or harvest strategic mission. From the discussions above, it was identified that start-ups in emerging and growing market segments could benefit from striving for an entrepreneurial posture with the characteristics of a prospector, a build strategic mission, and a (focused) differentiation strategy, which according to Langfield-Smith’s (1997) research is a compatible combination of strategic variables. Thus, it should provide a viable strategy for start-ups.

**Figure 2-8: Relationship and compatibility between different perspectives of strategy (Langfield-Smith, 1997).**

According to Miles et al. (1978), control and administrative systems in prospectors must be organic, flexible and able to facilitate and coordinate resources among several decentralized units and projects rather than plan and control operations centrally. Abernethy and Brownell (1999) found that prospectors tend to use more organic control systems and interactive use of budgets with focus on participation, dialogue and learning, both horizontal and vertical. However, control systems in entrepreneurial firms have also been suggested to have an important role of alerting the management when innovation becomes too high and the costs are
higher than its utility (Miller & Friesen, 1982; Chenhall, 2003). This means that formal control systems should be important in organizations of prospector type to keep innovation from getting out of control.

Miles et al. (1978) claim that prospectors should use control systems with a broad scope that are result-oriented rather than focusing on strict cost-control over certain cost objects. Guilding’s (1999) findings likewise suggest that prospectors and companies following a build strategy perceive a broader and more competitor-focused control system as more useful than organizations of other strategic types. This is consistent with Gupta and Govindarajan’s (1984) claim that companies following a build strategy must establish a marketplace superiority over competitors in order to build market share, which requires managerial attention focused on external industry characteristics, both customer needs, as well as competitor strategies. The usefulness of an externally focused control system could likely be explained partly by the fact that build companies must know and be able to satisfy the needs of their customers well to increase market share, and partly by Govindarajan and Gupta’s (1985) claim that a build strategy pits the company into greater conflict with competitors compared to a harvest strategy. Because of this greater conflict, it is important for companies following a build strategy to know what their competitors are doing and to be able to detect and fend of attacks from competitors. Govindarajan and Gupta (1985) found a positive relationship between the effectiveness of a build strategy and greater reliance on subjective measures and long-term criteria for determining incentives and bonuses within the organization. Gupta (1987) came to the same conclusion for companies with a build mission and differentiation strategy. This is supported by Porter (2004), who also claims that differentiators should rely on subjective measurements and incentives rather than quantitative ones. He also adds that they must have qualities to attract creative and highly skilled labor, which is also mentioned as a major challenge in start-ups in Chapter 2.2. Further, a differentiation strategy has been argued to be best supported by a control system with less emphasis on performance evaluation by budgetary targets (Govindarajan, 1988). High sharing of resources and high focus on behavior (rather than output) control (Govindarajan & Fisher, 1990), and less rigid budgetary control with increased budgetary slack (Van der Stede, 2000), have also been argued to support a differentiation strategy. The focus on behavior control is also discussed and added to the tentative control framework in Chapter 2.4. Bouwens and Abernethy (2000) found a positive correlation between a customization strategy (which is a type of differentiation) and the perceived importance among managers of having aggregated and timely information. They argue that the reason for this is that customization requires an organizational culture that encourages innovation and is responsive to changes in customer requirements. This changes the work flow between sub-units of the organization and increases interdependency between them to cope with continuous changes in product design and processes. These interdependencies create a requirement for additional and sophisticated information to manage and coordinate the work flow (Bouwens & Abernethy, 2000). This is supported by Porter (2004), who claims that it is important for organizations

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1 Formal control systems are explicit standards and rules that the organization should follow to implement the intended strategies. Performance and goal achievement is measured in relation to these standards. Informal control systems are implicit and include unwritten norms about employee behavior and organizational culture.
following a differentiator strategy to have strong coordination between functions like R&D, production and marketing. This is further indication that start-ups could benefit from adopting a hybrid organization, suggested in Chapter 2.5, to make cross-functional collaboration easier.

2.6.4 Strategy from a Resource-Based View

The resource-based view (RBV) classifies strategy in the capability-level and thus, according to Henri (2006), the link between strategy and MCS should be studied on this level. In RBV, organizations are viewed as a heterogeneous set of resources with differences that persist over time. These resources are the basis of competitive advantage. Multiple researchers have concluded that there are four primary resources for competitive advantage according to the resource-based view: innovativeness, organizational learning, market orientation and entrepreneurship (Hult & Ketchen Jr., 2001; Bhuian, et al., 2005; Henri, 2006). These resources are described below and related to MCS in start-ups.

Primary resources for competitive advantage

First, Henri (2006) claims that innovativeness describes the company’s openness to new ideas and its orientation towards innovations. Henri states that this is considered by scholars to be critical to effectively compete in both domestic and global markets and that it is one of the most important components of a firm’s strategy. Greater capacity to innovate enables the firm to develop competitive advantage and achieve better performance and company renewal. Since start-ups in emerging and growing market segments should strive for an entrepreneurial posture, much of their competitive advantage comes from innovation (see Chapter 2.6.3). Therefore, a high degree of innovativeness should be critical for start-ups in these industries.

Second, Henri (2006) states that organizational learning is how insights and knowledge is developed from associations among past actions and the effectiveness of past and future actions. He further claims that organizational learning is the basis for the organization’s ability to survive and grow. Organizational learning is a facilitator for competitive advantage by making the firm process information quicker than its competitors. We have previously established that start-ups have a strategy focused on growing and building competitive advantage, which means that organizational learning should also be an important capability for start-ups focusing on technological innovation. Many of the activities in these organizations are characterized by uncertainty, and can thereby be considered to some extent experimental, which makes it important for start-ups to learn from these activities for the future.

Third, Henri (2006) claims that market orientation is classified as the emphasis placed by the organization on the expressed needs, as well as the long-term focus of latent needs of the customers. It includes the following components: customer orientation, competitor orientation and inter-functional coordination. Henri (2006) argues that market orientation is necessary for creating superior customer value and thereby continuous performance of the business. All of the three components that Henri mentions have previously been argued to be important for start-ups in this thesis, which supports that market orientation is important for the competitive advantage of start-ups as well.
Finally, Henri (2006) mentions entrepreneurship, which he claims is the ability of the organization to continually renew, innovate and gainfully take risks. It is about creating new or combining existing resources in new ways to, for example develop new products or move into new markets. Henri (2006) states that this is a critical capability, which contributes to the survival and performance of the firm. Developing new products and moving into new markets is what start-ups are doing as prospectors with an entrepreneurial posture, and therefore entrepreneurship should also be a critical capability for the start-ups studied in this thesis.

From the discussion above, it seems that all the four capabilities are important and that start-ups should have a high degree of innovativeness, organizational learning, market orientation and entrepreneurship simultaneously. This is in line with the general belief that a high degree of market orientation combined with a high degree of entrepreneurship is the optimal combination for high performance. However, Bhuian et al. (2005) found contradicting evidence that the optimal combination was a high degree of market orientation together with a moderate degree of entrepreneurship. They explain this by the vast amount of opportunities that organizations are presented with these days because of globalization and the revolution of e-commerce. Vigorously pursuing these entrepreneurial opportunities without regarding the effect it has on other organizational activities could be sub-optimal (Bhuian, et al., 2005). Although this suggests that start-ups focusing on technological innovation could benefit from keeping a moderate degree of entrepreneurship and a high degree of the three other capabilities, an entrepreneurial posture is important for start-ups in emerging and growing market segments (as argued in Chapter 2.6.3). Therefore, we argue that start-ups should strive for a high degree of all four capabilities, but with regard to how entrepreneurial activities affect other organizational activities.

Resource-based view and Management Control Systems in start-ups

According to Henri (2006) the role of MCS is to manage the organizational tension between creativity in innovation and predictability in goal achievement. Specifically, Henri mentions three types of tensions that must be balanced: (1) unlimited opportunity and limited attention; (2) intended and emergent strategies; and (3) self-interest and desire to contribute. This is done by using an MCS that represents both a negative and a positive force to create dynamic tension, which is done by using interactive and diagnostic control respectively (Henri, 2006).

On the one hand, the interactive use of MCS increases opportunity seeking and learning throughout the organization and has a positive effect on all the four capabilities for competitive advantage mentioned previously (Henri, 2006). On the other hand, diagnostic control focuses on exceptions and negative variances and has a negative effect on all of the four capabilities critical for competitive advantage (Henri, 2006). Therefore, it seems that interactive control would be better than diagnostic control since it has a positive effect on all the capabilities that are suggested to be critical for achieving competitive advantage. However, using only interactive control might not be the most appropriate. The positive effects of an interactive control system could be difficult to achieve without having a diagnostic control system in place as well (Henri, 2006). According to Haas and Kleingeld (1999), a diagnostic performance measurement system is necessary to enable the strategic dialogue that is interactive control. Thus, diagnostic control is a prerequisite for interactive control. Haas and Kleingeld (1999) also
claim that diagnostic control is a single-loop learning system, whereas interactive control is a double-loop system.

On the one hand, diagnostic performance measurement is focused on improving scores of performance indicators. The improvement in local performance will contribute to the performance of the organization as a whole and, in extent, to overall goal achievement since goals have been translated into result indicators (Haas & Kleingeld, 1999). This is single-loop learning. On the other hand, the strategic dialogue that represents the interactive control causes the organization to periodically question the validity of the performance indicators themselves, which leads to collective and interactive control of the organization’s strategy (Haas & Kleingeld, 1999). This is double-loop learning.

Henri (2006) found that the dynamic tension created by a joint use of interactive and diagnostic control, has a positive effect on organizational performance in some cases. Henri claims that dynamic tension has a positive effect in case that the organization exists in an uncertain environment and have values that focus on flexibility. This suggests that dynamic tension has a positive effect on the performance of the start-ups that are the focus of our thesis, since we have argued that they exist in an uncertain environment and that much of their competitive advantage comes from flexibility. The joint use of dynamic and interactive controls could be a way of stimulating creativity and innovation at the same time as it can highlight goal achievement and efficiency issues.

2.6.5 How Management Control Systems can be used to support competitive advantage in start-ups

From the discussions above, we identified a need for informal controls that coordinates resources among decentralized units, as well as a culture that promotes creativity, flexibility and participation. It guides the organization towards the directions that the management wants, while still allowing the organization to be flexible and innovative by not setting pre-formulated, detailed action plans. This could be considered as part of the deliberately emergent strategy. The need for informal controls is supported by the value and symbol controls, that were previously added to the tentative control framework in Chapter 2.2.

Formal control systems that keep the innovation in control and make sure that its cost does not exceed its utility have also been argued to be important for start-ups focusing on technological innovation. This is supported by budgets as a boundary system, which was added to our tentative control framework in Chapter 2.3. Strategic dialogue throughout the organization is also something that we have argued is important for start-ups. This can be supported by participative and interactive use of budgets, which has also previously been added to the tentative control framework (see Chapter 2.3).

In this chapter, it was also argued that control systems in start-ups should focus on results rather than cost control over certain objects. It is coherent with what was also argued that start-ups should put less emphasis on performance evaluation by budgetary targets and have less rigid budgetary control with some budgetary slack. This means that start-ups should measure performance on an aggregated level such as overall results or profits. It is also important with a long-term focus that allows low or negative short-term profits, since it can be necessary to
build market share. Diagnostic control systems should be used to improve local performance and efficiency combined with an interactive control system that stimulates dialogue and learning. The control system must be both externally oriented to balance internal efficiency against responsiveness to external changes. This provides support for the Balanced Scorecard as an appropriate hybrid measurement system for start-ups. The BSC provides a both internal and external focus, and a combination of financial and non-financial measures, through its different perspectives. Thereby, it fulfills the purpose of the hybrid measurement system with both internal and external focus, which was added to the tentative control framework in Chapter 2.3.

As a diagnostic control system, the BSC measures goal achievement and improves performance by making the start-up identify strategic measures and performance drivers that are critical for performance according to their deliberate strategy. The BSC is also useful since it provides a long-term perspective on strategic objectives (Simons, 2000). The customer perspective in the BSC also provides the external orientation that we argued is important for start-ups in emerging and growing market segments. However, the BSC can also function as an interactive control system through the learning and growth perspective, which stimulates innovation and creativity. There should also be a dialogue regarding the relevance of the strategic measures in the BSC, which supports double-loop learning and emergent strategy to form in the organization. Therefore,

- Hybrid Measurement Systems with Balanced Scorecard and goal achievement as keywords is added to the tentative control framework.
2.7 Tentative Control Framework – A collection of appropriate control systems for start-ups

Throughout this chapter, we have added control systems that fit start-ups’ characteristics and are supposed to support fast-growing start-ups’ further growth. In Figure 2-9 below, we have summarized the control systems that we have included in our tentative control framework, as well as the keywords that we relate to them.

As mentioned in Chapter 2.1.1, the four levers of control (belief system, boundary system, diagnostic control and interactive control) can be balanced in different ways depending on the company and its current situation. By using a control system that includes all four levers of control, start-ups can balance growth and innovation stimulated by using belief systems and interactive control against control and efficiency generated by using boundary systems and diagnostic control. They also balance exploration of new opportunities against exploitation of current resources. How start-ups tend to balance the control systems in our tentative control framework is answered through the case studies and cross-case analysis in Chapter 4 and Chapter 5.

The different research areas’ contributions to the tentative research model are consistent in the way that they all emphasize balance between formal and flexible controls. Formal controls should be used to set boundaries to prevent innovation from getting out of control. This type of control system should be adjusted to support and monitor implementation of the deliberate strategy (described in Chapter 2.6). Flexible and interactive control systems should be used to stimulate innovation and organizational learning and in that way, make the organization effective in responding to changes in its environment. These types of control systems should be used to support the bottom-up emergence of strategies (described in Chapter 2.6).
The contributions are also consistent in suggesting a control system that is open and externally oriented to detect changes in customer and competitor behavior, as well as market share. The control system should also have an internal focus that measures results and efficiency on an aggregated level and supports coordination within the organization. Incentives should rely on subjective measurements, rather than objective measurements, and the control system should have a long-term focus.

Our tentative control framework acts as the lens for our empirical study, by providing the set of control systems to study in the case companies (described in Chapter 4). The case studies also help us to see how start-ups can balance the levers of control, by looking at what lever each control system is used as in the start-ups. The case studies also give us some clear examples of how the control systems in our tentative control framework can be used. After seeing how the start-ups in our case study use and balance the control systems, we construct the finalized framework for MCS in fast-growing start-ups.
3 Methodology

In this chapter, we describe the methodology that we have used for conducting our research. We also discuss the quality of our study by discussing both validity and reliability, as well as source and methodology criticism.

3.1 The order of work throughout this thesis

The research was initiated with a description of the research problem. This gave us as researchers a better and more clear understanding of the situation and it was fundamental for later defining the purpose and research questions. During this phase, the management in our main collaborator Wematter was consulted regarding their perceived problem situation. An initial literature review related to this problem was done to make sure that this thesis would provide a both practical and theoretical contribution by addressing this problem. After establishing and defining the problem situation, a research purpose together with a few supporting research questions was formulated. Limitations were also defined to set the boundaries of the study. These phases together correspond to the first chapter of this thesis.

After the research problem had been formulated, we determined the research approach and method. This was done by studying literature about methods for conducting business research. We soon concluded that a qualitative case study would be the most suitable for this thesis (see Chapter 3.2 for more details). We also determined the research design, as well as the analytic strategy and tactics that would be used to ensure good quality and reliable results. These two phases correspond to the third chapter of the report.

When the research approach and method had been decided, an extensive literature review was performed (see Chapter 3.2 for more details). This helped us review existing literature that could be used for analyzing the data gathered from the case study. From the literature review, the frame of reference was established. The outcome from the frame of reference was a tentative control framework, consisting of appropriate control systems for fast-growing start-ups. The framework was incorporated into our research model, which narrowed down the findings from the literature review to a set of factors to study in our case studies.

After this, we initiated the case study and gathering of the actual data. Since the respondents in our interviews were most often company leaders, it was difficult to find a time for interview that would fit in their schedule. Therefore, we had to allow a lot of time for the case studies. To allow the study to progress while waiting to collect data from all the cases, all the steps from case study to empirical description were performed simultaneously case-by-case. As soon as possible after an interview, the data was structured and sent to the interviewee for review to ensure that the data was correct. After that, the empirical data from that case was included in the report.

When all the data from the different cases had been collected and included in the report, an analysis and interpretation of the results started, and the case studies were related to the literature review. The outcome of the analysis led to a finalized MCS framework that answered
the thesis’ research questions and purpose. Finally, based on the finalized framework, recommendations were made to start-up managers for how to design their MCS.

3.2 Research method – From theory to final framework

To answer the research questions (formulated in Chapter 1.5) and to compare the tentative control framework (illustrated in Figure 2-9) with the case studies, a research method that could best be described as a mixture between a deductive and inductive analysis was used. The study commenced with a review of existing literature. From this review, control systems that should be relevant for start-ups were identified and compiled into a tentative control framework based on existing theory. This framework was used to analyze the empirical observations to find examples of how the different control systems could be combined and balanced against each other. This is classified as a deductive analysis since empirical observations are compared with existing theory (Bryman & Bell, 2011). Possible empirical observations that were not explained by the tentative control framework were also considered. These were used to formulate new factors that were incorporated into the finalized MCS framework for fast-growing start-ups presented in the end of this thesis (Chapter 6.2). This could be classified as inductive analysis since empirical observations were used to develop the theoretical framework (Bryman & Bell, 2011). This process is illustrated in Figure 3-1.

![Figure 3-1: Research method used in this thesis.](image-url)
The tentative control framework is based on theory cited from mainly academic journals, but also from books that are relevant for our research topic. We have used literature of prescriptive (for example Porter, 1980), conceptual (for example Malmi & Brown, 2008) and empirical nature (for example Atsan, 2016), in order to get a more nuanced picture of MCS. The prescriptive literature gave us ideas for how control systems should be used in start-ups, the conceptual literature presented summaries from other authors and discussed differences in opinions, and the empirical literature provided insights in how control systems have been used in start-ups.

To find relevant articles we searched Google Scholar and in most cases the articles found could be accessed through the article database EBSCOhost that we had access to through the university library. Multiple criteria for selecting which articles to cite in our thesis were employed. These criteria included topic relevance and number of citations (larger number was believed to indicate a higher credibility). More recent publishing year was also believed to be more relevant for start-up literature, since more research regarding start-ups has been conducted in the recent years. Furthermore, we also found physical books in the library of Linköping University, as well as some websites that discuss relevant topics in line with our thesis. Generally, we used several sources for the presented theories and findings, and compared them to each other to be able to make more reliable conclusions from the cited theories.

Gathering of empirical observations was done through a qualitative, comparative case study of six different cases. Qualitative means that the study relies on deep, contextual understanding and rich data, rather than generalizable and hard data as would be the case with a quantitative study (Bryman & Bell, 2011). For the context of this study, a qualitative research method was considered more appropriate since understanding challenges and growth factors was believed to require deep understanding of contextual and, in some cases, subtle factors that could not be generalized and captured by a quantitative analysis. This is supported by Otley (2016), who suggests that research within management control should take a contingent approach with theories made explicit and open to adoption. Qualitative research is also more flexible than quantitative research, that tends to be more structured (Bryman & Bell, 2011). The flexibility of qualitative research makes the adoption of theories easier. The mixture of deductive and inductive analysis is also in line with the suggestion made by Otley (2016), since the deductive analysis supports the use of explicit theories, whilst inductive analysis supports the adoption and incorporation of emergent theories based on empirical findings.

Bryman and Bell (2011) explain case studies as research concerned with giving in-depth explanation of an object of interest; a case. According to Bryman and Bell, the focus of a case study is often on distinguishing unique features of the case. Further, a comparative case study is explained as a type of case study where multiple cases are studied, often in a cross-sectional design format. Cross-sectional means that observations are gathered in a single point in time rather than over a period of time. For this study, the cases used for analysis were companies that are focusing on technological innovation and that fall under our definition of a start-up used in this thesis (see Chapter 1.3). The empirical observations for each case were gathered in a cross-sectional manner, since we had limited time and could not collect data over a period of time for multiple cases. However, case studies typically involve a deeper study of each case than what we provide in this study, therefore the cases included in this thesis can be seen as
“lightweight” cases compared to how Bryman and Bell (2011) describe them. This means that we cannot provide very detailed information regarding how all the control systems function in the start-ups, but rather a broader perspective and a good overview of which systems that they have used and their purpose. There are always going to be differences in small details between the cases and to be able to compare data between the cases and draw conclusions based on general patterns, we believed that it was more useful to use data that is on a not too detailed level. This means that for the purpose of this thesis, we believe that a lighter study of each case was sufficient since the goal was to gain a better understanding of how MCS can be used in start-ups and for what purpose, not to understand every aspect of their organization and how it relates to management control.

Another aspect to consider when designing the research is the unit of analysis. Yin (2009) suggests two different types of multiple-case designs depending on the unit of analysis: holistic and embedded. Holistic means that there is only a single unit of analysis for each case and embedded means that there are multiple units of analysis for each case. An embedded design is more complex because of the extra levels. For this study, focus was on analyzing cases as single entities and finding similarities and differences between them. We were less concerned with variations within each case. Although an embedded design could provide valuable insights, it also adds extra dimensions and complexity to the analysis, which we thought were outside the scope of this study. Therefore, a holistic design was chosen. The unit of analysis for each case was an individual that was chosen to represent the entire case. These individuals were founders or people with leading roles who had been in the company for a long time. The reason for this was that these individuals were believed to be the most suitable for providing a holistic view of the organization, both in its current situation, as well as historically.

3.3 The epistemological nature of our research

The epistemological nature of this thesis can be described as a combination of positivism and interpretivism. The first part of the study, where we develop our tentative control framework by studying theory, has a positivistic view. This is because it relies on the assumption from contingency-based research that the organizational context can be described as a set of variables and that these variables are assumed to have a pre-defined effect on MCS. The view on management control is also positivistic since it views MCS as a package that consists of a set of pre-defined variables. The positivistic view during this part of the study is natural since it is the deductive part of the study. According to Bryman and Bell (2011), deductive studies most often have a positivistic view.

However, the empirical part of this study is of a more interpretive character. The empirical findings in this thesis relied mostly on information gathered from interviews with individuals in the different organizations. This data should not be considered as an absolute and perfect truth, rather it reflects the interviewee’s interpretation. This interpretation is dependent on several factors. The interviewee’s previous experience, position in the organization and personal feelings are just a few examples of factors that most likely affect this interpretation. Further, this interpretation is communicated in natural language to the researcher. This transfer is another source of subjectivity that must be considered. First, how the interviewee chooses to
present its own interpretations likely depends on the relationship between the interviewee and the researcher. Second, how the researcher interprets this data also depends on, for example, previous experiences, prejudice and preconceptions of the researcher.

Considering the data that our research relies on, we recognize that this is an interpretive field study, which is in line with Goldkuhl’s (2012) claim that most qualitative research is of an interpretive type. It is also natural since the empirical part is the inductive part of the study and most inductive research has an interpretive view (Bryman & Bell, 2011). Klein and Myers (1999) proposed a set of principles for conducting and evaluating interpretive field studies. The seven principles, and the meaning of them, are presented in Table 3-1. In the following methodology sub-chapters, we relate our research method to the principles.

Table 3-1: Seven principles for conducting and evaluating interpretive field studies (Klein & Myers, 1999).

<table>
<thead>
<tr>
<th>Principle of</th>
<th>What it means</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Hermeneutic Circle</td>
<td>Human understanding is developed by iterating between studying the individual parts and studying the parts as a whole and their interrelationship.</td>
</tr>
<tr>
<td>Contextualization</td>
<td>There should be a critical review of the social and historical settings of the research context. That way, both the researchers and the readers can understand how the current situation that is being analyzed emerged.</td>
</tr>
<tr>
<td>Interaction between the Researchers and the Subjects</td>
<td>There should be a critical reflection on how the research data was socially constructed through interaction between researcher and participants.</td>
</tr>
<tr>
<td>Abstraction and Generalization</td>
<td>The details from the case study should be carefully related to the researchers’ experiences and how they were collected. This makes it clear for the audience how the researchers arrived at their generalizations. The researchers should not be focused on falsifying theories, but rather use them as guidance for how they view the world.</td>
</tr>
<tr>
<td>Dialogical Reasoning</td>
<td>The researcher’s preconceptions that guided the design of the original research should be confronted and revised according to the empirical findings. The researchers should make their philosophical assumptions as clear and transparent to both themselves, as well as their audience.</td>
</tr>
<tr>
<td>Multiple Interpretations</td>
<td>A single event can be interpreted and described in many different ways depending on the observer and the social context. Researchers should be sensitive to possible differences in interpretations among the participants of the study and that there can be different</td>
</tr>
</tbody>
</table>
viewpoints regarding questions, without any of them being generally right or wrong.

**Suspicion**

Researchers should critically review the narratives of the interviewees and be sensitive to the possibility of biased and distorted information.

### 3.4 How we selected case companies

The potential case companies for this thesis were all small firms, focusing on technological innovation that were currently, or had recently been, in a period of rapid growth (both in terms of revenue, as well as number of employees). This gave us a big set of potential cases, but there was a challenge in identifying which these companies were. To find potential case companies, we used several methods.

First, we consulted Wematter’s management, as well as contacts at *Almi Företagspartner*\(^2\), that all provided several contacts as potential case candidates. Second, we searched online to find companies included in the *DI Gasell list*\(^3\), as well as the *33-list*\(^4\). We looked at all the lists from 2012-2016 to find more candidates than only the ones from the most recent year. On the one hand, the companies included on the DI Gasell list met our growth criteria, however several of them were larger companies and only a few were in the technology industry and therefore a very limited number of companies from the DI Gasell list were included as potential cases. On the other hand, the companies on the 33-list were all start-ups focusing on technological innovation, however many of them were still in an early stage and had not yet experienced rapid growth and were therefore not included as potential case companies since we wanted to study companies that had experience from rapid growth. Thereby, this list also produced a limited set of potential case companies.

Third, we searched online to find companies that were part of the *LEAD*\(^5\)-network, either as current members or as alumni. Most of the companies in the LEAD-network were start-ups focusing on technological innovation, but many of them, as with the 33-list, were still in an early stage and had not yet experienced rapid growth. However, a set of potential candidates that fulfilled both our growth, as well as technological innovation, criteria was found.

The potential case companies that were identified using the three different methods above were compiled into one list consisting of approximately 30 potential case companies. We sent out an email to all companies on the list, containing information about our study, as well as an

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\(^2\) A company that provides business counselling, as well as venture capital investments (*Almi Företagspartner AB*, 2017).

\(^3\) A list compiled by the newspaper *Dagens Industri* that includes Sweden’s fastest growing companies (*Di Gasell*, 2017).

\(^4\) A list compiled by the technology magazine *Ny Teknik* that includes Sweden’s top 33 most promising technology start-ups that have the potential to change the industry (*Alpman*, 2016).

\(^5\) A start-up incubator, located in Linköping and Norrköping, Sweden, that support and coach start-ups to achieve more rapid growth and success (*LEAD*, 2017). Wematter is a member of the LEAD-network.
invitation to participate. All companies that were interested in participating were included as cases in the study.

In Table 3-2 below, we list all the case companies in this report, as well as the interviewees’ names and positions. Furthermore, we include who was present as interviewer in each interview, as well as the date and time for it. The city where the interview took place is also shown, and all the interviews were conducted face-to-face, unless it says “Video Call”.

Table 3-2: The companies included in the case study.

<table>
<thead>
<tr>
<th>Company</th>
<th>Interviewee</th>
<th>Position</th>
<th>Interviewers</th>
<th>Date and place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kreatel Communications AB</td>
<td>Lars Bengtsson</td>
<td>CEO</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>March 31 1:00 – 3:00 pm Linköping</td>
</tr>
<tr>
<td>Senion AB</td>
<td>Christian Lundquist</td>
<td>CEO</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>April 4 2:00 – 3:30 pm Linköping</td>
</tr>
<tr>
<td>Donya Labs AB</td>
<td>Nina Forsvall</td>
<td>CFO, COO, HR manager</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>April 5 2:30 – 3:30 pm Linköping</td>
</tr>
<tr>
<td>Indentive AB</td>
<td>Mikael Hult</td>
<td>Operative chairman of the board</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>April 6 1:00 – 2:30 pm Linköping</td>
</tr>
<tr>
<td>AgriTractor AB</td>
<td>Billy Hill</td>
<td>CEO</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>April 12 8:30 – 10:00 am Farmville</td>
</tr>
<tr>
<td>Netadmin System i Sverige AB</td>
<td>Carina Hansson</td>
<td>CFO, HR manager</td>
<td>Magnus Forzelius, Tobias Lundell</td>
<td>April 27 1:30 – 3:00 pm Video Call</td>
</tr>
</tbody>
</table>

3.5 How we collected the case-study data

To gather data from the case companies we chose to conduct interviews with their managers, founders or leaders. They all had positions where they had much experience from the company and knew its history and culture.
Bryman and Bell (2011) describe how interviews can be conducted as *structured, semi-structured* or *unstructured* interviews. The different techniques are used in different kinds of research, depending on how willing the interviewer is to get out of the question schema and receive more information around the topic discussed. In structured interviews, the interviewee only answers the questions asked by the interviewer, compared to an unstructured interview where the interviewer has prepared very few questions and the interviewee is encouraged to speak very freely to give more information. According to Bryman and Bell (2011), the structured interview is better suited for quantitative research, whereas semi-structured and unstructured interviews are better for qualitative interviews as there is more interest in a wider perspective. A semi-structured interview is a combination of the other two techniques and the interviewer uses an *interview guide*, which is a list of topics and questions to be covered. However, the interviewee is still encouraged to answer more freely than in a structured interview, to be able to pick up more information.

Since this study is of a qualitative sort, we chose to use a semi-structured interview technique to receive a rich amount of data from every case company. But the semi-structured interview still gave us the opportunity to have some standardized questions to all companies so that we easier could make generalizations and the cross-case analysis. Semi-structured interviews furthermore gave us the freedom to explore the meaning of certain words that were unclear or had different meanings depending on the interviewee. This is a common problem in interviewing and must be kept in mind during all interviews, according to Barriball and While (1994). The semi-structured interviews also gave us the opportunity to rephrase and add questions in the interview whenever we needed to, in order to make sure that all interviewees understood the meaning of all questions and could give comparable answers. This was necessary since MCS was not a topic that the interviewees normally discuss within their organizations, and therefore included unfamiliar terms. This meant that we as interviewers had to discuss more around the topic and interpret the answers in terms of MCS concepts. This was a challenge since the interviewees interpreted some questions differently and we had to ensure that both the interviewee understood the questions correctly and that we as researchers understood the answers correctly. This was done by rephrasing the question or asking follow-up questions, when we interpreted the interviewee’s answer to be out of line with the question or when we did not fully understand what their answer meant. Asking follow-up questions also gave us opportunity to explore details in their answers to get more usable data for the analysis and final MCS framework. Finally, after the interviewee had described a specific control system, we asked control questions that were summaries of our interpretation in relation to the concepts in the literature review, to ensure that our interpretation was correct. This helped us bring the data closer to the theoretical concepts. Thereby, the data became easier to analyze and compare to the findings in the literature review, and it also ensured that our interpretations and conclusions from the interviews were correct.

To use the semi-structured interview technique, the researcher must retrieve knowledge about the case topic, by for example conducting a literature review (Kallio, et al., 2016). After our own initial literature review, together with our previous knowledge in the area, we felt that we were well prepared for conducting semi-structured interviews and for creating the interview guide we used during the interviews (see Appendix – Interview guide).
We were both present during all of the interviews in the case study, and after each interview we had a briefing about the collected data in order to be sure that we had interpreted it correctly and in the same way. In that way, we limited possible misinterpretations due to our own preconceptions. This, together with the fact that we tried to lower the differences in the participants’ interpretations of our interview questions, is related to the principles of *dialogical reasoning* and *multiple interpretations*, presented in Chapter 3.3.

Furthermore, we did not have full insight into the social and historical settings of the participants of the interviews. However, we kept that in mind and tried to uncover any underlying factor that could have led the company to the situation that they describe. This was done by asking follow-up questions to the interviewee to better understand how the situation emerged, which is in line with the principle of *contextualization* (described in Chapter 3.3). As researchers, we recognized that we have influence over the answers of the participants and can thereby be seen as co-creators of the data. To minimize this influence, we emphasized that we were interested in the experiences of that particular participant. We did not reveal any of the findings from previous interviews, since this would risk cluttering and guiding the interviewee’s answers. We also offered anonymity to all participants (further discussed in Chapter 3.8), which is something we believe increased the chance of the interviewee giving honest answers. After each interview, the interviewee received a draft of the data collected to make sure that all data was correct and that we had not misinterpreted any of the answers. That is related to the principle of *interaction between the researchers and the subjects*, presented in Chapter 3.3.

### 3.6 How we analyzed the data

In each case study, we performed a within-case analysis of each control system in the case company. Eisenhardt (1989) highlights the importance of within-case analysis since it helps the researcher keep track of all the different cases and avoid forgetting important findings of individual cases in the end. In our case, we analyzed each case company and examined if and how they had used the different control systems in our tentative control framework. We also discussed how their control system had changed over time and why they are using different control systems. This gave us a better understanding of the purpose, as well as the appropriateness, of the different control systems.

When all the cases had been studied and analyzed individually, we compared all the companies to each other to find differences and similarities in their use of MCS. We also related the case studies to the literature review to discuss what was similar and different from that. This was done through a cross-case analysis, which gives researchers another way of looking at the data and improves the accuracy of the final conclusions (Eisenhardt, 1989). The full analysis process is illustrated in Figure 3-2 below.
The analysis we conducted, as presented in Figure 3-2, was in line with three of the five analytic techniques for case studies mentioned by Yin (2009), namely pattern matching, explanation building and addressing rival explanations. Pattern matching is a technique where you compare predicted pattern with the data pattern received from case studies. That is what we did in our within-case analysis when we compared the data from each of the case companies with our tentative control framework. But before making any conclusions, possible rival explanations not covered by the tentative framework were also considered. Only after the possible rival explanations could be either confirmed or rejected, a conclusion was reached.

During the within-case analysis, we iterated between studying the separate control systems in the tentative framework individually, and studying the interrelationship and interdependency between them. We also studied general patterns between the different cases during the cross-case analysis. Thereby, we believe that we achieved a good iteration between studying individual parts and studying the parts as a whole, which helped us gain a better understanding of the situation. This is related to the principle of the hermeneutic circle, presented in Chapter 3.3.

Another technique that we used for analyzing is a kind of pattern matching, called explanation building. We used explanation building in our cross-case analysis when we sought for general patterns between the companies in terms of which types of control that they had used, and how they used them. The technique is an iterative process where the researcher continuously updates the predicted explanation after each case in a revision (Yin, 2009). This is how we included empirical observations from our case study into our finalized MCS framework.

Through the literature review that we conducted in the beginning to make the frame of reference and the tentative control framework, we gained plenty of knowledge of the research areas and control systems. The tentative control framework represents a limited set of variables for analysis, where each of the control systems in the framework can be seen as an individual variable. The different control systems also included a set of keywords for us to listen for in the
Methodology

interviewees’ answers, to better understand their MCS. The keywords were formulated based on aspects that, in the literature review, were believed to be relevant parts of MCS in a start-up context. Thus, the keywords in the tentative framework helped us operationalize the framework. However, we did not only listen for the specific keywords in our tentative framework. The understanding regarding their meaning and purpose that we gained from the literature review helped us listen for other words that could be related to those keywords. For example, one specific keyword in our tentative framework was participation (regarding budgeting and planning), but other words could also be related to that, for example involvement. This means that if a case company would mention that they try to involve many members of the organization in their planning and budgeting processes, this would be interpreted as participative planning and budgeting.

By having a rich knowledge base regarding the different control systems, we were able to gain a good understanding of the interviewees’ descriptions and relating them to the tentative control framework, which was necessary due to the fact that they may define management control in a different way than we do. Based on the descriptions from the interviewees of how they use the control systems, all the variables were classified as one or several of the levers of control in Simons’ (1995) framework by relating the descriptions to the definitions of the levers. For example, if one case company would mention that they use a certain control system for measuring performance and be able to detect deviations from expected results, this would be classified as a diagnostic control system, as it includes keywords that can be related to Simons’ description of diagnostic control. To further be able to identify which lever of control that a certain control systems was used as, we also listened for keywords related to the strategic goals of the different control levers, such as growth, control, innovation and efficiency.

Furthermore, we asked the case companies which control systems that have been the most important to them and why. Their rankings of control systems were weighed together with their descriptions of how they use them, which problems that they are intended to solve and which effect they seem to have on the company’s activities. Based on these rankings, and the classifications regarding which control lever that the control systems are used as, we could find which control systems, and thereby which levers of control, that the case companies tend to put the most emphasis on. For example, Kreatel (see Chapter 4.1) mentioned that planning, but not the plan itself, was one of the most important control activities to increase participation and keep everyone up to date. This indicated an emphasis on interactive control systems, according to Simons’ (1995) definition. It was also backed up by the fact that participation in planning and budgeting often led to emergence of new ideas, and that everyone became very committed to solving problems quickly, which made the organization flexible and the company never lost an affair. This shows that it also had a great effect on the company’s activities. These facts, among other of their control systems that further supported this focus, brought us to the conclusion that Kreatel had a lot of emphasis on interactive control systems. After we had found how much emphasis that the companies seem to put on the different levers of control, we were able discuss their overall balance between the levers. The balance of the control systems was further related to the strategic goals of growth, control, innovation or efficiency.

After finding general patterns and differences between the start-ups included in the study in the cross-case analysis, we wanted to find out if the different phases that the companies were in
contributed to different use of the control systems. After making an examination of several segmentation variables regarding development phases, as well as similarities and differences between different clusters depending on each segmentation, we found one particular variable that added a segmentation that brought up an interesting aspect to the analysis. We ended up dividing the case companies into two clusters, depending on if they are in a product development phase or if they have a completed and commercialized product already. Then we analyzed if the companies in the clusters use the control systems differently, and which levers of control they put the most focus on. We ended the analysis with a discussion regarding the results to find a logical explanation behind them.

In the preface of this thesis, we described our background and previous experiences. We have also provided explanations of how the data from the interviews was gathered and how we experienced it, which made it easier for us to support our generalizations. It also gives the reader a good understanding how we arrived at our conclusions. The theory that the tentative control framework was based upon was used as guidance for our research and interview questions. It was not considered an absolute truth and the study was not focused on rejecting or confirming hypotheses. All of this is related to the principle of abstraction and generalization, presented in Chapter 3.3.

3.7 Quality of the research

To determine the quality of case-study research there are four commonly used criteria. Yin (2009) summarizes the four evaluation criteria and connects these to tactics in case studies to ensure good results. The criteria, together with the related tactics, are presented in Table 3-3.

Table 3-3: The four evaluation criteria for case studies together with their related tactics, as described by Yin (2009).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Case Study Tactic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct validity</td>
<td>Use multiple sources of evidence</td>
</tr>
<tr>
<td></td>
<td>Establish chain of evidence</td>
</tr>
<tr>
<td></td>
<td>Have key informants review draft [of] case study report</td>
</tr>
<tr>
<td>Internal validity</td>
<td>Do pattern matching</td>
</tr>
<tr>
<td></td>
<td>Do explanation matching</td>
</tr>
<tr>
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Alternative criteria for evaluating the quality of qualitative studies have been suggested by other authors. Bryman and Bell (2011) suggest four other criteria that could be used: credibility, transferability, dependability and confirmability. However, these criteria in many ways parallel to validity and reliability and therefore were not perceived to increase the accuracy of the evaluation. The criteria presented in Table 3-3 are the most widely used in academic research, and for that reason those criteria were used for evaluating the quality of this study. The four evaluation criteria are explained in detail in the following sections.

3.7.1 Validity

*Construct validity* means defining the concept that is being studied, which operational variables that constitute it and identifying correct measures for it (Yin, 2009). This could be simply explained as whether the study actually measures what it claims to measure.

For this study, we have used all of the tactics suggested by Yin (2009) to ensure high construct validity. Even though data collection from the case studies was mainly focused on interviews, other sources of evidence were collected as well. First, an extensive literature review was performed before we initiated the case study. This literature review consisted of multiple different sources, mainly in terms of articles from different academic journals, as well as several books. This gave us a theoretical idea of what an MCS framework in start-ups could look like. Second, we also used multiple sources of empirical evidence. Most of the interviews were conducted in the office of the case companies, which allowed us to collect some evidence in terms of direct observations. We also retrieved some information from the company’s annual reports, to strengthen the robustness of the evidence and reduce the risk of relying only on subjective, and potentially biased, information from interviews. Further, a chain of evidence was established from the literature review that resulted in the tentative control framework (illustrated in Figure 2-9). The tentative control framework gave us an idea of expected outcome from the case study. Findings from the case studies were compared to the theoretical framework that this report builds on and general patterns between the different cases were identified. Based on the empirical findings, related to the theoretical framework, conclusions were made. By following this method, a chain of evidence was maintained. Finally, all interviews in the case study were recorded. After each interview, we listened through the recording together and discussed different interpretations and summarized a draft of the collected data for each case. This draft was sent for overview to the interviewee of that particular case. By following this procedure, we believe that high construct validity was achieved.

*Internal validity* is about establishing causal relationships between events and being able to distinguish these from spurious relationships (Yin, 2009). More simply, this could be expressed as being certain that an event X led to event Y because of a known causal relationship and not some unknown factor Z. In a case study when an event cannot be directly observed (which likely happens in most case studies), the researcher makes inferences to come to a conclusion regarding why a certain event led to another (Yin, 2009). Making sure that these inferences are correct is obviously not an easy task. Nevertheless, Yin (2009) suggests a few tactics to increase the likelihood of these inference assumptions being correct.
To achieve a high internal validity, we followed three of the tactics suggested in Table 3-3. The tactics that we used in our research were pattern matching by doing within-case analyses, explanation building by doing cross-case analyses, as well as addressing rival explanations to fullest extent as possible (see Chapter 3.6 for details). By following these tactics, we believe that our study has a high internal validity.

External validity is to which extent the results from the case study are generalizable and applicable in situations outside of the immediate case study (Yin, 2009). One obvious way to test the generalizability of the results is to perform more experiments in similar settings. If the results from these experiments are the same as the initial result, this would be a strong indicator of the study’s robustness and external validity. However, there are other ways to test the external validity of a case study. Yin (2009) argues that by using replication logic in multiple case studies, one can achieve similar indications of the external validity as from multiple experiments. This means carefully selecting cases so that they are predicted to show similar results or are predicted to show different results for anticipatable reasons. According to Yin (2009), if a multiple case study includes six to ten different cases and all the cases turn out as predicted, this would be equivalent to conducting six to ten different experiments with the same results.

The case study was designed with replication logic in consideration. All the cases were technology start-ups in emerging or growing market segments, that had recently been in or were currently in a phase of rapid growth. Thereby, they were expected to show similar results since they had similar organizational and industrial settings. Thus, we believe that the general patterns that were identified between the different cases should have some external validity. However, since the study only included a limited number of cases, the external validity should be considered as limited. Including a larger number of cases, that are divided into multiple different groups where the outcome can be successfully predicted for each group, would be a way of achieving a higher external validity.

3.7.2 Reliability

Reliability means making sure that the very same case study could be conducted once again with the same result (Yin, 2009). To make sure that high reliability is achieved, researchers must document the procedures of the case study well to make sure that another researcher can follow the exact same procedures. Yin (2009) suggests two tactics for achieving high reliability; using a case-study protocol and developing a case-study database.

To ensure the reliability of this study, we have documented the process from literature review and theory development to analysis and conclusions extensively. However, we did not use any of the recommended tactics mentioned by Yin (2009). The reason for this was that the study only covered six small cases, and therefore we did not think that a case-study database or a case-study protocol would be necessary since most of the information could be covered in the report. This means that there could be some issues related to the replicability of the study. However, we documented the settings around the empirical data collection well. This documentation included time and place for each interview, as well as who were present, both as interviewer and interviewee. This is a way of increasing the reliability. But overall, we
recognize that the reliability of this study should be considered limited. Saunders et al. (2009) claim that a high reliability in qualitative research with non-standardized research approaches is not feasible. Rather the strength of this type of research is being able to study complex and dynamic topics that requires a non-standardized approach (Saunders, et al., 2009).

3.7.3 Source criticism

The literature cited in this thesis is not only about Swedish companies and all the MCS theories are not intended for start-ups. That may cause problems, since the research about start-ups in other countries may not be applicable to the Swedish start-ups in the case studies due to external, cultural differences and other factors. The theory about start-ups used in this thesis is not only directed to companies falling under our definition of a start-up (see Chapter 1.3), which could lead to faulty conclusions, since the challenges for start-ups may be different between industries. However, we tried to relate the theory to our definition of a start-up and only include theory that we thought were applicable to our study.

The authors that we cited in our research may be unreliable and have made conclusions that are wrong due to bad research methods. Nevertheless, we have chosen literature carefully and only brought up literature that has plenty of citations, which brings up the credibility of them. We have also tried to use multiple sources and relate them to each other in order to provide stronger support for statements that we make. Most of our findings from the literature review are based on multiple sources, which decreases the risk of faulty theory.

In our case studies, we only interviewed people with management, founder or leader positions to get an overview of the company and its history. Conducting multiple interviews in the same case company would have provided more perspectives and decreased the risk of biased and subjective answers. However, we do not believe that it would have added much data to the analysis since the interviewees, that all were in management positions, had a holistic view of the organization and could thereby answer all our questions in most cases. Because of the limited interest from the potential case companies to participate, where several companies declined because of lack of time, we think that conducting multiple interviews in each company would have limited the interest even more and thereby decreased the number of cases that we could include. Therefore, the choice was made to do only a single in-depth interview per case company. The data collected from each interview had a good coverage and thereby we believe that we have collected a sufficient amount of data for each case even though conducting only one interview per case. The interviews gave us insights into what different control systems that the start-ups use and for what purpose. However, there are also limitations related to this. Since we only asked individuals with management positions, it decreases the quality of the study as the effects and outcome of the control systems could potentially be perceived differently between management and the rest of the employees.

This means that there could be a problem since the interviewees might have romanticized their own company and given us biased information, and told us the things that they thought we wanted them to say. We tried to mitigate this problem by keeping a certain degree of suspicion towards the interviewees’ answers, and therefore we asked follow-up questions and asked the interviewees to give concrete examples to get more objective answers. This is in line with the
principle of suspicion, described in Chapter 3.3. We think that this helped us lower the risk of distorted data.

3.7.4 Methodology criticism

Dyer and Wilkins (1991) criticize the within-case and cross-case analysis that Eisenhardt (1989) describes, and which we used in this study, since they think it fails to cover a deep background of the case companies and only focuses on the surface of each case. Nevertheless, we gathered a sufficient amount of background information from each case for our purpose and analyzed them one by one more deeply at first. Then we found similarities and differences from them all, so that we did not neglect the individual backgrounds of each case.

When conducting a qualitative case study, it is hard to know when to stop adding new case companies (Eisenhardt, 1989). Eisenhardt states that researchers should stop adding new cases when they are no longer receiving any new information from each new case, and that usually four to ten cases are sufficient. Then the researchers receive enough data to draw general conclusions and patterns, but there is not an overwhelming amount of complex information to deal with. Still, it is impossible to know whether we have included enough cases in this thesis or not, since some of the start-ups that we have chosen not to include might have faced other important challenges or have used other interesting control systems that would have been relevant in our study.

Bryman and Bell (2011) bring up four of the most common criticisms of qualitative research. The first one is that qualitative research can often rely on the interviewer’s impressions of the interviewee, and that it is subjective what the researcher believes is interesting data to use. The second problem with qualitative research that is brought up is that it is hard to replicate, since there are no standardized ways of conducting that kind of research. Every researcher is an individual that will interpret data in its own way. They also bring up the problem of generalization in the qualitative studies, since all the companies in the research are different from each other. They state that a few companies hardly can represent all cases. That is related to the problem that our case companies are Swedish, which we brought up in the source criticism in Chapter 3.7.3. Finally, Bryman and Bell (2011) state that it is often difficult to know what the researcher of a qualitative study actually did and how the cases were selected. That would lead to questions regarding how reliable the study is. In this report, we mitigated these problems by having an open mind regarding the interviewees and tried to be as objective as possible, by not letting our own opinions affect the answers, when collecting and analyzing data. Finally, in Chapter 3.1, we have described the details of how we have conducted our research, from literature review and case studies, to analysis and conclusions.

Most of the case companies were located in, or in proximity to, Linköping, which meant that we could do face-to-face interviews. However, one of the interviews was also conducted through video call, as the interviewee was not located near Linköping (see Chapter 3.4). This could potentially be a quality issue, since empirical data was gathered in different ways. Also, the video interview did not allow us to gather data in the form of observations to the same extent as if we had visited their office in person. However, due to the limited resources of our study,
this was a trade-off that we chose to make to be able to include interviewees outside of Linköping as well.

3.8 Ethical considerations in our research

To make sure that this study was performed in an ethical manner, we made sure to address all the common ethical issues in business research. Crandall and Diener (1978) break these issues down into four main principles:

- Harm to participants
- Lack of informed consent
- Invasion of privacy
- Deception

In the following section these issues are discussed more in detail, as well as how we made sure that none of these issues occurred in this study.

3.8.1 Harm to participants

Harm to participants can be in terms of both physical and psychological, as well as harm to career or employment prospects (Bryman & Bell, 2011).

To minimize the risk of any harm to the participants of the research, all participants were handled with great respect, informed that participation was completely voluntary and that participation could be aborted at any time. Participants were also offered to be handled anonymously and confidentially if so requested, both in terms of personal, as well as company, information.

3.8.2 Lack of informed consent

Lack of informed consent means that prospective participants are not given enough information about the researcher and the nature of the research project to make an informed decision on whether to participate or not (Bryman & Bell, 2011).

To make sure that the participants of our research did not suffer from any lack of informed consent, we tried to keep as high degree of transparency as possible. However, giving all participants access to all available information regarding the project was not practically feasible. According to Bryman and Bell (2011), by doing such there is also a risk of contaminating people’s answers if they know all the details beforehand. Therefore, when asked to participate in the study, prospective participants were informed both orally, as well as with a written statement explaining the nature and purpose of the research. They were also given information about how the data would be used, how it would be handled and finally where the thesis was going to be published. They were also informed about their right to be treated confidentially and their right to abort participation at any time, and they were sent our interview guide beforehand to get a good understanding of what we were going to ask. Finally, they were informed about the estimated time that an interview would take, as well as how the results from the study could also benefit them.
3.8.3 Invasion of privacy

According to Bryman and Bell (2011), the ethical issue of privacy invasion means that the research should not invade the participant’s privacy. This means that participants have the right to refuse to answer any question for whatever reason.

To minimize the risk of any privacy invasion in our research, we excluded questions that we thought could be considered too private, and that were not crucial for the study, from the interview guide. Although, since the matter of privacy invasion is highly subjective, more measures had to be taken to ensure that no privacy invasion occurred. Therefore, all participants were informed about their right to refuse to answer any question and they were not asked about the reason for refusing. We also believe that the option to remain anonymous, as well as all participants giving informed consent to participate in the study beforehand reduced the risk of privacy invasion. Finally, a draft of the information gathered from the interview was shared with the interviewee where requests could be made to remove information that were considered too private or sensitive to be published.

3.8.4 Deception

Deception in research occurs when researchers present their study as something other than what it actually is (Bryman & Bell, 2011). Deception is of course undesirable and risks damaging the trust towards academic research. However, deception to a certain degree is common in business research, due to the fact that researchers might be reluctant to reveal all the details regarding the nature of the research in order to make sure that respondents reply more naturally to questions (Bryman & Bell, 2011).

As mentioned before, we tried to keep as high degree of transparency as possible and be fully honest about the nature of the research to the participants. We do not believe that this affected the respondents’ answers to any major degree. Although we were transparent, we held the tentative control framework and any hypothesis or assumptions made beforehand undisclosed, since we thought that it could affect the results significantly if the respondents had previous knowledge regarding this. To reduce the risk that the results of the thesis could be misused in a harmful way, we did not include any data or information regarding respondents that was perceived as something that could be used against them by, for example, competitors.
4 Case Studies

In this chapter, we describe how several case companies use the control systems in our tentative control framework. We also analyze which control lever that the different control systems are used as. The case studies provide examples of how fast-growing start-ups use the different control systems in our tentative framework, as well as how they balance the different control levers, which corresponds to the third research question of this thesis. All the case companies are, or have been, fast-growing technology start-ups. Their market segments include IP-TV, indoor positioning, 3D-optimization, Internet of Things, agricultural automation technology and fiber-optic broadband, respectively. Thus, they all are, or have been, active in emerging or growing market segments.

4.1 Kreatel Communications AB

We found Kreatel Communications AB (hereby named Kreatel) to be an interesting case as they were growing very rapidly in terms of number of employees around year 2000, but then they faced the Dotcom crash which hindered their growth. However, after having to cut their costs for a few years, they managed to resurrect and become successful again. They had an interesting use of value controls together with delegated responsibility and participation throughout the organization, which was important for them to handle the uncertain environment. The study of Kreatel is for the years between 1999, when Bengtsson took over as CEO, and 2006, when the company was acquired by Motorola. It could be a problem that Kreatel was active a long time ago, but Bengtsson has written a book and talked much about his experiences from the company, and thus remembers details and events that are useful for this case study. Kreatel is the company that has experienced the most rapid period of growth and has reached the largest size of all the case companies.

4.1.1 Background

Kreatel started its business in 1995 with two founders. The company manufactured selectors for automatic prefix input for the European telecom industry. After a time of problems with internal relations (which is mentioned in Chapter 2.2 as one of the challenges for start-ups), where the CEO at the time was criticized for inconsequent decision making, the employees made an ultimatum for his resignation. In 1999, the CEO at the time resigned and Lars Bengtsson was recruited externally as new CEO. When Bengtsson took over as CEO the company had approximately 10 employees and a turnover of 10M SEK. Bengtsson was put on a mission by the board of directors to broaden the product offering and internationalize the company before the coming stock-exchange listing. Kreatel analyzed the need from telecommunication providers and decided to enter the, at the time, new industry of IP-TV with the target of increasing the number of services provided in the telecommunication network. Kreatel differentiated themselves from their competitors by focusing on providing unique software rather than hardware, and they quickly claimed a global market leadership already by the year 2000. From Q3 1999 to Q4 2000, the company increased the number of employees by approximately a tenfold.
The Dotcom crash during the year 2000 led to collapse in the telecommunication industry. Therefore, Kreatel had to decrease the number of employees for every consecutive year until 2003 when they had only 35 employees left. After that the industry recovered and Kreatel once again started to grow. In 2006, Kreatel was acquired by Motorola for 800M SEK and the same year they had a turnover of more than 500M SEK, which was larger than the second and third largest competitor combined. By the end of 2006, Kreatel had 75 employees.

The goal for Kreatel was to claim an early market leadership and hold the leadership position while growing with the market. To accomplish this, the company took in a total of 220M SEK in venture capital. During a period of only six months between end of 1999 and beginning of 2000, Kreatel received 125M SEK in venture capital, which was a strong contributor to the rapid growth during the same period. Until 2003, the primary goal was growth and profits were secondary. However, after 2003 the goal was to grow and make profits at the same time. Overall, from beginning of 1999 to the end of 2006, Kreatel experienced a CAGR of approximately 30 percent and 65 percent in terms of number of employees and turnover respectively. Although, the growth rate was much higher at times. The most explosive growth phase was between September 1999 and December 2000, when the company grew from 10 to 91 employees together with approximately 40 consultants. This corresponds to a CAGR of almost 640 percent (including consultants). Kreatel’s development in terms of number of employees and turnover during 1999-2006 is illustrated in Figure 4-1.

4.1.2 Organization Structure

The organization in Kreatel was divided into two segments; Selectors and IP-TV. The structure was flexible and employee positions changed depending on what was required during the specific situation. The people in the management team also changed depending on the

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6 Abbreviation for Compound Annual Growth Rate. A metric that shows the mean annual rate of growth during a period of more than one year.
company’s focus and which competence that was needed for the moment. Thus, the company was reorganized frequently. The overall goals of the organization were broken down into unit-specific goals and the sub-units were responsible for deciding which actions that would be needed to make sure that their goals were reached. The goals of the different units were further broken down into individual goals, and their fulfilment was regularly evaluated with individual performance reviews. The performance was also evaluated on the unit-level. All the different units participated in breaking down the company goals, which ensured that all the units were on the same track, and there was also high collaboration between the units. If problems occurred, members from all the different units would come together to make sure that the problem was solved. This means that the organization structure in Kreatel can be characterized as organic according to Chenhall’s (2003) description, since it was decentralized with lots of cross-functional collaboration, as well as frequently changed to ensure that Kreatel was responsive to the changing environment.

Although the structure was organic, there was also a functional division of units such as sales, R&D, production and logistics. The fact that there was a lot of collaboration between the units, and that members from different units would come together in cross-functional teams to solve problems, makes the structure resemble the description by Chenhall (2003) of a hybrid organization. The cross-functional collaboration and the fact that members of the organization moved between different units depending on what the focus of the company was at that moment likely stimulated learning and strategic dialogue within the organization.

Communication in Kreatel was open and everyone could communicate with anyone. This was a consciously made choice by Kreatel since they did not have time to wait for communication to travel through the formal ways of the organization. Another reason why Kreatel had a very open communication was, according to Bengtsson, that information gets filtered through every level it travels. Therefore, he claims that openness is very important in this kind of organization.

Through the flexible organization structure and the delegated decision making, the organization structure could be adapted to best fit the needs of the current situation and the delegated decision making meant that members in lower levels of the organization could make their own decisions that moved the organization forward. Thereby, how Kreatel used their organization structure can be classified as Simons’ (1995) definition of interactive control systems. The reason for this is that it was frequently changed to best fit the current situation, which meant that the organization structure required frequent attention from members in all levels of the organization and stimulated strategic dialogue since members often changed roles. These characteristics are some of the typical characteristics of interactive control systems, mentioned by Simons (1995). Since the delegated decision making moved the organization forward, it also means that the organization structure supported bottom-up emergence of strategies, which is what Henri (2006) mentions as a typical feature of an interactive control system. All in all, the hybrid organizational structure used in Kreatel seems to have been used to promote flexibility and adapting to changes in the environment.

Kreatel had routines for integrating knowledge throughout the organization. These routines were frequent information meetings with the staff to update everyone on where they were and employees also had the chance to exchange different types of new knowledge with each other.
They also had workshops where they used SWOT-analysis as a tool to find their strengths and weaknesses, and identifying new ways of improving the way they work. During these workshops, there was also a reflection over new experiences and knowledge that the organization had gained. Kreatel also continuously invited customers to present their view of Kreatel for the whole staff in terms of for example delivery time, product quality and features, service and so on. This gave Kreatel a good idea of what they should focus on developing and improving.

These routines that encouraged the organization to continuously challenge themselves in finding new ways to improve, stimulated strategic dialogue and organizational learning, and supported knowledge integration throughout the organization, which are typical characteristics of an interactive control system (Simons, 1995). Thereby, it could be classified as an interactive control system, according to Simons’ (1995) definition.

4.1.3 Values & Symbols

When Bengtsson took over as CEO in 1999, the company had suffered from problems with internal relations. Therefore, Bengtsson had personal meetings with everyone in the staff to identify what the problems were. Through workshops with the staff, a set of core values for how the members of the organization should act, both internally against each other and externally against customers were created. Bengtsson stressed the importance of involving the staff in the development of the core values to make sure that they understand the meaning of them, as well as are committed to them. After the set of core values had been developed, core value statements were printed and put on the walls in the office to constantly remind the staff of them. The core values were also discussed in the individual performance reviews. The core values emphasized forward-thinking, collaboration and teamwork, responsibility and courage.

Together with the core value statement, a vision statement of becoming the world leader in IP-TV solutions was also formulated and entrenched within the organization in the same way as the core values. The vision was the lodestar of the organization and the core values were the fence. Bengtsson describes it the following way:

“As long as you are heading towards the lodestar, and as long as you keep inside of the fence, you are allowed to do whatever you want. But you do not step outside of the core values.” (Bengtsson, 2017)

This means that the vision provided the overall direction of the organization and the core values made sure that they stayed on route. According to Bengtsson, the vision and core values that were entrenched in the organization supported the decentralized decision making.

Value controls have been an important tool for solving the challenge with internal relations, as well as making it less risky to delegate decision making to lower levels of the organization, which is something that was also mentioned in the literature review in Chapter 2.2.2. The vision and core value statements that were printed and put up on the wall can be seen as symbol controls according to Malmi and Brown’s (2008) definition, since they were visible expressions that strengthened the core values in Kreatel. The vision statement in Kreatel can be classified as a belief system since it provided the overall direction that the organization should be headed
in, which is in line with Simons’ (1995) definition of belief systems. The core value statement can be classified as a boundary system by providing guidelines for behavior and codes of conduct, Bengtsson claimed that the core values were strict boundaries that the employees were not allowed to step outside of. This is in line with Simons’ (1995) definition of boundary system, thus, value controls in Kreatel functioned as both belief and boundary system. Symbols in Kreatel functioned as a belief system by constantly reminding employees about the core values.

4.1.4 Planning & Budgeting

Planning in Kreatel started from the vision, which was broken down into business plans for one year ahead. This means that planning in Kreatel was focused on short range rather than long range. The business plans were rather detailed and included action plans. Based on the business plan, a financial plan (budget) was derived, which set the financial goals of the organization. Both the business plan and the budget were further broken down into unit specific plans. The goals were broken down to the individual level, so that every employee had their own individual goals. By formulating goals on both the unit and individual level, standards of performance were established that the business could be evaluated against. This is similar to Simons’ (1995) definition of diagnostic controls, which means that budgeting can be classified as a diagnostic control system in Kreatel.

According to Bengtsson, everyone in the organization was involved in creating new plans, as well as evaluating and following up performance compared to the plan. Plans were flexible and updated according to changed conditions. This was done through regular information meetings with the staff and these meetings also gave everyone in the organization a good idea of where the company was, as well as where they were heading. Bengtsson stressed that the planning was very important to create goal congruence and participation throughout the organization. More important than the plan itself. Based on the business plan and the budget, the company was organized and resources were allocated and dimensioned.

Before 2003, when Kreatel received a lot of venture capital, they did not focus a lot on neither costs nor cash flow in their planning. The watchword during this time was “Think big, move faster” (Bengtsson, 2017). However, after 2003 the mind set of investors changed and Kreatel did no longer receive as much external financing and they had to start focusing more on making profits. At that time, cash-flow management became more prioritized. Specifically burn rate was important for the company to control.

Planning in Kreatel functioned differently between the two business segments that the company was working in. In their traditional industry where they were manufacturing selectors for automatic prefix input, they had already established a strong competitive position and they knew that the industry had a limited lifespan. Therefore, they focused on maximizing profits in that industry to be able to finance their growth in the IP-TV industry. This resembles the harvest strategy, presented by Gupta and Govindarajan (1984). The IP-TV industry was what the company saw as its future and their focus was on growing and building as strong competitive position as possible in that industry. The goal was to double the turnover from the IP-TV industry every year. This resembles the build strategy, presented by Gupta and Govindarajan (1984), and their plans were focused on maximizing growth and not necessarily profits.
Participation has been an important feature of both the planning and budgeting in Kreatel. They had many information meetings with the staff where they reviewed current plans and discussed modifications and changes to the plan. The participative budgeting and planning stimulated strategic dialogue in the organization and according to Bengtsson, many new ideas emerged from these discussions. This shows that participative planning and budgeting in Kreatel was something that was an important and recurring topic for top management, as well as for members in lower levels of the organization due to the frequent meetings with the staff. It also meant that data was discussed face-to-face between members of different hierarchical levels and since plans were discussed and modified it further meant that there was debate and challenge regarding action plans. These are all the typical characteristics of an interactive control system mentioned by Simons (1995). Since new ideas emerged from these discussions, it shows that it also supported emergent strategy, which is what Henri (2006) mentions as a typical feature of an interactive control system. Thus, participative planning and budgeting in Kreatel can be classified as an interactive control system.

Further, both budgeting and planning also functioned as a boundary system in Kreatel. The short-term plan was detailed with actions that was supposed to be carried out. This set boundaries for what the employees could do. Budgets were used to allocate resources and dimension the organization, which also set boundaries for how much resources different units had available. Thereby, both the short-term plan and budget were used to ensure that actions were carried out in an acceptable market domain within acceptable levels of risk, which is according to Simons’ (1995) description of boundary systems.

4.1.5 Hybrid Measurement Systems

The control measures used in Kreatel were different between the two business segments. In the business unit that was making selectors for the telecom industry, control measures were mostly focused on financials. They used traditional financial measurements such as revenue, profit margins and measurement of certain cost objects. As mentioned before, the goal was to maximize profits and the focus on financial controls are likely because of the harvest strategy (mentioned in Chapter 4.1.4).

In the business unit that was targeting the IP-TV industry, on the other hand, Kreatel used more non-financial measurements. According to Bengtsson, the reason for this was that Kreatel entered the IP-TV industry when it was still very small and therefore it was not generating much revenue. They were focused on understanding the customers and solving problems that arose. The only financial measurement they had initially was turnover, since their goal was to double the turnover for every year. Since Kreatel wanted to build a strong position in the market early before other larger players entered, they also used some time-based measures. However, due to the Dotcom-crash in the beginning of the millennium, they failed to meet their goals in terms of time. After the Dotcom-crash, burn rate was introduced as an important measurement for controlling the company’s cash flow. The focus on non-financial controls and aggregated financial measures in terms of growth, was likely due to the build strategy of the IP-TV unit (mentioned in Chapter 4.1.4). The IP-TV unit is the most interesting to study in this thesis, since the IP-TV industry was an emerging market at the time and it was what the company targeted as their future.
Kreatel also measured and evaluated the performance of customers to be able to prioritize between them. Customers were evaluated with a four-field matrix with sales potential (number of units that the customer was estimated to order) and time to decision (estimated time until the deal would be made). That way the company knew how they should prioritize different customer’s needs whenever trade-offs had to be made. Kreatel also compared themselves to competitors to make sure that they fulfilled their vision of being market leaders in the industry.

The management team was responsible for identifying appropriate control measures in relation to the goals of the organization. These were then approved by the board of directors. The data from the control system was evaluated each month, and if the goals were not achieved there was immediately a discussion to figure out what the problem was, as well as how it could be solved. There was also a continuous dialogue of the relevance and appropriateness of the different controls, and control measures were frequently changed. For example, in connection to the Dotcom-crash, the control measures in Kreatel changed from focusing on growth to focusing more on cash flows and return on investments. Bengtsson states that thanks to the frequent evaluation and updating of the control system, Kreatel could detect the signs of the Dotcom crash early and was therefore able to act early to minimize the damages. In December 2000, they saw that they were not fulfilling their goals and growing at the same rate that they had expected. Kreatel quickly took actions to scale down their organization by getting rid of all external consultants in January 2001 and in May 2001 they also started reducing their own headcount. Bengtsson claims that this was done before other players in the industry had started taking actions. Without the control system in place, Kreatel would not have been able to respond that quickly and would have suffered more severe damages and lost more money according to Bengtsson.

The combination of financial and non-financial controls used in Kreatel shows that they had a hybrid measurement system, according to Malmi and Browns’ (2008) definition. The financial controls were on an aggregated level by measuring turnover and did not focus on certain cost objects. Costs were only measured to control cash flow and calculate burn rate to make sure that Kreatel had sufficient funds to cover their costs. This shows that it was a way of handling the challenge of limited financial resources, which was also mentioned in the literature review in Chapter 2.2.2.

Kreatel set standards of performance by formulating goals and targets, and performance was continuously evaluated relative to those goals and corrective measures were taken in case of deviations. This is in line with Simons’ (1995) definition of diagnostic control systems. However, there was also a frequent evaluation of the data from the control system with continuous dialogue of the appropriateness of different controls and the control system was often updated to best fit the current situation. This shows that the hybrid measurement system in Kreatel was an important and recurring topic for the management, and since it was updated to best support the current situation, it also supported new strategic initiatives, which resembles Simons’ (1995) description of an interactive control system. This indicates that the hybrid measurement system was used both diagnostically and interactively in Kreatel.
4.1.6 Human Resource Management

Kreatel offered salaries on a market-comparable level. However, they did not have the financial resources to compete with other employers solely based on salary. Instead, when the company was in an early stage of start-up, they offered approximately the 15 first employees to purchase stocks in the company as an incentive. After that, Kreatel changed its incentive plan to a stock-options program, where employees were on several occasions allotted stock options. The allotment of stock options that an employee received was dependent on that individual’s performance and goal fulfilment. It was also dependent on how important that individual’s competence was considered for the future. Thereby, how individuals were evaluated when deciding the allotment of options between them was different depending on the situation. The idea was to reward key individuals for the moment. Other than the stock-options program, Kreatel did not offer any variable pay or other bonuses.

The stock-options program used in Kreatel was a chance for employees to become shareowners in the company. Thereby, they could take part of the company’s profits and could also benefit from potential value increase of the shares. Since the allotment of stock options was based on performance and goal achievement, as well as key competence, it can be classified as a diagnostic control system in Kreatel targeted to reward employees that were key individuals for implementing the deliberate strategy, which is something that Henri (2006) mentions as a typical feature of a diagnostic control system. It makes employees more committed to performing and fulfilling both the organizational and the individual goals.

To find potential candidates to hire, Kreatel offered master thesis opportunities for graduate students. This was a way of getting to know the person and testing how well they fit in to the organization before they were hired. Other than master thesis, Kreatel also used contact networks to find potential candidates. Bengtsson claimed that there was a challenge in attracting employees when the company was small and unknown, but it became easier as they grew. During the recruitment process, focus was mainly on finding employees with the right competence and all candidates had to perform a case interview to test their competence. But values were also something that was communicated early in the recruitment process to find people with aligning values.

After being hired, all new developers in Kreatel had to go through a process called “Hell Week”, where they took part in the product development and were assigned a task right away that they had to take their own initiatives to solve. The new employee had to find the relevant information needed to solve the task by communicating and collaborating with other employees without any guidance from the company. This was a way of showing the new employee how things work at Kreatel and what was expected in terms of collaboration, communication and own initiatives.

This shows that Kreatel tried to ensure a good match between company and employee values in both the first and second level described by Malmi and Brown (2008) (see Chapter 2.1.2). An example of how the first level affected organizational behavior in Kreatel was by communicating the core values in an early stage of the recruitment process. However, focus was rather on competence at this point. Therefore, the effect was likely stronger in the second level. The best example of this is the use of “Hell Week”, which filled the purpose of indoctrinating the new employees with the values of the organization. Thereby, the core values
were entrenched at a very early stage. Focusing on aligning company and employee values creates a common belief in the organization and reinforces the core values and thereby sets the direction of the organization, which is how Simons (1995) describes belief systems. This shows that HRM in Kreatel can be classified as both a belief, as well as a diagnostic control system.

Kreatel’s strategy for retaining employees was to offer exciting work tasks and allow employees to affect and guide their own development in the company. They also tried to retain high performers by using stock options as monetary incentives, which is something that was also suggested in the literature review in Chapter 2.1.2. Kreatel did not actively try to retain people with the right values, but by using “Hell Week”, employees were shown early what was expected by them, and the employees that were not comfortable with the amount of own initiative required often chose to leave the company themselves.

4.1.7 Levers of Control in Kreatel

Below in Table 4-1 is a summary of the different control systems used in Kreatel, as well as which control lever they have been used as.

Table 4-1: Control systems and levers of control in Kreatel.

<table>
<thead>
<tr>
<th>Belief System</th>
<th>Boundary System</th>
<th>Diagnostic Control System</th>
<th>Interactive Control System</th>
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<tr>
<td><strong>Organization Structure</strong></td>
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<td><strong>Values</strong></td>
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<td><strong>Symbols</strong></td>
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<td><strong>Short-Range Planning</strong></td>
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<td><strong>Long-Range Planning</strong></td>
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<td><strong>Budgets</strong></td>
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<tr>
<td><strong>Hybrid Measurement Systems</strong></td>
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<tr>
<td><strong>Human Resource Management</strong></td>
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</table>

Kreatel, in the IP-TV unit, has used all the four different control levers in Simons’ (1995) framework. However, Kreatel seems to have put a little more focus on interactive control rather than diagnostic control, by using a control system that promotes participation and strategic dialogue rather than measurement of performance and deviations. This indicates an inclination towards innovation rather than efficiency, according to McCarthy and Gordon’s (2011) discussion regarding strategic goals related to the different levers of control. This seems natural
considering their build strategy for becoming market leaders in the IP-TV industry. Kreatel has used belief and boundary systems together. However, the boundary systems such as short-term plan and budget were flexible and often changed according to changed condition. This means that they did not specify fixed boundaries for the organization to keep within. Rather it was the values that specified the fixed boundaries, which also functioned as a belief system. The vision statement, which is included in values, provided the direction for the organization and had a very fundamental role, since other control systems stemmed from that one. It seems that both belief and boundary systems have been important for Kreatel, however they seem to have put a little more emphasis on belief rather than boundary. This indicates a slight inclination towards growth rather than control, according to McCarty and Gordon’s (2011) reasoning, which also seems natural given the build strategy that they used.

As mentioned in the literature review, Simons (1995) claims that the power of MCS does not come from the single isolated systems, but rather from how the different systems are combined and complement and enforce each other. Bengtsson gives a good example of this in Kreatel, where he claims that the collaboration stimulated from the culture, together with the delegated decision making from the organization structure and the participative planning and budgeting, made employees very committed to solving problems and was an important contributor to their growth. Thanks to this, Kreatel could quickly respond to any business challenge that arouse and according to Bengtsson they never lost an affair.

The growth in Kreatel was very rapid and their development should be considered a great success. They quickly managed to fulfil their goal of becoming market leaders and managed to maintain that position all the time until they were acquired by Motorola. This shows that the company had competitive advantage over their competitors. The statements by Bengtsson that are described above furthermore shows that the configuration of the MCS in Kreatel was a strong contributor to their performance. Even though Kreatel decreased in number of employees from 2000-2003, this was due to the Dotcom crash that affected most IT-companies strongly. The MCS helped Kreatel in minimizing the damages, and thereby it can be argued that the configuration of MCS used in Kreatel has helped the organization to achieve a controlled growth.
4.2 Senion AB

Senion AB (hereby named Senion) is an interesting case, as they have been growing fast in the latest years, and they have been established on the international market from the start with a focus on the American and Asian markets. They have an interesting combination of formal and informal control, where they put focus on financial controls, at the same time as the company values have a great impact on their business.

4.2.1 Background

Senion was founded in 2010 by six researchers at Linköping University. Among these, Christian Lundquist was appointed the role as CEO. The company makes GPS-like indoor positioning solutions, mostly for shopping malls and big offices. With Senion’s positioning services, their customers can find their way to meeting rooms and measure the capacity utilization of a certain room. They are also able to track the movement patterns of shopping mall customers.

From the beginning, Senion has acted on the international market, with the first customer in USA and thereafter a big customer in Singapore. In 2013, Senion engaged in a partnership with Cisco to become part of a bigger network, and after that they have mostly focused on the American market, but also the Asian and the Middle East market. In 2015, Senion received 15M SEK in venture capital which made it possible to go from six to 15 employees in just a few months.

Senion’s objectives focus on growth in turnover, and all the other objectives stem from that. They have a goal of doubling their turnover each year, and they have managed to increase it with 50 to 100 percent annually. The historical growth of Senion is illustrated in Figure 4-2 below. Between 2012 and 2016, Senion experienced a CAGR of 94 and 97 percent in turnover and number of employees respectively.

![Figure 4-2: Senion’s development of annual turnover and average number of employees between 2012-2016.](image-url)
4.2.2 Organization Structure

The company is divided into three business units, namely sales, R&D and product management. Even though the communication within the organization is informal and open, important decisions between the R&D and sales units should go through the product management to make sure that they prioritize the right tasks. The objectives of the sub-units are set by the management, but the responsibility to choose how they will reach their goals is delegated to respective sub-unit. The goal of the R&D unit is to keep the development costs down, while the sales unit should increase the turnover and the product management’s objective is to keep the margin up on their products. The management team consists of the managers of all the sub-units, which makes sure that all units go in the same direction and do what is best for the company as a whole. If they see that a certain part of the company needs help with, for example, a delivery, the resources in the organization can be temporarily restructured to make sure that the company delivers as good and fast as possible. This means that Senion uses a mix of a functional and organic organization, according to Chenhall’s (2003) descriptions, as they have divided the company into certain roles, but there is still plenty of cross-functional collaboration and they can adapt and change the structure temporarily when there is need to. That mix relates to the hybrid organizational structure, that was mentioned in Chapter 2.5.

As the company grew bigger, the founders of Senion brought in external competence into the management team, which meant that the organization went from an informal organization to a more formal one with more focus on growth and objectives. Through the formal division of sub-units, they faced a challenge in making sure that the sub-units worked in the same direction and collaborated with each other. They also had to make sure that information was spread throughout the organization and was not isolated to only a few employees or a certain sub-unit.

To make sure that information is spread, the company has a board in the corridor that shows what every employee is working on and how it is going, and they have presentations regularly where the employees show what the different units are working on. Furthermore, they regularly have information meetings with all employees to ensure that everyone is on the same track. Senion also has a communication procedure where formal decisions between the R&D and sales units must go through the product management, which helps the units to stay focused on the most important tasks. This, together with the cross-functional collaboration, makes it easier for the sub-units to work together focus on the same goals, as well as ensures that they are flexible and share their knowledge and findings regularly.

To adapt to the changing environment, Senion encourages the employees to pick up knowledge from research, newspapers, books and magazines and share it with the rest of the organization orally, through workshops, email or other digital communication services. Important new information should reach the management team, that evaluates if there are any necessary changes in their business strategy needed to adapt to the new circumstances. Furthermore, the company strategy is evaluated each month to keep it up to date. Sometimes the sales unit can receive input from the customers of how the products can improve, and then they transfer that information to the product management. Then the product management can ask the customer for more information if needed, and discuss new solutions with the R&D department.
All in all, Senion uses their organization structure in line with Simons’ (1995) description of interactive control system. This is because they use it to be efficient, but also to be able to share information throughout the organization, make room for new emergent strategies within the company, as well as adapt to changes in the environment.

4.2.3 Values & Symbols

Lundquist describes the company culture as *humble* and *insightful*. Those two attributes, together with *challenging*, represent the core value statement of the organization. According to Lundquist, the value statements helped the company to handle the challenge of collaboration between the sub-units, as the founders use them to show the employees what they think is important in the organization. He further describes the purpose of the value statements:

“The new employees act in the same way as the existing employees do. We have established a culture in the beginning, and have worked with core values. What is important to us founders? How do we want to behave?”

(Lundquist, 2017)

The values have stimulated a certain behavior in the organization and if someone acts out of line with them, a discussion is taken with that person to set things straight. The value statements are also printed in frames, which are put on the walls in the office together with diplomas and awards. This is a way for the management to communicate the values of the organization and make sure that the employees are constantly reminded of them, and the diplomas and awards support a culture of showing what they have accomplished together and that they should be proud of themselves. Those actions in the company are examples of what Malmi and Brown (2008) mean by cultural symbols (see Chapter 2.1.2).

Furthermore, Lundquist stated that the vision of the company is about making people’s life more effective and fun. This vision, together with the value statements, acts as a base for strategic decisions about what the company should do and what they should not do, in terms of business opportunities. In this way, Senion’s values and symbols in the form of value and vision statements are used in line with Simons’ (1995) description of belief systems, since it communicates the core values in the company and what they should achieve. The value statements however are also in line with Simons’ (1995) explanation of boundary systems, as they state how the employees should behave and act together with other people, both co-workers and customers. Furthermore, the values also support decisions about strategic directions in Senion, what they should focus on in their business and what customers they should and should not work with. Together it creates a more united company that makes the right decisions to achieve higher growth.

4.2.4 Planning & Budgeting

Senion’s management team plans what the company should do, with both a budget and a plan that span over a year. These are divided into quarterly plans. The yearly budget cover major recruitments and other big investments that they are going to make during the year. Every sub-unit develops their own budget, which is added together with the others to a company-wide
budget. Investments in R&D or business development are more long-term strategic decisions and directions and can be planned for several years ahead.

Furthermore, the management team has weekly meetings where they see how they perform relative to the plan, and plan what they should do next on a detailed level. This is regarding short-term actions. The yearly and quarterly plans are updated every month according to changes in their environment and how they have performed, to make sure that they have sufficient resources to pursue with their actions. Their budget also often turns out to be wrong, which forces them to act and adapt to the changes. The reason why their plan and budget are often wrong is that they are based on various assumptions (of customer demand for example), which are hard to make due to the uncertain environment. However, they still want a plan to act according to and update whenever they need. So, Senion’s budgets, short-range plans and long-range plans can be classified as boundary systems, according to Simons’ (1995) description of it. This is because they allocate resources and set boundaries for the employees to work within by deciding what to do and not to do. Yet, they are short-term boundaries, which is due to the difficulties of making forecasts in their uncertain environment. Therefore, the long-term boundaries are more flexible and updated frequently according to changes in the environment. Furthermore, the budgets also act as diagnostic control systems in Senion, according to the explanation by Simons (1995), as they use them to set standards that the performance can be evaluated against to detect deviations compared to the forecasts and expectations.

4.2.5 Hybrid Measurement Systems

The CEO of Senion, together with the management team, set up the performance metrics that should be measured. They focus on financial measurement and the most important metric is turnover, but they also measure, for example, number of patents, as well as publications in media. Their combination of financial and non-financial metrics is a kind of hybrid measurement system, as described by Malmi and Brown (2008) (see Chapter 2.1.2). Senion does not have any metrics that are based on time, but they plan to measure and shorten the sales cycle. The metrics that they use are updated every year to see if it is helpful to measure the respective metric. Lundquist states that the measurement of the turnover is the most important control system overall in Senion.

Every month the performance of the company is evaluated to see how high the turnover was. No matter whether they have performed better or worse than planned, Senion analyzes the causes for this to be able to make better plans in the future. The difference against the plan can be due to too positive or negative forecasts, or the performance itself could have been better or worse than expected. The performance measurement has helped Senion, for example, by analyzing why orders from customers have been late, learn how the process could be improved, and prepare future customers for problems they will face and in that way, shorten the ordering time. As they use the metrics to evaluate their performance against their expectations and adjust their actions according to that, Senion uses their hybrid measurement system in line with Simons’ (1995) explanation of diagnostic control systems.
4.2.6 Human Resource Management

The sales unit in Senion has a flexible salary that is based on how much they sell, in order to give incentives for them to maximize turnover. Furthermore, all employees are allotted stock options in the company to make sure that their interests align with what is best for the company. By allowing employees to become shareowners, the employees can benefit from the company’s profits and valuation, which means that they become more committed to fulfilling the company goals. Since rewards in Senion are based on evaluation of performance and/or are used to promote performance throughout the company, they can be said to use their incentive system as a diagnostic control system, according to Simons’ (1995) description.

When recruiting new employees, Senion values competence, experience, personality and motivation. They want to have heterogeneity in the group, but still have employees that act according to the company values, which indicates that they match their company with the employees in the first level mentioned by Malmi and Brown (2008) (see Chapter 2.1.2). They also match them in the second level as they try to communicate the company values to the employees, for example through the printed value statements on the walls, which was described earlier in this case. The recruitment strategy that they use is to be visible to students at the university, through student fairs and by sponsoring different activities. They also always have student workers and students writing their theses at Senion. To find more senior colleagues, they are active in different company forums where there are networks with potential future employees.

To retain the employees in the company, Senion thinks it is important that they feel that they contribute to the company success. Through the board in the corridor that shows what all employees are doing, together with the regular presentations of progress in the units, they are able to make every employee visible to the others and make them feel that they contribute to the company. Lundquist also mentions that Senion believes that it is important to challenge their employees and make them gain more knowledge. They are for example encouraged to regularly read books within their area of expertise in the company. There have even been systematic meetings where several employees with similar functions in the company discussed literature that they all were supposed to read, regarding their area of expertise, in order to gain knowledge and share their thoughts with each other. Thus, it can be said that Senion uses HRM as a belief system, according to the definition by Simons (1995), as they make sure that they have employees that share the company values, and are willing to stay in the organization and collaborate with the others according to the company’s strategies.

4.2.7 Levers of Control in Senion

Table 4-2 below summarizes the control systems used in Senion, and what lever of control they have been used as in the organization.
Senion uses all of the control levers, presented by Simons (1995). The company has plenty of belief systems, through values, symbols, and HRM. They have a company culture that fits all the employees so that they work in the company’s strategic direction, and the values constantly support decisions regarding business strategies. However, the boundary systems in Senion are not as strong, since they are flexible and updated frequently. That is because the environment changes rapidly, which makes it hard to make accurate forecasts and decisions, and the plans are often updated according to these changes. Therefore, since they focus more on belief systems than on boundary systems, it indicates that they have more focus on growth than on control in the company, according to the discussion by McCarthy and Gordon (2011) regarding strategic goals related to the different levers of control.

Furthermore, Senion seems to have a big focus on diagnostic control systems, especially the financial control, as the turnover metric has plenty of influence on the company’s strategies and is the most important metric of all. The employees in the sales unit also receive a flexible salary based on how much they sell, which further supports that the focus on diagnostic control. They also use interactive control systems, since they work with knowledge integration in the company. However, more focus is put on the diagnostic control systems, which indicates an emphasis on efficiency over innovation, according to McCarthy and Gordon’s (2011) reasoning.

The focus on both growth and efficiency can be argued to be shown in the growth history of the company. Their turnover has a CAGR of 94 percent, which is supported by their growth focus and the emphasis on turnover metrics to be efficient in their work. The growth rate in Senion is rather high, which could be explained by the fact that they do not use strict boundary systems.

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<thead>
<tr>
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*Table 4-2: Control systems and levers of control in Senion.*
4.3 Donya Labs AB

We found Donya Labs AB (hereby named Donya Labs) to be an interesting case, as they have had a fast growth for several years, without any big exceptions. The management of Donya Labs has previous experience from start-ups, and therefore it is interesting to study the impact that this has had on the control system. For example, the company has from an early stage focused on scalability in their processes and structures. The company was recently acquired by Microsoft in the beginning of 2017.

4.3.1 Background

Donya Labs was founded in 2006, and they develop the software Simplygon that automatically optimizes 3D objects by removing irrelevant data depending on the level of detail. They have mostly been targeting the gaming industry, but since a few years ago they have also been looking for other industry opportunities. Nina Forsvall joined Donya Labs as a consultant for six months in 2012, but since 2014 she has been employed as CFO and COO in the company and she is responsible for matters regarding financials, HR, marketing and internal processes. In 2012, Donya Labs had about 10 employees and a turnover of 12M SEK, which now has grown to 34 employees and a turnover of 60M SEK in 2016. In the beginning of 2017, Donya Labs was acquired by the large IT corporation Microsoft.

The company has a goal to increase the amount of employees and to increase the turnover by about 20 percent every year. According to Forsvall, they usually reach their goals and sometimes perform better than expected. The historical annual growth is illustrated in Figure 4-3 below. Between 2007 and 2016, Donya Labs experienced a CAGR of 67 percent and 31 percent in turnover and number of employees respectively, but the growth rates have changed a bit over the years with more rapid growth from 2011. This shows that they so far have reached well above their goal of 20 percent annual growth.

![Figure 4-3: Donya Labs’ development of annual turnover and average number of employees between 2007-2016.](image-url)
4.3.2 Organization Structure

Donya Labs is divided into several units, namely sales, R&D, finance, HR and marketing, which shows that the company uses a functional structure, according to Chenhall’s (2003) description. The sales unit is also divided into different geographic areas. The decision making is decentralized and all the sub-units have their own responsibilities. All the respective sub-units are represented in the management team, which ensures that they work in the same direction. According to Forsvall, there is a lot of collaboration between the sub-units and an example of she mentions is that the sales representatives work in pair with product specialists. Using a decentralized organization, cross-functional teams and collaboration indicates that the structure is also organic, according to the explanation by Chenhall (2003). Thereby, altogether the organization structure in Donya Labs have the characteristics of a hybrid organization, as Chenhall (2003) describes it. The sub-units do not have their own objectives that they are evaluated according to, except for the sales units that has certain sales goals.

Forsvall states that in the beginning, while Donya Labs consisted of up to 15 employees, the management structure was informal. After that, it became more formal and they started to use for example protocols in their meetings. In 2015, a new CEO was brought in that had experience from other industries than the gaming industry. The new CEO made sure that the management was working more professionally and structured than before. In the beginning, the board of directors had responsibility for operational matters, but through the formation of a structured management team, they have been able to focus on wider strategic matters. Forsvall says that the fast growth has been an organizational challenge as the employees have gotten new roles and responsibilities. The structure in the company has been important to handle the fast growth. Forsvall puts it the following way:

"Structure is very important when you are working, especially in cases with rapid growth. [It is important] That you have certain frames, rules and guidelines in place” (Forsvall, 2017)

Using a certain organizational structure to specify organizational frames and guidelines, indicates that Donya Labs uses their organization structure as a boundary system, according to Simons’ (1995) explanation. That is because they specify behavior and actions expected throughout the organization. The boundaries provided by the organization structure is a way for Donya Labs to maintain control while growing.

The communication in the organization is open and everyone can communicate to whoever they want. Once every week there is a lunch meeting where all the employees meet, and one of the sub-units present what they are working on for the moment. This further ensures that all the units work in the same direction and that every employee is up-to-date with what goes on in the company.

The organization is differentiated and decentralized, as they have their own responsibilities, and it is also an integrated organization as all sub-units are represented in the management team. They also use knowledge integration, through for example the lunch meetings and the open communication. Furthermore, the company seem to have a combination of formal and informal
communication as they have certain roles and responsibilities, but still can communicate openly within the organization.

Donya Labs has some routines that ensures that new knowledge and information is brought into the organization. The developers spend a certain amount of their work time on research and information searching. Previously they had something that they call “Google Fridays” and they have also had a certain period that was given only to information gathering and knowledge searching. Knowledge is spread throughout the organization through information meetings and discussions. Big new experiences and learning outcomes are often discussed and evaluated within the management team, but the board of directors are also involved if it concerns big strategic moves. Furthermore, a key to success for Donya Labs is to have a structure, good processes and decision making that is scalable to a much higher number of employees in the organization, according to Forsvall.

By having an organizational structure and routines that stimulate strategic dialogue, organizational learning, as well as knowledge integration throughout the organization, it shows that the organization structure is also used in line with Simons’ (1995) description of an interactive control system. This type of control system has been important for Donya Labs to handle changes in the environment and is something that Forsvall thinks is important for fast-growing start-ups.

4.3.3 Values & Symbols

Forsvall describes Donya Labs’ culture as open, creative and informal. The company has tried to establish a feeling that the employees work in a home, through how the office is furnished and they also serve breakfast every morning. The office space is very open, they have rugs all over the floor and they take off their shoes by the entrance. They furthermore have after works and gaming nights regularly to make the workplace more fun. Forsvall mentions that a big challenge for Donya Labs is to maintain the creative culture and the feeling of being a small company despite the fact that they are growing rapidly. Donya Labs’ vision is that their software, Simplygon, should be the standard solution for optimization of 3D objects. Forsvall describes that the vision statement, which is shared among all company owners, has been a success factor for the company since it ensures that everyone work in the same direction, and it seems to have plenty of influence in the organization and on their decisions.

Furthermore, Donya Labs also has a core value statement that is creativity, curiosity and innovation. The value statement is not directly communicated to the employees, but it is used in the management team’s work. The values are used to keep the company in its right direction and show what they should strive for, and are mostly shown through actions and activities with the employees within the organization. Forsvall believes that the culture and values within the company are some of the most important control systems that they have. Donya Labs uses their values in order to, directly or indirectly, communicate the core of their business and their strategic direction. Thus, the values in Donya Labs can be said to be used in line with Simons’ (1995) description of a belief system.

Furthermore, Donya Labs uses cultural symbols such as an open office space, gaming nights, recurring after works and other events in order to stimulate a creative and innovative culture
within the organization, which is in line with their core values. The symbols are used as a belief system, according to Simons’ (1995) description, since it is used to communicate the common values and belief that the employees in the company should share. It is a way for Donya Labs to handle the challenge of keeping the creative culture, despite their rapid growth.

4.3.4 Planning & Budgeting

The board of directors sets guidelines and objectives that the management, together with the employees, uses to make plans and budgets for Donya Labs. Due to rapid growth and changes in the environment, they are not able to plan longer than two years ahead. They have a two-year plan and budget that are on an aggregated level, and a one-year plan and budget that are much more detailed. They also have objectives for five years ahead that are connected to the vision statement, but they are not formulated into action plans. This shows that Donya Labs uses both long and short-term planning, according to the descriptions by Malmi and Brown (2008) (see Chapter 2.1.2). Both the short and long-term plans are used to specify the focus that the company should have for moving ahead. By specifying actions that the company should undertake and what they should prioritize, both on a short and long term, it keeps the organization focused, and thereby planning controls in Donya Labs are used as a boundary system, according to the description by Simons (1995).

The management team is responsible for setting the plans, but the employees in the organization are also involved in making the plans. This shows that Donya Labs focuses on participation in their planning. This is something that stimulates strategic dialogue in lower levels of the organization, and planning in Donya Labs can therefore be seen as an interactive control system as well, according to the description by Simons (1995).

The plans are followed up continuously and the results are analyzed. Especially financial processes and sales are followed up closely, so that the company can react fast to changes and deviations. The budgets are used to set objectives and follow up revenue and costs, both for certain cost centers and the company as a whole. According to Forsvall, Donya Labs usually perform in line with the budgets, but in case they do not, they analyze what went wrong and the prognosis is updated quarterly. Furthermore, the sales budget is divided into both geographic areas and different industries.

Donya Labs uses budgets for the different units, and an aggregated budget for the company as a whole. These are used as boundary systems, according to Simons’ (1995) explanation, to set guidelines and to allocate resources among the units, and thereby specify what the different units are allowed to spend resources on, as well as how much resources they have available. Budgeting is also used as a diagnostic control system, according to Simons’ (1995) description, since it is used to set objectives that the organization is evaluated against. This way they set standards of performance, and when the standard is deviated from corrective measures are taken, which is a typical feature of a diagnostic control system. By using planning as a boundary system, and budget as a boundary as well as a diagnostic control system, Donya Labs maintains control of the organization and ensures that they do not deviate too far from the plan and intended strategy.
4.3.5 Hybrid Measurement Systems

Donya Labs measures and evaluates performance with several metrics. They measure sales, divided into different geographic areas, and different products and customers. They also evaluate their costs each month. Furthermore, they also have HR reports that they evaluate continuously and they measure the length of their sales cycles. The control system and what factors to be measured are decided by the company needs, and there must be a demand and need for all metrics. There is never an individual that is responsible for the outcome of a metric, but rather the sub-units. The performance of most of the metrics is evaluated each month, but that also depends on the company needs. Since Donya Labs have used a combination of financial and non-financial control systems, their cybernetic control system can be characterized as a hybrid measurement system, according to the description by Malmi and Brown (2008) (see Chapter 2.1.2).

Forsvall states that the measurement system has been a very important control system, and the financial measures are evaluated each month, by reporting and evaluating sales, costs and cash flow, as well as the burn rate. This has been a good way of controlling the company as they are able to adapt to deviations and changes before it is too late. The cash-flow management also ensures that the company always has a sufficient amount of capital to cover their costs. The formal performance measurement systems were put in place in an early stage as the management of Donya Labs had previous experience with start-ups and therefore knew that it is an important part of controlling the company. The hybrid measurement system in Donya Labs is used as a diagnostic control system, according to Simons’ (1995) definition, as it detects deviations compared to standards of performance. It supports the deliberate strategy and ensures that the company works according to the plan. When deviations are detected, there is discussion and investigation of the reason why. This results in that either the prognosis or processes are adjusted, to make sure that the problem does not occur again. There is also a continuous dialogue of the appropriateness of different control measures and the measures are changed according to the needs of the organization. This shows that the hybrid measurement system is also used as an interactive control system, according to Simons’ (1995) definition, since it stimulates organizational learning and a dialogue and discussion regarding the company strategies.

4.3.6 Human Resource Management

The employees in the sales unit receive bonus depending on how well they manage to reach their sales goals. There is also a stock-option program available for all employees, and they receive about the same amount of options, given that they have permanent employment and have been working at Donya Labs for a certain time. The reward and compensation program is updated every year.

The reward and compensation controls in Donya Labs are used to promote high performance. That is done either directly by giving monetary bonuses to the sales people based on how much they sell, or indirectly by giving all employees the chance to buy shares and become shareowners, and thereby allowing them to take part of the company’s profits, as well as benefit from potential value increase of the shares. This means that incentives in HRM are used as a
diagnostic control system, according to the description by Simons (1995), to ensure that employees work hard in line with the company’s strategies and are dedicated to fulfilling their goals and tasks.

When recruiting new employees, alignment between company and personal values, as well as personality, is the most important for Donya Labs. Forsvall puts it the following way:

“Personality is the most important for us. I believe that competence is something that you put in place afterwards, but not personality.” (Forsvall, 2017)

Donya Labs claims that there is a challenge with finding the right employees, and they are mostly recruiting through the networks of current employees. They do not use job advertisement that often, as it is a quality control when a current employee introduces someone that they think would fit in the organization. The focus on selecting individuals with the right personality and aligning values indicates that the company makes sure that there is a good match between company and employee values on the first level described by Malmi and Brown (2008) (see Chapter 2.1.2). But since the company values are communicated through activities and processes in the company, they can be said to align values on the second level as well.

Donya Labs has managed to retain their employees well, which Forsvall thinks is because of their open organization and that they encourage employees to take part in deciding their future career path. To be able to work with a new high-tech product and that the employees can influence much in the company are other aspects that Forsvall thinks have helped to make them stay in the company. They also have personal meetings with the employees to make sure that they feel well and ensures that they work with the things they find interesting. The meetings are also there to set and follow up individual goals for every employee. To recruit the right people, make them feel good and to retain them in the company is an important feature of Donya Labs’ control system, according to Forsvall. This means that HRM in Donya Labs is also used as a belief system, according to Simons’ (1995) definition, as they recruit the right people with the right values, and retain them in the organization.

4.3.7 Levers of Control in Donya Labs

Table 4-3 below summarizes the control systems used in Donya Labs, as well as which levers that the different control systems have been used as.
Donya Labs uses all the control systems included in our tentative control framework and all the levers of control in Simons’ (1995) framework. Forsvall claims that cultural controls together with the financial control measures have been one of the organization’s most important control system. However, they have also used several control systems as a boundary system and Forsvall stressed the importance of having structures and processes in place to remain in control when growing rapidly. Thereby, the control system in Donya Labs seems to balance belief and boundary systems evenly, which indicates an equal emphasis on both growth and control, according to the discussions by McCarthy and Gordon (2011) regarding strategic goals related to the different levers of control. Donya Labs also put a lot of focus on interactive controls that increase participation and strategic dialogue in the organization. However, since Forsvall also claimed that the diagnostic use of financial measures has been one of the most important control systems in Donya Labs, the control system overall seems to have an even balance between diagnostic and interactive controls. That indicates that they focus on efficiency and implementation of intended strategies, as much as they focus on innovation and support for emergent strategies, according to McCarthy and Gordon’s (2011) reasoning.

As mentioned previously, Donya Labs has a growth target of 20 percent annually. This is a good growth rate, although not super rapid. This could reflect the management’s will to grow in a controlled and healthy way, rather than growing too quickly and thereby losing control. So far, the company has managed to well exceed their growth target, which shows that the company has a good performance and competitive advantage, something that the MCS is a part of. It is possible that the MCS in Donya Labs will be changed after they got acquired by Microsoft, but it is still too early to make such conclusions.

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### Table 4-3: Control systems and levers of control in Donya Labs.

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<th>Belief System</th>
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<td><strong>Organization Structure</strong></td>
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<td><strong>Values</strong></td>
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<td><strong>Budgets</strong></td>
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<td><strong>Human Resource Management</strong></td>
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4.4 Indentive AB

Indentive AB (hereby named Indentive) have started to work with a new product and they also do consulting work, so it is interesting to see how they share knowledge between the sub-units. Furthermore, the company has also used cultural controls to create a fun and creative workplace. Hult also shares some interesting thoughts about how cultural diversity can be an advantage in companies.

4.4.1 Background

Indentive started in 2011 by six founders. Mikael Hult joined Indentive’s board of directors in 2012 and currently works full-time as chairman of the board, and currently he mostly works with strategic and capital matters. In the beginning, Indentive was only a consulting firm that developed mobile applications for other companies and also had support agreements with some customers. This part of the company now has a turnover of about 16M SEK. In 2015, Indentive started to develop its own product that they call Connective, which is an open Internet of Things platform for services that make homes smarter. The platform makes it possible for different services within security, energy reduction and healthcare to be added into people’s homes. Indentive develops the software, which plenty of sensors can be connected to. The platform can, for example, contain services that detect any suspicious breaking of habits at an old relative’s house, or detect that the refrigerator consumes too much energy. In the beginning of 2016, Indentive had about 20 employees, and one year later they were just above 40. In 2017, the company plans to recruit about 30 more employees because of the Connective platform.

Initially, Indentive had a goal of an organic growth of about 15 percent in turnover annually with a positive return, which they always have managed to reach. But due to Connective, they will have to make big investments which will drag down the returns. The growth of Indentive, in terms of turnover and number of employees, between 2011 and 2015 is illustrated in Figure 4-4 below. Between 2011 and 2015, Indentive experienced a CAGR of 43 percent in turnover, and between 2011 and 2016, they experienced a CAGR of 46 percent in number of employees.

![Figure 4-4: Indentive’s development of annual turnover and average number of employees between 2011-2015.](image-url)
4.4.2 Organization Structure

Indentive has two different business areas, the consulting unit and Connective. The consulting unit works with selling development services for a limited period of time, while Connective is their own product with their own investments. The organization of Indentive is differentiated and decentralized with functional divisions, such as a sales unit and an R&D unit, which in turn is divided into the consulting part and the Connective part. The units get plenty of responsibility for how they carry out their own work. The management team make sure that the sub-units work in the same direction by deciding who does what and how the resources should be allocated. Furthermore, there are some functions, such as CFO and a COO, that support the management in their work with the sub-units. The management team consists of the CEO, CFO, COO, the sub-unit managers, as well as other managers. If there is a change in the environment or the performance of the company deviates from the expected results, resources can be transferred within the company to where it is needed the most. For example, the consultants can work in the Connective unit if needed. The fact that the organization within Indentive can be rearranged according to the needs, and that the functions are decentralized and have much own responsibility, is in line with the Chenhall’s (2003) description of an organic organizational structure. Thus, the organization structure in Indentive is a hybrid organization (described in Chapter 2.5), as it is a mix of functional divisions and an organic organization with cross-functional collaboration.

Indentive has a general encouragement for innovation and entrepreneurship in the company, and the employees often travel around to find new products and services in the industry and to gain the latest knowledge. They can find new knowledge at fairs, conferences, customers or other events. Furthermore, the two business units are rather different but there is knowledge that can be spread among them, which is the reason for them to keep both in the organization. Hult describes it in the following way:

“We can take resources from the consulting unit into the Connective unit to make certain things. We see an advantage of keeping the consulting unit, as we gain new knowledge there, regarding user experience and functions, that we can bring into Connective. So, there is a synergy effect between the two units.” (Hult, 2017)

There are plenty of collaboration throughout the organization and everyone can speak to anyone (including between the units) since the communication is very open in the company, which lets the knowledge spread informally. The employees often take initiative themselves to show news from the company’s environment that can be interesting for others in the organization. They also have breakfast every Friday, where everyone can bring up topics or questions they want to discuss, or just ask anyone during work time. Therefore, Indentive uses their organizational structure in line with Simons’ (1995) description of an interactive control system, since it encourages and enables collaboration, knowledge integration and information spreading throughout the organization.
4.4.3 Values & Symbols

There is no explicitly expressed vision statement, but Hult says there is a common belief in the company that they want to be an exciting Swedish Internet of Things company in an international market and they want to combine existing components to create a great solution for the end customers. Likewise, Indentive do not have any explicit value statements, but Hult says that there are underlying values that can be described as respect for each other, freedom at work, multi-cultural and passionate people. Hult states that the cultural control is the most important control system in Indentive. That is because with the right culture, it is easier to unite the workforce, adapt to the uncertain environment by changing the organizational structure, as well as create and reach new targets.

Hult describes that the culture of Indentive is that they have fun at work and everyone helps each other out when needed. They have internal events, such as company parties and the Friday breakfasts, in order to keep the culture and to have fun at work. Many employees play games during lunches and breaks, which can be seen as a contribution to a fun culture within the company and it makes the employees relax for a while. For example, they have a big screen in one room where many people can gather and play video games. Furthermore, the furnishing in the company is made so that it should be fun, creative and feel like home. These are cultural symbols that strengthen the values and culture within the company, and are used as the major way of communicating the core values in the company. Thus, it can be said that Indentive use values and symbols as belief systems, according to Simons’ (1995) description, since they create a shared belief in the company and state what the company stands for.

A big challenge for Indentive is to keep their culture, despite the fact that they are growing fast in terms of number of employees. Hult says that it is enough to recruit one individual that is wrong, to have a big negative impact on the existing culture. When they open new offices in other cities and countries, the challenge will become even bigger. They have an employee that is going to start working on a new office in Stockholm, but he has to go through a socialization process by starting to work in Linköping to take on the company culture there, and then forward it to the Stockholm office in the future.

4.4.4 Planning & Budgeting

The planning in the consulting unit is performed in the way that when they receive a request for an assignment, they look at what resources they have available. Then a team is set up to solve the task, and the team does the planning itself. Their plans are up to one year ahead. In Connective, the plans are more long-term and involves plenty of development investments. Their planning is also about which service providers they should integrate into their system. Overall, their planning is to decide what the employees should do on a short term, as well as on a long term and to make sure that they always have sufficient capital. The management team evaluate the performance every week in order to see if the company is performing according to plan, but if there are big deviations in results, they make adjustments and reallocate resources to where it is needed. Thus, Indentive mostly uses long-range planning to set the strategic direction and targets to achieve. They also use short-range planning to deal with resource allocation and cash-flow management. Furthermore, it can be said that Indentive uses their
short-range and long-range plans in line with Simons’ (1995) description of boundary systems, since the plans state what the company’s focus should be and what actions they should prioritize in order to reach the targets.

Indentive has budgets on a one-year basis, that are broken down into the consulting unit and the Connective unit, and they consist of prognoses and the financial targets for Indentive. The budget for the consulting unit is detailed, with a sub-budget for every assignment and consultant. The budget is followed up every month, and the consulting unit has always met the budget, or at least close to. It is too early to say if the Connective unit is meeting their budget goals. Thus, Indentive uses budgets to allocate resources between the different units and functions, and act as a boundary for them to work within since they indicate what focus the company should have in their actions. The budgets also set targets to meet in the organization, and the fulfilment of those targets is later evaluated, which means that the company uses budgets both as a boundary system and a diagnostic control system, according to the explanations by Simons (1995).

The management team is responsible for the overall planning, and the sub-unit managers plan and make the budgets with the employees in their own unit, to get more detailed plans and budgets. This means that Indentive uses participative budgeting and planning to raise the interaction, involve more people and make sure that everyone works towards the same goals. That can increase the strategic dialogue in the organization, which shows that Indentive uses their planning and budgets as interactive control systems, according to Simons’ (1995) description.

4.4.5 Hybrid Measurement Systems

According to Hult, Indentive continuously measures financial and non-financial metrics, which is in line with the characteristics of a hybrid measurement system that Malmi and Brown (2008) describe (see Chapter 2.1.2). Hult further says that they for example measure the liquidity and the return in the company, as well as the utility rate of the consultants. They also perform evaluation of the projects that they have conducted for a fixed price. There is a monthly report that reaches the board of directors and the CEO that shows the liquidity and the other metrics they use. They also show what projects they fall behind in. Hult believes that the performance measurement system helps the company to plan better, since they can follow up the metrics continuously. This shows that Indentive uses their hybrid measurement system as a diagnostic control system, according to Simons’ (1995) definition, as they use it to evaluate performance and monitor how they are performing relative to the plan.

The management team decides what performance control Indentive should use, and the CEO has been very active in setting targets and parameters to measure. There is also a discussion regularly regarding whether the metrics they use are relevant, and they are updated to fit their strategic direction. That discussion leads to a strategic dialogue, which means that the hybrid measurement system also acts as an interactive control system in Indentive, according to how Simons (1995) describes it.
4.4.6 Human Resource Management

Indentive does not have any flexible salaries or bonuses available for their employees. However, all employees have been offered to buy stocks in the company on several occasions. Indentive also plans to introduce a stock-option program for all the employees in order to give incentives for them to work towards bigger company growth. In that way, they make sure that the employees work harder for the company and be more committed to fulfilling their goals. HRM in Indentive can thus be said to be used in line with Simons’ (1995) description of a diagnostic control system, as the incentives are based on performance metrics, as well as ensure that the employees’ personal goals get closer to the company’s goals, through making them shareowners.

Hult claims that there is a big challenge to find the right employees that fit in the company when they face such a rapid growth. When recruiting new employees, Indentive mostly value competence and experience, but they hire newly graduates as well, mostly for the R&D unit. They also value the personality of the person, and try to evaluate if they would fit in the company culture and values. They also think that it is important to hire people from different cultures in order to get several different perspectives on things, which Hult describes in the following way:

“In the recruitment process, we try to find a balance in looking at competence and personality. The diversity of people is important for us so that all employees are not the same. We see that the international mixture in the company, with people from Spain and Iran for example, has been an advantage for us, since we are forced to think slightly different and more openly.” (Hult, 2017)

This shows that Indentive match their employee’s values with the company in the first level, mentioned by Malmi and Brown (2008) (see Chapter 2.1.2). Furthermore, as mentioned earlier in this chapter, they also let employees go through a socialization process in the company to adapt to the company values, which is an employee match in the second level, as Malmi and Brown call it. Sometimes people have been hired when they have contacted the company spontaneously and sometimes the company sees a need for a certain competence, which leads to a requirement specification for the job, then they try to find good people in the current employees’ networks in order to find potential candidates that they already know would fit in the company culture. They seldom use formal job advertisements. In the future, they want to work more with head hunting and be more visible at the university through different events and fairs.

To retain their personnel, Indentive makes sure that the employees have fun at work. But Hult mentions that it is also important to give their employees the opportunity to develop themselves within their area of expertise to continue their career path in the company if they want. The company also has an HR person that map out the competences that are available in the organization. They also plan to talk to all employees about what they want to do in the future, and create individual development plans for each and every one of them. All of this shows that
Indentive also uses HRM as a belief system, according to the definition by Simons (1995), as they recruit and retain the right employees that fit in the company culture and share its values.

4.4.7 Levers of Control in Indentive

Below, in Table 4-4, the control systems that Indentive uses are shown, as well as what lever of control they correspond to.

*Table 4-4: Control systems and levers of control in Indentive.*

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All the levers of control, proposed by Simons (1995), have been used to some extent in Indentive. They use several belief systems to unite all employees in working in the company’s strategic direction, and to retain them in the organization and make them have fun at work. The belief systems seem to have more influence than the boundary systems, since the plans in the boundary systems are often updated according to changes in the environment, and they are able to reallocate resources if there is a need to. Thus, the boundaries in the organization are not very strict, rather they are able to adapt regularly to new information. Therefore, Indentive has more focus on growth than they have on control, according to the discussion by McCarthy and Gordon (2011) regarding the levers of control and their respective strategic goal. However, the boundaries that they have allow them to control their growth and prevent it from getting out of hand.

The diagnostic control system is mostly for them to see if they perform according to plan and if they have enough capital to proceed in the same way, and to know if they have to change their plans. The hybrid measurement system is also for spreading discussions of what metrics are most important and relevant for the business strategies, which is an interactive control system. Furthermore, the plans and budgets are made through participation in the sub-units, and
the organization structure allows for knowledge integration in the company. These attributes also contribute to the interactive control system. Thus, Indentive seems to have more focus on innovation through interactive control, than on efficiency through diagnostic control, according to the discussions by McCarthy and Gordon (2011). This seems natural since Connective is a new product and they must focus on product and strategy innovation before being effective in their processes.

The effect of the focus on growth instead of control and boundaries could be seen in the company’s development, and they have been growing both in terms of turnover and number of employees since the beginning. The focus on innovation might be showing more in the future as Connective matures and gets spread on the market.
4.5 AgriTractor AB

AgriTractor AB (hereby named AgriTractor) has requested to be anonymous in the report, and therefore the real company name, as well as the interviewee’s name, have been replaced with fictitious names. The industry and city that the company is in have also been made up to further protect integrity. The growth figures are based on data from the real company’s annual reports. The numbers have been adjusted, but are still relevant. This case is interesting since it brings up some new perspectives that were not found in the other cases, specifically in terms of the respective problems with formal and informal organization structures.

4.5.1 Background

AgriTractor develops systems for self-driving agricultural equipment. The company has a wide range of activities from R&D and production to marketing and sales of their products. Most of the company’s products are sold to the international market. The company was founded in Farmville in 2010, and at that time it consisted of the two founders, as well as an externally recruited CEO. In 2013, Billy Hill, with a previous background in sales and marketing, took over as new CEO and came in as the fifth employee in the company. In 2015, AgriTractor was listed on the stock exchange. In 2016, the company had a turnover of 10.2M SEK and they are currently 15 employees.

In the early stage as a start-up, AgriTractor used mostly technical and organizational goals rather than sales goal. There has also been a goal to achieve a positive cash flow, which Hill claims that they now have. After the technical and organizational goals were achieved, AgriTractor has started to focus more on turnover. Their goal is to reach a turnover of 80M SEK by 2020. From 2011 – 2016 the company has increased its turnover from 0.2M SEK to 10.2M SEK which is equivalent to a CAGR of approximately 120 percent. The number of employees have increased from 1 in 2011 to 15 in 2016, which corresponds to a CAGR of approximately 70 percent. To achieve their goal of 80M SEK in turnover by 2020, the company will need to achieve a CAGR of approximately 65 percent from the beginning of 2017 to the end of 2020. AgriTractor’s development in terms of turnover and number of employees from 2011 – 2016 is illustrated in Figure 4-5.
Figure 4-5: AgriTractor’s development of annual turnover and average number of employees between 2011-2016.

4.5.2 Organization Structure

The organization in AgriTractor is divided into three functions; Product development, Production and Finance. Each unit has a manager that is responsible for delegating work tasks within the unit. Apart from these three units there are also two decision teams, a product team and a market team. The decision teams consist of members from different units in the organization that make decisions together. The product team makes decisions related to changes in product design and features and the market team makes decisions related to market. At the top of the organization there is also a management team, as well as a board of directors. So far, Hill as CEO has been involved in a lot of the decision making in different levels of the organization, but the company is currently transition to a more decentralized distribution of responsibility, where the sub-units will act more autonomously. According to Hill, there is a lot of collaboration between the different units, which has been supported by the decision teams that allow decisions to be made across functional borders. Through the description by Chenhall (2003), this shows that AgriTractor’s organization structure is based on combination of a functional division of units, which represents a formal structure, and an organic structure provided by the decision teams. By mixing these two organizational structures, AgriTractor could be argued to use a hybrid organizational structure (discussed in Chapter 2.5). Although, the structure in AgriTractor is more on the structured side rather than organic, since there are only two cross-functional teams.

The organizational structure in AgriTractor has changed over time. The company adopted a rather formal structure with a management team and units at different levels when the organization had only six employees. However, Hill states that this type of structure did not work well for an organization that small and therefore he removed this structure when he entered as CEO in 2013. After that the organization had an informal and open structure where everyone took part in all decisions and discussions. But when the company grew to approximately ten employees, the need for a management team once again aroused. Decision making became too inefficient and employees were stressed over taking part in all the decision
making and problem solving, which meant that discussions had to be separated. After that, the company adopted the structure that it is currently using today. Hill states that the organization structure has been set according to the challenges that the company has faced during its development. When they have noticed that something is not working properly, they have changed it. For example, when the company chose to go from a formal structure to informal, it was to create a more open and better flow of information. On the other hand, when they later adopted a more formal structure once again, it was to separate the information into different forums which was necessary to increase efficiency since the “cost” of open discussions had surpassed its utility when the organization grew. Adopting a more formal organization structure to separate discussions is a way of controlling the information flow. It specifies actions that the different units are supposed to engage in, and what information that should be discussed where. It is a way of introducing boundaries to keep the different units focused on their task, and thereby the organization structure in AgriTractor is used as a boundary system, according to the explanation by Simons (1995).

AgriTractor spreads and integrates knowledge mostly through meetings, where employees share knowledge with each other, for example by doing a presentation for the rest of the staff. They have also previously used an agile method with shorter sprints and a retrospective at the end of each sprint where they reflect over new experiences and knowledge, as well as evaluate what could be improved. However, they do not follow this agile method at the moment, something that Hill claims is due to lack of time and that the person who took the most initiative to these retrospectives is no longer part of the company. Even though the retrospectives are not used at the moment, Hill has a very positive view of the retrospectives and it is something that the company wants to go back to in the future. He puts it the following way:

“The outcome from the retrospectives were usually suggestions for improvement and that some process was tweaked. It was a very effective way of evaluating [the organization]. It worked very well. It also gave us a sense of completion.” (Hill, 2017)

By having retrospectives where the employees discuss new knowledge and finding ways to improve, it stimulates strategic dialogue and organizational learning. Other than the retrospectives, the management of AgriTractor is also involved in the discussions and decision making of the decision teams. This means that there is discussion between members of different levels of the organization, as well as between different units. Therefore, the hybrid organization in AgriTractor can also be classified as an interactive control system, according to Simons’ (1995) definition, by promoting interaction and strategic dialogue throughout the organization.

4.5.3 Values & Symbols

The organizational culture in AgriTractor is described as open and ambitious with employees that are committed to doing a good job. In an early stage of AgriTractor’s lifecycle, they developed a set of core values that they worked actively with at the time. However, the core values are not actively used anymore. This could be explained by the fact that AgriTractor focused more on organizational goals in the beginning of their development, and that the focus has now shifted to growth and revenues. The company has not used any physical symbols to
stimulate a certain type of culture. However, they have used activities outside of work to create a feeling of solidarity and fun atmosphere that could be considered to be cultural symbols. Examples of such activities that AgriTractor has used are after works, as well as skiing trips and sport teams organized by employees. The company’s vision statement has been reformulated multiple times, but their goal has always been to change the way the agricultural industry works and making agricultural work more automated.

Hill states that the culture in AgriTractor has been important for responding quickly to changes in the environment, as well as quickly solve problems that arise. It has made employees willing to put in hard amount of work when needed. The cultural controls that the company uses are vision statement and cultural symbols to promote a certain culture. This can be seen as a belief system, according to the description by Simons (1995), since it indicates priorities of the management and where they want the company to be headed. However, not that much focus seems to be put on cultural controls, which means that the culture in AgriTractor is shaped a lot by the people within the organization.

4.5.4 Planning & Budgeting

The board of directors set goals and guidelines for the rest of the organization. Depending on the type guidelines given from the board of directors, different people are responsible for making the plan. However, Hill claims that it is usually him together with one of the decision teams that make the plans.

Planning has been a difficulty for AgriTractor due to quick changes in the environment and the plans must be updated and re-evaluated often. Therefore, the company formulates detailed short-range plans for maximum one year ahead. AgriTractor also uses long-range plans for about 2-3 years ahead, but on a very aggregated level that indicates goals and future directions for the company, not detailed actions. Despite being updated and revised often, the plans specify what the organization should do and which activities that should and should not be carried out. Thereby, the planning keeps the organization focused and functions as a boundary system in AgriTractor, according to Simons’ (1995) description. However, since the plans must be updated frequently because of the uncertain environment, the boundaries that they set are rather flexible.

Even though the original plans must be revised often, Hill claims that planning is an important activity since it forces the organization to think ahead and identify potential problems that can be solved proactively instead of ad-hoc at a later stage. It is also useful since it sets smaller checkpoints and deadlines, which can be celebrated and thereby provide a sense of achievement when completed.

Although not everyone in the organization participates in making the plans, AgriTractor focuses on participation by including the decision teams in the planning. Thereby, members from different units of the organization make the plan together, which increases goal congruence, as well as commitment to the plan. Since the planning forces the organization to think ahead and the plans are continuously evaluated and updated, it creates a lot of strategic dialogue in the organization. This means that planning in AgriTractor can be classified as an interactive control system.
AgriTractor uses budgets on both a yearly, as well as monthly, basis. The goal of the budgets is to plan the company’s resources and to see where and when extra resources might be required. The goal is also to plan the company’s financial resources, to make sure that there is sufficient liquidity and estimate how long the resources are going to last. This shows that they use budgets for resource allocation and cash-flow management, which is a way of managing the challenge of limited resources in start-ups, mentioned in the literature review (Everett & Watson, 1998; Atsan, 2016). Both the yearly and the monthly budgets are followed up carefully. Budgets are updated according to changed conditions. The yearly budget is usually revised after six months and the company in most cases manages to keep to the revised budget.

Revising the yearly budget after six months and making sure to keep to the revised budget could be a way of remaining flexible, as well as keeping the organization within boundaries. It is further a way for the company to deal with the challenge of an uncertain environment, which means that the company must be flexible, as well as the limited resources, which means that the organization must be kept within boundaries to avoid failure. This means that budgeting in AgriTractor is a boundary system, according to Simons’ (1995) explanation, since it distributes resources and sets limits for the different sub-units. However, it is still flexible since it is revised after six months. In that way, the company can avoid setting too strict boundaries in advance, and thereby suppress innovation too much. Since the budgets are followed up carefully every month, AgriTractor can detect deviations in performance and are able to take corrective actions. This means that budgets are also used in line with the description of diagnostic control systems by Simons (1995).

The CEO and CFO, together with the board of directors, are responsible for creating the budget. They also consult members in lower parts of the organization to get better estimates of certain costs and incomes. This means that budgets are set in a top-down way and that focus on participation in budgeting is limited, since lower parts of the organization are included mostly for more accurate estimates of numbers.

4.5.5 Hybrid Measurement Systems

Performance measurement in AgriTractor is mostly focused on financial control measures related to sales. Examples of control measures used in the organization are number of customer orders and their size, as well as inventory levels in terms of number of items and value. The company also measures certain costs. Other than financial measures, AgriTractor also uses some time-based measures to evaluate how they perform in relation to the plan. The combination of financial and non-financial measures shows that AgriTractor uses a hybrid measurement system, according to the description by Malmi and Brown (2008) (see Chapter 2.1.2). However, the focus is mostly on financials and especially numbers related to sales. The control system used in AgriTractor has been used mostly for reporting how the business is going, to the board of directors and others, for example externally to shareholders. It abstracts operations to a level where performance can be evaluated and issues detected, without going into too much detail.

The CEO, CFO and the board of directors are the ones that decide which control measures to use. Hill claims that the control system is relatively static and that there is no ongoing dialogue
regarding the appropriateness of different control measures. The data from the control system is evaluated according to current need, with no set frequency for how often it should be evaluated.

AgriTractor has used a rather formal and static type of cybernetic control focused on financials. It has been used to report performance, where corrective measures can be taken in case of deviations. This is typical for a diagnostic control system, according to the definition by Simons (1995). The focus on financial measurements related to sales could likely be explained by the company’s focus on increasing turnover and Hill states that it has also been a way of handling the challenge of limited financial resources.

4.5.6 Human Resource Management

AgriTractor does not use any variable pay or monetary bonuses. However, they have a stock-options program, where employees are allotted stock options that they can use to buy shares in the case of new issuing of shares. The allotment of stock options that the employees receive is dependent on the level of responsibility that the individual employee has. He further claims that it is difficult to compete based on salary for start-ups and that the stock options is a way to make up for the higher salary that employees might be accustomed to from larger companies and give key individuals a little extra. Hill puts it the following way:

“For example, we might want to recruit a new sales manager that is used to working for a higher salary. Then this [the stock options] could be a way to compensate.” (Hill, 2017)

At an early stage, employees were offered to buy shares in the company, and this has later changed into the stock-options program used today. By allowing employees to acquire shares in the company, they become more dedicated to fulfilling the company goals and increasing performance. Thereby, incentives in HRM in AgriTractor is used in line with Simons’ (1995) description of a diagnostic control system.

The most important factors for AgriTractor when recruiting new individuals are values and cultural fit. According to Hill, this is because it is easier to teach competence rather than values, if the person is willing to learn. This shows that AgriTractor tries to match company and employee values on the first level mentioned by Malmi and Brown (2008) (see Chapter 2.1.2). To attract potential candidates, AgriTractor has focused on advertisement, as well as collaboration with universities, for example by offering master thesis positions. To retain individuals, Hill claims that the company focuses on offering stimulating work tasks, as well as a pleasant atmosphere for the employees. By focusing on recruiting individuals with the right values, it shows that AgriTractor also uses HRM as a belief system, according to the definition by Simons (1995). This seems natural considering that the organizational culture in AgriTractor is important for the company’s success according to Hill, and since the company does not focus on cultural controls to steer the culture, it is shaped by the individuals that the company recruit.
4.5.7 Levers of Control in AgriTractor

Table 4.5 below summarizes the different control systems used in AgriTractor, as well as which control levers that they have been used as.

Table 4.5: Control systems and levers of control in AgriTractor.

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<th>Belief System</th>
<th>Boundary System</th>
<th>Diagnostic Control System</th>
<th>Interactive Control System</th>
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<tr>
<td>Organization Structure</td>
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<td>Values</td>
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<td>Short-Range Planning</td>
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<td>Long-Range Planning</td>
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<td>Hybrid Measurement Systems</td>
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<td>Human Resource Management</td>
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AgriTractor uses all the four control levers in Simons’ (1995) framework, as well as all of the control systems in our tentative framework. The control systems in AgriTractor are focused more on boundary rather than belief systems, as they do not work much with cultural controls but use plans, budgets and the organization structure as boundary systems. This indicates an inclination towards control rather than growth, according to McCarthy and Gordon’s (2011) reasoning regarding the strategic goals of the different control levers. It cannot be said whether the company uses diagnostic or interactive control systems the most, as they have plenty of interaction through the participative planning and organization structure, and diagnostic through the metrics that they measure to evaluate against goals and targets. This indicates an even balance between innovation and efficiency, according to the reasoning by McCarthy and Gordon (2011).

Despite the control system that seems to emphasize control through boundary systems rather than growth through belief system, the company has grown rapidly, especially in terms of turnover with a CAGR of 120 percent from 2011-2016. This indicates that the company has good competitive advantage and performance, which the MCS is a part of. However, it is important to note that the company was in a development phase during 2011 with a very small turnover, and therefore their relative growth numbers become large when calculating their mean annual growth rate even though the company is still relatively small.
4.6 Netadmin System i Sverige AB

Netadmin System i Sverige AB (hereby named Netadmin) has had a different journey than the other cases. They faced a rapid growth after 2005, but due to bad decisions, they faced losses, had to cut costs and start over. The case is interesting since it brings up experiences and learning outcomes from the tough periods and how it affected their management control. For example, the company started working more with cultural controls to create a common belief in the organization, as well as individual goal and target setting to increase accountability, which has increased efficiency and trust between co-workers.

4.6.1 Background

Netadmin was founded in Linköping in 2004. They develop and sell software for broadband operators. The software is administration systems for handling equipment, services and customers in their network. Carina Hansson joined Netadmin in 2009 and has worked with different parts of the company, such as operations and sales. Currently, Hansson works as CFO and she is also responsible for HR in the company.

In the beginning, Netadmin was very entrepreneurial driven and grew rapidly. In 2007, they got backed by venture capital, and they believed that the demand for their product was going to increase very much. Therefore, they invested aggressively and recruited plenty of people, including an external CEO. However, they had overrated the demand in other countries, and it was shown that Sweden was ahead of other countries in the broadband adoption. Already in 2009, Netadmin faced big losses and had taken on too much costs. They did not have control over their deliveries, and they had several support cases it was not clarified what was included in the final delivery. The company had to decrease their headcount, lower the costs and rebuild the company. Furthermore, in 2011, the financial crisis hit Netadmin hard which made them face big losses once again since the customers did not want to invest in broadband networks at those times.

When Netadmin received venture capital in 2007, they had a growth objective from the owners of 20 percent annually. However, in 2016, Netadmin got new owners, a corporate group, that think more long term and have a growth target on 10 percent. The targets are broken down into several sub-targets in the company’s sub-units. Between 2005 and 2015, Netadmin has faced a CAGR of 18 percent and 9 percent for turnover and number of employees respectively. Their historical growth is illustrated in Figure 4-6 below.
However, they have not experienced a steady growth since the beginning, due to their crises, but between 2005 and 2009 they had a higher CAGR of 58 percent and 50 percent for turnover and number of employees respectively. That they were too aggressive in their investments after 2007 is related to the challenge that we mentioned in Chapter 2.2, that start-ups sometimes take too risky decisions only because they have faced high growth earlier. This is a good case for the purpose of this thesis as it shows the importance of growing in a controlled way, and the learning outcomes from Netadmin’s history are interesting for start-ups in the future.

4.6.2 Organization Structure

Netadmin’s organization is divided into the functions sales, R&D, product management, finance & HR, professional services and customer services. The management team consists of a representative from every sub-unit. The organization is decentralized and the sub-units have plenty of responsibility in deciding how they should reach their targets, which is some of the characteristics of an organic structure that Chenhall (2003) mentions. They have a scorecard with targets for the whole company, that is broken down to a scorecard for each sub-unit and employee. That ensures that everyone works towards the same objectives as the others.

There is plenty of collaboration between the sub-units, and for example product management works together with several different units to develop new products, and customer service works with R&D with bugs and errors to fix them. Furthermore, the communication in the organization is open and everyone can speak to anyone. However, a sales person cannot go to a developer and direct what to do without a permission. This is to be able to allocate the resources in an optimal way. Netadmin also works with “Accountability”, which means that everyone takes much responsibility in finishing what they have said they should do, and Hansson states that this has helped the company in being more efficient and being able to trust the co-workers. The mix between a functional and organic structure, together with plenty of cross-functional collaboration, means that Netadmin uses a hybrid organization structure, according to the description by Malmi and Brown (2008) (see Chapter 2.1.2).

Figure 4-6: Netadmin’s development of annual turnover and average number of employees between 2005-2015.
Hansson says that the company is very responsive to changes in the environment and the employees adapt easily and accept changes. The changes can be about new programming languages, business models or other factors that are found by the different sub-units. The company’s value statements include innovation, and they support it by having a certain day where the employees can work with whatever they want that they find fun and think is good for the company. New ideas from employees that have been thinking outside the box are awarded with certain value awards.

If they gain knowledge that leads to that they are going to work in a new way, with a new method or product, the employees receive the appropriate education for it. Knowledge can also be spread through the monthly meetings that they have, which can have different themes to show all employees what the different sub-units work with. Netadmin further uses retrospectives to go through what has gone well and bad, to learn from their mistakes and change processes and routines if it is needed. The organization structure in Netadmin is used to be able to allocate resources optimally and spread information between the functions and levels. This indicates that they use their organization structure in line with Simons’ (1995) explanation of an interactive control system.

4.6.3 Values & Symbols

Hansson describes the culture in Netadmin as very open and respectful, and everyone is humble and respects each other for what they contribute in the company. This has not always been the case though, as there were plenty of rivalry in the organization a few years ago (which relates to the challenge of internal relations that were mentioned in Chapter 2.2). Netadmin has worked a lot with values and to be honest with each other, and they have also educated their employees in how they should communicate. The vision statement in the company is about their system being the industry leader for local and regional broadband operators. The value statement in Netadmin is innovation, team spirit, accountability, respect and openness. The statements were brought up in 2013 together with all the employees by discussing how they wanted to be treated, and they came up with detailed descriptions for all the statements to ensure that they meant the same for everyone. Hansson says that the values are important and states that after this work with the values, the culture in the company is more harmonic, and it is easier to recruit new employees as the current employees better respect their competence. It has also helped the company in external problems, and Hansson describes it in the following way:

“We have got a common belief in the company, it is easy to unite the resources in how to handle different external challenges, and it is easier to get everyone to work according to the decisions and strategies that they choose.” (Hansson, 2017)

Netadmin further works with spreading the culture and values in the company, for example by having the value statements printed on the walls and communicate them to the employees on different occasions. They also have awards that sometimes are handed out to employees that are believed to have worked according to the values a little bit extra, which was mentioned earlier. These actions are forms of cultural symbols in the company to further strengthen the values and culture that they have created. All in all, as the values have created a common belief
in the company, a more respectful and open workplace, and united them in challenges, the values and symbols in Netadmin can be said to be used as belief systems, according to Simons’ (1995) definition.

4.6.4 Planning & Budgeting

The planning in Netadmin is carried out by the management team. Every sub-unit has their own metrics that clearly show if they must make adjustments or if they are able to recruit new personnel, which direct the planning to a great extent. The sales unit has a 3-year and a 5-year plan, and the budget in Netadmin is for five years, which is updated every quarter with the metrics. The budget is very detailed, and is broken down to every individual in the company. Two times per year, a strategic plan is made with targets to reach in 30 days, 90 days and in a year. Those are based on the budget and the owner’s goals. The strategic plan is evaluated by the management team each week, and gets updated if they see that the goals are not going to be achieved. The strategic plans ensure that the sub-units work towards the same goals, and are focused on activities that are supposed to be carried out. The short-range plan and the budget are regarding how the resources should be allocated and what activities should be carried out on a short term, and the long-range plan and budget (which also is a long-term plan, but is updated regularly to adapt to short-term changes) is about targets for the future and sets the strategic direction. Thus, the short-range planning, long-range planning and the budget are boundary systems, according to Simons’ (1995) description, as they create boundaries for the future, allocate resources and prioritize between actions to be carried out.

Hansson says that the company often meet their budget, but they make adjustments if they see any deviations from the targets that they set. The adjustments can for example be to lower the number of employees. This shows that the budgets set standards to evaluate against, which means that Netadmin also uses their budgets in line with Simons’ (1995) definition of a diagnostic control system.

4.6.5 Hybrid Measurement Systems

As mentioned earlier, Netadmin has a scorecard with targets to meet, that they have received from their owners. Those metrics are further broken down to each sub-unit, and from there, the employees in the different units gets their individual scorecard with targets to reach. For example, the sales employees have metrics on how many leads they should have, or revenue per sales person. Hansson, who works with financials, have metrics that states that the outcome cannot deviate more than five percent from the prognosis that has been made. The metrics differ very much from each other, as one metric is organic growth, and another one is that they should perform a co-worker survey each year. Furthermore, a metric could be that a sub-unit should make a certain amount of blog posts, which can be divided to the employees in that unit. They also measure the amount of wanted and unwanted employee turnover they have had, meaning how many of the employees that Netadmin wants to keep that have left the company, and how many that they do not want to keep that have left. As they have both financial and non-financial metrics, they use a hybrid measurement system according to the explanation by Malmi and Brown (2008) (see Chapter 2.1.2). Furthermore, they have external metrics as customer surveys that make sure that the customers are satisfied, and Netadmin always analyzes why they did or
did not win a deal with a customer and how they differ from the competitors. In Chapter 2.3, external metrics were also argued to be important for start-ups.

The metrics are followed up each quarter, where they are assigned a green, yellow or red color depending on performance. If the employees do not reach their goals, they must present an explanation for this since they participated in setting the goals and therefore accepted them. What metrics they should use are discussed every year, which brings up a dialogue of the strategies the company should have and what they should achieve. Hansson says that the target control is the most important control system in Netadmin, and they are able to make adjustments and change strategies in time if they see any deviations from the expected results or if the money is going to run out. That shows that they have learnt their lesson from their early years when they overrated the demand and faced big losses, and believed that the problems were going to solve themselves. Thus, by looking at Simons’ (1995) descriptions of the levers of control, Netadmin seems to use their hybrid measurement system as a diagnostic control system to see deviations in, and evaluate, performance. It also seems like they use it as an interactive control system as all the employees participates in discussing and setting the appropriate metrics, which creates a strategic dialogue in the organization.

4.6.6 Human Resource Management

The employees in the sales unit have a flexible salary based on how much they sell. Furthermore, all employees have a bonus system that is based on growth and profitability. However, the individual’s bonus depends on that employee’s level, which can be classified as management, key-competence or co-worker level. Since Netadmin bases incentives on performance, it shows that they use incentives in HRM as a diagnostic control system, according to the definition by Simons (1995). The bonus system has only been in place for a year (after they got new owners), and before there were only bonuses for the sales employees and the managers. The new system allows all employees to feel more involved in the company success and they get incentives to work towards the company growth targets.

Hansson mentions that Netadmin has started to look more at the values and if the person fit in the company culture in the recruitment process. She further believes that, even though some competence is needed from the beginning, much of the required knowledge can be gained within the organization. As further mentioned, the new value statements have made it easier for the company to get new employees to fit in the organization as the current employees will respect their competence much better than before. The value statements are communicated to the employees before they are recruited to further match them with the company on the first level mentioned by Malmi and Brown (2008) (see Chapter 2.1.2). Through the use of values and symbols while the employees are already in the organization, Netadmin also match the employees with the company in the second level (described by Malmi and Brown). To retain the employees in the organization, Netadmin has a plan for each employee and has a good career path where employees can develop themselves professionally. They evaluate the performance of each employee, and try to develop everyone into high performers. The new bonus system ensures that the employees feel that they contribute to the company, which makes the organization more focused on team work. HRM in Netadmin focuses on matching the employee values with the company values and unite the employees towards the company’s
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objectives, and thus it can be said that their HRM also functions as a belief system, according to the explanation by Simons (1995).

4.6.7 Levers of Control in Netadmin

Below, in Table 4-6, the control systems that Netadmin uses are shown, as well as what lever of control they correspond to.

Table 4-6: Control systems and levers of control in Netadmin.

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Netadmin uses all the levers of control, proposed by Simons (1995), to some extent. The boundaries in the company, the plans and budgets, are mostly long-term and updated regularly according to changes, which indicates that they are not the main focus. However, the belief systems seem to have more influence in the company since, according to Hansson, the values in the company are very important and have played an important role in uniting the employees and creating a better workplace. Thus, Netadmin can be said to have a greater focus on growth, rather than on control in their control system, according to McCarthy and Gordon’s (2011) discussion regarding strategic goals of the different control levers.

Furthermore, a big part of the control in Netadmin is their scorecards, which is something that every employee has. The diagnostic control systems in the company play an important role as they are used to find deviations in the performance to be able to adapt to changes in the environment before it is too late. This is an important learning outcome from their big losses when they overrated the demand outside of Sweden. Netadmin also focuses on interactive control systems as they let all the employees to be involved in the formulation of the scorecards, and thus have plenty of strategic dialogue within the organization. They also have knowledge
integration in the company. However, according to Hansson, very much of their management control are based on the scorecards, and they must therefore be said to focus more on efficiency than on innovation, according to McCarthy and Gordon’s (2011) reasoning.

The control system of Netadmin is used to have a more controlled growth than they had before. They are able to better detect deviations in performance and thus adapt to changes before it is too late. It is also easier to unite the workforce in new decisions and work towards the same goals than before, which allows for stronger growth in the future.
5 Cross-case Analysis

In this chapter, we perform a cross-case analysis to find differences and similarities in how the case companies use and balance the control systems in our tentative framework. Thereby, the results from the analysis in this chapter provide insight into how start-ups generally use the tentative control framework. The control systems are analyzed one by one and related to both the literature review and the case studies, and the balance between them is studied according to the levers of control by Simons (1995). Finally, the case companies are divided into two clusters, and the similarities and differences between the clusters are discussed.

5.1 How the case companies use the control systems

Table 5-1 presents a summary of how the different control systems from our tentative framework are used in the case companies, as well as what levers of control they are used as.

<table>
<thead>
<tr>
<th></th>
<th>Kreatel</th>
<th>Senion</th>
<th>Donya Labs</th>
<th>Indentive</th>
<th>AgriTractor</th>
<th>Netadmin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbols</strong></td>
<td>![Symbol]</td>
<td>![Symbol]</td>
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<tr>
<td><strong>Short-Range Planning</strong></td>
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<td><strong>Budgets</strong></td>
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</tbody>
</table>

★ Belief System  ■ Boundary System

● Interactive Control System  ▲ Diagnostic Control System
Below, we go through the analysis of each of the control systems, and relate the case studies to our tentative control framework, as well as discuss how the balance of the control systems can be carried out in start-ups.

5.1.1 Organization Structure

All case companies use their organization structure as an interactive control system, according to Simons’ (1995) description, to promote collaboration and integrate knowledge between the different sub-units. In that way, the start-up can be more reactive to changes in the surroundings, which is important since it was argued in the literature review that start-ups are likely to exist in uncertain environments (see Chapter 2.3) which requires flexibility and adaptability. All the companies use an organization that resembles the hybrid organization, described by Chenhall (2003), to be able to be both effective, through their functional division of units, and reactive, through the organic structure and cross-functional collaboration. The hybrid organization structure with cross-functional collaboration and knowledge integration is also included in our tentative control framework, and seems to support innovation in the company, and thus increase the growth in the future. Using this type of organization structure that supports collaboration and communication between the units, rather than separating them, seems natural in start-ups since their organizations are rather small. In these organizations, communication and collaboration can be done more openly and freely, without losing too much efficiency. A high degree of internal communication is also something that was mentioned in the literature review (see Chapter 2.5) as something that is important for creating a collective understanding and ensuring that members of the organization take common actions (Shane, 2003).

Donya Labs and AgriTractor use their organization structure in a way that resembles Simons’ (1995) description of a boundary system as well. However, the characteristics of those boundaries are a little different between the two companies. In Donya Labs, they are used to establish rules and guidelines that keep the organization focused even when they grow rapidly. In AgriTractor on the other hand, they are used to differentiate their sub-units so that they should only focus on their particular part of the company. That way dialogue between the sub-units is lowered, to only include matters relevant for all the parties included in the discussion. This can be useful to be more efficient and controlled in their work, but it must be carried out in such a way that it does not hinder the cross-functional collaboration that we have argued to be important previously. However, in both companies, the use of organization structure as control system has been more focused on interactive rather than boundary use, since it is mostly about integrating knowledge and stimulating cross-functional collaboration in the companies.

5.1.2 Values & Symbols

All the case companies use value and symbol controls as belief systems. They use some form of, underlying or explicit, vision statements and core value statements that make sure that the employees share the common belief of the company and work towards the same objectives, which is in line with the definition of belief systems by Simons (1995). The value controls further seem to help the company to delegate responsibility to lower levels of the organization, since they try to ensure that all employees make decisions in line with the company’s strategic directions. This is in line with what was mentioned in the literature review in Chapter 2.2, where
an MCS that supports decentralization was argued to be important (Greiner, 1972) and value controls were suggested as a tool to make delegation of responsibility less risky. In Kreatel and Netadmin, value controls were also used to solve problems with internal relations, which was mentioned in the literature review as one of the most common failure factors in start-ups (Atsan, 2016). The values in the case companies are communicated to the employees directly, or indirectly through cultural symbols such as value statements on the walls, furnishing or office space, and in some cases through events and activities. This, together with the findings in our tentative control framework, indicates that start-ups seem to benefit from having vision statements and core value statements together with cultural symbols to clearly state what the company, and the employees in it, should strive for. Through that, it is easier to unite the employees towards the strategic direction, and thus support future growth.

Both Kreatel and Senion also use their values in a way that can be related to Simons’ (1995) description of a boundary system. In Senion’s case, they use it to discuss if a certain business case is in line with their values and vision, and in that way decide what their strategic focus should be, which means that affairs might be neglected. This means that they use their values to ensure that they stay focused on the task. Kreatel used their vision as the lodestar, and the values as a fence that they should not cross. Thus, the values are forms of boundaries and codes of conduct that the employees must not break, and therefore it is easier for the management to delegate decision making as they can trust the members in lower levels of the organization to keep in line with the company values. However, the focus on values as a boundary system is less than as a belief system, since it is mostly about uniting the workforce towards a common belief, to be able to delegate decision making more easily, and to avoid problems with internal relations.

5.1.3 Planning & Budgeting

Planning is used in line with Simons’ (1995) description of a boundary system in all the case companies, to specify what they are going to do and achieve in order to keep their strategic focus. All companies, except Kreatel, use both long-range and short-range planning. They all use short-range, detailed action plans up to one year ahead, and because of the difficulty in making reliable forecasts in an uncertain environment, they use long-range plans on an aggregated level to set future growth objectives and strategic directions. The focus on detailed, short-term plans is contrary to Simons’ (1990) finding that entrepreneurial companies in uncertain environments tend to use plenty of long-range planning. However, it can be related to an effectual reasoning process described by Sarasvathy (2001), since it is more focused on short-term planning and exploiting contingencies. According to Sarasvathy (2001), effectuators are more focused on controlling the controllable part of an unpredictable environment rather than trying to predict it, which is what the start-ups could be argued to be doing by recognizing the difficulty in making long-term plans and focusing more on short-term actions instead. This is also similar to what is mentioned in our tentative control framework. All case companies, except Senion and Netadmin, use short-range planning for managing their cash flow, to make sure that they always have enough resources available. This seems to be a way of handling the challenge with limited resources in start-ups mentioned by Atsan (2016). Using planning as a boundary system is natural since it specifies roadmaps for the organization to follow and
thereby prevents them from losing focus. All case companies, except Senion and Netadmin, use planning in a way that can be related to Simons’ (2000) definition of an interactive control system. This is done by including members in lower parts of the organization in the planning to stimulate strategic dialogue and is something that Chong and Chong (2002) claim increases goal congruence and commitment to the plan. The relevance of participation in entrepreneurial companies in uncertain environments is something that was mentioned in the literature by multiple researchers (Simons, 1990; Abernethy & Brownell, 1999; Chenhall, 2003). This is the same reason as why participation is an important attribute of planning in our tentative control framework. The focus on participation in planning can also be related to the effectual reasoning process, since effectuators are likely to build participatory cultures (Sarasvathy, 2001). The plans in all the case companies are revised frequently because of the uncertain environment that they face. Even though the plans often have to be revised, planning has still been an important control system to force the organization to think ahead and solve problems before they arise and increase participation and interaction. Thereby, using planning controls as both boundary and interactive control systems, seems to be a way for start-ups to both keep under control and stay innovative at the same time, which can support a controlled growth.

Budgets are used in a way that can be related to Simons’ (1995) descriptions of both boundary systems and diagnostic control systems in all the case companies. They are used to ensure that the limited resources in the start-ups are used efficiently and that the organization is kept within constraints to avoid getting too far away from their intended strategy. The budgets are not very strict, as they are updated regularly to adapt them to the current situation. They are furthermore used to set predetermined standards of performance that the company can be evaluated against and thus are able to make adjustments accordingly. This shows that the case companies use budgets used to set goals and objectives and allocate resources, which are also important attributes of budgets in our tentative framework.

Kreatel and Indentive also use budgets as an interactive control system, according to Simons’ (1995) description, by using participative budgeting to increase goal congruence, as well as stimulate strategic dialogue that leads to the emergence of new ideas. This shows that participative budgeting can increase innovation and goal commitment, which supports performance and further growth. In the literature review it was also mentioned that participation in budgeting increases goal congruence and spreading of information, and ultimately performance (Chong & Chong, 2002), and therefore it was also included in the tentative control framework. Using budgeting as both a boundary system and interactive control system is a way to keep innovation within boundaries. Thereby it seems like this is a way to support controlled growth in start-ups, as it was also found important in the literature review.

5.1.4 Hybrid Measurement Systems

All the case companies use hybrid measurement systems in line with Simons’ (1995) definition of diagnostic control systems, which is natural since they provide performance metrics to evaluate if the company acts in line with their intended strategy and if they reach their targets. This can also help the company to detect deviations in the uncertain environment that it acts within, and act accordingly. This provides support for the argument made in Chapter 2.3.2, that it is important in uncertain environments to have an MCS that can monitor the organization in
real time and allow the organization to detect and act on unforeseen events. Several of the case companies also update the performance metrics regularly and discuss within the company what is relevant to measure and control. In that way, they stimulate strategic dialogue, which is something that supports emergence of new strategic initiatives in the organization, according to Simons (1991). This makes the hybrid measurement system an interactive control system as well, according to Simons’ (1995) definition. Using hybrid measurement system as both diagnostic and interactive control could be a way to balance innovation against efficiency, according to McCarthy and Gordon’s (2011) discussion regarding the strategic goal of the respective control lever, and thereby support controlled growth.

None of the case companies use an explicitly formulated Balanced Scorecard (BSC) (described in Chapter 2.1.2), but they all use some form of hybrid measurement systems to measure both financial and non-financial metrics. Netadmin uses a kind of scorecard, but not with the characteristics of the BSC. However, in the literature review (see Chapter 2.6.5) it was found that a BSC could be an efficient and useful way to create a balanced measuring of different perspectives in the organization, that all add up to increase performance and growth. The fact that none of the companies used a BSC could be due to most of them being relatively small with no person with the assigned responsibility as a controller, and thereby might not be aware of the BSC as a control tool. But the use of hybrid measurements systems, as well as the customer focus that most companies mentioned, indicates that the BSC could be a relevant control system even though none of the cases in the study used it.

Even though all companies in the study use a hybrid measurement system, the two smallest companies in the study, Senion and AgriTractor, have the most focus on financial measures rather than non-financial. This could be explained by the fact that start-ups usually adopt financial control measures before adopting further types of MCS (Greiner, 1972; Davila & Foster, 2007).

5.1.5 Human Resource Management

The way that all the case companies use HRM is according to Simons’ (1995) descriptions of both belief system and diagnostic control system. The belief system corresponds to that most of them focus on personality and values of the potential employees in recruitment to evaluate if they would fit in the organization. Many of the companies further believe that competence can be gained within the company, but that some basic knowledge is needed before getting into the organization. This corresponds to a match between the company and the employee values on the first level mentioned by Malmi and Brown (2008) (see Chapter 2.1.2). The use of values and symbols in the companies further match the employees with the company on the second level, according to the description by Malmi and Brown.

Most of the companies also try to retain their employees by encouraging them to develop themselves within their area of interest. They also think that it is important to make sure that the employees have a natural career path in the company. The HRM in the case companies is used in a similar way as what is suggested in our tentative control framework.

Furthermore, all the companies use some form of stock-option program, in order to make the personal goals of the employees be in line with the company goals. The use of stock-option
programs in an early stage of a company’s life-cycle is also something that was mentioned in the literature review by Heneman et al. (2001) and Zingheim et al. (2009). Several of the case companies also use monetary bonuses to the sales unit, that is based on their sales performance. None of the companies in the study use any variable pay based on performance, except for the sales units. Several of them also mention the difficulty in competing based on salary for start-ups because of the limited financial resources, which is something that was also mentioned in the literature review, and they use stock options as a way to compensate for that. Using reward systems as a diagnostic control system seems to be a way to create incentives for the employees to increase performance and make the company grow.

5.2 Levers of control in the case companies

Below, in Table 5-2, we summarize what levers of control the case companies seem to be focusing on the most, based on the within-case analysis of each case, which is a way of indicating the balance between them. The levers that the companies put most focus on are labeled primary levers and the levers that the companies put less focus on are labeled secondary levers, these are marked with the colors green and yellow respectively.

Table 5-2: A summary of what levers of control the case companies focus on.

<table>
<thead>
<tr>
<th>Belief System</th>
<th>Boundary System</th>
<th>Diagnostic Control System</th>
<th>Interactive Control System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kreatel</td>
<td>Green</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Senion</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Donya Labs</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Indentive</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>AgriTractor</td>
<td>Green</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Netadmin</td>
<td>Green</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

By studying Table 5-2, it is seen that all the case companies, except AgriTractor, use belief systems as a primary lever of control. Four of the six case companies also use diagnostic and interactive control systems as primary levers. Overall, the boundary systems that the start-ups use are not very strict since they must be updated frequently due to the rapidly changing environment. This is why only two out of the six case companies use boundary systems as a primary control lever. The reason for this could be that it is implausible for start-ups to set fixed boundaries in a rapidly changing environment, since it could prevent the firm from following
the environment, and thereby risk leading to discrepancy between the organization and the environment. This could make the organization lose control, and thereby lead to failure, which is the opposite of what a boundary system is supposed to do.

Since all but one of the case companies use their belief system as a primary lever and only two use their boundary system as a primary lever, it shows that the companies in this study focus more on belief systems rather than boundary systems. According to McCarthy and Gordon’s (2011) discussion regarding strategic goals of the different control levers, this indicates a focus on growth rather than control in the start-ups. There is also an even balance between interactive and diagnostic control systems, which according to McCarthy and Gordon’s (2011) reasoning means that there is a balance between innovation and efficiency.

Belief and interactive control systems correspond to the left-hand side of Simon’s (1995) levers of control framework. All in all, the balance between the control levers seems to be slightly to the left-hand side. As mentioned in the literature review, according to Simon’s (1995) framework and the discussion of Kruis et al. (2016) regarding exploitation and exploration, this shows that the companies focus on exploration, rather than exploitation, to expand the opportunity space (Simons, 1995) and stimulate creativity (Simons, 2000). This seems natural considering that the start-ups in this thesis focus on technological innovation, and have also been argued in the literature review to be more likely to follow a build, rather than a harvest, strategy (see Chapter 2.6.3). Further, exploration is related to an effectual reasoning process and entrepreneurs are often effectuators (Sarasvathy, 2001), which further supports that start-ups in new and emerging market segments are using an MCS that is weighted towards the left-hand side of Simons’ (1995) framework.

Since human capital is a very important asset in start-ups (Unger, et al., 2011), it is natural that the case companies focus on belief systems that unite the workforce in line with the strategic direction. Furthermore, since they have a small employee base, a single recruitment of a person with much different values could have a great negative impact on the organization as a whole. Four of the companies also use diagnostic control systems as a primary lever, which shows that most of the case companies also promote efficiency, according to McCarthy and Gordon’s (2011) reasoning. This is a way of measuring goal achievement, as well as detecting deviations in their performance. Using this type of control system seems to be a way for start-ups to ensure efficient use of their resources, as well as detecting changes in, and staying responsive to, their uncertain environment. Since only two of the case companies use boundary systems as a primary lever of control, it shows that the start-ups in this thesis generally put least emphasis on control, according to McCarthy and Gordon’s (2011) reasoning.

However, it is important to note that all the case companies use all the levers of control, and all the levers of control are also used as a primary lever in multiple cases. Therefore, it seems that all the levers of control are important for start-ups, even though they are used to a different extent. Using mostly belief, interactive and diagnostic control systems as primary levers and mostly boundary systems as secondary levers, seems to be a way for start-ups to achieve controlled growth. In case they would put too little focus on boundary systems, they would risk losing control which could lead to failure, and in case they put too much focus on boundary systems, it would likely suppress innovation and hinder growth. The use of diagnostic control
systems could be an easier way of controlling growth, as the uncertain environment makes it difficult to make accurate forecasts and plans. The diagnostic control systems help start-ups detect changes in the environment, which helps them adapt to the changes before it is too late. In that way, they do not have to set strict boundaries in the beginning, and thus suppress the innovation and potential growth, but rather use metrics that show when the start-up is getting out of control.

5.3 Differences and similarities in management control related to product development phase

Two of the case companies in this study can be said to be or have been in a product development phase; Kreatel (the IP-TV unit) and Indentive (the unit developing Connective). This segmentation is done since Indentive’s product Connective is very young and is still being developed at the time of the interview (see Chapter 4.4.1), and Bengtsson implemented much of the management control when he joined Kreatel and then he also started their development of products for IP-TV (see Chapter 4.1.1). It is also interesting to note that both of these companies had other products and services before entering a new market segment (which are the ones that we focus on in the case studies).

The rest of the case companies in Chapter 4 can be said to be in a post product development phase, as they all have completed products that are commercialized and sold to customers. However, even though they have commercialized products, it does not mean that they are not still developing and innovating the product. All the case companies are focusing on technological innovation with continuous improvements of their products.

From the segmentation above, our data samples can be said to consist of two clusters and when studying the general patterns within the two clusters we find some interesting results in terms of how they use the different control systems and levers. By modifying Table 5-1 and segmenting the companies into the two mentioned clusters, we can easier detect differences and similarities in how the companies use the different control systems in terms of levers of control. This is illustrated in Table 5-3 below.
Table 5-3: Comparison of how companies in a product development phase and companies in a post product development phase use the different control systems.

<table>
<thead>
<tr>
<th></th>
<th>Product development</th>
<th>Post product development phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kreatel</td>
<td>Indentive</td>
</tr>
<tr>
<td><strong>Symbols</strong></td>
<td>![Symbol]</td>
<td>![Symbol]</td>
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<tr>
<td><strong>Short-Range Planning</strong></td>
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<tr>
<td><strong>Budgets</strong></td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
</tbody>
</table>

- ![Symbol] Belief System
- ![Symbol] Boundary System
- ![Symbol] Interactive Control System
- ![Symbol] Diagnostic Control System

Overall, there are many similarities in how the companies in the two clusters use the different control systems. For example, all companies in both clusters have used symbols as belief systems and HRM as belief and diagnostic control system. Furthermore, they have all used an organization structure that is interactive, even though two of the companies that are in a post product development phase use their organization structure as a boundary system as well (see Chapter 5.1.1 for a discussion regarding the implications of this). This means that in the product development cluster, the organization structure is used to promote flexibility by stimulating collaboration and communication throughout the organization. This is also done in the post product development cluster, however in some cases it is also used to differentiate sub-units to keep the organization focused on the task. There is further a similarity in how the companies use values, where they have all used values as a belief system, and one company in each cluster has also used it as a boundary system (see Chapter 5.1.2 for a discussion regarding the implication of this). This means that value controls are used in similar way between the clusters, and thereby their usage does not seem to depend on the phase of product development that the company is in.
The biggest difference between the clusters is in their budgeting processes. All the companies in both clusters use budgets as a boundary and diagnostic control system. However, both of the companies in the product development cluster, Kreatel and Indentive, also use budgets as an interactive control system by focusing on participation to increase interaction and dialogue throughout the organization (see Chapter 5.1.3). This is not something that is done by any of the companies in the other cluster, instead their use of budgeting is focused more on allocating resources and setting goals and objectives (see Chapter 5.1.3). This indicates that the goal of the budgets in the companies that have a completed product are to keep the organization focused and to promote efficiency. Another difference is in the use of short-range planning and hybrid measurement systems. All the companies use short-range planning and hybrid measurement systems as a boundary and diagnostic control system respectively. However, in the product development cluster, both companies use these control systems interactively as well, whereas only half of the companies in the other cluster use these control systems interactively (see Chapter 5.1.3 and 5.1.4 for a discussion regarding the implications of this). This means that there seems to be more focus on involving employees in the planning and having strategic dialogue regarding relevant control measures to support emergent strategy in the product development cluster than in the post product development cluster, where there is a little more focus on keeping the organization focused on achieving its goals and implementing the intended strategy.

Even though there are more similarities between the clusters than there are differences, it seems like the companies that are in a product development phase tend to put more emphasis on interactive control systems than the companies that already have a completed product. The difference in emphasis on the different control levers between the clusters becomes more apparent when studying how many of the companies within each cluster that use the different levers of control as primary levers. This is illustrated in Table 5-4.

Table 5-4: Differences in balance between levers of control depending on whether the company is in a product development phase or not.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Belief System</th>
<th>Boundary System</th>
<th>Diagnostic Control System</th>
<th>Interactive Control System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product development</td>
<td>2/2</td>
<td>0/2</td>
<td>0/2</td>
<td>2/2</td>
</tr>
<tr>
<td>Post product development</td>
<td>3/4</td>
<td>2/4</td>
<td>4/4</td>
<td>2/4</td>
</tr>
</tbody>
</table>

As Table 5-4 shows, belief systems are used as a primary lever of control in both of the companies that are in a product development phase as well as in all, but one, of the companies that are in a post product development phase. Thereby, there seems to be a similarity that belief systems are important no matter whether the company is in a product development stage or not. By focusing more on belief than boundary systems, it shows that companies in both clusters emphasize growth over control. None of the companies that are in a product development phase use diagnostic control systems as primary levers, whereas they all use interactive control systems.
systems as a primary control lever. This shows that there is a difference compared to the other cluster where all of the four companies use diagnostic control systems as a primary lever, whereas only two companies use interactive control system as a primary lever of control. This indicates that companies that are in a product development phase focus more on interactive control systems, while companies that already have a completed product focus more on diagnostic control systems.

The focus on interactive control systems, rather than diagnostic control systems, while the company is in a product development phase could be explained by McCarthy and Gordon’s (2011) reasoning that interactive control systems relate to the strategic goal of innovation. Innovation should be of more importance when the company is in a product development phase, rather than once they already have a completed product. This helps the company in coming up with new features and solving problems that arise. To put more emphasis on diagnostic control systems once the company has a completed product, can also be explained by McCarthy and Gordon’s (2011) argument that diagnostic control systems relate to the strategic goal of efficiency. Focusing on diagnostic control systems in this phase could be a way to increase efficiency in the company’s operations and thereby increase profitability.

From the discussion above, it seems like the companies in the product development phase focus on the left-hand side of Simon’s (1995) framework by using belief and interactive control systems as primary levers, which according to Kruis et al’s (2016) reasoning means that they focus more on exploration of opportunities, rather than on exploitation of current resources. Furthermore, the companies in the post product development phase seem to have a focus that is more to the middle of Simons’ (1995) framework, by using mostly belief and diagnostic control systems as primary levers, with a little less focus on boundary and interactive. This means that they emphasize a more even balance between exploration and exploitation. These differences seem reasonable since the companies in the product development phase must be more innovative and cannot be as efficient in their processes as the companies with finished products, and diagnostic control measures do not contribute as much if they do not have a product to sell. Companies that already have a finished product on the other hand, must consider efficiency more to ensure profitability but at the same time as they remain flexible and open to explore new opportunities.
6 Conclusions

In this chapter, we answer our research questions from Chapter 1.5, and revise the tentative control framework into our finalized framework for Management Control Systems in fast-growing start-ups. The conclusions in this chapter are based on the findings from the cross-case analysis. First, we discuss all the appropriate control systems for start-ups that we have found in our study, and we also give a summary of them, as well as describe how to use and balance them. The chapter concludes with guidelines to start-up managers for how to use the framework and the control systems in it.

6.1 Constructing the finalized Management Control Systems framework

To answer the research questions regarding what appropriate control systems there are that start-ups can use, as well as their purpose, we first go through all the control systems in our tentative control framework and make conclusions for how, and for what purpose, they can be used in fast-growing start-ups based on the outcome from the cross-case analysis. These control systems are then added to the finalized Management Control Systems framework.

As mentioned in Chapter 5.1.1, the organization structure in start-ups can be used as an interactive control system in start-ups. This can be done by using a hybrid organization with a combination of a functional and organic structure. This is a way for start-ups to support knowledge integration and cross-functional collaboration, and to be efficient and stay responsive to the uncertain environment at the same time.

- **Organization structure** with features such as hybrid organization, cross-functional collaboration and knowledge integration is added as an interactive control system in the finalized Management Control Systems framework.

In the analysis of value controls in Chapter 5.1.2, it was found that they can be used as a belief system in start-ups to ensure a common belief in the company and that everyone works towards the same objectives. It makes delegating responsibility to lower levels of the organization less risky and it is also a way to handle the challenge with internal relation problems, as well as making employees more committed to solving problems that arise, which is important in an uncertain environment. The value controls can be implemented through vision and core value statements that indicate priorities, as well as the direction that the management wants the organization to be heading.

- **Values** that include vision statements and core value statements is added as a belief system in the finalized Management Control Systems framework.

To support and communicate the values and strengthen the organizational culture, start-ups can also use cultural symbols as a belief system, according to the analysis in Chapter 5.1.2. This can be in the form of both physical symbols, such as printed vision and value statements on the walls, office space and furnishing, as well as non-physical symbols, such as activities and events,
that stimulate a certain culture or behavior. The symbols help in creating common beliefs and norms in the organization.

- **Symbols** that include *printed vision and value statements, office space, events and activities* is added as a belief system in the finalized Management Control Systems framework.

As mentioned in Chapter 5.1.3, start-ups can use planning as both a boundary system and interactive control system simultaneously to keep the organization under control and ensure that it stays focused, as well as remain innovative. Short-range planning is used for specifying detailed action plans to keep the organization focused on the task, as well as managing cash flow and making sure that they always have sufficient financial resources and thereby avoid failure. Long-range planning can be used on an aggregated level to provide focus on strategic directions and future growth objectives. This corresponds to the boundary system. The interactive use of plans can be implemented by including members in lower levels of the organization in the planning, which is something that stimulates strategic dialogue, goal congruence, as well as commitment to the plans.

- **Short-range planning** that includes *detailed action plans and cash-flow management* is added as a boundary system in the finalized Management Control Systems framework.
- **Long-range planning** that includes *future growth objectives and strategic directions* is added as a boundary system in the finalized Management Control Systems framework.
- **Short-range planning and long-range planning** with focus on participation are added as interactive control systems in the finalized Management Control Systems framework.

Budgets in start-ups can be used as a boundary, diagnostic control and interactive control system simultaneously to keep innovation within boundaries, as well as promote efficiency and increase performance. This was discussed and analyzed in Chapter 5.1.3. Budgets are used to allocate the limited resources in start-ups and make sure that these are used efficiently. Thereby, it sets boundaries for how much resources they can use and it keeps the organization under control to avoid failure. Budgeting is also used diagnostically to set standards of performance that the organization can be evaluated against, which promotes efficiency and performance. Finally, by focusing on participation, where members in lower levels of the organization participate in the budgeting process, it also becomes an interactive control system that increases strategic dialogue, goal congruence, as well as supports emergence of new ideas.

- **Budgets** that include *resource allocation and innovation within boundaries* is added as a boundary system in the finalized Management Control Systems framework.
- **Budgets** that include *goal and target setting* is added as a diagnostic control system in the finalized Management Control Systems framework.
- **Budgets** with focus on participation in the budgeting process is added as an interactive control system in the finalized Management Control Systems framework.

According to the analysis in Chapter 5.1.4, hybrid measurement systems that include both financial and non-financial measures can be used in start-ups as both a diagnostic control and an interactive control system simultaneously, to balance innovation and efficiency. The diagnostic use of performance measures helps start-ups in implementing their intended strategy.
and evaluates how well they are achieving their goals. It can also be used to detect changes in the uncertain environment to help them to be responsive, and thereby avoid failure. The Balanced Scorecard has been argued to be an efficient way of creating and structuring a hybrid measurement system, as it measures different perspectives in a congruent way that together should increase the company’s performance and growth. Furthermore, the interactive use of hybrid measurement systems can be done by having a strategic dialogue regarding the appropriateness of the performance measures, related to their current situation. This is a way of remaining flexible and supporting emergent strategy.

- **Hybrid measurement systems** with focus on goal achievement and detecting deviations, that could come in the form of a Balanced Scorecard, is added as a diagnostic control system in the finalized Management Control Systems framework.

- **Hybrid measurement systems** with focus on strategic dialogue is added as an interactive control system in the finalized Management Control Systems framework.

Human Resource Management can be used as both a belief system and a diagnostic control system in start-ups, as mentioned in Chapter 5.1.5. Using it as a belief system corresponds to matching the employee and company values, particularly in the recruitment process. The purpose of this is to ensure that the organization has a homogenous set of values, and that everyone work in the same direction and in line with the interests of the organization as a whole. The diagnostic use of HRM can be implemented by incentives that are targeted towards retaining and rewarding high performers. These incentives can be in the form of stock options or monetary bonuses, which ensure that the goals of the employees align with the goals of the organization, as well as promote performance. Retaining employees can also be done by providing employees a good career path and the chance to develop themselves in their area of interest.

- **Human Resource Management** that focus on achieving a match between company and employee values is added as a belief system in the finalized Management Control Systems framework.

- **Human Resource Management** that reward and retain high performers and use incentives such as monetary bonus and stock options is added as a diagnostic control system in the finalized Management Control Systems framework.

### 6.2 Framework for Management Control Systems

To answer the research question of how the different control systems have been used and balanced in start-ups, we illustrate how the different control systems are configured in the finalized framework in Figure 6-1, as well as discuss how the balance of control levers helps start-ups to achieve growth in a controlled manner. By combining empirical and theoretical findings regarding how MCS can be used in fast-growing start-ups to support growth in a controlled manner, it also fulfills the purpose of this thesis. The illustration in Figure 6-1 is based on the control systems that we added to the finalized MCS framework in Chapter 6.1.
Figure 6-1: An illustration of our finalized Management Control Systems framework for start-ups.

This Management Control Systems framework provides a set of control systems that start-ups can use that are relevant for supporting growth and managing the most common challenges that fast-growing start-ups face. By using different levers of control, the control systems complement each other and create a dynamic tension, which increases performance. How an organization balances the levers of control depends on their situation and what the control system is used for. From the analysis in Chapter 5.3, it was found that whether the case companies are in a product development phase or if they already have a completed product is the factor that seems to affect the balance the most. In these two phases, the overall use of the control systems in the framework is similar, however the emphasis on the different control systems in each lever differs between the phases.

A rough overview of the balance of control levers in companies that are in a product development phase is illustrated in Figure 6-2.
As mentioned in Chapter 5.3, the companies that are in a product development phase seem to put the most focus on belief and interactive control systems, with less focus on boundary and diagnostic control systems. This means that the companies promote growth and innovation over control and efficiency, and that they are more focused on exploration of opportunities, rather than exploitation of current resources. Even though the focus is on the left-hand side of the framework, the companies do also put some focus on the right-hand side, to make sure that they do not lose their focus and start to make too risky decisions or become too inefficient in their activities.

The balance of the different control levers in the companies that already have a completed product is illustrated in Figure 6-3.
As mentioned in Chapter 5.3, companies that already have a completed and commercialized product seem to put the most emphasis on belief and diagnostic control systems, with less focus on boundary and interactive control systems. This means that they promote growth and efficiency over control and innovation. By having a rather even balance between growth and efficiency, as well as between innovation and control, the companies have a balance between exploration of opportunities and exploitation of current resources in this phase. This balance between the left and right-hand side of the framework seems to be a way for start-ups to achieve controlled growth once they have a completed product.

By using the balance of control levers presented in Figure 6-2 and Figure 6-3, depending on the phase that the firm is in, start-ups can have a Management Control System that is well-balanced relative to the strategic challenges in that phase. During the product development phase, the control systems are targeted towards expanding the opportunity space, which helps the company in being effective in finding solutions to new problems and exploring new opportunities. As the company starts to move out of the product development phase, the balance moves towards the right-hand side of the framework to keep the organization focused on leveraging the business based on its current product offering, as well as exploring new opportunities to handle the uncertain environment. A more even balance between opportunity exploration and resource exploitation lets innovation occur under acceptable levels of risk and ensures that the company stays both efficient and flexible, which is a way to achieve controlled future growth in start-ups.

However, the exact balance in start-ups depends on their unique organizational context and the challenges that they currently face. Fast-growing start-ups have a high pace and the phase that they are in and the challenges that they face can change quickly. Therefore, it is important that the Management Control System is not static. Rather, it should be dynamic with a balance between control levers that changes with the organization to best support the needs of the current situation. The balance of levers is not dependent on the number of control systems in each lever in the framework, but rather the focus and emphasis on each one of them.

6.3 Managerial guidelines

Based on the Management Control Systems framework, that is the result of this thesis, we arrive at a number of practical guidelines to managers of fast-growing start-ups, or start-ups targeting fast growth, for how they should design and use management control. By following these recommendations, managers can implement Management Control Systems that are comprehensive, but still easy to grasp, and that create a balance between control levers that is appropriate for a fast, but controlled, growth and increase the likelihood of survival by mitigating the most common failure factors in start-ups. These recommendations are presented below.

A common set of beliefs and values is important in the organization to make sure that everyone is pulling in the same direction, and to be able to delegate responsibility while keeping the firm on the right course.
R1. Define the organization’s vision and core values by using vision and core value statements to get a clear understanding of what they are.

The vision and core values should be communicated so that all members of the organization know about them and can thereby act accordingly.

R2. Use symbols such as printed value and vision statements on the walls to communicate and constantly remind employees of the values. Other symbols that can be effective tools for communicating values are office space, as well as events and activities.

It is difficult to change a person’s values, and therefore start-ups should also communicate the company values already during the recruiting process and try to select employees with matching values. The results suggest that values can be even more important than competence in the recruitment process, since competence is something that employees can gain subsequently.

R3. Focus on values in the recruiting process and try to find employees with values and a personality that align well with the values of the company.

By including as many members of the organization in the planning and budgeting process as possible, the company can stimulate innovation and problem solving, with the emergence of new ideas, as well as increase commitment to the plans and goal congruence among members in the organization.

R4. Use participative planning and budgeting to stimulate innovation, as well as increase commitment and goal congruence.

Short-range plans should be used to specify the actions that the organization is supposed to undertake during the coming 12 months. These plans should be followed up and evaluated frequently, and updated according to changes in the environment. The short-range plan should also be used to manage the company’s cash flow and ensure that the company always has enough resources available to avoid failure on a short term.

R5. Use short-range planning to specify actions for the coming 12 months, as well as manage cash flow to ensure that the firm does not run out of resources.

Because of the difficulty in making reliable long-term plans and forecasts in an uncertain environment, long-range plans are better used on an aggregated level to specify future goals and strategic direction of the organization. Thereby, the members of the organization know what to aim for, but the road for getting there is not specified since it depends on contingencies that appear along the way.

R6. Use long-range plans on an aggregated level to indicate future goals for more than a year ahead, as well as the strategic direction that the company should be heading in.

Budgets are effective tools for allocating resources within the organization to ensure efficient use of the start-up’s limited resources. They are also good for making sure that activities and innovation are carried out under acceptable levels of risk. Further, they set standards of performance and goals that should be achieved and that performance can be evaluated against.

R7. Use budgets to allocate resources within the organization, as well as to set goals and targets that the organization can be evaluated against.
To measure the performance of the organization, it is useful to combine a set of both financial and non-financial measures. The financial measures are good for measuring performance in relation to the budgets, which means performance as it was, whereas non-financial measurements are often better to measure performance drivers that affects the future performance, such as for example quality and innovation. A good tool for constructing such a measurement system is using the framework for Balanced Scorecard with the four different perspectives: \textit{Financial, Customer, Internal Business Processes, and Learning and Growth.} Through this combination of perspectives, it combines both financial and non-financial measures, as well as external and internal perspective.

\textit{R8. Use a measurement system that combines both financial and non-financial measures, to measure both performance indicators, as well as performance drivers, for example by using a Balanced Scorecard.}

It is important that the measurement system is well adapted to the current situation by measuring what is important in the specific situation that the organization is in. This means that the measures should be frequently updated and replaced in case they become obsolete. By doing this, the measurement system supports the organization in its current actions and strategic direction. It is also important to frequently evaluate the data from the measurement system to be able to quickly respond to changes in the environment.

\textit{R9. Frequently evaluate the data from the measurement system to detect deviations and continuously update the measures to make sure that they are always relevant according to the current situation.}

To make sure that the employees’ goals are in line with the organization’s goals, start-ups can use incentives that motivate employees in achieving the company goals. This can be done through for example monetary bonuses based on performance, or allotment of stock options. This can be a way of making up for the potential difference in salary that start-ups can offer in comparison to larger organizations, as well as reward high performers and retaining them within the organization.

\textit{R10. Use incentives such as monetary bonuses or stock options to motivate employees to act in accordance to the company goals, as well as reward and retain high performers.}

To both stay responsive to changes in the uncertain environment, as well as efficient in their work, start-ups should use a hybrid organization with a functional division of labor, combined with plenty of cross-functional collaboration and communication that supports knowledge integration throughout the organization. By using cross-functional collaboration and communication, the R&D unit can for example get valuable information about customer feedback regarding, for example, product quality or requests for new features from the sales department, and thereby improve the company’s offering.

\textit{R11. Use an organization structure that has a functional division of labor, but with plenty of cross-functional collaboration, communication and knowledge integration. In this way, the organization can stay both efficient, and at the same time flexible to changes in the environment.}
7 Discussion

In this final chapter, we discuss the contribution to research made by our thesis and the generalizability of our results, as well as the robustness of the Management Control Systems framework that was developed throughout this thesis, and also what factors there are that could have influenced the result. We furthermore discuss suggestions for future research.

7.1 Contribution of this thesis

As was mentioned in Chapter 1.4, there has previously been a lack of research regarding management control in start-ups with a broad perspective of how different control systems can be used, as well as the interdependency between control systems (Voss & Brettel, 2014). This is a research area that we believe that we have contributed to with our thesis, by using Malmi and Brown’s (2008) Management Control Systems package, Simons’ (1995) levers of control framework, as well as theory regarding Human Resource Management as point of departure for our MCS framework. Malmi and Brown’s package, together with HRM, provided a broad foundation of control systems available for start-ups to use, and Simons’ framework provided a foundation for illustrating interdependencies between them. By identifying which control systems that start-ups tend to use, as well as identifying which lever of control that they correspond to, we were able to provide insight into how start-ups should use management control and for what purpose.

Overall, the theory cited in the literature review that was based on previous research, corresponded well to our empirical findings in terms of how the individual control systems can be used. For example, several of the case companies focused on participation in their budgeting and planning, which is something that Ezzamel (1990), Simons (1990), Chapman (1998) and Chenhall (2003) mention that companies in uncertain environments tend to focus on. However, one thing that did not correspond well between the theory and empirical findings was the focus on long-term planning in entrepreneurial companies in uncertain environments, mentioned by Simons (1990). Even though all except one of the companies used long-range planning, most of them mentioned that there is a difficulty in making reliable long-term plans and therefore they tend to focus more on their short-term planning. Another area where the cited theory and the empirical findings corresponded well was the most common challenges that start-ups tend to face, where several of the factors that Everett and Watson (1998), Ditillo (2004), Ooghe and De Prijcker (2008), Ropega (2011) and Atsan (2016) mention were also mentioned by several of the case companies. More specifically, problems with internal relations, cash flow, limited resources and recruiting the right individuals.

Further, the theory from previous research and our empirical findings both corresponded and differed to each other in terms of the use of rewards and incentives. Heneman et al. (2001) and Zingheim et al. (2009) discuss how start-ups tend to reward their employees with stock-option programs, as well as signing bonuses at hire. All the case companies that we interviewed used some kind of stock options, however none of them had used signing bonuses at hire.
The factors mentioned above are examples of areas where our empirical findings either corresponded to or differed from previous research. As mentioned previously, the empirical findings overall corresponded well to previous research in terms of how the individual control systems are used in the kind of organizational context that start-ups are in. However, previous research has not provided clarification into how the control systems can be combined and balanced against each other, which is why we think that the results from this thesis are interesting, as it combines the different control systems and show how they relate to, and complement, each other by focusing on different strategic goals.

7.2 Generalizability of this thesis

First of all, our case study consisted of only six case companies, which limits the generalizability since it is hard to determine if they represent the majority of the start-ups. The case companies were all from Sweden, which further limits the generalizability for companies outside of the country.

The thesis was also focused on developing a framework for fast-growing start-ups, in emerging and growing market segments, with focus on technological innovation. Even though the study contained a limited data set, the case companies were all rather similar in the way that they had used the different control systems. Therefore, we believe that our results should be valid within this domain. However, for start-ups in other domains, for example more mature industries or retailers that only sell products without their own product development, the business challenges and requirements of MCS could be very different. Therefore, the MCS framework should be applied carefully outside of its intended domain.

Furthermore, since the total data set was rather small, the segmentation of companies into different development phases naturally led to even smaller data sets within each segment. One of the segments included only two companies. This is something that further decreases the generalizability of the results regarding the balance of control levers that companies in different product development phases use. This is because the general patterns found within the segments and the differences between them could be a coincidence since there is no way to statistically prove any relationships with such a limited data set. However, by supporting the found patterns within the segments with theory, we were able to provide a logical explanation behind the relationships, which is something that we believe indicates causality. However, these findings related to how start-ups use management control depending on whether they are in a product development phase or already have a completed product should be considered exploratory. Therefore, more confirmatory studies would need to be conducted to provide more statistical evidence regarding these findings, which is something that is discussed further in Chapter 7.4.

7.3 Robustness of the Management Control Systems framework

The tentative control framework that was developed through the literature review overall corresponded well to the control systems that the start-ups included in the study used. This is
something that we believe indicates that there should be some robustness in our framework. Further, the way that the different case companies use the control systems was also rather similar, without any major differences. This means that there was good alignment between the different cases, as well as between the cases and the theory, which is further something that we believe is a good indicator of the robustness of the framework.

However, one potential weakness of the framework is what lever of control that the different control systems have been used as and thereby also the balance of the framework. This is because the terminology and concepts used in the literature review is not something that most start-ups are familiar with and not something that they discuss regularly. This meant that we had to ask questions regarding their management control and try to relate it to the theoretical concepts in the thesis. This was difficult in some cases, and less difficult in other cases, and it means that there could be some misconceptions regarding which lever of control that a certain control system has been used as or which levers that the start-ups use as primary and secondary levers respectively. However, since this was an exploratory study, the purpose was to investigate how the different control systems can be used and give an idea of how the control levers can be balanced in fast-growing start-ups, which is something we believe that we have achieved. However, further research is required to answer exactly how the control systems should be used and balanced, and specifically how it relates to growth, which is discussed more in Chapter 7.4.

Furthermore, since MCS is a broad concept and means different things for different people, we could not ask the interviewees to openly describe their control system, since we would have received very different answers, if any at all, depending on how the interviewee defines MCS. This means that there could be control systems that start-ups tend to use that are not covered by our framework, since we had to ask the interviewees specifically about the control systems included in the tentative framework. Even though none of the interviewees expressed that they use any other type of control system that was not included in the tentative control framework, they might use systems that they themselves do not think about as MCS, but that we as researchers would interpret as MCS, had we known about them. Therefore, the MCS framework developed in this thesis provides a broad set of relevant control systems for fast-growing start-ups, but there might exist other relevant control systems outside of the framework as well. Therefore, the control systems in the MCS framework are not collectively exhaustive.

7.4 Suggestions for future research

There are a few suggestions for future research that could be carried out in the same area as this thesis. One example of future research is that one can perform a quantitative research of more companies and make more extensive statistical analysis of how companies seem to use the control systems and what levers of control they correspond to. This can provide more detailed descriptions of how the control systems can be balanced against each other and how the balance of control levers relates to growth and risk. Thereby, entrepreneurs could use the framework to design their own MCS that provides an optimal trade-off between growth and risk depending on their risk profile.
Furthermore, as mentioned in Chapter 7.2, we considered the different product development phases that the case companies were in. However, a future research area could be to use the same method that we did, but categorize more case companies into different segments and make conclusions of how it can differ between them. The segmentation could be based on company age, number of employees, growth rate, management experience or other variables. One can also perform a quantitative analysis of many case companies with the same segmentation as in this thesis to confirm our findings statistically.

In relation to that, another suggestion for future research is to perform a deeper, longitudinal study of each case with more interviews and over a much longer time to see how the control systems and balance changes over time and between phases. That could also be a way of mitigating the risk that managers romanticize their companies when only one interview is conducted at each case company.

It would also be interesting to find information of how the MCS has changed in start-ups after they have gotten acquired by bigger companies, as was the case with Kreatel and Donya Labs, which were start-ups that we studied in this thesis. Furthermore, the management in the case companies in our thesis differed much in terms of age and management experience, and it would be interesting to conduct research regarding how those factors could affect the MCS and the emphasis on each of the control systems.

It is also possible to implement our MCS framework in a start-up and monitor their performance and try to evaluate how the different parts of the framework have helped the start-up in its growth path. One can also examine how the MCS in the companies affect the research areas presented in Chapter 1.4, and not only the other way around, which is what we mostly did in this thesis.
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Appendix – Interview guide

Below, the questions that were used in the case-study interviews are listed. Note that they could have been asked in a different order, and some questions were left out in some companies, when they were irrelevant or had already been answered in other questions.

Inledande frågor

- Kan du beskriva företagets verksamhet?
- Kan du beskriva din egen roll i företaget?
- Hur länge har du varit med i bolaget?
- Kan du beskriva resan som ni har gjort så länge som du har varit med?

Mål

- Vad har ni för tillväxtmål i företaget och hur väl har ni uppnått målen?
- Vad har ni för andra mål i företaget?

Utmaningar och framgångsfaktorer

- Beskriv en stor utmaning för er och hur ni hanterade den. Hade ni kunnat gjort något annorlunda/bättre?
- Fler exempel på utmaningar och hur ni hanterade dessa?
- Vilka utmaningar ser ni framöver och hur tänker ni hantera dessa?
- Finns det några faktorer som du anser har varit nyckeln till er framgång?
- Kan du ge exempel på hur dessa faktorer har hjälpt er nå framgång?

Kultur och värderingar

- Hur har kulturen utvecklats? Har den påverkats av utmaningarna?
- Kontrollerar ni kulturen på något sätt eller utvecklar den sig själv?
- Finns det kulturella symboler inom organisationen, till exempel hur kontoret är utformat eller möblemang för att skapa en viss kultur?
- Vad har ni för vision och kärnvärderingar? Hur påverkar dessa verksamheten?
- Kan du ge ett exempel på då kärnvärderingarna låg till grund för ett beslut?
- Hur kommuniceras detta inom organisationen?
- Tycker du att kulturen skiljer sig åt mellan olika enheter eller är den homogen?
- Kan du se hur kulturen och värderingarna har hjälpt er att hantera utmaningarna ni stått inför?
- Kan du ge ett exempel på ett tillfälle då kulturen hade stor påverkan på resultatet?

Planering och Budgetering

- Hur sker planering av verksamheten? Fokus på lång eller kort sikt?
- Vad innefattas i planeringen (övergripande mål, detaljerade aktivitetsplaner osv)?
- Vilken påverkan har planeringen på verksamheten? Anpassas arbetet till planen eller uppdateras planen efter arbetet vid förändrade förutsättningar?
- Vilka är delaktiga i planeringen?
- Hur använder ni er av budgetar? Vad är målet med dessa?
På vilken nivå ligger budgeten (övergripande/detaljerad)?
Brukar ni lyckas hålla er till budgeten? Vad händer ifall ni inte lyckas?
Kan ni ge ett exempel på ett tillfälle då ni var tvungna att justera budgeten efter nya förutsättningar?
Delar ni upp budgeten per affärsenhet eller är den gemensam?
Vilka är delaktiga i att sätta budgeten?

Cybernetisk Styrning

Har ni några uttalade styrsystem (faktorer som mäts, följs upp och utvärderas) i dagsläget? I så fall vad/vilka? Finansiella och icke-finansiella? Tidsbaserade nyckeltal?
Hur definierar ni framgång? Påverkar detta styrsystemen?
Vem/vilka designar styrsystemen och vem/vilka styr?
Finns det dialog inom organisationen om lämpligheten i dessa styrmedel och hur ofta uppdateras dem?
Hur ofta utvärderas data från styrsystemet? Vad får det för påverkan på verksamheten?
Vad gör ni om ni inte uppfyller målén?
Kan du ge ett exempel på ett tillfälle då ni inte nådde målen och vad ni gjorde åt detta?
Upplever du att styrningen hjälpit er att hantera utmaningarna? Har styrsystemet ändrats efter någon utmaning ni stött på?

Belöningsystem

Har ni några bonus/belöningsystem utöver fast lön? Vad baseras dessa på (utvärderingar/mätetal osv)?
Hur har belöningsystemen utvecklats under tiden från start-up till nu?
Hur ofta uppdateras belöningsystemen (baseras belöningarna alltid på samma faktorer eller ändras dessa utifrån situation)?
Hur hanteras informationen om dessa belöningsystem? Öppen och tillgänglig för samtliga eller endast tillgänglig för vissa?

Administrativ Styrning

Hur är företaget organisatorat? Vilka olika affärsenheter finns det?
Hur ser ansvarsfördelnings ut? Centraliserat eller decentraliserat?
Hur ser ni till att alla enheter styr åt samma håll?
Hur mycket samarbete är det mellan enheterna?
Kan du ge ett exempel på när samarbetet har fungerat bra/dåligt?
Hur utvärderas prestation för de olika enheterna?
Hur kommunicerar medlemmar inom organisationen? Öppet (vem som helst kan tala med vem som helst) eller genom fasta kanaler (anställd kommunikerar med närmaste chef som kommunikerar med sin chef osv.)?
Har ledningsstrukturerna varit densamma under år tillväxtresa eller har den förändrats?
På vilket sätt har den förändrats och varför?
Kan du ge exempel på vad det har fått för påverkan?
Kan du se hur organisationen har hjälpt er att hantera utmaningarna ni stött inför?
Kan du ge ett exempel på hur organisationsstrukturen har hjälpt er att nå tillväxt?
Human Resource Management

- Vilka faktorer tittar ni på vid rekrytering (kompetens, värderingar, kulturell fit osv.)?
  Vad är viktigast?
- Varför anser ni att faktor X är viktigare än faktor Y?
- Vad har ni för strategi för att attrahera potentiella kandidater?
- Vad har ni för strategi för att behålla anställda?

Kunder och konkurrenter

- Jämför ni er mot konkurrenter? På vilket sätt och vad kollar ni på?
- Hur positionerar ni er på marknaden jämfört med konkurrenter?
- Hur mycket kundfokus har ni? Vad ligger fokus på?
- Vad har kunder för påverkan på verksamheten?
- Kan ni ge ett exempel på ett tillfälle då en förändring i kundbehov/beteende gjort att ni var tvungna att förändra er verksamhet?
- Utvärderar och prioriterar kunder på något sätt? Hur?
- Kan ni ge ett exempel på ett tillfälle då ni var tvungna att välja bort en kund?
- Mäter ni kundnöjdhet? Vad mäter ni i så fall?

Lärande och utveckling

- Hur anpassar ni er till nya förutsättningar?
- Hur tar ni till er ny kunskap? Hur integreras kunskapen inom organisationen?
- Har du något exempel på när ny kunskap hittats och spridits till olika nivåer i organisationen?
- Arbetar ni aktivt med lärande/utveckling?
- Hur väljer ni ut delar att utveckla?
- Arbetar ni aktivt med att stödja innovation och entreprenörskap? Hur gör ni detta?
- Hur reflekterar ni över lärdomar och erfarenheter? Hur påverkar detta morgondagens arbete?
- Kan du ge ett exempel på en lärdom/erfarenhet som har fått stor påverkan på verksamheten?
- Fokuserar ni på att söka nya marknader eller försvara/växa inom de marknader ni har? Hur identifierar ni nya marknadsmöjligheter / försvarar/växer de marknadsandelar ni har?

Avslutande frågor

- Av de faktorer som vi har pratat om (kultur/värderingar, målstyrning (finansiell/ikke-finansiell), organisationsstruktur, rekrytering, bonusystem, planering & budgetering, kunder/konkurrenter samt lärande/utveckling), vilka har varit mest prioriterat för er?
- Har du något du vill tillägga eller är det någonting du undrar över?