Mission accomplished?
Measures of Success and Critical Success Factors in Startup Project Management

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Summary

This research studies project success in the context of decision-makers in young, entrepreneurial companies, namely startups. More precisely the companies are European companies that are independent, active and under 10 years of age, and furthermore identified as startups through a framework created from literature derived from Organizational Life Cycle theory and other pluralistic literature about startups. The main concentration is in the concepts related to project success: Project Success Criteria and Critical Success Factors, based on two research questions:

1. “What success criteria are perceived to be most relevant in the project management of startup firms?”
2. “What critical success factors are perceived to be most relevant in project management of startup firms and why?”

Previous studies on project management have been mostly conducted in the context of large organizations and typically in a quantitative form. Studies in project management of startups have been scarce, and in project success, nonexistent. Researchers have called upon project literature that concentrates on particular organizational context. In this study, existing theories are studied to find the most suitable framework for success criteria.

This study is conducted as a case study, wherein interviews were conducted with startup founders, partners and CEOs, located in Finland, Sweden and Germany. The data collection in the interviews consisted of both semi-structured questions and rating of importance regarding the elements of aforementioned theoretical frameworks of Project Success Criteria and Critical Success Factors, creating a rich set of data, forming holistic cases of the view of project success.

The resulting indicate that the most relevant success criteria for startup decision-makers are connected to customer relations, which dictates also the importance of short-term and long-term goals. The economic goals as well the preparation for future were more polarizing. The concentration on customer criteria is not divergent from previous research, but the importance of team criteria is a noticeable difference and a common theme across cases. It is also noticeable in the statements of interviewees that in the startup context the uncertainty regarding products, customers, and economical factors create certain tensions in project success assessment. In Critical Success Factors, there were also clear themes that mirror the aforementioned results. It furthermore became apparent that startups do not have clearly established tools or methods for their project management, which may distinguish them from larger, more established organizations.

Key terms: Critical Success Factors, Startups, Project Management, Success Criteria
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*Kirsten Wenderholm*

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1. Introduction

In the introductory chapter we present the background of our research, regarding the concepts of success, projects and project success and startups. We discuss the gaps in extant literature, continuing to formulation of research purpose and questions. Additionally, we present the unit of analysis as well as the contributions of this study for theoretical and practical realms. Finally, we present the general disposition of the study.

“Mission accomplished!” We probably have all heard this idiom before, even if it was just in a parody on the infamous speech President George W. Bush held in 2003, stating the end of major military combats in Iraq. It is usually announced when we have successfully finished a specific task, project or in the case of the military, a specific mission. However, it is not always that easy to determine if the task, project or mission really was a success. The opinions on the matter can be very versatile, just as it was the case with George W. Bush and his ‘accomplished’ mission. As it happened, the attacks in the area increased in the weeks after the speech and the number of US soldiers losing their lives during that time, in the end, exceeded the number of fatalities prior to Bush’s announcement of “success”. But failure is a very common phenomenon, and not only the American government has problems with it. The avoidance of failure and the achievement of success are some of the omnipresent themes in everything we do, in our private lives and in our professional lives.

Unless you are working for the military or some secret organization you will probably not ask yourself if your mission was successful, instead you might think about your last or current project in terms of success. After all, success is an always acute and pre-eminent issue in companies. One might think that since projects are often characterized as temporally limited and focused, meaning they are formed to deliver a particular product or service as a result (Maylor, 2010, p. 5), it should be easy to say if a project was successful or not. But projects are also unique (Maylor, 2010, p. 5) and success is a complex phenomenon; it is not only affected by a variety of factors, but can also be perceived and measured from different perspectives. The definitions of project success are vague in the project management literature (Ika, 2009, p. 8) and, to a great extent, it is established to be a measure that remains “in the eyes of the beholder” (Müller & Judgev, 2012, p. 768). In fact, several problems arise when trying to define and measure success. First of all, there is a remaining ambiguity of what constitutes project success and failure despite the extensive discussion in the project management literature. The definition remains broad as of today, and the only thing that is thoroughly agreed upon is that success is treated as a context-specific multidimensional concept (Ika, 2009, p. 7). This is not only difficult on the level of a big corporation, but even measuring the success of just a tiny project can be a challenge, and achieving it does not seem to be any easier. In spite of tremendous amounts of research and resources being put towards the development of project management (Söderlund, 2011, p. 153), the level of project success continues to disappoint and projects keep failing (Cooke-Davies, 2002, p. 187; Hodgson & Cicmil, 2006, pp. 6-7; Mir & Pinnington, 2014, p. 204, Shenhar & Dvir, 2007, pp. 6-7). As stated by Hodgson & Cicmil (2006, p. 7) cost overruns, time delays, criticism of quality and a lack of user satisfaction are just a few examples of how projects keep underperforming or failing altogether. A number of studies across varying industries, conducted by top consulting and other leading organizations such as PwC, KPMG,
McKinsey or IBM show rather staggering failure rates for projects\(^1\). For example a study conducted by KPMG in 2010 (KPMG, 2010, p. 7) found that 70% of companies had experienced at least one project failure in the last 12 months, while another study by the Project Management Institute in 2014 showed that firms lose an average of US$109 million for every US$1 billion spent on projects (Project Management Institute, 2014, p. 4).

When looking at these numbers it becomes obvious that the existing research on project success and failure is insufficient, but projects are not in any way a new mode of operation. One just has to think about projects such as the building of the pyramids, Columbus’ voyage to the new world, or the Manhattan Project, as a more recent example, in order to understand the important place this way of organizing has taken in the history of the world (Packendorff, 1995, p. 319; Cicmil, Hodgson, Lindgren, Packendorff, 2009, p. 80). Projects have always played a significant role in organizations, even though project work used to be mainly constrained to certain industries, such as construction or engineering, but it is now gaining more importance in other industries as well (Beechky, 2006, p. 3). In recent decades the interest in projects and project management has therefore grown again, as projects present an alternative to the standard, large-scaled operations and bureaucracies, which became popular during the industrialism of the 19th century (Packendorff, 1995, p. 319; Cicmil, et al., 2009, p. 80; Lindgren & Packendorff, 2011, p. 52). Projects differ from permanent organizational forms and offer an effective way to answer to the volatility of certain industries, which requires that companies react to their customers’ needs with combinations of resources and capabilities that are not necessary or profitable for constant use (Lindgren & Packendorff, 2011, p. 52; Winter, Smith, Morris, & Cicmil, 2006, p. 638). They therefore require a different set of management techniques (Winter, Andersen, Elvin, & Levene, 2006, p. 701). It is easy to understand why projects have become a major factor in many businesses, and more companies even become “project-based”, i.e. a firm organizes all their operations as projects and only administrative support is kept in a more permanent manner (Cicmil, et al., 2009, p.80). Project work has become a tremendously valuable part of the economy today and is often considered a “vital” part of the emerging knowledge economy (e.g. Meredith & Mantel, 2003 in Cicmil et al., 2009, p. 80), which is why organizations need to pay attention that their project management practices are at an appropriate level to maintain effectiveness and ensure project success (Alias, Zawawi & Yusof, 2014, p. 62; Hyväri, 2006, p. 31).

While ambiguity remains a characteristic of the terminology on success, the authors generally agree on the existence of “project success criteria” and “project success factors” also called “critical success factors” (CSF) (Ika, 2009, p. 8). Early works regarding the prior of the two revolved around the concept of the “iron triangle”, taking the above mentioned measures of project management success into consideration, but later on, the concepts of project success criteria were developed to be more inclusive and to consider factors within the organization and within the industry, but also in larger temporal contexts than merely specific periods of the project life cycle (Müller & Judgev, 2012, p. 762). In general, success criteria are considered “the measures against which the success or a failure of a project will be judged” (Morris & Pinto, 2007, p. 226). They are seen as the dependent variables, and are affected if the critical success factors change (Müller &

\(^1\) An overview over the outcomes of these studies (2005 - 2012) can be found here [http://calleam.com/WTPF/?page_id=1445](http://calleam.com/WTPF/?page_id=1445)
However, creating a “one-size fits all” list of specific criteria that would suit all projects in all organizational contexts is challenging, which is why inclusive frameworks have been created through a clustering of possible success criteria to cover the issue of project success in a broader sense and over the long- and short-term (Westerveld, 2003, p. 412).

CSF are generally defined as the components of the project that can be influenced in order to increase the chance of success, i.e. they can be seen as the independent variables influencing the success criteria (Müller & Turner, 2007, p. 299). Yet despite a common definition of the concept of CSF, there seems to be no general understanding of a definite number of factors influencing project’s success (Alias et al., 2014, p. 62; Hyväri, 2006, p. 32). Studying project success and CSF in particular is often regarded a way to increase the overall effectiveness of project performance (Alias et al., 2014, p. 62; Chan, Scott & Chan, 2004, p. 153). As CFS encompass the elements of projects which can be influenced, they can be seen as a tool serving as an evaluation instrument and enable the company to develop standard management skills through which project effectiveness can be increased (Alias et al., 2014, p. 62). However, the current literature on project success still only comes to ambiguous conclusions about what factors take part in achieving a successful project and reaches either very general or very project specific conclusions (Cooke-Davies, 2002, p. 187; Hyväri, 2006, p. 31). According to e.g. Hyväri (2006, p. 33) the role of organizational context influencing project success and success factors is almost completely neglected and more research needs to be done in order to come to a clearer understanding of projects and success. Other authors, such as Pansiri and Temtime (2010, p. 57) also argue that a connection between factors of organizational context such as firm size and age, and the perceived CSFs of projects exist.

It has been suggested that many different organizational conditions have an impact on the factors that dictate project success (e.g. Hyväri, 2006, p. 39; Pansiri & Temtime 2010, p. 57) and that project management theory has been developed in the context of projects in large organizations (Turner, Ledwith & Kelly, 2012, p. 955). Current research proposes that organizational factors, such as the operating industry, as well as the size and age of a company have an effect on how project management should be conducted to reach optimal project success (Turner et al., 2012, p. 954). It has been noted in organizational life cycle literature (Mueller et al., 2012, p. 1010-1011) that early stage companies, or startup companies experience different problems than more established organizations, as they differ in age, size and often are characterized by a very innovative nature (DMS, 2014, p. 11). Hyväri e.g. (2006, p. 39) identifies the size of a company to be a crucial factor influencing the set of CSF, and Turner et al., (2012, p. 954) suggest that the needs of project management strategies and practices differ between more and less established organizations, and that ones that suit the needs of smaller companies should be created. It has been shown that startups do take on projects (Midler & Silberzahn, 2008; Adnot, 2012) and it can be assumed that startup companies battle with different issues than more established companies in project management similarly as they they do in general (Mueller et al., 2012, p. 1010-1011). The assumption of this paper is that due to the different organizational circumstances in startups, critical success factors and success criteria for projects are different than those of more mature companies, dictating a need for different project management strategies and practices. These factors make the early stages of an organizational life cycle an interesting subject of research.
Small, entrepreneurial companies often have a disadvantage of scale (Sahut & Peris-Ortiz, 2014, p. 665) and therefore the outcome of each singular project plays a particularly important role. This is valid especially for startups as they have not fully established themselves yet and the existence of the business may depend on their outcome. The first phase of a company’s life cycle is sometimes referred to as the start-up stage (Hanks, Watson, Jansen & Chandler, 1993, p. 12) and the companies in the early phases are referred to as startup companies or startups. Although the latter term is quite omnipresent in business media, the scientific definitions for the term has been ambiguous and the defining characteristics are not agreed upon (Luger & Koo, 2005, p. 19). It has been established that organizations in different phases of their organizational life cycle (Hanks et al., 1993, p. 12) or entrepreneurs in those companies (Mueller et al., 2012, pp. 1010-1011) face problems of different nature and/or intensity and that dealing with those problems require different measures of management skills, priorities and structural configuration (Hanks et al., 1993, p. 5). Young and small companies are important and their connection to innovation has been established (Sahut & Peris-Ortiz, 2014, p. 665), yet the concentrated efforts towards researching project management of this particular type of companies has been partially neglected in project management literature. Furthering knowledge about the project management of startups is of great importance because of the proclaimed projectification in modern work and the potential that startups have. Startups contribute to global economy in many ways, namely through innovative behavior and employment opportunities (Birch, 1987; Neumark, Wall & Zhang, 2008), German startups e.g. have been stated to employ 17 people on average (DMS, 2014, p. 29). However especially young, small firms are prone to fail (Cressy, 2006, p. 103).

The early phases of young, entrepreneurial companies offers a unique and relevant organizational context for research, as the organizational structure is highly informal, the power is centralized to the owner of the business, decision-making and information processing methods are still untested, the level of innovativeness in high, as is also the level of risk-taking in decision (Ferreira, Azevedo & Cruz, 2011, p. 254). New companies struggle with a tremendous amount of risks and changes, and the start-up-phase often includes the greatest possible amount of organizational change, where both the methods and goals are still unknown and uncertainty is high (Kuura, Blackburn & Lundin, 2014, p. 227). This notion is shared by Adnot (2012, p.15), who acknowledges in his study of Swedish startup firms, that their needs are different, not only from the needs of larger companies in later stages of the life cycle but also SMEs and require a different approach to project management. Researchers agree that there is a need for improvement in developing optimal project management methods for young and resource-deprived companies (Turner et al., 2012, p. 955) and it has been mentioned in previous literature that the organizational context plays an important role, affecting success assessment and management (Hyväri, 2006, p. 33; Turner et al., 2012, p. 954). These fundamental differences within the topic of projects and their unique organizational conditions imply that also the measures of project success can be different for startups.

1.1 List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>CSF</td>
<td>Critical success factor</td>
</tr>
<tr>
<td>EO</td>
<td>Entrepreneurial Orientation</td>
</tr>
<tr>
<td>NTCP</td>
<td>Novelty, Technology, Complexity, Pace</td>
</tr>
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1.2 Research Objectives

Since less established companies have a disadvantage of scale (Sahut & Peris-Ortiz, 2014, p. 665) and are at a crucially challenging and risk-filled point of their existence (Kuura et al., 2014, p. 227; Ferreira et al., p. 254), following the path of extant organizational life cycle literature (Hanks, 1990, cited in Lester et al., 2003, p. 340), this study conducts research that addresses the needs of those companies’ in their quest to identify success criteria and factors critical for project success to allow proactivity in future challenges that companies typically face. It also helps external parties understand how startups develop new products to untested markets. As the literature states that the organizational context affects how companies achieve and view success (Hyväri, 2006, p. 39; Turner et al., 2012, p. 954) this thesis’ goal is to inquire about the concept of success in startups, taking a look at project and project management in startups. More specifically the paper inquires what measures startups use to review project success and which factors are considered to play a critical role in the achievement of project success. By developing frameworks considering the two elements of success, namely success criteria and CSF, and conducting empirical research, we will present a view how these concepts are perceived by decision-makers in companies, fitting the profile of an entrepreneurial, young company.

The research will elaborate on the extant research on project success and contribute to the scarce literature on project success in startups, as studies on project success are mostly limited to companies in later life cycle stages, which offer a very different organizational context. Building on previous research we develop frameworks of the two elements of success, namely success criteria and CSF, and present an overview how these concepts are perceived in existing literature in general. Through conducting empirical research we inquire on what critical factors firms at this stage have to take into account to successfully implement projects in startups and how they measure success. Empirical studies of project success have been scarcely conducted in the context of entrepreneurial, young companies, which means that the study will contribute valuable information about this particular context of project success concepts. Comparisons with extant literature, which has usually conducted among people involved with bigger organizations assumedly in later stages of project life cycles, provides a basis of comparison and helps find implications of what project success assessments and factors are typical to this particular phase of the organizational life cycle considering their relationships.

In summary the following objectives can be identified:

1. To use extant literature and empirical data for creating a framework on project success criteria for organizations in the startup phase
2. To gain insight on project success criteria and critical success factors in startups from a decision maker’s perspective
3. To identify the critical success factors in startup companies, by gathering empirical data
4. To create a holistic, exploratory study as has been called for by e.g. Ika (2009, p. 14-15) connecting the concepts of project success criteria and critical success
1.3 Research Questions

Based on the above mentioned research objectives, the following research questions have been derived in order to discover what factors are considered by decision makers to contribute towards project success in startups and how the entrepreneurs measure success. Directed towards gaining an encompassing picture of project success, the research questions aim towards identifying the main components of project success research: project success factors and project success criteria. Identifying these factors will help find suggestions for project management practices that are especially beneficial for startup firms and help understand why these factors are critically important. This will contribute to the theories of project success by further exploring these concepts in the specific organizational context of startups. The first two research questions will therefore be considered from a project management practitioner’s perspective:

(1) “What success criteria are perceived to be most relevant in the project management of startup firms?”
(2) “What critical success factors are perceived to be most relevant in project management of startup firms and why?”

The second contribution this study aims to make is to establish whether the frameworks created from existing theories do apply in the startup context and where they differ and why. Reflecting upon the research on these concepts in more general organizational samples provides insight on how the organizational context of startups affects the project success criteria used and CSFs, thus furthering the theoretical landscape of project success research.

1.4 Unit of Analysis

As Miles and Huberman (2003, p. 25) state that it is helpful to clearly describe the unit of analysis when conducting research in order to make a clear definition of what will be included in the study and what will be excluded. As such a clear definition of what is going to be analyzed can also serve as delimitations for a study.

The unit of analysis depicts “the level of aggregation” of the collected data during the process of analysis, which is aiming to answer the research question. Therefore the unit of analysis can be seen as the core or the “heart” of the study (Miles and Huberman, 2003, p. 25). Twelve different cases, formed by companies, which fulfill the set criteria for startups, are the heart of this study in order to find answers to the chosen research questions. They could hence be seen as the unit of analysis in this paper. However Miles and Huberman (2003, p. 26) go beyond the usual definition of ‘unit of analysis’ which normally entails categories such as “individuals, dyads [ ], groups, divisions, industry and country” (Sekaran, 2003, p.133) and argue that the unit of analysis can also be a process. In order to provide a clearer picture of what will be explored in this thesis, the definition of unit of analysis will therefore include a closer description of the process that is to be
inspected. As the success, defined as the outcome of a project is the focus of this paper, the assumption made is that the success of a project can only be judged to its full extent once the project has ended. This study therefore does not explore different phases during a project, but rather focuses on projects in their entity. Hence the unit of analysis of this study is the perceptions of the decision-makers of the chosen startups, taking the entire project process in startups into account, from beginning until end including post project considerations such as learning.

1.5 Knowledge Contributions to Existing Research

(1) Our research shows that there is a lack of research regarding project management in startups. A similar notion is shared by Turner et al. (2012, p. 955), who states that the existing literature on projects has been developed in the context of large companies and that there is a need for theory for smaller organizations.

(2) The lack of theory on startups may be led back to the fact that there is no general definition of what constitutes a startup company (Luger & Koo, 2005). In our study different assumptions, found in the literature on startups are aligned in order to create a more inclusive concept of startups.

(3) Most startups fail (Van de Ven et al., 1988, p. 87; Kerr & Nanda, 2010, p. 582; Cressy, 2006, p. 105;) therefore literature in order to understand what contributes to what startup companies consider success in different business contexts is needed.

(4) Despite the extensive literature on projects, they still have a high failure rate and it is still not clear what makes a project successful (Cooke-Davies, 2002). Our research contributes to this gap by giving insight on project success views of a very specific organizational context. Alias et al. (2014, p. 66) and Mir and Pinnington (2014, p.203) also state that there is a continuing need for comprehensive studies in exploring critical success factors of project management as projects continue to fail despite the research that has been done so far.

(5) The organizational context has not been taken into consideration when looking at project success (Hyväri, 2006, p. 33; Turner et al., 2012, p. 954), but companies at an early stage of their life cycle face different problems than more mature companies (Mueller et al., 2012). Our research gives a holistic view on project success criteria and critical success factors in startups.

(6) Ika (2009, p. 14-15) discusses that there is a need for holistic studies, descriptive and subjectivist studies in the field of project success research, Müller & Judgev (2012, p. 768-769) wish to see interpretivist studies and research on the relationships between project success, success factors and organizational success.

1.6 Practical and Social Contributions

Besides the mentioned contributions to extant knowledge, other more practical contributions can be identified.

1. Creation of knowledge, which helps to understand the views on project success of startups and the factors critical to success, and if the perceptions of companies in this particular context differ from those in other organizational contexts.
2. Provision of groundwork for researchers aiming to create project management frameworks, methods and skill sets directed specifically at entrepreneurial startups.

3. Help for policymakers understand the reality of the conditions, ambitions and policies of startup firms to develop startup firm related policy-making, as startups often require investments or other support from governments in the beginning (DMS, 2014)

4. Making contributions and gaining insights on project success in startups may provide support for these companies and lay the groundwork for practical recommendations for the project management of startups. As thriving startups are good for the economy, due to their tremendous potential as employers and innovators, increasing their success will positively affect the economy as whole.

1.7 Disposition of the Study

Chapter 1: Introduction - This chapter serves the purpose of introducing and familiarizing the reader with the concepts and research of project success and startups. The chapter discusses the concepts of projects, research on success in projects and the context of young, entrepreneurial companies in some contexts related to as startups. It furthermore specifies the research questions, as well as the research purpose of this paper.

Chapter 2: Theoretical framework - The theoretical framework explains in further detail how the researchers form their view on the concepts and phenomena that are studied in thesis. The theoretical frame of reference is explained by first elaborating on the concepts and project management. Then, “the factor school” of project management is introduced in relation to other schools of project research. Afterwards, we discuss the current state and chosen frameworks of the key concepts of the factor school: project success and critical success factors. Finally, we have a look at the concept of “startup” through literature related to Organizational Life Cycle theory and other literature, forming our own framework of the concept for this study.

Chapter 3: Methodology - In this chapter, the research philosophy, approach and strategy are explained, after which the more practical research methods are presented in further detail. Interview methods, case selection criteria, interview guide, procedures, reliability matters, ethical considerations and data analysis principles are discussed.

Chapter 4: Empirical findings: - In this chapter we present our empirical findings in accordance to our main areas of research: Startup characteristics, projects in startups, Project success and Critical Success Factors.

Chapter 5: Analysis and discussion - In this chapter the findings are analyzed and discussed in relation to existing theories and previous research. Where similarities and differences arise between our empirical data and extant literature, it is analyzed to create a basis for conclusions in the following chapter.

Chapter 6: Conclusions - In the final chapter, concluding remarks are presented. Here we draw conclusions of the views of project success and success criteria that our case companies have portrayed. We discuss the implications our results have for theoretical development of project success research in this particular context. We discuss the limitations of our study as well as suggested directions for future in similar or connected
topics. We also present the contributions that our research implies, both practically and theoretically.
2. Theoretical Framework

In this chapter, we present our theoretical framework, which has been created in two parts in line with the purpose of the study and the research questions. First we present the concepts of projects and project management, providing a basis for why the concepts are important. Next, we present the schools of project management and more specifically the central themes of “Factor school”. From there we continue to more elaborate explanations of the central concept of Project Success discussing the development of the concept in literature and central tensions therein, and finally presenting the framework of project success criteria chosen for this study. After this, we present the connected concept of Critical Success Factors in projects, also discussing the development of research and literature and motivating our choice for a suitable framework. Finally, we arrive at the concept of startups, referring to Organizational life cycle literature in explaining the common features of young companies, creating our own framework of startup features, through a review of pluralistic literature. At the end of the chapter we reflect upon the research that has combined the elements of our theoretical framework.

2.1 Projects

Looking back at the history of mankind it is easily recognizable that projects have always been a popular and common way of organizing in order to achieve a desired goal or outcome (Packendorff, 1995, p. 319; Cicmil, Hodgson, Lindgren & Packendorff, 2009, p. 80). However project does not just equal project, many different types of projects can be distinguished. The literature often views projects and project management as “homogenous, universal and distinct phenomena” (Lindgren & Packendorff, 2011, p. 52), but both fields also show a great internal variability (Cicmil et al., 2009, pp. 80-81). As already mentioned the interest in projects and project management has been increasing over the last few decades as projects become a more common way of organizing across all sectors and industries (Lindgren & Packendorff, 2011, p. 51). Although at times highly praised and at others highly criticized, projects and project management have been widely accepted as “natural, self-evident and indispensable” (Hodgson & Cicmil, 2006, p. 3).

There are various reasons why projects have become such a significant part of businesses today. One reason is the increasing pace at which our societies reform, constantly creating different needs and requiring different up to date solutions. An ever changing environment requires flexibility which old, standardized, bureaucratic structures are not able to provide any longer. Due to the often very complex and specific nature of many current products and services it often takes a very unique process to achieve the desired outcome or finished process (Ekstedt et al., 1999 in Lindgren & Packendorff, 2011, pp. 52-53). This view considers projects to be very task - as well as time-specific, which seemingly offer a high level of control to avoid the problems more “classic” organizational structures have to deal with, such as as slow response to required change (Lindgren & Packendorff, 2011, p. 52).

Projects are seen as temporary structured processes of social interactions intended to contribute something new to the environment from which they once emerged (Ekstedt et al., 1999 in Lindgren & Packendorff, 2011, pp. 52-53). One should of course be aware that the formal project period does not encapsulate the whole process (idea generation
often precedes the formal project and diffusion into the environment often happens much later) but that is different from project to project (Lindgren & Packendorff, 2011, p. 54). The life of projects is generally expected to follow a developmental pattern called the project life cycle that includes a pattern of development; that pattern has widely been recognized as the process groups identified in the PMBOK Guide: the initiation, planning, execution, monitoring and the closure (Kerzner, 2009, p. 44). When a company has goals or tasks of a wider scope that require more than one specified project to accomplish, multiple projects are created in a bundle to create a program. Projects in a program have their respective goals but more importantly they have shared, common goals. Put together, all the projects and programs that an organization chooses to undertake form the project portfolio (Maylor, 2010, p. 54). Projects today are often parts of a collection of projects, (programs), geared for a common goal in addition to their respective goals, and the collection of projects (project portfolio) of the organization that encapsulate the organization’s project-powered strategy (Shenhar 2005, in Ika, 2009, p. 14).

Maylor (2010, p. 6) notes that uncertainty and change are usually involved in projects. The reason for using projects as a work approach is often the ability coping with uncertainty, related to novel factors within the processes or context of the company or the goals that need to be reached. Kuura et al. (2014, p. 518) note that projects are connected to innovation and have always been used to create or deal with change, even though not all projects and SMEs are entrepreneurial. Projects have been promoted as a powerful, widely usable vehicle for integrating diverse functions, enabling the efficient, timely and effective accomplishment of goals, by using flexible, independent and knowledgeable people in temporary teams (Lindgren & Packendorff, 2011, p. 52). Projects are used to cope with risks and it has been stated that if a company does not fail in any projects, it is not taking enough business risks (Cooke-Davies in Morris & Pinto, 2007, p. 227). Maylor (2010, p. 6) also adds that projects are usually also social constructs with parts that are integrated within the project to create a system of delivery.

### 2.2 Project Management

Due to the change-related fundamental nature and omnipresence of projects in many business contexts today, project management is an important concept in the world of business administration. Project management stands for all the processes involved in the entirety of a project’s life-cycle. The project management institute (PMI, 2014) defines project management as “the application of knowledge, skills and techniques to execute projects effectively and efficiently.” Project management has also been defined as “the process of controlling the achievement of the project objectives. Utilizing the existing organizational structures and resources, it seeks to manage the project by applying a collection of tools and techniques, without adversely disturbing the routine operation of the company” (Munns & Bjeirmi, 1996, p. 81).

Another considerably important element of project management is the timeframe and continuity of projects as phenomena within organizations. Although it is a part of the definition of projects that they are temporary, projects are often also contributing parts of programs, project portfolios and all of these are aligned with organizational strategies. In certain contemporary business environments, organizations may already be characterized as Project-Based Organizations, where companies’ revenues are project activity-based and production relies on projects (Kuura et al., 2014, p. 223; Packendorff in Lundin & Hällgren, 2014, p. 251). For such organizations the organizational strategy needs to be
aligned with a project-specific one. Maylor (2010, pp. 51-52) notes that the corporate strategy in high-performing project-oriented organizations needs to be constantly recreated in a process that takes into account the organizational learning that occurs during the management of portfolios (collection of all the projects of an organization), programs (a collection of singular projects with a shared ultimate goal) and singular projects. As is discussed in chapter 2.2.2., development in project success research suggests that the assessment of whether or not project management of a company and projects are successful needs to be considered alongside the holistic concept of success in project strategy: the guidelines and direction of what to do and how needs to be done to achieve competitive advantage and value from projects (Poli & Shenhar, 2003, p. 232). Previously it has been suggested that the focus of projects is more in the long-term and that of project management is in the short-term (Munns & Bjeirmi, 1996, p. 86). Through the accentuated importance of portfolios, programs and project strategies, a less engineering-oriented and more strategic view of projects has become a more important factor in project management (Winter et al., 2006a, p. 700). Research on project management can be expected to take into consideration also how singular projects are connected to other projects in programs and project portfolios and project strategy. Adapting to and learning from projects in such industries is crucial; the input of project strategy, as a result of learning from projects, portfolios and programs, should have its input in organizational strategy, and vice versa (Maylor, 2010, p. 52).

Maylor (2010, p. 33) suggests that for an organization often involved in projects, project management processes should involve a review phase and be considered iterative learning processes. In the 4D model (Maylor, 2010, p. 33) they can be divided into four major phases (which in practice are fairly similar to the ones given in the PMBOK Guide): defining the project or conceptualizing the statement of needs required to legitimize the purpose of the project and to identifying needs to be provided to meet those needs. Designing the project process includes planning project activities to enable the organization for meeting the aforementioned needs, an evaluation of financial costs and benefits of the project, and to get an agreement of execution from the project sponsor. Delivering the project includes gathering the resources, assembling the project team, carrying out activities, completing the activities (or meeting budgetary limits) and passing on the project to the user or client. Developing the process is used to review the outcomes of the project to all stakeholders and gathering information to develop improvements to procedures, fill gaps of knowledge and document what the organization needs to learn for future projects (Maylor, 2010, p. 35). Adopting a framework that enables this kind of an iterative mindset towards projects in general, is important for the success of future projects and the effect a project has on a company’s related future projects, programs, portfolios or overall strategy.

2.3 Project Success and the Factor School

It would seem undeniable that the main goal of managing projects is to make projects successful and achieve the desired outcome in an effective and efficient manner (Dyrhaug, 2002, pp. 49-50; Tan, 2004 in Alias, Ahmad & Idris, 2012, p. 109). Project success therefore may be the most central theme in the field of project management. However, while most people agree that success is something great that one should always strive for, it turns out that the closer one gets to the concept the more slippery and complex it becomes. How one defines success is highly subjective and may be influenced by several things, such as personal values and perspectives (Morris & Pinto, 2007, p. 226).
This observation seems to naturally lead to the questions whether it is even possible to measure success and if measuring success has any purpose (De Wit, 1988 in Morris & Pinto, 2007, p. 226). Even though project success is a difficult and complex phenomenon, the high failure rates across various industries show that there is a need to investigate the matter further and develop project management methods which help leading projects to succeed and prevent them from failing (Morris & Pinto, 2007, p. 226).

**Factor School**

As has been mentioned already, projects and project management are not a new theme in management, but one that has been studied from numerous different philosophical and practical standpoints. Söderlund (2011) discusses previous research that has been done in the field of project management and establishes seven distinct “schools” of project management research. These schools vary in fundamental matters such as their primary foci in project management, the key questions they address, research approaches, methodologies and ideas of how the concepts of projects and project management are defined. Söderlund (2011, p.167) discusses seven of these schools and discusses them in the context of what philosophical stances and methods they employ, what their main foci are and what questions they seek to answer in the context of project management.

It should be noted that these projects schools differ on quite fundamental levels: the key questions and main foci listed in table1 here already show how the primary points of interest vary within project research. The schools have developed in a continuum as the field has developed, and complementarities between schools can exist. Certain schools, like the optimization school and decision school, are so far apart from each other in their view of projects and means of analysis that few researchers will make use of adapting the methodologies of one to the direction of the other. However, as an exemplary case, the contingency school and factor school may well be used to establish why projects differ, and how this may affect the concept(s) of project success: the project organization that has typically garnered much attention in the contingency school (Söderlund, 2011, p. 160) is studied in here to an extent, and the theories present in the work of Shenhar (and Dvir) are used to understand the contextual factors that have an effect on views of projects success. Bredillet (2008b, p. 3) notes that typically contingency school recognizes that project features and contexts have an effect on what is the optimal way of managing a project. To reach a more thorough understanding of the topic, this study will employ tools and approaches from more qualitatively oriented project research schools, such as, for instance, the inductive, case study and dynamism orientations and empirical context of change, connected to the more interpretivist “Behavior school” (Söderlund, 2011, pp. 161-162; 168-169).
Table 1: Schools of Project Management Research (Söderlund, 2011, p. 167)

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Key Question(s)</th>
<th>Main Focus of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimization school</td>
<td>How should projects be managed?</td>
<td>Planning, breakdown techniques, scheduling of complex techniques</td>
</tr>
<tr>
<td>Factor school</td>
<td>What determines project success?</td>
<td>Success factors and project outcomes/performance</td>
</tr>
<tr>
<td>Contingency school</td>
<td>Why do projects differ?</td>
<td>Project organization design/structure</td>
</tr>
<tr>
<td>Behavior school</td>
<td>How do projects differ?</td>
<td>Project organization processes</td>
</tr>
<tr>
<td>Governance school</td>
<td>How do projects behave?</td>
<td>Governance of project organizations/transactions</td>
</tr>
<tr>
<td>Relationship school</td>
<td>How are the early stages of project managed and how are projects formed?</td>
<td>Management of the formation and development phase of projects</td>
</tr>
<tr>
<td>Decision school</td>
<td>Why are projects instigated, why do they continue to live?</td>
<td>The interplay among decision-makers in the (mainly) early phases of the project</td>
</tr>
</tbody>
</table>

In a study of project success the school of thought that is most suitable for the research purpose is the factor school, which evolved around two, already introduced main concepts, prominent in the literature (e.g.; Wateridge, 1998, p. 59; Turner, 1999 in Müller & Judgev, 2012, p.758; Bredillet, 2008a, p. 4).

1) **Project Success Criteria**: “the measures used to judge on the success or failure of a project; these are the dependent variables that measure success” (Müller & Judgev, 2012, p. 758)

2) **Project Success Factors** - mostly referred to here as Critical Success Factors (CSF): “the elements of a project which, when influenced, increase the likelihood of success; these are the independent variables that make success more likely” (Müller & Judgev, 2012, p. 758).
Two features of the factor school make it particularly interesting for research. First, the importance of establishing critical success factors in projects has been justified by projects having a remarkably high failure rate, and the belief that finding the most critical determinants of failure would help improve project implementation (Söderlund, 2011, p. 159). As has been mentioned thus far, the amount of projects considered successful is still an issue. Second, the school has witnessed a line of development wherein project management research has put an increased amount of focus towards projects of particular types and/or organizational context, creating research that is more specific in its results related to organization and task features. Research has been placed increasingly different industries, sometimes in connection to limited geographical areas. (Söderlund, 2011, p. 159). As mentioned before, Hyväri (2006, p. 33) also suggests that critical success factors are dictated by factors of organizational context - such as company age, size and industry as well as types of projects and the general project management experience of personnel. As an additional note, there has been limited attention to finding the linkages between the success criteria and critical success factors (Ika, 2009, p. 12) and the current development of the research on project success has created a demand for a less positivist and normative research stance within the field to find new views (Ika, 2009, p. 13-14), interpretivist elements are called upon, because the realist and post positivistic research has been extensively agreed upon already (Müller & Judgev, 2012, p. 769).

2.4 Project Success Criteria

As the factor school has developed in general, the consideration given towards success criteria has developed as well. Much discussion has revolved around how project success should be defined and measured. Finding a “one size fits all” type of success definition has turned out to be a challenge (Cooke-Davies in Morris & Pinto, 2007, p. 226). The ambiguity and differing views regarding the term “success” has resulted in the factor school experiencing a considerable shift in the conceptualization and metrics of project success.

One reason for the disparity regarding the term “success” may be caused by differences in the scope selected; in some research, the success criteria for the project (the entire project life-cycle) and project management (the implementation phase of the project) have been considered separate factors. Baccarini (1999, p. 28) discussed the matter of project success in relation to project management success and characterized project success as a concept that is indeed wider, and the timeframe of which includes both project management and product success criteria. De Wit (1988 in Ika, 2009, p.8) differentiated between the assessment of success within these contexts, because a project that is considered a success when launched or handed over to the clients (i.e. the project management was a success), may become a failure when taken to use by the client (i.e. the project was considered a failure) and vice versa. Cooke-Davies (2002, p. 185) stated that project management success could still be measured against the traditional constraints of time, cost and quality but the success of a project should be measured against overall objectives set for the project in particular, implying that project success is more than project management success. Ika (2009, p. 13) notes that project management success may well cause project success, but when project management fails, the entire project will fail with reasonable certainty. The long-term concept of project success in the long-term is thereby more probably dependable of short-term project management success, but a reversed causality is highly questionable. This implies that while success in both aspects is preferable, project success is strategically more relevant for an
organization, leading to a need for more strategic management of project instead of operations management of projects (Shenhar, 2005 in Ika, 2009, p. 14). As is discussed further on in this chapter, the projectification of organizations has made this view a prevalent one.

2.4.1 The Development of Project Success Criteria

Since the inception of project success literature, a classic method of assessing project (management) success has been reaching the triple constraint or the golden/iron triangle (see figure 1): the combination of constraints regarding scheduling or time, budgeting or cost and end-product quality (quality and/or scope) (Drury-Grogan, 2014, p. 506; Alias et al., 2014, p. 62) which has been used to define the goals of project implementation. The use of the iron triangle lies on the assumption that the goals of a project are set before and during its initiation, and those three constraints are used to balance the goals of the project. As Baccarini (1999, p. 30) noted, the hard, measurable, tangible and objective dimensions of success are usually related to the objectives of the iron triangle. Upon completion of the project these three constraints are used for evaluating if the project has met its objectives. In early years of project research, this was the standard of project success assessment within the factor school (Söderlund, 2011, p.160; Ika, 2009, p. 7, Müller & Judgev, 2012, p. 762).

![Figure 1: The Iron Triangle (adapted from Atkinson, 1999, p. 338)](image)

The use of the iron triangle has been criticized due its limitedness in scope of success measurements (Söderlund, 2011, pp. 160-161; Winter et al., 2006a, p. 700). By using only these terms as constraints, a project might be considered unsuccessful due to the project management’s inability to meet those budgetary limits and deadlines, even though the project becomes a success in other terms. The Sydney opera house and the first versions of Microsoft Windows are classic examples of projects that experienced extensive delays and budgetary overruns but later on became cultural and economic success stories, respectively (Shenhar, Dvir, Levy & Maltz, 2001, p. 700). Baccarini (1999, p. 30) refers to these more subjective, intangible success dimensions such as happiness, job satisfaction and enhanced reputation as soft dimensions. Review on the development of project success measures (Judgev & Müller 2005, p. 28; Ika, 2009, p. 11) noted that the development of the field suggests that contemporary project management requires a view that encompasses both project and project management success criteria and both short-term and long-term factors. More contemporary research has embraced a holistic view, creating project success frameworks that do include the aforementioned dimensions.
The literature on project success has developed in phases since the 1960s. Early research was extensively theoretical and used “the Iron Triangle” as a foundation of project success assessment (Judgev & Müller, 2005, p. 23; Ika, 2009, p. 10). In early phases of project success research was mainly concentrated on the implementation phase of the projects, often excluding the phases that occurred after the project had been handed over (Atkinson, 1999, p. 339) and at this point, the iron triangle with two quantifiably measurable metrics and one more ambiguous one was still the main basis of project success assessments (Judgev & Müller, 2005, p. 24). Later research, conducted in the 1980s and 1990s, typically sensed a need for understanding the factors that affect reaching a project’s goals and had sought to form lists of the Critical Success Factors (CSFs) to establish knowledge on the inputs that were crucial for reaching project success (Judgev & Müller, 2005, p. 24). In spite of the considerable interest that CSFs have garnered, the line of research has thus far been considered inconclusive (Ika, 2009, p. 14), as the lists have been highly inclusive and generally mere collections of unconnected factors and not coherent frameworks (Judgev & Müller, 2005, p. 24).

Within this body of research, the assessments of project success were elaborated to include not only the phase of a client’s use of the end-product but also their views on whether or not the project had served its purpose (Judgev & Müller, 2005, p. 24). Cleland and Ireland (2002, cited in Judgev & Müller, 2005, p. 25) suggested that success should be assessed in the contexts of how well the project reaches its technical performance objectives as well as how it contributes to strategic mission of the firm. Many others added the dimension of customer organizations involvement (Belassi & Tukel, 1996 p. 145; Morris & Hough, 1987 in Dalcher 2012, p. 650, Turner, 1999 in Judgev & Müller, 2005, p. 25) but in varying levels of involvement. Morris & Hough were early pioneers of creating the frameworks of project success (Judgev & Müller, 2005, p. 25). Their research included project functionality, project management and contractors’ commercial performance (Dalcher, 2012, p. 650). The studies of Jeffrey Pinto have been tremendously influential in project success literature, and notably his research has established the changes and widened the consideration put towards the temporality of project success dimensions (Pinto & Prescott, 1988, p. 13-15), a framework for project success that considered goals specifically for project implementation, but also for client satisfaction and perceived value of the project (Pinto & Mantel, 1990 in Mir & Pinnington, p. 203). Lim & Mohamed (1999) suggested that project success could be measured in micro and macro viewpoints; micro meaning the smaller scale factors, such as how well the project was managed until implementation (Lim & Mohamed, 1999, pp. 243 - 244) and macro standing for how well the project concept worked and how satisfied stakeholders, such as the customer were (Lim & Mohamed, 1999, p. 246 - 247). Wateridge (1998, pp. 62 - 63) noted a connection with project success and customer involvement, but also that greater similarities between the success criteria of project managers and end-users were more pronounced in successful projects than unsuccessful ones. Atkinson (1999, p. 340-341) suggested that there are multiple stakeholder groups that may be involved in project implementation, and that often those groups can be “multi stakeholders”, for instance in the case of government being the client, capital supplier and the end-user of a product. Such results and suggestions serve as a basis for the necessity for multiple stakeholder engagement in project success goals establishment. Ika (2009, p. 13) reacts to previous studies, suggesting that although the field has witnessed variety in methodology, it has not yet witnessed much of subjectivist studies on the subject. Additionally, the earlier project success measures leaned on measurement that favored measuring project
management success, creating the bias towards a short-term bias also in research (Ika, 2009, p. 13; Munns & Bjeirmi, 1996, p. 82).

Additionally, project success is not only assessed in consideration with singular project success, but in relation to other projects, programs, portfolios, long-term strategic advantage and success of the entire organization (Müller & Judgev, 2012, p. 765; Judgev & Müller, 2005, pp. 28-29; Ika, 2009, pp. 10-11). Project management is no longer an isolated function, to be managed in an operational manner, but a feature of how business is done today that needs to be managed strategically (Shenhar, 2005 in Ika, 2009). Wateridge (1998, p. 61) considered there to be three types of business purpose to be considered in relation to projects: strategic, operational and tactical. In the 21st century, project success is viewed as a strategic asset, where the project portfolio, being formed by multiple programs need to be considered a part of project success assessment (Ika, 2009, p. 11). Winter et al., (2006a, p. 700) note that there is a growing interest towards a value-centric view of projects and programs, which takes into consideration their long-term effects and multiple viewpoints of stakeholders.

As can be seen from this review on past literature on project success, the main metrics of project success assessment have moved from the usually strictly internal and temporally limited project management measures of the iron triangle to a long-term view that needs to consider the internal organization as a whole on different organizational levels as well as customer or stakeholder satisfaction - which has in many cases become one of the priority criteria (Müller & Judgev, 2012, p. 764; Belassi & Tukel, 1996, p. 147; White & Fortune, 2002, p. 6).

### 2.4.2 The Current State of Project Success Criteria

As has now been discussed, the perceptions of project success have moved from a triple constraint model called “The Iron Triangle” towards more holistic models, including long-term and multiple stakeholder views. Much of earlier research was written in a time when the iron triangle was dominantly used as a tool of project success assessment, and the project types studies were conducted more in “harder” value type of industries (Ika 2009, p. 14). The shortcomings of the iron triangle are, that the success criteria it presents are temporally limited, mostly lack more than one viewpoint and are too limited in scope. Project success criteria have been argued to be subject to change in relation to each project (Mir & Pinnington, 2014, p. 203, Shenhar & Dvir, 2007, p. 35), because each project differs in size, complexity and other unique features (Mir & Pinnington, 2014, p. 203) such as the age and nationality of the project manager (Müller & Turner, 2007, p. 303). However, projects have been and are still studied as general phenomena within their contextual premises.

In previous years, the focus on project success assessment was heavily involved in the implementation phase of projects or on specific project life cycle phases (Pinto & Prescott, 1988, p. 6; Müller & Judgev, 2012, p. 762), but project success literature has moved away from that approach and towards a view that promotes inclusion of relevant stakeholders at all times and beyond the traditional time frame of a project (Judgev & Müller, 2005, p. 22-23). In addition, the features of project success have been found to vary in accordance to their level of uncertainty, timing of assessment (Shenhar & Dvir, 2007, p. 34), the industries and organizational contexts where they are implemented in and, as mentioned already, by the viewpoint each stakeholder group (Mir & Pinnington,
As projects are studied now, these tensions should be taken into consideration.

**Multiple Stakeholders: Internal and External**

It has been argued that to form a thorough understanding of project and project management success, it needs to be assessed in terms of views of the project-implementing organization on levels of the project team, the business unit, the organization, the customer organization (Müller & Judgev, 2012, p. 764) and the external environment and also the long and short-term benefits for all parties involved (Müller & Judgev, 2012, p.765). Westerveld (2003, p. 414) included the satisfaction of client, contracting partners and stakeholders as success criteria. More modern views of project success that consider the suitability of a project towards an organization’s strategy require the acknowledgement of opinions from external stakeholders, as well as the customer and internal stakeholders (Ika, 2009, p. 11). There can be a dissonance within the results of project success assessments in relation to differing priorities, not only between internal and external stakeholders but within both groups; “short-term projects” of low uncertainty are reported to have “short-term goals” (Shenhar et al., 2001, pp. 717 - 718), implying that certain customers are oriented towards achieving short-term project success. The aforementioned variance in project-specific preconditions and nature of objectives needs to be considered internally when establishing project goals. Projects have their own short-term and long-term objectives, but on a more grand scale of things the success of a project needs to be assessed in relation to the goals and needs of the entire organization implementing the project, on all its levels, or as Wateridge (1998, p. 61) put it, its strategic, operational and tactical purposes; similarly the internal view of the project needs to include the project team, the business unit and the organization. As was discussed earlier, the timeframe of project success may vary if only looked at from singular perspectives: certain project managers are more concerned with their responsibilities towards the single projects and are rewarded on a short-term goal basis (Judgev & Müller, 2005, p. 27; Shenhar & Dvir, 2007, p. 34). As Müller & Judgev (2005, p. 28) suggest, project owners should be involved in setting and surveilling the goals of the project, stakeholders should be involved before and during the project, and the project manager should be empowered to react to unexpected changes in circumstances. This can be expected to make different internal stakeholders more involved and invested in the project success. Suitably, project management have been found to be more successful when their responsibility spans wider than planning, execution and closeout phase (Müller & Turner, 2007, p. 307).

This development has not only happened on an organization-wide level and in consideration towards higher management but also on a more project team-specific level. Project team satisfaction has been found to be a priority matter for experienced project managers (Müller & Turner, 2007, p. 307). Westerveld (2003, p. 413) took note of this, including project personnel appreciation as a success criterion. Atkinson (1999, p. 341) considered internal matters an important success criterion. Shenhar & Dvir (2007, p. 28) consider team satisfaction and development a major dimension of project success. In effect, the project should be judged holistically also on a smaller, team-specific level as well as in relation to the needs of the external stakeholder groups. Cooke-Davies (in Morris & Pinto, 2007, p. 246) discusses the necessity of choosing the right projects for an organization, ensuring that they are run in the most effective manner and making sure that the organization learns from each project.
**Time and Project Uncertainty**

It should be noted that many authors consider time to have a considerable impact on how project success is assessed. Pinto & Prescott (1988, p. 13-15) took the project life cycle into account in their research regarding the prioritization of CSF and noticed that different timeframes accommodate distinguishably different views on projects. Baccarini, (1999, p. 30) noted that the traditional goals of project management are salient during the implementation of the project, but the contribution of the project towards the project programs, portfolios and overall strategies of the organization matter, as Shenhar & Dvir (2007, pp. 29-30) suggest, during implementation as well as pre and post-implementation phases. Shenhar et al. (2001, p. 713) noticed that the importance of certain success dimensions is temporal and related to uncertainty of the project; meeting budgetary and time goals are matters of lesser importance in projects with heightened uncertainty, while the importance of the impact on the customer and the likelihood of creating new competencies is greater with heightened project uncertainty. The type and level of project uncertainty have a role in defining project success, and especially the timing in importance of certain factors. Shenhar et al. (2001, p. 704-705) used a four-point scale of technical uncertainty in projects to distinguish between the project-related uncertainty factors, noticing considerable differences in the respective importance of success dimensions. For instance Shenhar et al. (2002, p. 121) noted that budget restrictions and technical performance are more likely to be important and stable in projects of lower technological uncertainty, because goals for both can be predicted and defined with less probability of changes needed. Similarly, projects of higher uncertainty have to be considered more in terms of added relationship values with the customer, long-term business success and preparing for the future (Shenhar, 2001, p. 719) Low-risk projects typically have less strategic potential and meeting the goals of the implementation phase is of critical importance, while high-risk projects typically offer chances of innovation in terms of new markets, expertise in new technologies and preparing for higher-yield projects in the future (Shenhar & Dvir, 2007, p. 31), making it appear that higher risk projects generally have more emphasis on long-term benefits. Later on the types of project uncertainty that affect project goals have been extended, and the project type should be connected to the types and timeframes of goals that are given to the project. Shenhar & Dvir (2007, p.46-49) propose a diamond model consisting of four potential dimensions of uncertainty, namely: Novelty, Technology, Complexity and Pace (NTCP). These factors would produce a more holistic view of project uncertainty and hint at challenges that are likely to occur as most salient ones during the project (Shenhar & Dvir, 2007, pp. 46-49). As startups are often connected to innovation, their projects are likely to connect at least to novelty, which, depending on the level of novelty the project embraces, can have tremendous effects on everything related to project success assessment: where there is considerable uncertainty, short-term gains and efficiencies are unlikely and although long-term benefits are possible, the required adaptability of internal and external stakeholders are expected to be high (Shenhar & Dvir, 2007, p. 69).

**Short-term Efficiency and Long-term Effectiveness**

It should be noted that as mentioned earlier on, certain authors such as Cooke-Davies ( in Morris & Pinto, 2007, p. 237) still make a distinction between project success, project management success and consistent project success, separating when project management and projects succeed (Cooke-Davies, 2002, p. 185). As has been already suggested, project management has gained importance, creating a need for a more strategic management of projects (Shenhar, 2005 in Ika, 2009 p. 14). Indeed, the timeframe of
project success has been broadened to span beyond the project implementation phase, to the entire project lifecycle and beyond - from tactical efficiency goals to strategic effectivity goals (Müller & Judgev, 2012, p. 767). This suggests that project management has been developing towards a version of it that is less operational and concentrated on “hard” factors as mentioned earlier on, and more strategic, concentrating on “softer” dimensions (Munns & Bjeirmi, 1996, p. 83; Baccarini, 1999, p. 30 Ika, 2009, p. 13). Project success assessment has been dominated by short-term goals, but more attention needs to be put on the level of competitive advantage and value a project creates for an organization (Poli & Shenhar, 2003, p. 231). Softer elements can include learning capabilities and added knowledge for individuals and organizations (Baccarini, 1999, p. 30), as well as building relationships with stakeholders like customers and members of professional networks (Atkinson, 1999, p. 341). Atkinson (1999) and Shenhar et al. (2001) have indeed suggested frameworks of project success assessment that include goals concentrated on both short-term efficiencies (internal efficiencies of the project, economical aspects and immediate effects on internal and external stakeholders) and long-term effectiveness (for instance internal and external capability building and indirect effects) of projects.

A shift from operational to strategic management of projects has occurred due to an increased importance of collections of projects (portfolios and programs) towards the overall success of organizations (Shenhar, 2005 in Ika, 2009, p. 14). This view can be connected to the much studied topic of organizational learning through projects, which has been found to be integral for organizations, such as startups (Midler & Silberzahn, 2008, pp. 484-485) looking for chances to explore new opportunities in the long-term. The research of White & Fortune (2002, p. 4) suggested that companies have in fact been looking at the strategic fit of projects as a success criterion. Projects of high uncertainty are suggested to be more invested in long-term returns (Shenhar et al., 2001, p. 717-718). Changes in plans are imminent as organizations learn in the process, the effect that good planning and few goal and plan changes during the project has on project efficiency should not be forgotten: considerable amounts of goal and other changes in projects can has been a detrimental effect on project efficiency and customer satisfaction, but the changing of plans is almost inevitable (Dvir & Lechler, 2004, pp. 10-12). Engwall (2003, p. 801) noted that no project exists in a vacuum separate from other projects, and its development needs to be implemented in consideration to the history of the organization and future benefits. However, Artto, Kujala, Martinsuo & Dietrich (2008, p. 8) also suggest that a project should also have some autonomy to be able to find ways to cope with the uncertain, dynamic and complex contextual factors, prioritizing its own survival. These ideas need to be noted when considering the way a project benefits the organization in general. Project-specific priorities and long-term effectiveness goals should be considered in unison. The very definition of projects is that they are temporal, and sometimes the tactics of a short-term project are better suited to fit the needs of the customer than the long-term strategy of the parent organization (Vuori, Mutka, Aaltonen & Artto, 2013, pp. 101-102).

The consideration put towards the effect that the external environment has on project success has been a major point of development in the field, drawing attention to the dissonance between measures of success that seems exist between the internal and external stakeholders and within the project-implementing organization. When assessing success of projects, the inclusion of strategically relevant factors like satisfaction and the long-term benefits for the client organization (Shenhar & Dvir, 2007, p. 27), the
satisfaction of stakeholders and the strategic objectives of the project-implementing organization team, value creation (Ika, 2009, p. 8; Atkinson, 1999, p. 341), long-term perspectives (Shenhar et al., 2002, p. 116; Atkinson, 1999, p. 341) and capability-building (Söderlund, 2011, p. 160; Atkinson, 1999, p. 341) such as innovating and developing core competences (Judgev & Müller, 2005, p. 28) is necessary. More holistic frameworks for assessing project success have broadening from project efficiency to overall strategic effectiveness (Ika, 2009, p. 9).

2.4.3 A Framework of Project Success Criteria

Although the Iron Triangle has been criticized, it is not the basis of the concepts it employs, that has been scrutinized, but rather the oversimplified views and use of its dimensions as the only projects success measures. Therefore the concepts are still used widely as project success criteria (White & Fortune, 2002, p. 6), but the dimensions of project success have been developed to include harder and softer dimensions. The research of Aaron Shenhar and others has been used as an example of holistic framework creation for success criteria, as it helped move project management success assessments from “singular concepts, singular units of analysis and strictly financial metrics” towards a more holistic view (Müller & Judgev, 2012, p. 33; Mir & Pinnington, 2014, p. 203). The framework of dimensions presented in this chapter (Shenhar & Dvir, 2007, p. 27) encapsulates the previously presented principles, since ensuring business potential for the organization and its stakeholders is included, as well the effects that the project has on the organization’s overall strategy. Shenhar (2005, p. in Ika, 2009, p. 14) argues that there is a need for more a more strategic than operational project management and success assessment, because projects today are often parts of programs and portfolios as parts of project-powered strategies. The developments in theorization of project success, calling for further dimensions, validate the idea behind the creation of the frameworks by Shenhar et al. (2001, p. 703), which is that projects should no longer only need to “get the job done” but be lead through a more strategic management perspective, where projects are vessels of strategic development and where reaching customer needs, competitive advantage and long-term business results are also considered (Shenhar, 2005 in Ika, 2009, p. 14). The project success criteria frameworks created by Shenhar and others were chosen as a basis of research regarding perceptions of project success, as they are often referred to in extant literature as a valuable, comprehensive frameworks (Mir & Pinnington, 2014 pp. 203-204; Judgev & Müller, 2005 p. 26; Müller & Judgev, 2012, pp. 764-765). These dimensions will be used for organizing project success criteria in this study. The framework of project success used here is presented in Table 2.
Table 2: Success dimensions and measures, amended from Shenhar & Dvir (2007, pp. 27; 219-220) and additional questions

<table>
<thead>
<tr>
<th>Project Efficiency</th>
<th>Impact on the Customer</th>
<th>Impact on the Team</th>
<th>Business and Direct Success</th>
<th>Preparation for Future</th>
<th>Additional Questions</th>
</tr>
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<tbody>
<tr>
<td>- Budget</td>
<td>- Meeting requirements and specifications</td>
<td>- Satsifaction</td>
<td>- Sales</td>
<td>- New technology</td>
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<tr>
<td>- Schedule</td>
<td>- Benefit to customer</td>
<td>- Morale</td>
<td>- Profits</td>
<td>- New market</td>
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</tr>
<tr>
<td>- Functional</td>
<td>- Extent of use</td>
<td>- Skill development</td>
<td>- Market share</td>
<td>- New product line</td>
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<tr>
<td>performance</td>
<td>- Satisfaction and loyalty</td>
<td>- Team member growth</td>
<td>- ROI</td>
<td>- New core competence</td>
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<tr>
<td>- Changes are kept to minimum</td>
<td>- Retention</td>
<td>- ROE</td>
<td>- Cash flow</td>
<td>and organizationa</td>
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<tr>
<td></td>
<td>- No burnout</td>
<td>- Service quality</td>
<td>- Service quality</td>
<td>l capability</td>
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<td></td>
<td></td>
<td>- Cycle time</td>
<td>- Regulatory approval</td>
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**Project Efficiency**
The iron triangle has been contested as a basis of project success assessment, but it is still used, especially as a basis of short-term project management success. In the project success framework of Shenhar & Dvir (2007, p. 29-30), the success of a single project is considered, and meeting internal short-term goals is assessed in terms of the success criteria cluster of “project efficiency” which includes the measurable short-term goals. From the summarization of elements of project success of Cooke-Davies (2007, in Morris & Pinto, 2007, p. 245), one can see that the importance of effective use of “hard values” such as time and costs, is of heightened importance for companies that are invested in short-term project management success. It is therefore suitable that two thirds of the iron triangle are present in what Shenhar & Dvir (2007, p. 26-27) consider this cluster of project success measures. This accentuates the shift in importance that has happened for long-term goals in project management, but the need for assessing short-term project performance still persists. Dvir & Lechler (2004, p. 12) suggest that changes in projects should be kept to minimum, and Shenhar & Dvir (2007, p. 219) also include a project only having minor changes in their questionnaire framework of project efficiency criteria. The importance of the project efficiency cluster can be assumed unimportant in the long-term strategic sense, yet it can be gravely important in certain competitive market contexts, and for certain projects and organizations the concept of short-term project efficiency may include additional factors (Shenhar, 2001, pp. 714-715).

**Impact on the Customer**
The second dimension of project success criteria: “impact on customer”, includes meeting the requirements of the project set by the client, the benefits and extent of the use of the end-product, customer satisfaction, brand name and loyalty (Shenhar & Dvir, 2007, p.
Client satisfaction has been noted to overtake the importance of time and budget constraints when considering completed projects (Baccarini, 1999, pp. 30-31) and it has been noted as a major project success criterion (White & Fortune, 2002, p. 6; Karlsen et al., 2005, p. 534; Wateridge, 1998, pp. 61-62). In contrast to earlier beliefs, meeting performance measures, functional requirements and technical specifications are in fact part of this second cluster of success criteria, and not the one of project efficiency (Shenhar et al., 2001, p. 715). The research of Shenhar and others is remarkable in the sense that therein those design goals of a project, namely time, budget and performance, were not considered unidimensional, but instead meeting time and budget goals are resource (or efficiency) related success criteria, while the performance of a project is, to an extent, assessed in relation to customer relationships (Judgev & Müller, 2005, p. 26). This addressed the importance of differentiating the internally established project management success criteria from the overall goals of the project which are partially set by external parties. The change in how projects are viewed has created a need for including strategic long-term elements in project success assessment. This success dimension of “impact on customer” is not entirely short-term oriented: certain criteria can be considered long-term effects which can make the project a success in due time (Shenhar & Dvir, 2007, p. 27). For instance the benefit for the customer (Dvir & Shenhar, 2007, p. 27; White & Fortune, 2002, p. 6), the extent of use (Dvir & Shenhar, 2007, p. 27), customer satisfaction and loyalty (Dvir & Shenhar, 2007, p. 27; Atkinson, 1999, p. 341) as well as brand name and loyalty (Dvir & Shenhar, 2007, p. 27) are the kind of things that have been considered important project success criteria, yet they cannot necessarily be be thoroughly measured during project hand-over or directly after project implementation for the client (Dvir & Shenhar, 2007, p. 30).

**Impact on the Team**

Internally, a project can have effects on an organization on a larger and smaller scale. A project can be a chance for strategic advancement, but it can also be a vehicle for professional development, professional learning (Atkinson, 1999, p. 341) and reaching personal goals (Westerveld, 2001, p. 414). Lindgren & Packendorff (2006 in Hodgson & Cicmil, 2006, p. 113) note that “in the view of a project worker, projects are often stimulating, but also a cause of stress, loneliness, disrupted family lives and superficial work relations“. Lim & Mohamed (1999, p. 246-247) considered team development a part of their micro view of projects and Turner (1999 in Judgev & Muller, 2005, p. 27) considered it necessary for a project to satisfy the needs of project team members and supporters and additionally generate a profit for them. Shenhar & Dvir (2007, p. 28) included the success dimension of “Impact on team” on their framework to address both the possibilities and challenges the project imposes for the development of the project team and its members. In the short-term regarding matters such as team morale and happiness with their work and on long-term regarding the development of skills and personal development (Shenhar & Dvir, 2007, p. 28).

**Business and Direct Success**

The category of “**business and direct success**” stands for the long-term and short-term measures of immediate benefits and revenues achieved through the project such as sales profits as well as for expected longer-term results such as return on investment and equity (Shenhar & Dvir, 2007, p. 28). Even in an era where projects are becoming more strategized, they are still business ventures and as such are often judged in financial terms; many authors consider economic matters or the effects a project has on business performance of an organization an important project success criteria, and these criteria
are naturally present in success criteria frameworks and assessment of their importance (Atkinson, 1999, p. 341; Turner 1999 in Judgev & Müller, 2005, p. 27). Economic criteria have been noted as being of major importance in previous studies (White & Fortune, 2002, pp. 4-5; Wateridge, 1998, pp. 4-5; Karlsen et al., 2005, p. 535). Although some of the factors in the dimension measured here may at least partly be directly measurable directly after the implementation of the project, other ones are almost impossible to thoroughly assess soon after project implementation (Shenhar & Dvir, 2007, p.30). This category also includes brand and customer loyalty features, which one could conceive to include both effects on the customer and stakeholder groups (Shenhar & Dvir, 2007, p. 30; Westerveld, 2003, p. 414).

**Preparation for the Future**

Chances of organizational development and strategic benefit have been noted as success criteria in project success literature (Atkinson, 1999, p. 341; Wateridge, 1998, p. 62). Karlsen et al. (2005, p. 535) found the long-term profitability and assets created by projects an important success criteria in their sample of Norwegian IT companies. Organizational learning through projects has been a much studied stressed subject, on which Midler & Silberzahn (2008, p. 485-486) found that while the project learning approaches of startups may vary, learning is a vital dimension for startups that are still in a stage of exploration. The factors that are considered to have an effect on the future of the organization in a strategic context by providing chances of innovation, namely the revelation of new markets, technologies, core competencies, product lines and overall organizational capabilities, leading into the category of “preparation for the future”; including creation and establishment of new products, technologies, markets, capabilities and core competences (Shenhar & Dvir, 2007, pp. 28-29). Müller & Judgev (2005, p. 28) argue that should the value of project management as an asset towards strategic development be understood within an organization, the owner of its projects will be more prepared to discuss and develop the metrics of their project success.

**Additional Criteria**

In addition to the criteria mentioned by Shenhar & Dvir (2007, pp. 27, 219-220), certain authors have mentioned other criteria which can be seen potentially very salient in project success in certain contexts. Ritter & Gemünden (2004, p. 553) state that success in innovation requires that a business strategy is clearly formulated, includes the importance of competence development and makes sure that factors important for the process are in place. Technological leadership is often not enough for innovation success, but requires developing inter-organizational co-operation (Ritter & Gemünden, 2004, p. 553). Building networks could thus also be greatly connected to project success. Atkinson (1999, p. 341) as well as Westerveld (2001, p.414) also included the benefits of contractors as a part of his project success criteria framework. Hence the factors of finding new partners into an organizational network and ensuring co-operation and satisfaction are added as success criteria.

White & Fortune (2002, pp. 4-5; 10) also noted the matter of a project’s organizational fit and the consequences for an organization’s business performance to be an important success criterion to companies. However, Vuori et al (2013, pp. 101-102) noted that in certain situation it may also be the benefit of both the company and the company that a project has a strategy, which is not aligned with the parent company, because the parent company’s strategy is not responsive to the needs of the external market. We will
therefore include how well the project connects to the strategy of the company, and how much it helps generate success in other projects.

Finally, Atkinson (1999, p. 341) suggests the inclusion of the impact a project has on a larger context, meaning environmental and social impacts. Westerveld (2003, p. 414) also considered stakeholders as a project success group in his Project Excellence Model. The relation of a project’s outcome towards external stakeholder groups may be more salient, and is thus included as a criterion. The inclusion of these success criteria implies a need for involvement from all higher management (*project owner*) to ensure the effectiveness metrics and holistic view of project management as a strategic asset. A lowered interest towards project management involvement by project owners is associated with unsuccessful projects, project owner involvement and project input involvement in strategic considerations can be considered an important factor in achieving project success (Judgev & Müller, 2005, p. 28).

### 2.5 Critical Success Factors

Although research about critical success factors in project management started in the late 1960s, the current research on project management still only comes to ambiguous conclusions about what factors take part in achieving a successful project and reaches either very general or very project specific conclusions (Cooke-Davies, 2002, p.187; Hyvärı, 2006, p.31). Yet as a first step to common ground there seems to be at least a common definition of critical success factors in the scientific project management literature, even though there is no general understanding of a definite number of factors influencing the successful outcome of a project.

Table 3: CSF Definitions

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Definition CSF</th>
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<tr>
<td>Rockart (1982 in Hardcastle, Edwards, Akintoye &amp; Li 2005, p. 459)</td>
<td>“Those few key areas of activity in which favourable results are absolutely necessary for a manager to reach his/her goals”</td>
</tr>
<tr>
<td>Pinto &amp; Slevin (1987 p. 22)</td>
<td>“Factors, which if addressed, will significantly improve project implementation chances.”</td>
</tr>
<tr>
<td>Milosevic &amp; Patanakul (2005, p. 184)</td>
<td>“Characteristics, conditions or variables that can have a significant impact on the success of the project when properly sustained, maintained or managed.”</td>
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</table>
Müller & Turner (2007, p. 299) | “Elements of a project that can be influenced to increase the likelihood of success; these are independent variables that make success more likely”.

Alias et al. (2014, p. 61) | “Inputs to project management practice which can lead directly or indirectly to project success.”

When looking at the definitions of CSFs it becomes apparent that they all share the same basic ideas, namely the factors can be influenced i.e. things such as luck are excluded, although they might have an impact anyway and they all influence project success in a positive manner, when managed correctly. In contrast to success criteria, looking at project success in terms of critical success factors is often seen as “one of the vital ways to improve the effectiveness of project delivery” (Alias, et al., 2014, p. 62). Freund (1988, in Dyrhaug, 2012, p.54) was the first one who explicitly stated that CSF should not be confused with success criteria and they should be "expressed as things that must be done, not the end point of the process.” Gaining a certain percentage of market share therefore is not a CSF as it does not describe the things that should be done, but what should be achieved. Alias et al. (2014, p. 61) furthermore specify that the factors are directly related to project management practice, they clearly assign a responsibility to the project management practitioner and state that determining the CSFs is necessary to fulfill the responsibility as project management of a company (Alias et al., 2014, p. 66). As has been discussed in the previous chapter, a distinction has often been made between project success and project management success - effectively arguing that in previous research the latter was assessed with the use of simplified metrics such as “the iron triangle” while the assessment of project success has been recognized as a matter that requires a wider range of measures (Cooke-Davies, 2007 in Morris & Pinto 2007, p. 227; Ika, 2009, p. 7).

The epithet ‘critical’ emphasizes that the factors have a critical impact on success, that is to say they are so significant that if influenced in a negative way, the project may not only be less successful, but fail altogether. Rockart’s (1982 in Hardcastle et al., 2005, p. 459) definition also stresses that CSF are “absolutely necessary for a manager to reach his/her goals”. This distinguishes them from success factors which may still impact the outcome of a project, but are not considered as important (Dvir et al., 1998, pp. 923-924). However at this point it should be mentioned that it is noticeable that Rockart (1982 in Alias et al., 2014, p. 62) only addresses the manager’s goals, which, considering other research on success, may differ greatly from a company’s view of a successful project. For him not only the company, but also its industry should find its CSFs in order to make sure to stay successful in the future. In any case it is obvious that identifying the CSFs is essential to project success. Not only can they be considered “vehicle of communication” (Dyrhaug, 2002, p. 48), other researchers furthermore state that they offer a measure serving for the evaluation of a company and can be used as a forecasting tool to quickly evaluate if a project will have a successful outcome from their point of view (Alias et al., 2014, p. 67) and make quicker progress towards performance enhancement (Alias et al., 2014, p. 65). This makes it possible for the organization to apply management skills in order to enhance
the performance of projects and hence the performance of the firm as a whole. Consequently stakeholders will be satisfied, the company will gain a competitive advantage and prosper in the future (Fortune & White, 2006, p. 53; Alias et al., 2014, p. 62).

2.5.1 The Development of Critical Success Factors in Project Management

The research conducted on project success usually tends to fall into one of two categories, the above mentioned success criteria, or critical success factors. It is important to know that these two concepts, while closely connected do not represent the same matter, but both should be considered essential elements of project success (Ika, 2009, p. 8). The above given definition of CSF, and the concept in contrast and relation to success criteria is hence a central issue in the discussion of project success. Drawing the line between the two is also important, as previous research often does not make a clear distinction or even uses them as synonyms.

Interestingly, the extant literature is more extensive on success criteria than CSFs (Cooke-Davies in Morris & Pinto, 2007, p. 228) yet the findings of the CSF literature have thus far been scattered and inconclusive. Despite the fact that there are only few studies, trying to consider both of these concepts, or even try to link them, the development of success criteria and CSF can be seen as somewhat parallel over time, starting with a more narrow framework and then expanding to a wider array of dimensions and factors.

The concept of CSF was initially mentioned by Rubin and Seeling in 1967 (Belassi & Tukel, 1996, p. 142), using the technical performance as a measure of success they focused on the influence the experience of the project manager has on the success or the failure of a project. In line with this publication, the research in the first years focused mainly on the control aspects of projects through theoretical studies (Ika, 2009, p. 8; Westerveld, 2003, p. 412).

However proceeding research criticized these studies as being too narrow, only focusing on the traditional project tools and management techniques. The new approach included large studies on CSFs, taking a variety of factors into account, rather than just concentrating on scheduling alone (Westerveld, 2003, p. 412), such as the study by Baker, Murphy and Fisher in 1983, using perceived project success as their measure of success. All together they found 29 project management characteristics, having a strong effect on the failure of projects, including technical, as well as behavioral factors (Belassi & Tukel, 1996, p. 142; Dyrhaug, 2012, p. 49). Yet the criticism mentioned in connection to these later studies was the lack of “scientific empiricism”, as the project management practitioners were asked solely about their experiences (Hazebrouq, 1993 in Ika, 2009, p. 8).

Pinto and Slevin brought major contributions to the field in the late 1980’s (Pinto & Slevin, 1987), suggesting a scientific basis, and being the first to classify factors critical to success. In their study from 1987 they developed the Project Implementation Profile (PIP), consisting of ten CSF, which until today is one of the most cited and renowned frameworks in project success research. In later studies they also added external factors, setting the groundwork for many studies to come. It was also Pinto, this time together with Prescott (Pinto & Prescott, 1988) who identified CSF for the different stages of a project, taking the project lifecycle into consideration.
In the 1990’s however comments started to emerge about the methodological background of project success studies, and the researchers such as Belassi & Tukel (1996) voiced the need for more studies, with first a clear distinction between CSF and success criteria, and second a distinction between factors which can be influenced by projects managers and factors outside their control. Arguing that project characteristics “constitute one of the essential dimensions of project performance” (Belassi & Tukel, 1996, p. 144), they do not believe that a general list of factors can be created for all projects and instead one should design a flexible framework, by grouping factors. Instead of focusing on individual factors they identified five groups of success factors, with the idea in mind that this framework could be easily adapted by the project management practitioner to fit the respective situation and project.

Since then a great number of researchers has undertaken studies on CSF, producing a great number of lists of factors. Many have tried to identify general lists of factors, applicable to all kinds of projects, while others connected them to certain types of activities and problem domains. Furthermore there has been a not insignificant amount of publications aiming to compare different lists of factors, either with the goal to create a definitive list or coming to the conclusion that the set of factors should match the characteristics of the project (Fortune & White, 2006, pp. 53-54). In the last years the number of studies trying to find new sets of factors has decreased, however the concept of CSF in projects has not lost its popularity and is still discussed and referred to in many publications (Fortune & White, 2006, p. 54). The focus has shifted to linking success criteria and CSF (e.g. Wateridge, 1995 and Clarke, 1999 in Ika, 2009; Westerveld, 2003) and the influence of project characteristics and organizational context on project success (see e.g. Hyväri, 2006; Dyrhaug, 2002; Morris & Pinto, 2007).

### 2.5.2 Current State of Research on Critical Success Factors

Extensive research has been done on what makes projects successful, but despite the increasing body of knowledge on project success, the results of projects continue to disappoint (Cooke-Davies, 2002, p.187). The question what really makes a project successful seems to remain. Cooke-Davies (in Morris & Pinto, 2007, p. 238) describe three scientific publications, encompassing 44 studies on CSF, finding a total of 24 different groups of factors seen as critical to success. Looking at the large number of factor groups the authors make a valid observation: “ [...] if so many things are equally important it is also fair to conclude that nothing is especially important” (Cooke-Davies, in Morris & Pinto, 2007, p. 238). They reach the conclusion that the problems researching this field are caused by at least three dimensions of difficulty, which make the concept such a challenging topic to study.

The first dimension of difficulty is based on the incoherent conception of practitioners, as well as researchers regarding terms and idiom for projects, project management and success. As a second dimension of difficulty the great variability between projects can be mentioned (Cooke-Davies, in Pinto & Morris, 2007, p. 238). As every project offers unique features and is being exposed to unique external conditions, consequently the critical success factors may vary greatly and a comparison between projects may be

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2 Morris & Hough (1987), Belassi & Tukel (1996) and Crawford (2001). (Morris & Hough, and Crawford are not in reference list, as they could not be found. They serve as examples, but no content has been used).
difficult (Müller & Turner, 2007, p. 299). A third dimension of difficulty addresses a problem often occurring in research for social sciences, it is the problem of applying research methods that are robust enough to take three worlds, namely physical, the social and the personal world into consideration, all of which have a great impact on project management. To grasp the concept on all these levels and to develop methods assisting managers and organizations on a practical level is a challenging task, calling for careful considerations when researching the field (Cooke-Davies, in Morris & Pinto, 2007, p. 238).

Yet these are not the only difficulties, several problems in the research of CSF have been identified. Belassi and Tukel (1996, p. 143) as well as Fortune and White (2006, p. 54), mention the negligence of existing interrelationships between factors as a problem. Fortune and White (2006, p. 54) argue that they are “at least as important as the individual factors, but the CSF approach does not provide a mechanism for taking account of these interrelationships”. In their study they additionally state that the project lifecycle and its effect on the variance of importance of CSF is often disregarded as unimportant, viewing projects as “a static process instead of a dynamic phenomenon”. Cooke-Davies (2002) argues that instead of only asking one question, namely the one about CSF, one should really ask three questions:

1. What factors are critical to project management success?
2. What factors are critical to success on an individual project?
3. What factors lead to consistently successful projects?

It should be mentioned that these questions are very difficult to answer and require probably several very detailed, longitudinal studies, considering many interrelationships, including the one between success criteria and CSF, due to the great variance of projects and context.

The attempt to establish an “overall measure of success” and then trying to find the factors influencing this measure through primary and secondary research as well as personal observations is subject to criticism (Cooke-Davies in Morris & Pinto, 2007, p. 236), although a lot of the research in the field has been conducted this way. Considering the multiple and various factors influencing projects, the suspicion emerges that to find a ‘one size fits all’ combination of factors might be a futile endeavour, even though some authors state that at least some agreement on the kind of factors is noticeable (Cooke-Davies in Morris & Pinto, 2007, p. 238). However if the level of agreement were big enough to fit all organizations it seems odd that so many projects still fail or do not reach the desired successful outcome. In fact many authors agree that organizational context plays a significant role when trying to determine which factors are critical to success (Cooke-Davies, 2002, p. 187; Hyväri, 2006, p. 31; Pansiri & Temtime, 2010, p. 57; Dyrhaug, 2002, p. 52). One further issue that is noticeable considering the research that has been done on CSF is the fact that many researchers completely neglect how success is measured. Freund (1988, in Dyrhaug, 2002, p. 51) for example pointed out that in order to identify the CSF one should always include the measure, and even the standard against the success will be measured. If one considers how different the perceptions of success can be, it seems only logical that no unified set of factors contributing to success can be found, if the researcher does not provide a definition on their perception and measures of success (e.g. Dyrhaug, 2002, p. 51; Westerveld, 2003, pp. 411-412). Combining the named issues with a lack of context and taking the general complexity of the concept into
account it is not surprising that the research in this area so far has not produced any satisfying results.

As a result of the amount and variance of project success literature, Ika (2009, pp. 14 - 15) suggests, in connection to the research of Hyväri (2006), that project success research should now address the concept of success criteria in specific organizational contexts and in a more subjectivist manner to gain understanding of project success as a social construct, finding the symbolic and rhetorical success criteria and CSFs. Next to Hyväri (2006), and Ika (2009) other researchers also come to conclusions that organizational context has an impact on success. Pansiri & Temtime (2010, p. 57) e.g. describe the connection of firm size and age as well as managerial status, experience and age of the project manager and their perceived CSFs. Turner et al., (2012, p. 954) propose that organizational factors, such as the operating industry as well as the size and age of a company have an effect on how project management should be conducted to reach optimal project success. In addition to that Dyrhaug (2002, pp. 47-51) also criticizes the negligence of context in project success research, agreeing with Pansiri & Temtime on the hypothesis that not only size and type of project but, also the managerial status of the manager play a significant role, which should be taken into account.

There are several frameworks and lists of factors one can choose from, when looking at research on CSF. Many of these lists and frameworks have very peculiar and defined backgrounds, they e.g. only review a certain type of project or only on a certain industry. One therefore also has to choose the focus one wants to set and think about questions like whether to take the project life cycle into account or not. As no framework or list addresses a particular phase of the OLC it is challenging to choose a theoretical background which can be compared to startups and seen as representative of the literature in the context of the OLC.

One possible choice is to apply a very general framework, such as the one Belassi and Tukel created in 1996, providing groups of factors. This framework counts next to the PIP of Pinto and Slevin (1987) to the most popular ones in research of success and failure factors. However the frameworks in the study heavily takes into account project characteristics and external factors, which cannot be influenced. While these certainly still can be regarded as important, our focus is on identifying factors, which the entrepreneurs and their teams can influence and increase the likelihood of success for the projects in startups in general, not taking any specific industry or project type into consideration.

The probably greatest literature review in the history of CSF was done by Fortune and White (2006). In total they gathered 63 lists of critical factors, including theoretical, as well as empirical studies which show a great variety. They noted that the three most named factors are:

- Support from senior management
- Clear and realistic objectives
- An efficient project plan

Although 81% of the studies cite one or more of these three factors, a mere 17% name all three of them (Fortune & White, 2006, p. 54). This once again suggests, that despite the fact that the field has been widely researched, the consensus on CSF still seems to be
rather low. This adds to the difficulty of identifying one list, theory or model, which represents the current stance of literature.

2.5.3 The Project Implementation Profile (PIP)

Due to the above mentioned challenges of finding a suitable framework or list, we decided to go back to the foundations of CSF research and choose a list of factors, which since its emergence has been applied to several projects in a variety of studies (e.g. Pinto & Prescott, 1988; Hyväri, 2006; Karlsen et al., 2006, Rosacker & Olson, 2008) and has been developed by building on the then existing literature about CSF. As already mentioned Jeffrey Pinto was one of the major researchers who together with Prescott and Slevin had major influence on many theories on project management success. They started their research in the 1980’s, evaluating CSFs in projects, as well as looking at performance measurements and are viewed as the “giants” of the field (Müller & Judgev, 2005, p. 757). Until today, their theories are widely accepted and belong to the most popular among project management researchers. Their PIP list belongs to the most proven and tested CSF lists in the literature. When comparing the PIP factors to the list created by the literature review of Fortune and White it becomes visible that the two lists agree on many factors. This may be due to the importance that the PIP takes in the literature and its influence on many of the studies included in the Fortune and White review. In a sense they both portray the most relevant factors in the literature, even though Fortune and White present a more encompassing picture of all the factors found by researchers on CSF. However neither of these two studies take any particular context into account and are not startup specific and just try to create a general collection of factors critical to success. It should be noted that while the Fortune and White review considers the relative frequency in the literature in their ranking, the PIP does not take the relative importance of the single factors into account. Our focus for gathering empirical data and will be set on the PIP review, as the review done by Fortune and White (2006) is too extensive to discuss all the factors.

Table 4: Comparison of the Project Implementation Profile (PIP) (Pinto & Slevin, 1987) and literature review of White & Fortune (2006)

<table>
<thead>
<tr>
<th>Project Implementation Profile, (Pinto &amp; Slevin, 1987)</th>
<th>Literature Review on 63 CSF Studies, (White and Fortune, 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project mission</td>
<td>1. Support from senior management</td>
</tr>
<tr>
<td>2. Top management support</td>
<td>2. Clear realistic objectives</td>
</tr>
<tr>
<td>3. Project schedule/plans</td>
<td>3. Strong/plan kept up to date</td>
</tr>
<tr>
<td>4. Client consultation</td>
<td>4. Good communication/feedback</td>
</tr>
<tr>
<td>5. Personnel</td>
<td>5. User/client involvement</td>
</tr>
<tr>
<td>6. Technical task</td>
<td>6. Skilled/suitably qualified/sufficient staff/team</td>
</tr>
<tr>
<td>7. Client acceptance</td>
<td>7. Effective change management</td>
</tr>
<tr>
<td>8. Monitoring and feedback</td>
<td>8. Competent project manager</td>
</tr>
</tbody>
</table>
Table 4 is showing a comparison of PIP and the Fortune and White literature review of CSF (only the first 15 (out of 28) factors are shown here, a full list can be found in Appendix 1. Congruent factors are written in italics.

In order to avoid misunderstandings and misinterpretations, it is important to properly define what Pinto and his colleagues meant with each factor. Therefore a short explanation of each of the PIP factors will be provided in the table below, in accordance to the given definition in Pinto and Slevin (1987, pp. 24-25).

Table 5: PIP Definitions

<table>
<thead>
<tr>
<th>PIP Factor</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Mission</td>
<td>Goals, ultimate benefits and general directions are clearly defined, and the commitment of the people involved is acquired.</td>
</tr>
<tr>
<td>Top Management Support</td>
<td>Top management is willing to not only grant the necessary resources, but also authority and power for success. It furthermore supports the project manager with confidence.</td>
</tr>
<tr>
<td>Project Schedule/Plan</td>
<td>The existence of a specified and detailed description of the project steps required for the implementation, including formulation, conceptualization, detailing and evaluation. It is decided who is going to do what.</td>
</tr>
<tr>
<td>Client Consultation</td>
<td>The client/customer is involved in the process and consulted.</td>
</tr>
<tr>
<td>Personnel</td>
<td>The personnel is properly recruited, selected and trained so they can fulfill their tasks during the project, considering their knowledge, skills, and goals and personalities.</td>
</tr>
<tr>
<td>Technical Tasks</td>
<td>The necessary technology and skills in order to implement the project</td>
</tr>
</tbody>
</table>
Client Acceptance | The client or final user(s) of the end-product of the project are contacted and the project is “sold” to them.
---|---
Monitoring and Feedback | The process of project implementation is controlled, and its performance is compared to the initial project plan.
Communication | Adequate communication channels which enable the exchange of information and data, feedback etc. exist, within the project team, the organization as well as involved external parties such as clients.
Trouble-Shooting | The project team is able to deal with unexpected issues and deviation. Sufficient troubleshooting mechanisms are put in order to detect problems and react to them.

### 2.6 Startup Companies

The connection between young, small, entrepreneurial companies and innovation has been pronounced in extant literature and has made the concepts, separately and in connection with each other, an important dimension of the world of business administration research. Start-up of new companies is the context wherein the combination of innovation, entrepreneurship and small business often occurs, creating a strong connection between especially the latter two (Sahut & Peris-Ortiz, 2014, p. 665). In mainstream media, the term startup or “start-up” is often used, yet the definition of the concept seems ambiguous and the practical value of them difficult to measure. There have been attempts to witness the value of startups, but the definitions of the concept have been scattered, which makes unified statements difficult (Luger & Koo, 2005, p. 17; 24).

The young, entrepreneurial companies can be considered important in the context of their impact on three main dimensions: the economy, society and larger firms (Barringer & Ireland, 2012, p. 47-48). Small firms contribute to economies through innovation, they outperform larger companies in patent activity and job creation, as small businesses employ more than half of all the workforce in the US (Barringer & Ireland, 2012, p. 47). For instance, SMEs and more specifically micro companies contribute 63.2 % and 24.9 % of all employment opportunities in Sweden, respectively (2014 SBA Fact Sheet, p. 2).The impact entrepreneurial companies have on society and larger companies comes from the immense amount of creativity they bring to the market, providing consumers and companies with new solutions (Barringer & Ireland, 2012, p.48). Even though young, small companies often have disadvantages of scale, certain factors such as close co-operation and involvement between team members may help them reach and take advantage of innovation in ways which larger organizations cannot copy (Sahut & Peris-Ortiz, 2014, p. 665). It has been suggested that startups do indeed have specific assets that cannot be copied by larger organizations, called collectively “viability of newness” (Levie & Lichtenstein, 2010, p. 337).
Young, entrepreneurial companies are of importance for economies and societies, but it has also been established that young companies are more prone to failure than older ones (Cressy, 2006, p. 103). Assessments of startup failure rates have been as high as 46% during the first 18 months, and 75% during the first 6 years (Van de Ven et al., 1988, p. 87). This has been argued to be a result of the amount and type of not only financial but also human capital: how high of a level of risk the decision-makers are willing to tolerate and able to manage and additionally, how well are they able to minimize the firm-specific risk while still achieving growth (Cressy, 2006, p. 103-104). Startups are typically run by entrepreneurs, whose behavior has been noticed to be inherently different from that of managers; entrepreneurship is an emergent, less routine and more fragmented set of activities and new ventures operate with the pursuit of different types of aspirations than more established organizations (Mueller, Volery & von Siemens, 2012, p. 996).

As has been mentioned earlier on, the term “startup” is ubiquitous in entrepreneurship discussion, yet seems to lack a generally accepted definition. Therefore, to make an attempt at creating a unified definition of the concept, we take the most commonly mentioned defining factor of organizational novelty (Luger & Koo, 2005, p. 18) and start the definition from the scientific literature of organizational development in chapter 2.3.1. Using it as a basis, the common features found in organizational development literature are connected to startup-related research to create a holistic combination.

### 2.6.1 Organizational Life-Cycle Theory

One clear direction of finding the origin of the term “startup” would seem to be in organizational development theories, more precisely in stage-based developmental models of organizations. Some of the authors most credited for the development of the theories have been Lippitt & Schmidt and Greiner (Levie & Lichtenstein, 2010, p. 324). The model presented by Greiner in 1972 (Greiner, 1998, p. 55) is based on a model comparable to persons, where development happens through evolution and revolution (Levie & Lichtenstein, 2010, p. 325). The model is an adaptation of the biological concept of a life cycle (Lester, Parnell & Carraher, 2003, p. 340), which is reformulated to an organizational context in an attempt to create an understanding of the developmental phases of organizations. The theory is built around the assumption that organizations’ structure, behavior and development follow a usually predictable stage-based development (Ferreira et al., 2011, p. 251). Hanks (1990, cited in Lester et al., 2003, p. 340) notes that finding an accurate life cycle model in accordance to the theory could provide managers of growing firms with a road map to identify critical organizational transitions and avoidable pitfalls in its growth process, and hence prioritize organizational needs in their pursuit for growth. Pitfalls and problems are expected to occur, because organizations generally move from one phase to another after crises or as certain problems, such as functional tasks or strategic positioning issues related to specific developmental stages occur (Kazanjian, 1988, pp. 266). These changes do not happen after predetermined periods of time, but rather as previous strategies are deemed to not work any longer and restructuring is necessary to maintain a favorable competitive position (Greiner, 1998, p. 4-5). As such, understanding what are the typical problems for organizations in each phase helps the organization put their issues in perspective, prioritize their reactions to those problems and accommodate suitable strategizing for the future.

The theory has been challenged due to the non-deterministic results of life-cycle studies that show how most firms do not follow the life-cycle, passing from one stage to another
in an unstoppable manner in the way as may happen in biological life cycles (Lester et al., 2003, p. 340; Phelps et al., 2007, p. 6). Phelps, Adams and Bessant (2007, pp. 4-6) discuss the basic assumptions of previous literature regarding organizational life cycles, and argue that distinct life-cycle phases of organizations are in fact not easily distinguishable, there is no predictable way in which organizations develop through such phases and that not all organizations go through the same uniform phases. Similarly, in their extensive literature review Levie & Lichtenstein (2010, pp.329) note that the main appeal of the life-cycle stage theory may be its relatability to human lives and development, even though organizations have no similar growth imperative as organisms do. Due to the non-deterministic, non-positivist stance certain researchers have taken in regards to the life-cycle model, it has even been suggested that using the terminology including terminology such as “life cycle” and “stages of growth” may be inappropriate and misleading (Phelps et al., 2007, p. 7). It has also been noted that not all organizations are willing to develop in all forms of a simplified OLC. Perényi (2014, p. 291) noted that concurrent OLC theorists have found non-growth stages among organizations, due to the entrepreneurs’ unwillingness to move from the status quo and difficulties in generalizing the life-cycle dynamics of organizations across industries. Additionally, the results of Perényi (2014, pp. 301) suggest that cross-national comparisons between the life-cycles of companies should be compared with caution, as parts of their dynamics seem to have limited grounds for generalization - even though common dynamics were found within national context. This argument calls for further recognition of the contextual factors (Perényi, 2014, p. 301) as was also noted by Phelps et al. (2007, p. 8) who argued for a preference of a framework where the complexity, path dependency and uniqueness of the states of each organization would be recognized. It could be considered parallel to the notions made in project success research, where it has been noted that what may seem like positive development in the short term may be something that organizations are willing to forfeit in pursuit of their long-term strategy.

However, in spite its criticism, the organizational life-cycle theory has continued to progress in its validation, as the applicability has of the model has been tested and the variance of strategic orientation has been noted in different contextual environments and life-cycle stages (Perényi, 2014, p. 291). Even in critical remarks, it is recognized that organizations do change in time and stay in definable changes for periods of time (Levie & Lichtenstein, 2010, p. 330), over time important changes to structural and contextual dimensions will occur, salient problems must be solved to survive (Phelps et al., 2007, p. 6) and within certain contextually similar conditions, including market and industry dynamics, the states and changes of organizations may be reasonably consistent (Levie & Lichtenstein, 2010, p. 330). The purpose of the life-cycle model is not to predict the entire essence of organizations, but to identify the changes in activities and structure over time (Van de Ven, 1992 in Lester et al., 2003, p. 340). Reasons for complementarities between situations, strategies, structures and decision-making style variables for different phases have been suggested to be influential towards goals, ideologies, political and technical tasks in organizations (Miller & Friesen, 1984, pp. 1176-1177) Even though the changing of organizational activities and structures may not be linear, recognizing a stage where an organization currently is or is headed towards could help understand and predict salient issues and functions, and react to crises proactively.

### 2.6.2 Distinctive Features of Different Stages

The properties that different researchers have used in distinguishing between stages of organizational life cycle development vary to a noticeable extent. Hanks et al. (1993; pp.
6-9) reviewed previous studies of organizational life cycle theory and noted that although there is greater divergence between the models, all include dimensions of organizational context (age, size, growth rate, focal tasks/challenges faced by the firm) and organizational structure (structural form, formalization, centralization, vertical differentiation). Notably, Ferreira et al. (2012, p. 255 - 256) reviewed extant literature and used the organizational context variables of age, size and growth rate, while the structure variables were structure form, vertical differentiation, specialization, centralization and formalization. Lester et al. (2003, pp. 343-344) represent an opposing view of organizational life cycle research in the sense that they considered age and size relatively unimportant, while they concentrated on validated competitive strategy measures, such as first or second mover advantages, degree of market segmentation, product or service line breadth, uniqueness and efficiency in addition to measuring satisfaction with performance.

The number, temporal length and characteristics of different stages vary. Major publications use between three and five stages (Levie & Lichtenstein, 2010, p. 322), these include (Hanks et al., 1993, p. 12; Lester et al., 2003, p. 341; Ferreira et al., p. 253; Perényi, 2014, p. 292) are: (a) the startup - also known as birth, creativity or entrepreneurial stage, (b) expansion or survival (c) consolidation, maturity or success, (d) diversification or renewal and (e) decline. Further stages of development differ in many aspects, with the growth level peaking and declining further on, the level of formality increasing and the level of centralization decreasing as organizations pass on to further stages. As organizations mature into the next stages, the involvement of the founder quickly deteriorates, specialization occurs, the organization becomes more complex and additional complexity in decision-making is to be expected (Lester et al., 2003, p. 347; Hanks et al., 1993, p. 21). Companies grow in size incrementally until they reach their peak at the fourth (renewal) stage, and they grow more complicated and less centralized. In the decline stage the organizations may remain bureaucratic, but their growth is slow or they shrink in size and revert to less complicated processes and moderate centralization (Lester, 2003, p. 342-343; Hanks et al., 1993, p. 22). Ferreira et al., (2011, p. 268) as well as Perényi (2014, p. 291) also noted that contradicting factors were found to mainstream life cycle literature in the progression of age and centralization of the companies: not all proceed through the development phases in a linear manner and order.

As this study concentrates most on the earliest phase of the stage model, its features need to be discussed in more detail. In a literature review of earlier organizational life cycle literature, Hanks et al. (1993, p. 12) note that the companies in a startup/birth/creativity/entrepreneurial phase are characterized as young, small, inconsistent in growth, and simple in structural form, informal and free of policies, centralized in the founder and task-wise concentrated in building their identities, task structures and prototypes while obtaining resources. Lester et al. (2003, p. 342) also used earlier studies and noted the companies in the first stage to be young, small, simple, informal, owner-dominated and owner-centralized. Additionally, similar defining factors are found in newer assessment of the literature of life cycles, yet adding the complementary factor categories of strategy, decision-making style and resource (Ferreira et al., 2011, p. 255-256, 257). Ferreira et al., review the extant literature (2011, p. 254; 260-261) and list high levels of risk-taking, innovation and inaccuracy in methods of decision-making as features of the earliest stages of organizational development. Ferreira et al. (2011, p. 268) noted that the main differences between life cycle stages are visible in terms of size, concentration of ownership, size in relation to competitors, structure
form, specialization, formalization, innovativeness frequency, adaptability and awareness of need to establish strategies.

The business tasks and direction are likely to change as the company matures (Hanks et al., 1993, p. 12): an amount of research has signaled an interest towards the types and intensity of particular issues that organizations and their management face during different stages of the organizational life cycle and what kind of issues require most attention from management (Mueller et al., 2012, pp. 1013-1014; Kazanjian, 1988, p. 276; Terpstra & Olson, 1993, p. 14). Although the stages are not clear-cut temporal frames but more fluid developmental patterns, (Kazanjian, 1988, p. 276) indications of clear differences in the absolute and relative importance of problems have been found. More mature, growing companies have more challenges with the organization’s structure, human resource management and the regulatory environment, while sales/marketing and finding external management become less accentuated issues later on in the growth of an entrepreneurial firm (Terpstra & Olson, 1993, p. 14).

Mueller et al. (2012, p. 1011) found that key differences between start-up entrepreneurs and more seasoned growth entrepreneurs appear in the amount of time that start-up entrepreneurs spend in analytical and conceptual work, environmental monitoring, business and organizational development and (internal) communication. Mueller et al (2012, p. 1013) noticed that the behavior of entrepreneurs follows the suggestions of life-cycle theories, and as companies mature, the behavior of entrepreneurs moves from “doing” to “managing”. The notion of the different behavior of entrepreneurial managers in organizations’ different stages in their lifecycles is connected to what have been suggested as the particular problems an organization faces that are created by its position in a particular stage of growth; finding, developing and adapting the organization’s functions, structures and processes in information-finding, decision-making and planning to accommodate undertaking the right processes later allows the organization to move on to another stage in the development, and companies that fail to adapt to be able to solve these issues remain in the previous stage (Kazanjian, 1988, p. 274). If an organization learns and develops, it does indeed seem natural that the challenges the company and their management face will change.

The results of the studies discussed here show reasonable consistency within developmental patterns of organizations, which indicates that there are generally considerable differences in what should be considered salient issues for companies in different phases of their development. The results of previous studies do, in fact, suggest that there are certain factors in an organization’s development that are developed in accordance to a general development pattern, as long as strategic and contextual factors are taken into account. In connection to the realm of project management, it has been discussed earlier how companies should form their organizational and project-specific strategy in accordance to what they learn within their portfolio, program and project management (Maylor, 2010, p. 51). Engwall (2003, p. 801) has also suggested that projects need to be conducted in a context-specific manner, taking the history of the company into consideration regarding connected matters and previous, similar projects. This indicates that the company’s development is connected to a development in the management of projects also. Understanding the life-cycle theory allows a company to analyze, to an extent, what can be expected and act proactively with problems that are to be foreseen as they develop. Connecting the features of project management to the life-cycle theory could help organizations understand what project management issues are
currently salient. The aforementioned further highlights the need to understand the specific characteristics of startups, and the particular functions and strategic directions that they pursue in this context. This calls for thoroughly seizing how projects and project success are viewed as a holistic concept by concurrent entrepreneurs has the potential of helping researchers and entrepreneurs understand how a portion of start-ups differ from the general organizational view, and through further research in the developmental phases could help organizations understand one part of their growth process better.

2.6.3 Different Definitions and Connection to Entrepreneurial Orientation

There seems to be a lack of consensus about what constitutes a “startup” which is why the conceptualization of this thesis is based on the definition on pluralistic sources: first the suggestions of a study performed by KPMG on German startups (DMS, 2014, p. 11), which defined startups according to the following principles:

- The company’s age is <10 years
- They have an innovative business model and/or technology
- Their goal is to grow in terms of profit or employees

In certain studies the definition of a startup as an organization in their early stage of development has not been enough, and more concrete singular defining factors have been needed. In spite of this, apart from the characteristics of novelty and uncertainty, the definition of a startup company has remained ambiguous. The characterization of a startup by Luger & Koo (2005, p. 19) concludes that startup companies are new, active and independent and that they function as sources of employment opportunities, innovation and growth. The activeness means that they have at least one full-time employee (Luger & Koo, 2005, 18). The independency, means that it is not considered a subsidiary or a branch of another company (Luger & Koo, 2005, p. 19).

Startups are also expected to be entrepreneurial, because as concluded in entrepreneurship literature, the main differentiators between entrepreneurial ventures and less entrepreneurial ventures have been determined by the growth and profit-orientation (Carland, Hoy, Boulton & Carland, 1984, p. 355). Entrepreneurial activity is a driving force of the establishment of new ventures (Lumpkin & Dess, 1996, p. 135). From here we can elaborate to other typical traits of the entrepreneurial organization, which have been named to be risk-taking propensity (Soininen, Puimalainen, Sjögrén, Syrjä, & Richter, 2015, p.88) and innovativeness and proactiveness (Carland et al., 1984, p. 357-358; Soininen et al., 2015, p. 88,) while non-entrepreneurial organizations are described as being driven by the owner’s personal goals and lacking in innovation (Carland et al., 1984, p. 355). Lumpkin & Dess (1996, p. 162) state that entrepreneurial orientation (EO) may be the only thing a young firm has during start-up until issues of survival are satisfied, and that EO can help a young company develop management teams, strategies and resource organization systems. The level of entrepreneurial input of the founder typically declines as the company moves into later stages of its organizational developments (Zahra, 2009, p. 249). Lumpkin & Dess (1996, p. 152) considered EO to include the dimensions of autonomy of employees, innovativeness in strategy, risk-taking propensity, proactiveness and competitive aggressiveness.

These dimensions seem to connect with the distinctive features of early organizational life cycle-phase companies (as mentioned in 2.3.1.), with Ferreira et al. (2011, p. 254) explicitly mentioning risk-taking propensity and innovation as some of the defining factors of organizations that earlier research has found in their first phase of development.
In addition to the obvious connections between innovativeness, and risk-taking behavior, there seems to be a connection to the aforementioned EO dimensions; autonomy of employees (Lumpkin & Dess, 1996, p. 141) seems connected to the unpredictability and non-rigidness of management practices suggested for early phase (Greiner, 1998, p. 4, Hanks et al., 1993, p.12), while high-levels of innovation (Ferreira, 2012, p. 254), proactiveness (Miller & Friesen, 1984, p. 1170) and elements of risk-taking, mentioned explicitly (Ferreira et al., 2012, p. 254, Miller & Friesen, 1984, p. 1170), early-stage organizational features also seem connected to in strategy competitive aggressiveness (Lumpkin & Dess, 1996, p. 147). Because of the aforementioned implications of connection between entrepreneurial traits of the first phase of the lifecycle and the concept of startups in general, dimensions of entrepreneurial orientation such as the ones presented by Lumpkin & Dess (1996) can also be taken into consideration when discussing startups.

2.6.4 Startup Framework Factors

Since the definition of age seemed to be an inconclusive issue in OLC literature, we decided to use the definition of KPMG (DMS, 2014, p.11), which is less than ten years, as a cut-off factor. Regarding the size, we amended from the definition used by Luger and Koo (2005, p. 18) and use the amount of at least one person working full-time for the company, and more than one person working for the company to ensure that the company is active. Additionally, we decided to discuss the factors found in numerous sources of OLC literature, namely centralization of power and decision-making, structural formalization and information processing. A summarization of these features can be found in Table 6. Connections to EO dimensions being a factor in the OLC literature start-up phase were noticed, as well as the KPMG definition (in DMS, 2014, p. 11) of start-ups including the factor of these companies showing a high level of entrepreneurial orientation. Hence it was decided that the EO dimensions of Lumpkin & Dess (1996) would be assessed as well, because a majority of the dimension were found salient.

As a conclusion of this section, although the definition of a startup is generally vague, there are numerous characteristics of organizations that can be expected to change when the organization matures through the general developmental stages, even though the order and temporality of the stages may differ. A list of the most prevalent features typically connected to early-phase companies was conducted through a review of literature while studying startups from different viewpoints. These features are used to form a framework of the features that are contributed towards the concept of “a startup” in different disciplines and private research. Changes in the direction can be expected among the development of a startup, and research in limited general functions of startups can help reach an understanding of whether some features - of, for instance, project management - are more important than others and if so, what is its contribution.
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<tr>
<td><strong>Size &amp; Age</strong></td>
<td>“New”</td>
<td>&lt; 10 years</td>
<td>Small and young</td>
<td>“Small, young, homogeneuos”</td>
<td>Small, young</td>
<td>Young, Small,</td>
</tr>
<tr>
<td><strong>Structural form, communication</strong></td>
<td>Informal</td>
<td></td>
<td>Informal, simple</td>
<td>Undifferentiated, simple, informal, personal, few policies</td>
<td></td>
<td>Simple, centralized, few formalities</td>
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<td><strong>Growth goals</strong></td>
<td>Growth in terms of profit or employment</td>
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<tr>
<td><strong>Entrepreneur traits</strong></td>
<td>Remarkable innovativeness, high levels of risk-taking</td>
<td>Decision-making style: Trial and error</td>
<td>Proactive, risk-taking, innovative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independency</strong></td>
<td>Independent</td>
<td></td>
<td>Ruled by owners</td>
<td></td>
<td>One or few owners</td>
<td></td>
</tr>
<tr>
<td><strong>Centralization</strong></td>
<td>Owner-centralized</td>
<td></td>
<td>Owner-dominated, centralized</td>
<td>Highly founder-centralized</td>
<td>Centralized, rarely delegated</td>
<td></td>
</tr>
<tr>
<td><strong>Decision making style</strong></td>
<td>“Inaccurate methods of decision making and information processing”</td>
<td>Centralized, trial and error</td>
<td>Centralized</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Startup Features
2.7 Project Management Research in Startups

Research of project management that has concentrated specifically in start-up companies of any kind has been limited; empirical studies in start-up project management have been scattered and few in numbers. To name a few tremendously relevant examples, Dean (1988) studied the effects of taking a systematic project management approach towards the management of startups, Midler & Silberzahn (2008) researched the multi-project learning capabilities of startups, noticing that different project strategies can create considerably ways of project learning and lead to very different approaches on how startup generally grow as a business. Adnot (2012) studied the general practices of Swedish startups within a small selection of cases. In certain studies, such as that of Turner, Ledwith & Kelly (2010), due to somewhat suitable criteria used, some companies can partially be identified as start-ups. However, many studies that have been conducted in the context of small businesses and project management have been concentrating on SMEs and not startups: (e.g. Bakker, 2010). For instance, Turner, Ledwith & Kelly (2010, p. 745) included micro companies in their study of project management processes, but again the focus of company characterization remained in employees and turnover. In a further study, however, Turner, Ledwith & Kelly (2012) did in fact take age, and size of a company into consideration when discussing the project management practices of different SMEs, providing also a portion of their sample that was small and young enterprises. Here it was found that startups do more project work than more established companies, their projects are more externally oriented and they tend to do smaller projects (Turner et al., 2012, pp. 949-951).

A certain amount of literature has concentrated in adopting a project management terminology or methodology to entrepreneurship research: for instance Lindgren & Packendorff (2011) have discussed the similarities between projects and entrepreneurial ventures as temporary organizations. Business startups have been argued to be one form of an entrepreneurial act, which, due to their temporary nature, should be regarded as projects (Lindgren and Packendorff, 2003, cited in Kuura et al., 2014, p. 220); the entrepreneur, when implementing their business plan, should take into consideration the outcomes of a project but also the post-project phase and its effects on the business’ sustainability (Ajam, 2011, cited in Kuura et al., 2014, p.222). This suggests that the entrepreneur should take on a double-role of a business owner and a project manager, and due to the limited resources and risky nature of the organization, failing in one can be detrimental to both. Due to this balance, project management would seem an immensely interesting topic in the context of startups, where a great deal of the personnel of the company must be involved in a majority of the projects of the organization. As Shenhar et al., (2001, p. 703) state: “indeed, many projects are undertaken today in small, start-up companies, where the project team is involved in all business aspects, and there is no distinction between project success and product success.” Hence taking a holistic view is in the interest for a study in project management in this particular organizational context. In startups, the amount of influence that a single project may have on the strategy of the entire organization, can be expected to be quite spectacular.

Project Success Research in Startups

As mentioned earlier on, research on Project Success and CSFs has been conducted in a variety of different industries, for instance: IT and IT Service Management projects (Tan, Cater-Steel & Toleman, 2009, Nasir & Sahibuddin, 2011, Niazi, Wilson & Sowghi, 2006). It has also been done in geographical contexts - or by doing a combination of both
of the previous, such as in the cases of construction projects in Malaysia (Yong & Mustaffa, 2012) and Vietnam (Nguyen, Ogulnana & Xuan Lan, 2004) as well as IT projects in Norway (Karlsen et al., 2006, Karlsen et al., 2005) and agile software projects in IT companies based in former Yugoslavia (Stankovic, Nikolic, Djordjevic, & Cao, 2013). However, project management success research in different phases of organizational development, including startups, seems to not have been studied at a low, if any rate. Murphy & Ledwith (2007) discussed both in the context of Irish high-technology SMEs, but in here, only the criteria of company size in employees and turnover were considered (Murphy & Ledwith, 2007, p. 154). Similarly, Turner et al. (2009, p. 283) studied project success and success factors of small companies, including a sample characterized as “High-potential start-ups” this definition only seemed to include a characterization in terms of global sales of less than five million Euros, and the size of the company in amount of employees. In a valiant effort to create a comparative base for Norwegian IT companies in different contexts, a tremendous basis of knowledge, both in projects success by Karlsen, Andersen, Birkely & Ødegård (2005) and in CSF by Karlsen, Andersen, Birkely & Ødegård (2006). The results of the CSFs of micro and small companies, however, provide a preview on what can be expected from startups.

Considering the failure rates of young companies and the management issues that have been present in previous research of startups and the level of importance that project management has for companies and industries (such as R&D, consulting, advertising and IT) wherein projectification is now reality and projects, as a work form, is the normal work form (Lindgren & Packendorff, 2006 in Hodgson & Cicmil, 2006, p. 112), there is a clear need for research to assess the way in which startup companies assess their own success and failure rate in projects as well as to recognize the factors that contribute most significantly to the success or failure of the projects of startups.

2.8 Summary of the Theoretical Framework

As has been discussed in this chapter, projects are an omnipresent feature in business today. Projects are temporary means of organizations, meant for coping with business situations that are expected to be temporary and specialized, requiring unique forms of work. As projects are the main concentration of this thesis, we have discussed them first. In connection to factor school, we discussed project success criteria and how the definition of success in literature has changed from being predominantly project management focus to a more strategic ideal. This led to changes of concentration in project success assessment that have effectively replaced the restrictive “Iron Triangle” with more holistic and complete frameworks of project success criteria. Here we have formed our own framework through literature review. As a final point of project success research we have discussed CSF, the development of their research and contemporary ideas of how the concept should be discussed. CSF, of course, are related to the type of success that organizations seek to achieve and thus the aforementioned concepts are interconnected. Here, the somewhat stagnant status of research regarding CSF lead us towards using the PIP framework as a basis, but also using an exploratory approach towards finding what factors are intuitively critical for certain groups. As our research and personal interest has also pointed us towards researching entrepreneurial, young organizations, we have formed our own framework for startups, deriving it from OLC literature and research that has studied startups with different definitions. This has helped us create our own framework of possible features for startups, which we will use to form an understanding of the contextual basis of our study.
The importance of understanding these topics has dictated us to discuss the previous literature of these concepts and theories in the order that is used in this chapter. It is crucial that a reader has an idea of how we define projects and project success related concepts early on, as those are the main concentration here. However, as we discuss our empirical findings, it is more important that a reader has a grasp of the organizational context and the context of projects for our interviewees in their organizations, to have a concrete background on the reality as we start discussing project success. Therefore, to make this research as reader-friendly as it can be, we shall introduce the empirical results and all discussion in connection to them in the latter mentioned order.
3. Research Methodology

In this chapter the research methodology of this thesis is elaborated, explaining and justifying the choices of literature as well as the philosophical standpoints of the research in terms of epistemology and ontology. Further on, the research approach and strategy are discussed. More detailed information of the data collection, sampling choices and interview design are given after this. As a conclusion of the chapter, matters of validity, reliability and ethical matters are discussed in further detail.

3.1 Reflection on the Choice of Literature

The purpose of a literature review is to increase not only the theoretical level of the thesis, but also to create internal validity and build a clearer understanding of definitions of constructs and concepts. It is important to take a broad range of literature into account and not only choose literature with similarities but to also include literature that may contradict the underlying principles of the research idea. This is essential to build confidence in the research and helps to increase the internal validity, but also challenges researchers to expand their existing mindsets and rearrange their thoughts (Eisenhardt, 1989, p. 544). To find relevant theories and thoroughly research the extant literature on the chosen topic is an important process, which needs to be done in a careful, systematic manner (Ghauri & Gronhaug, 2010, p. 50). This thesis combines elements of entrepreneurship and project management, so theories of both fields were used and combined in order to get a comprehensive perspective of the problematization of the chosen subject, with its different aspects. The literature review therefore intends to give an encompassing picture of previous research in these fields based on the literary sources that were accessible. While a great deal of the literature on CSFs was available, it should be mentioned that some sources that researchers regarded important could not be found, neither in online databases nor as print literature. If it was possible the referenced material presented in other articles, such as lists of CSF was used and integrated in the review. This strategy was also followed when looking at the other concepts.

Whereas it was no problem to find enough scientific, peer reviewed papers on project management and success, the lack of scientific literature on startups and practical cases (in e.g. project management) was reason to include other non-traditional sources such as the KPMG study on startups or other studies, which were found online. From these sources our own definition of the term “startup” was developed, which fits the study and problem. However when using these sources it was made sure, that the studies were performed by renowned organizations with the reputation to produce reliable results. Furthermore some books were used as some of the well-respected authors collected their findings juxtaposing them to the findings of other authors in printed form. When using a book attention was paid that the sources for the books were scientifically sound and based on peer reviewed articles. What also proved to be very useful was looking at the references authors in the field used, i.e. why we always tried to go back to the original source if possible, as this is important to avoid “errors of interpretation or transcription “(Cooper & Schindler, 2011, p. 654). By doing so useful articles that did not show up in search by terms were found and at the same time it became clear how certain ideas and assumptions were developed.
As mentioned above the aim of the literature review was to find relevant concepts, which cater to the purpose and are useful for the research that is why a careful evaluation and choice of literature is essential (Hart, 1998, p. 9). Besides an evaluation of the sources the theories, which were used were also subject to a critical discussion regarding their usefulness and connection the objectives and purpose of the thesis. While there are many different theories in entrepreneurship and project management, it was decided to focus on a few theories, which seemed most relevant and describe and use those thoroughly instead of including more theories and treat them more superficially. Which theories were considered most relevant was mostly decided by the chosen perspective i.e. project success in startups which provides a certain set of conditions, however besides the chosen theories and views, one could have also taken into consideration project lifecycle theory, as well as portfolio and program management and project maturity models. The introductory chapter as well as the literature review presents an argument why certain theories were considered more relevant than others and why certain decisions were made. While it may have been interested to consider the above mentioned concepts there is always a trade-off between quantity and depth and it seemed more suitable to limit the perspective and inquire the problem more in detail within these constraints. In further studies the neglected theories could be taken into consideration to produce more encompassing results.

To begin with the use of search terms, which described the relevant theories in both fields were used, such as “project success”, “project management”, “critical success factors”, “success criteria/dimensions”, “project failure” for project management and “startup definition”, “startup problems” for startup management. Furthermore the search included scientific papers which addressed both fields with search terms such as “startup projects” and “startup success”. While there was a lot of research on project management and success the literature on startup was rather scarce, not only regarding the definition of the term “startup”, but also regarding startups and project management. Since there was no clear definition of the what constitutes a startup, the search was widened and other search terms and phrases were used that describe the chosen organizational form, as Hart (1998, p. 19) states that it is important to “be flexible and search more widely or use more complex combinations of words and phrases. Therefore terms such as “young firms/business”, “entrepreneurship and project management” and similar terms were included, as the process went on. The search terms were entered in various online journals such as the Project Management Journal (PMJ) and the International Journal of Project Management (IJPM), the thesis database DIVA, the search tool of Umeå University and Google Scholar.

At this point it is also worth mentioning that the literature review had a process character, i.e. the chosen perspective developed over time and diverges from the initial idea of only looking at the critical success factors, not taking success criteria into account and having a stronger focus on entrepreneurship. While many authors do not combine the concepts of CSF and success criteria (i.e. they research only one concept, not looking into the other one), it seemed necessary to consider both these factors, as the aim is to give an encompassing picture about success and not considering one important element seemed negligent.
3.2 Research philosophy

In this section the research philosophy of this study is discussed. These matters are discussed in research to present the authors’ views of the world and knowledge. Typically they are explained in relation to how knowledge and reality are built, by considering the philosophical streams of epistemology and ontology.

3.3 Ontology

The term ontology is used in discussions regarding the nature of reality and its characteristics (Creswell, 2013, p. 20): the opposite extreme ends of the discussion regarding how reality is built are objectivism and subjectivism (Saunders et al., 2012, p. 130-131). Objectivism represents the view that “things exist as a meaningful reality external to those social actors concerned with their existence” (Crotty, 1998 in Saunders et al., 2012, p. 131). Subjectivism stands for a belief that entities are created, entirely through perceptions and actions of social actors (Easterby-Smith et al., 2012, p. 23; Saunders et al., 2012, p. 131-132).

The tools that have typically been adopted by the factor school have been quantitative (Söderlund, 2011, p. 167) and of the sort that hints at a predominantly objectivist view. However in research it is possible to use both objective as well as subjective “lenses” (Saunders et al., 2012, p. 132). A need for a more pluralistic take on project management research has been vocalized in previous research (Söderlund, 2011, p. 168) to create a more holistic understanding of the reality of projects - not unlike the development witnessed in the literature on project success criteria (section 2.2.2).

As has been mentioned before, we consider success a highly subjective concept, depending greatly not only on context, but also the different social actors involved in its assessment. However in order to get a more holistic approach one also has to recognize that success does involve objective measures, such as the ones described in the iron triangle (e.g. cost, time). As our study is based on the perceptions of project management practitioners, reflecting on their opinions on success and factors related to success, we consider taking a subjectivist view to be the appropriate ontological approach to our research. Objectivist measures such as economic measures of success are included, however also based on the view of the interviewees.

3.4 Epistemology

While ontology is concerned with ‘what is out there’, epistemology considers “what constitutes acceptable knowledge” (Saunders et al., 2012, p. 132) and looks into “the different ways of inquiring into the nature of physical and social worlds” (Easterby-Smith et al., 2012, p.21); it can be said, in contrast to ontology, it is asking ‘how can we know what is out there’. Three main epistemological viewpoints researchers agree on can be distinguished (Saunders et al., 2009, pp. 113-116; Bryman and Bell, 2011, pp. 15-17): interpretivism, taking the view that the world in its entirety is socially constructed (Easton, 2010, p. 120), realism, considering objects to exist as independent of the human mind (Saunders et al., 2009, p. 114) and positivism, which is the natural scientist -like stance, preferring to work with observable realities, where generalizations are feasible (Saunders et al., 2009, p. 113).
As we have chosen a subjectivist viewpoint and our research is heavily based on the opinions and reflections of the involved entrepreneurs, one could argue that interpretivism would be an appropriate epistemological standpoint for this thesis. However while we do consider the world to be socially constructed, we believe that it is not entirely so, and therefore take the view of critical realism, which suggests that “the real world breaks through and sometimes destroys the complex stories that we create in order to understand and explain the situations we research” (Easton, 2010, p. 120). Moreover critical realists believe that research should strive to explain the social constructs with their multiple levels, which dictate the policies and practices in effect (May, 2001, p. 11), and consider this a necessity for studying existing phenomena and change (Saunders et al., 2012, pp. 136 - 137). Through a cycle of research and reflection, true causalities can be found through the interpretations of entities involved, as the issues of interpretation are taken into account (Easton, 2010, p. 128). In this research, the goal is to form a better understanding of project management and the concept of project success in startups, which is best achieved by creating an understanding of how the concept is formed and assessed by the entrepreneurs in these companies. Herein, the incidents caused by factors other than the involved participants, such as laws and regulations, could be considered examples of “the real world breaking through”. In addition we take a look at the relations of factors (CSFs) affecting the achievement of success. Furthermore critical realism holds the view that relations between discernible events, causalities may generally exist, (May, 2001, pp. 12-13) and that we “have powers or liabilities to cause events to occur” (Easton, 2010, p. 120). In contrast, interpretivism has been argued to have a very causality-rejecting standpoint (Easton, 2010, p. 118), which makes critical realism a more suitable starting point for understanding the way in which the organizational and human factors affect the formation of the concept of project success.

It is advisable in the world of realism-oriented research that a study is undertaken through theoretically and empirically accumulated research; therefore the concepts of project success, critical success factors and startup definitions are studied from extant literature and empirical research data. This approach allows an approach that seeks to capture the viewpoint of a certain group, but also understand the contextual mechanisms that drive their thinking and values a certain way, allowing the type of responsive knowledge-formulation, that is the essence of critical realism (Saunders et al., 2012, p. 136).

### 3.5 Research Approach

The concepts of project life cycle, startups, success criteria and critical success factors are not novel, but there has been limited research that considers the combination of these factors. Previous research in both project management in general (Söderlund, 2011, p. 168-169) and the (success) factor school (Ika, 2009, pp. 14-15) have called for a break from the molds of previous research and a more pluralistic or holistic view, arguing for the importance of the organizational context in which these concepts are studied. The organizational context of companies in their first stages of existence offers very specific circumstances, influencing the companies and their (project) management.

The first step is to conduct a literature review on the concepts of project success criteria, CSFs and research to help us define the organizational context of start-ups, which was then developed to an additional research in organizational life cycle theory. Common themes and suitable directions are described, as well as various research gaps identified.
(see section 1.1). As previous research reveals the studied project success concepts, although they have been subjects of research, they have not been examined within the context of startups. Hence our goal in this thesis is to explore the phenomena, project success criteria and CSFs, in the organizational context of a startup company through the perspectives of entrepreneurs and managers of startups. However our objective is not to develop an entirely new theory about project success in this context, which would call for a mainly inductive research approach. Instead we have chosen a research method which includes inductive, as well as deductive elements, since the scarcity of research combining these phenomena within the context of startups, calls for the identification of grounds for theme and pattern recognition and the conceptual framework creation therein (Saunders et al., 2012, p. 144). Therefore we have chosen to connect and compare our research to the already existing results and theorizations of success in project management, in order to not only be able to draw conclusions about project success in startups but to also to establish in what way existing project success assessment practices may have to be adapted to suit smaller, younger companies. This approach offers insights to previously neglected, organizational factors and their effects in project success research. Summarizing and comparing previous results of research to the empirical results gathered for this study could be argued to add the theory-testing, deductive element to this study (Saunders et al., 2012, p. 143). It should be mentioned that the research of this thesis is not designed to quantitatively test existing theories or presented hypotheses, but explore certain phenomena in organizational context and study if the findings in this context fundamentally differ from previous, more general research. Although an inductive approach is perhaps more common for qualitative research, deductive approaches can also be used to test theoretical perspectives (Saunders et al., 2012, p. 163).

Prior to defining the research strategy of this thesis, we believe it is important to consider the purpose of our thesis as these topics are closely related. Saunders et al. (2009, pp. 139-141) state that it is important to consider this connection of purpose and strategy, explaining three kinds of research, namely exploratory, explanatory and descriptive. Exploratory research seeks to find new insights or perspectives on phenomena, and to clarify an understanding of a problem. (Saunders et al., 2009, p. 139) and to find out what is going on in a situation without a previous account (David & Sutton, 2011, p. 11). Descriptive studies seek to form an accurate profile of the object studied (Saunders et al., 2009, p. 140), capturing the “what, when, where and who of a situation, often in the absence of any prior or sufficient explanation of what is going on” (David & Sutton, 2011, p. 11). Finally, explanatory studies require descriptive mapping and relation-explaining between the phenomena being studied (David & Sutton, 2011, p.11). Exploration has been suggested as a suitable approach for situations where hypothesis formation, important variable definition and verification of the feasibility of more structured studies needs to be researched (Cooper & Schindler, 2011, p. 143). Taking into account, how the organizational context of startups affects projects has been neglected in existing literature. The goal of this thesis is to study the phenomenon of success in this context and gain a thorough understanding of whether these matters develop in this context in a particular manner. As the purpose is trying to determine whether the specific context of startups has an effect on a company’s perception on success, it makes this research a prime subject for dynamic, exploratory research (Saunders et al., 2012, p. 171), asking not only “what”, but also trying to gain an understanding of underlying reasons and asking why certain concepts are looked at in a certain way. The findings inquired this way will build the groundwork helping future research endeavors to develop their concepts more clearly and enhancing the final design.
3.6 Research Strategy

To form an understanding of how a certain processes and their context, a research strategy of case study can be of particular interest (Saunders et al., 2009, p. 146). Case studies are used to find detailed, intensive knowledge of singular cases or (small groups of interrelated cases (Hirsjärvi, Remes & Sajavaara, 2010, p. 134). That is to say, case studies are in-depth studies of particular units, be it individuals, organizations or processes (David & Sutton, 2011, p. 165). Because it is the purpose of this study to form an understanding of how the context of startups affects the concepts of project success, a case study approach seems a suitable choice.

Case studies can be formed as a single-case study or multiple-case study, and choosing multiple cases instead of one is often done because multiple cases provide multiple perspectives of the issues being studied (Creswell, 2013, p. 99) and because the evidence from multiple cases is often considered more compelling (Yin, 2009, p. 53). Choosing cases in a multiple-case study should follow a pattern logic of literal replication, choosing cases that predict similar results, or theoretical replication, choosing cases that predict different results but for predictable reasons (Yin, 2009, p. 54). In our study the cases are chosen with the main common denominator of being startups, thus predicting similar results in the nature of their organizational structure and activities, as described in section 2.6.

Hurmerinta - Peltomäki & Nummela (2006, p. 14) state that choosing a research strategy needs to be derived from the research problem and be the best methodological fit. As we want to explore the opinions and perceptions of the entrepreneurs and project management practitioners in the sampled companies we put the emphasis on the collection of qualitative data. It is typical for case studies that different types of data collection methods or approaches are used to form a thorough understanding of the case(s) (Saunders et al., 2009, p. 146). Hirsjärvi et al. (2010, p. 135) note, the divide between quantitative and qualitative research is not in practice as clear-cut as it has sometimes been portrayed to be, and the two extremes of research exist in a continuum. Hirsjärvi et al. (2010, pp. 136-137) conclude that quantitative and qualitative approaches can fulfill one another, because different approaches are not easy to clearly separate from one another and because qualitative and quantitative have been often connected to be connected to “numbers” and “meaning” respectively, and in practice those entities in social science are not separable, because numbers are based on conceptualization, and meaningful conceptualizations of phenomena can be expressed in numeric form. Furthermore Hirsjärvi et al. (2010, p. 135-136) mention that quantitative and qualitative approaches can be complementary, for instance when qualitative approaches are used for (a) conducting a qualitative pre-test for ensuring that the things to be measured are of importance in regards the research problems, (b) quantitative and qualitative approaches are used simultaneously, for instance by using simple, calculated results to expand the results to include an entire sample, which would be hard to grasp in other means and (c) the quantitative phase precludes a qualitative phase, for instance when a survey can create a basis for how to create salient groups of comparison for qualitative interviews. In our research, we seek to first find out numerical assessments of importance of different success criteria and CSF to be able to discuss the importance of those matters more thoroughly, thus connecting closely to the latter mentioned basis for using means of mixed data collection. As mentioned in the introduction of this thesis, success is a highly subjective concept and the understanding and meaning of this concept in its main
components has a great significance to our research. Therefore it cannot be fully understood by only looking at numbers and objectives measures, such as would be the case in the collection and analysis of mainly quantitative data. However as we also want to inquire about the relative importance of the criteria and CSF discussed, adding a necessity for a more structured element. In contrast to, for instance, experiments or surveys, a case study undertaken in a real life context that is not completely controllable and we need to able to discuss the matters outside of a strictly limited list of variables (Saunders et al., 2009, p. 146). Our interview questions also limit that action research cannot be used due to their explicit research on action, grounded theory research has been suggested to start without an initial theoretical framework and as an ethnographic research would require longer-term full-time access to their contextual setting (Saunders et al., 2009, pp. 147-150). We want to form a thorough understanding of the reality of project success within the reality of each of our participants within the timeframe allocated and in the context of extant literature of the topic, which makes case study an appropriate research strategy. This approach also provides a starting point to bridge the gap between previous, objectivist project success literature and the subjectivist view that Ika (2009, p. 14-15) called for. Yet this element was kept simple by using a ranking system and the relative rankings provided the grounds for a further inquiry into the significance of certain criteria and factors through following qualitative questions.

The research design of this study is cross-sectional, meaning that either quantitative or qualitative data is collected from numerous sources at one specific point in time, aiming to detect patterns across cases (Cooper & Schindler, 2011, p. 142; Saunders et al., 2012, p. 142). As many researchers experience time constraints this strategy is supported in the existing literature (Saunders et al., 2009, p. 155) and seems appropriate for this study, since conducting an extensive longitudinal study, covering e.g. the entire project cycle is not possible. Although this research represents a portrayal of a moment in time, we believe our interview technique allows us to study more than one part and timeframe of the projects that our research subjects are involved in through questions of past views and future aspirations (Cooper & Schindler, 2011, p. 142). Without the time constraints longitudinal study would have provided further opportunities, such as considering the evolvement of success over the different phases of a project and may be a suitable approach under different circumstances. As our focus lies on exploration the use of mainly qualitative data seems suitable, using semi-structured interviews allowing us to ask questions about the underlying reasons of certain incidents. The reasons for this choice will be elaborated on further in the next section.

3.7 Data Collection

For empirical data collection, the methods used in the research needs to follow the research philosophy, approach and strategy. For positivist, deductive research this often means data collection techniques that are highly structured, while for interpretive, qualitative research it the data collection can be more non-standardized, dynamic, naturalistic and interactive (Saunders et al., 2012, pp. 162 - 163). In practice, qualitative research often uses abduction and deduction in iteration and multiple method researchers combine both (Saunders et al., 2012, pp. 163 - 164), blurring the line between the ends of the academic sphere. Although the categorical means of data collection often dictate the manner in which the data is analyzed, there are also exceptions to the pattern rules (Hurmerinta-Peltonäki & Nummela, 2006, p. 451). In case study research, different forms of data collection are often be used as a combination (Saunders et al., 2009, p. 146).
For research that seeks to capture the attitudes, motivations, intentions and expectations of the participants, a communication-based research method, such as interviews is stated to be suitable (Cooper & Schindler, 2011, p. 240). Interviews are one of the most popular data collection techniques in qualitative research (Saunders et al., 2009, p. 320, Silverman, 2011, p. 161): they are a common and general term for a conversation between two or more people (Saunders et al., 2012, p. 372-374), used for empirical data collection of qualitative research through communication. Interviews may differ in their form greatly in formality, structure, standardization of questions and possible technological devices used (Saunders et al., 2012, p. 374; Cooper & Schindler, 248-249). We find the most suitable way of collecting our data to be personal interviewing, which allows good cooperation from participants, a wider range of tools and explanations used during the interview and a possibility for the interviewer to be reactive (Cooper & Schindler, 2011, p. 249; 261-262). The greatest obstacles for using a personal interview over other forms of interviews are usually costs, the amount of time, travel and effort it takes to reach the interviewees individually and the need for training the interviewers (Cooper & Schindler, 2011, pp. 261-262). In the case of this research these factors are either nonexistent, as the researchers are the interviewers, or they present issues that can be mediated through selective sampling, adaptive means of interviewing and effective scheduling.

As discussed in the previous section, the research strategy of this study is exploratory. Saunders et al. (2012, p. 377) comment that in an exploratory study, semi-structured interviews are usable. This supports the idea for using semi-structured interviews, as they allow us to study specific theories in more free-form detail. When interviews are conducted as semi-structured, the interviewer has a list of questions or topics to be covered called an interview guides, which works as a general tool to help the interviewer cover all the main topics but gives the interviewer freedom to change the questions, and their order as reactions to the answers of the interviewee (Bryman, 2008, p. 438). The advantage of using semi-structured interviews for certain parts of our study is that there is still a chance of following previously undetected patterns of research, which is suitable for the exploratory nature of the study. Semi-structured interviews are characterized by informal style, topic-centered approach and an assumption that the data in generated through an interaction (Mason, 1996, p. 38), which suits the ambition of being able to reflect upon data trails that we had not foreseen.

To answer our research questions and add to a more holistic understanding of the topic, part of the required data collection should be done with the use of structured and unstructured interview elements simultaneously (Saunders et al., 2012, p. 167). We will conduct a part of our interviews as interviewer-completed questionnaires (Saunders et al., 2012, p. 420) or a structured interview: the interviewees are given the exact same interview stimulus and a fixed range of answers to get aggregate answers (Bryman, 2008, p. 193). Using a questionnaire in connection to in-depth interviews can be beneficial for exploring and understanding attitudes (Saunders et al., 2012, p. 419). Opinions can be measured through the use of scales (Saunders et al., 2012, p. 439) and one of the most common techniques for conducting research on opinions or attitudes is with the Likert scale: a multiple indicator set of attitudes that relate to a certain, particular area (Bryman, 2008, p. 146). The items, statements or opinions presented in the questionnaire should not be in question form, they should relate to the same object (topic) and be interrelated, for presentation of attitudes, 5-point or 7-point scales are often used, with the opinions expressed ranging from 1=strongly disagree to 5/7= strongly agree (Bryman, 2008, p.
146). In this study, Likert scales are used to assess the importance and perceived success that is connected to the success criteria and/or CSFs presented in extant literature. The data collection also needs to include elements that ensure the ability to be reflective and elaborate upon the finding within the interview, to ensure a good understanding of the phenomenon, how the concepts are seen and contextual factors that affect them. Therefore semi-structured questions are formed in connection to these right so that we have our more structured questions of OLC, Success criteria and CSF, which we do first, and then we use our own judgement to enquire more thoroughly about specific criteria and dimensions. This way we get more information after assigning a more pre-determined meaning of importance to specific things. In our case this includes (i) the questionnaire models tested in earlier research and (ii) asking qualitative questions guided by earlier studies in the factor school and contingency school of project management, adapting them to our scope and purpose and adding elements where the theoretical framework proves such is necessary. The approach has been shown to work: Fenwick, Edwards & Buckley (2000, p. 301), who used multi-method interview which included many different types of questions, including open-ended questions as well as closed and rank-order questions in their multiple case study research, finding the result a rich information set that they analyzed qualitatively. Similarly, we use different types of data collection types to find a rich set of data.

3.8 Interview Design

The interviews consist of three blocks of questions, which are to be found in Appendix 2. The first block is aiming to find background information about the company and making sure they qualify for the criteria that have been defined for startups, in previous studies regarding for startups particularly and in OLC research. These factors are discussed in chapters 2.3.1 and 2.3.2. For an exemplary basis, we amended the consistently used questionnaire of Lester et al (2003, in Perényi, 2014, p. 302). We will also assess the entrepreneurial orientation factors presented by Lumpkin & Dess (1996). After this, we ask the interviewees about their current project practices to reach an understanding of the importance of projects in their organization. Here, to enquire about projects we use similar questions as Hyväri (2007) and also ask about the typical sources of project uncertainty in relation to the NTCP model of Shenhar & Dvir, (2007, pp. 46-49).

The second block of questions gathers information about the view on success that startups have and what criteria have to be fulfilled in order to make a project successful, mirroring the subject matter discussed in section 2.4.3. This block starts with questions about projects and project management in the startups, including the perceived uncertainty of their projects in accordance to the NTCP dimensions. After this we present a questionnaire regarding the dimensions of project success. The questionnaire is modeled in accordance to the developed framework dimensions presented by Shenhar and Dvir (2007) as well as the questionnaire guidelines of Shenhar et al. (2001, p. 721) used also by Mir and Pinnington (2014, p. 203-204). The questionnaire of Shenhar and Dvir (2007, pp. 219-220) is also used as a model for question formulation. These questions are used for assessing the importance of the concepts of project success in relation to the aforementioned studies. After this, we ask questions that reflects upon the views portrayed in the second part. Here we seek to find out why particular success criteria are important, what affects their importance and how have internal, external, organizational and project-specific factors changed them. Due to time constraints not all criteria are asked about in specific detail from all interviewees, but the most divergent and important
and important ones, and the dimensions in general. In the third, final part of the interview we first ask our interviewees to give their intuitive CSFs in projects. After this we use the often cited PIP framework, discussed in section 2.5.3, to assess the significance the CSFs therein hold for our participants, followed by open questions about why certain CSFs are perceived as important and what affects their importance. Our sample size works well for our research questions and qualitative purposes, as we believe it serves as a good representation of startups, but the smallness of the sample size limits our ability to use exhaustingly quantitative means of analysis.

During the interviewing process, it is the purpose of this study to maintain the anonymity of the interviewees when presenting the results. The results of the interviews are used strictly for the purpose of this thesis. The interviews were first recorded and then transcribed to allow further analysis and interviewees were granted the possibility to look at the transcriptions of the interviews to make corrections or clarifications. One interview (GER1) was not recorded, as the respondent did not wish to be recorded, but he agreed to the interviewer making notes while talking, so we just transcribed during the interview in the document the participant was able to see during the process. However this entails that the transcript is not completely congruent with the grammar and word order of the participant, instead it was focused on transcribing the answers, but with emphasis on mirroring the content.

The interviews were arranged as face-to-face interviews where possible, but due to geographical restrictions, a number of the interviews were most feasible through Skype video calls, as this allowed us to also interpret the body language and expressions of the interviewees during the interviews. Due to scheduling restrictions, a number of interviews were also arranged also as telephone interviews, where we had to rely on the verbal expressions of the interviewees. Telephone interviews are sometimes favored especially due to reasons of geographic spread and economic limitation (Saunders et al., 2009, p. 348; David & Sutton, p. 249). Some potential shortcomings of telephone interviews in contrast to face-to-face interviews are limited willingness of participants to engage in discussion that is expected to be exploratory, inability to follow physical cues, the issue of interviewees being less trusting and willing to answer questions thoroughly than in face-to-face interviews (Saunders et al., 2009, p. 348) and the difficulty to make notes and/or record telephone interviews (David & Sutton, 2011, p. 278). Where face-to-face interviews were plausible, they were favored. Where telephone interviews needed to be made, they were still recorded and transcribed. Additionally, as with all of our interviews, like Saunders et al. (2009, p. 348) suggest, prior contact was made to ensure prior knowledge about the interview topic, and the interviewees were reminded that they will remain anonymous. We considered this not only an ethical issue of consideration towards the interviewees, but a means of finding honest responses to our questions. We arranged the interviews when they best suited our interviewees and also informed them about the expected time that the interview was expected to take, which allowed to not feel rushed in their answers during the interviews. The interviewees were given the interview questions and themes either right before or during the interview to allow them to see them in literal form as well during the interview, and allow them to consider their answers in more detail. The answers were discussed afterwards and there was no sense of categorical difference regarding the nature of answers received from telephone interviews, Skype interviews or face-to-face interviews, which is why those interviews were deemed equally suitable for analysis in this study.
In order to avoid any misunderstandings regarding the terminology or cause a bias caused through translation, the entire interview process was held in English, disregarding the national language of interviewers and interviewees. Here, it should be noted that all but one of the interviews (FIN4) was conducted in Finnish in its entirety, due to a request from the interviewee. The interview questions were translated by the interviewer, who is a native speaker, to give the interviewee a better chance to discuss their experiences. However this may lead to native English speakers having an advantage over non-native speakers, who consequently may have more problems understanding the language or complex terms and expressions. The used terminology was therefore always explained and the possibility to get further explanation was at all times available. When sending them the transcripts we took the chance to contact them again and inquire about some additional empirical data we needed and clarified some of the statements, where we were not entirely sure we had interpreted them the right way. This happened right after the transcription of the interviews, but due to the length of this process, some time had passed in between the two contacts, as they were able to see their previous answers in the transcripts, none of the interviews had trouble finding back into the topic.

The interview was tested on two individuals before the actual interviews were conducted. These interviews provided valuable information and feedback, as they helped us to limit the questions to include only the perceived importance of the criteria, and exclude questions about how actual performance of the startups in the criteria. In addition to the tried the interview on each other to ensure that we both had the same understanding of the asked questions.

3.9 Participant Selection and Participants

Purposive sampling is generally done in cases where inferences need to be made of a about a population to answer research questions and reach objectives (Saunders et al., 2012, p. 287). When conducting a multiple case study and choosing which cases to study, it is suggestible that most representative cases are studied, and for choosing them purposive sampling options are available and feasible (Creswell, 2013, p. 100). As mentioned earlier on, the replication logic suggested for multiple case studies by Yin (2009, p. 54) implies using methods similar to purposive sampling. As this study is aimed at researching organizational phenomena in a particular organizational setting (young, entrepreneurial etc.), it seems fair that purposeful sampling within organizations, which possess these features are used as sources of information, which suit the research purpose best and answer the research questions. Due to reasons of interviewing convenience and time restrictions, business incubators and prior personal acquaintances working in startups were contacted and asked to (a) participate in an interview and (b) to identify further cases, and then this process was iterated when possible.

The sample size in case studies can vary greatly, but a researcher’s own rationale for case selection as well as sample size plays a major part (Creswell, 2013, pp. 101-102). In this case study, the sample size is as large as can reasonably be managed; although the factor of generalizability is of little meaning for most qualitative studies, the amount of empirical data available for research can have an effect on the value of the study (Creswell, 2013, p. 102). The factors established in section 2.5.3, which were considered reasonable for a basis of questions in a first-contact inquiry were mainly used as qualifying factors for our sample. We were able to interview founders, co-founders and CEOs, which is a valuable asset in our results. To avoid bias within the sample, attempts
were made to maximize variation and make the sample as heterogeneous as possible (Saunders et al., 2012, pp. 287-288), and startups of different national backgrounds (of either the company or the entrepreneur), industries and geographical locations of operation were included.

We focus our study in three countries: Finland, Sweden and Germany. We believe that by interviewing startup owners from multiple countries we will be able to get more diverse data about the viewpoints of startup owners as a whole for the benefit of the academic field. The reason we chose these countries is, that they show similarities, in that they are all among the top fifteen countries in the Global Entrepreneurship index (Acs, Szerb & Autio, 2015, p. 5), among the very top investors in Research & Development in relation to purchasing power parity (Battelle Memorial Institute (2013, p. 7) and that approaching startups with the use of their native languages before or during the interviews was a possibility in these countries. Perényi (2014, p. 301) suggests using caution regarding comparability when assessing OLC features in cross-cultural settings, due to differing views of what contributes different phases. However, this caution is directed towards particularly quantitative research. Additionally, it is not our aim to make a comparison of these countries, as this is not feasible due to the extensive interviews and time restrictions and the therefore somewhat small amount of cases in our study.

In the table below we provide an overview and description over the different participants of our study. As age of the company and size (in this case number of employees) are two main characteristics of startups they were used as a first relevant selection criterion. The companies we interviewed were either situated in Finland, Sweden or Germany, with a few operating internationally. In total we contacted 28 over phone and email, and 13 of them agreed to do an interview with us, leaving us with a response rate of approximately 46 %. We believe that the 12 interviewed companies showed clear tendencies in their answers, mentioning similar issues, which left us with valuable insights and findings which can be expected to be comparable in other companies, with a startup profile. Anticipating similar findings in further interviews and due the time restrictions we decided to focus on the gathered interviews, instead of trying to gain more data. The companies, which we conducted interviews with are listed with a company code as we wanted them to be able to stay anonymous. Each company code provides insight where the respective company is from (FIN: Finland, SWE: Sweden, GER: Germany). Furthermore we shortly describe the industry and the business of each startup, however as we do not distinguish between industries this is considered secondary information, which is not going to be taken into consideration in the analysis of this study. At this point it should be mentioned that although we interviewed 13 startups, we only take 12 of them into account, as one Swedish firm was excluded from the study in retrospective. After the interview had been conducted it became clear, that this company despite being small and younger than ten years it did lack some relevant (being entrepreneurial, innovative) criteria of being a startup and was not representative of startup according to the definition as it was stated in this thesis. The other results of the characterization of the startups will be depicted in the empirical results chapter.
### Table 7: Interviewee Company Descriptions

<table>
<thead>
<tr>
<th>Company Code</th>
<th>Age</th>
<th>Employees</th>
<th>Company Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN1</td>
<td>1,1</td>
<td>6</td>
<td>HR and Education Consulting.</td>
</tr>
<tr>
<td>FIN2</td>
<td>2,5</td>
<td>7</td>
<td>Technology, facility management and health technology as a multidisciplinary service.</td>
</tr>
<tr>
<td>FIN3</td>
<td>3,5</td>
<td>3</td>
<td>Usability testing and consulting in similar matters.</td>
</tr>
<tr>
<td>FIN4</td>
<td>7</td>
<td>5</td>
<td>Digital media in well-being.</td>
</tr>
<tr>
<td>FIN5</td>
<td>4,5</td>
<td>11</td>
<td>Custom made software for mobile devices.</td>
</tr>
<tr>
<td>SWE1</td>
<td>&lt;1</td>
<td>3</td>
<td>Consultancy (specifically in education).</td>
</tr>
<tr>
<td>SWE2</td>
<td>1,1</td>
<td>2</td>
<td>HR Management Consulting.</td>
</tr>
<tr>
<td>SWE3</td>
<td>6</td>
<td>2</td>
<td>Business consulting (energy industry and business development).</td>
</tr>
<tr>
<td>SWE4</td>
<td>1,5</td>
<td>5</td>
<td>Marketing Consulting.</td>
</tr>
<tr>
<td>GER1</td>
<td>2</td>
<td>2</td>
<td>Promotion, booking and artwork services for mainly musicians.</td>
</tr>
<tr>
<td>GER2</td>
<td>1,5</td>
<td>4</td>
<td>App development for Android systems and IOS (over 180,000 downloads).</td>
</tr>
<tr>
<td>GER3</td>
<td>1,5</td>
<td>3</td>
<td>Production of environmentally friendly cleaning products.</td>
</tr>
</tbody>
</table>

### 3.10 Quality Criteria

In the next section important quality criteria, namely reliability, generalizability and validity in connection to our study are discussed.

#### 3.10.1 Reliability

Reliability, as Saunders et al. (2012, p. 192) refers to the extent of which the data collection techniques and analytic procedures used in this study would allow similar findings if they were repeated by another researcher. Reliability has previously often a difficult matter for case studies (Yin, 2009, p. 45), as they study specific cases. Also,
since the main focus of our research is qualitative and our interviews were mainly conducted in a semi-structured manner, it is perhaps not the aim of them to be repeatable, because the situations of the interview may differ and the views of the interviewees are likely to be created by views of reality that are certainly context-specific (Saunders et al., 2009, p. 327). The idea of another researcher coming to exactly the same findings with a similar case study is perhaps unlikely. However, as Saunders et al. (2009, p. 328) suggests, we present our research design and interview guide, and discuss the manners in which our data was gathered to allow understanding of our methods for future researchers. We had our interview guide and questions checked by our supervisor and sent information about the interview topics to our interviewees prior to our interviews. To avoid bias from our respondent, we only interviewed owners of companies. The interviews were recorded and transcribed manually to allow in-depth processing of the data.

3.10.2 Generalizability

There is a common tension between validity and generalizability (David & Sutton, 2011, p. 19). Generalizability, in terms of external validity as Saunders et al. (2009, p. 158) explain it, refers to the extent of which the results of a study can be applied to other conditions, such as other organizations. This is mentioned to be a particular worry for single-case studies and case studies with a limited amount of companies involved (Saunders et al., 2009, p. 158). In the case of this particular study, we have chosen to interview a particular group of companies that we found representative of a particular type of organizational context (entrepreneurial startups) but decided to conduct the interviews sets of other, varying contextual factors (different countries and industries). We believe that although the sample size of the study limits the generalizability of the study, it does give a robust set of qualitative information and allows what Yin (2009, pp. 38-39) refers to as analytic generalization: we find links between theories or theoretical frameworks and the cases and contexts studied. This approach requires an identification of existing data before the start of data collection (Saunders et al., 2009, pp. 333-336). We have conducted rigorous preparation in the research of theoretical frameworks and conduct the analysis in a way, which takes the contexts into consideration.

3.10.3 Validity

Validity can be considered in two major natures: internal and external. Internal validity stands for whether questionnaires truly measure what they are intended to measure (Saunders et al., 2009, p. 372). In our research, we believe that the strength of our use of two different kinds of data is that we have easily discernible views from the structured interview parts that were elaborated on in the semi-structured part. This allowed us to find out if the companies identified or did not identify with certain organizational features, as well as it made it possible to go deeper into the discussion of questions and ensure that we understood, why our interviewees made the ratings of importance regarding success criteria and CSF. We conducted two test interviews with individuals involved in startups to ensure that questions were understandable. We also interviewed each other to make sure we understood how to state the questions. Where we felt that our respondents had misunderstood the question, we enquired them afterwards to confirm their views. We also sent the transcriptions to our interviewees to ensure that they still agreed with their views while they saw them in writing. External validity is connected to generalizability, which was discussed earlier on. Although our sample is rather small, a well-chosen small sample is preferable to larger, badly chosen sample (David & Sutton, 2011, p. 20). We feel our sample represents viable startups from many industries and contexts, and the people
interviewed are central as decision-makers. As is anticipated for a mainly qualitative case study, the level of external reliability is limited, but as has been discussed, the purpose is to offer rigorous data of the applicability of these theories in specific context, and these findings allow them to be tested in another context (Yin, 2003, in Saunders et al., 2009, pp. 335).

3.11 Ethical Considerations

Ethical considerations are an important topic, which should also be seen as a critical issue in social sciences, and business studies (Ghauri & Grønhaug, 2010, p. 20). As it is advisable to conduct thorough preparation for the interview (Saunders et al., 2009, p. 328), we acquainted ourselves with theoretical framework and tested the interview with two individuals who are both co-founders of young companies before conducting any of the interviews used in the study. Some changes were made in the language and themes of questions and details included in basic reflective questions to help us answer our research questions and keep the interview at a more acceptable length for the interviewees. We pursued to gain contact with suitable organizations via official networks such as the German Startup Association and Swedish, German and Finnish incubators. As this rarely yielded responses, we started contacting interviews directly through company name-based referrals from personal acquaintances or individuals working closely with startups.

Confidentiality or anonymity can be an important issue in some research contexts (David & Sutton, 2011, p. 47-48) as well as protecting interviewees from emotional and legal harm. To address these issues we informed the participants that their names and the names of their companies would stay unpublished. We explained the nature of the interview, our preliminary sampling criteria and also sent them some information about the interview themes beforehand, as suggested by Saunders et al., (2009, pp. 328-329) if they required such before confirming approval of our interview enquiry or as we sent a confirmation of the date of the interviews. Giving this information beforehand allowed an avoidance of a sense of deception. We hoped these approaches would increase participation and allow them to speak more freely, especially about problems they may have experienced. The interviews were conducted so that they could best fit the schedules of our respondents. Therefore the best option of going through with the interview sometimes ended up being either a video call or a phone call.

Our plan was to conduct all interviews in English with all our respondents with just the help of translation of key terms into Finnish, Swedish or German. All of our interviews were conducted in English, except for one, where the respondent requested at the beginning of the interview that it was done in their native language instead. After assessing the questions afterwards we decided that there appears no such clear difference that an interview bias was likely, and we decided using the results of all interviews was feasible. In order to be able to make transcripts and reproduce the interview as completely and truthfully as possible we decided to record the interview sessions with the participants. As the interviews were recorded, our respondents were given the possibility to look at their transcripts afterwards and comment or correct if they feel something was misinterpreted. Personal data of interviewees is not presented in any way in the results or analysis of the study, and the interview transcripts are not included in the study. In order to increase the level of transparency, sources of secondary data are cited and referenced with the system of Umeå University.
3.12 Data analysis

As Saunders et al., (2009, pp. 490-491) note, data processing in qualitative analysis can occur in different procedures, such as summarizing, categorization and structuring of meanings, and these procedures can be used either deductively, where data categories and codes are derived from existing theories and frameworks, or inductively, where they commence without predetermined codes and categories. In connection to this, Yin (2009, pp. 130-136) proposes four general strategies for analysis of case studies: relying on theoretical propositions, developing a case description, using both quantitative and qualitative data and examining rival explanations. Focusing on the specific theories behind them will help us understand also why these units are important (Yin, 2009, pp. 130-131). We rely on the major themes of the theoretical framework in the creation of salient categories for our data, and therein we will be able to unitize the data to find related data on a specific topic (Saunders et al., 2009, p. 493) and use both the answers of our structured and semi-structured question to address the main topics of our interest, because where existing theory has been used for creating research questions and objectives, the theoretical framework may be used as a framework for organizing and directing data analysis (Yin 2003, in Saunders et al., 2009, p. 489). This helps us form clear connections with our theoretical frameworks and empirical results. For doing this, we examine our transcriptions and find quotes and meaning of particular themes, organizing them in Microsoft Excel tables to have a possibility of making comparisons between the main findings and quotes of each topic in each case simultaneously. For a more specific analysis technique, cross-case synthesis is mentioned as an especially suitable analysis technique for multiple case studies (Yin, 2009, p. 156). As relying on quantitative methods would require a large number of results, this kind of cross-case analysis often relies on argumentative interpretation (Yin, 2009, pp. 156-160). In the first part of our results, we present information about, the startup features and current practices in projects to provide groundwork for our analysis later on. After this, we used the theoretical frameworks to discuss the view on project success criteria and critical success factors across all of our case companies. The numerical ratings of success criteria and critical success factors are elaborated upon and explained with direct quotes and interpretations of categorically descriptive themes. Using both sets of data helps us start off the analysis with what level of importance the respondents connected to each success dimension, success criterion or CSF.

It is important to also discuss data transcription and the use of other aids for enhancing the usability of oral data or personal notes for analyzable, processed data (Saunders et al., 2012, p. 550). In the analysis of interviews and qualitative empirical data in general, two processes seem particularly important: the preparation of data for analysis and analyzing the data (Saunders et al., 2012, pp. 550; 556-557). To make the previous possible, the interviews are recorded, and transcribed. The answers will be written down as thoroughly as possible during the interview, but a transcription is necessary to capture use of voices language and other experiences that have clear implications for analysis purpose (Heath, 2011 in Silverman, 2011, pp. 261-262) and it should be done as soon as possible after the interview is done to diminish the size of a singular workload (Saunders et al., 2012, p. 550). Hence the interviews are recorded and notes are taken during them and they are transcribed swiftly afterwards to balance the workload to a longer timeframe, react to notified problems in the interview structure and adapt them for better readability if need be. As Saunders et al. (2009, pp. 491-492) suggest, categorization of the data is often derived from terms that you find your data, terms used by participants or terms found in
extant literature. In our case the data categorization starts with the theoretical frameworks, is labelled to a part that is relates to and then discussed in relation to all other data. Where existing theory has been used to formulate research questions, the theoretical framework can also be used to form a framework for analysis (Yin, 2003, in Saunders et al., 2009, p. 488). Therefore we first provide a background of the cases, collectively in regards to their startup characteristics and respectively in regards to their project practices. Further on we discuss the topics of project success criteria and CSF in the context of all cases, using both our ratings and more free-form answers to form an understanding of the importance of success criteria and CSF, and reasons for their importance. Here we will use representative quotes of each topic to exemplify why these matters of importance exist. With success criteria, we often discussed the topic more generally and asked questions about specific ratings that were more important or less important than others. Therefore the answers of our interviewees often lead to discussion about the importance of specific factors and their importance in the context of a particular dimension. We have taken these discussions into consideration when it was suitable to their earlier stated importance of particular criteria, as they are also findings of our interviews. The analysis is performed in relation to predetermined theoretical frameworks.
4. Empirical Findings

In this chapter we will present our empirical results. These results are arranged in accordance to the contents of the theoretical framework, which are explained first to provide the reader an understanding of how the contents are to be presented. These results present a summary and the quotes presented are seen to be exemplary to strengthened our findings, but do not constitute the entire amount of data this section is based on. Due to the amount of generated data we decided to make the quotes and other data on which we base our empirical results available upon request in form of transcripts or categorized summaries.

As explained in section 3.9., the contents of our empirical results are to be presented in a manner that is based on the theoretical basis we have presented in chapter 2. Herein we present our results in different order than in the theoretical framework, because in the theoretical framework it is more central that we present the core of the study, projects and project success, first, and the features of startups second. However, as the startup framework is a case selection model, the findings regarding the features included therein must be presented first, before going into detailed presentation of our findings regarding the main concentrations of project success related matters. More precisely, we will discuss our findings in the following order:

1. Startup characteristics of the companies, as presented in section 2.6.
2. Project practices in startup, concerning types of projects, organizational practices (level of definition, partnership, amount of projects) project management experience and current tasks in projects of interviewee, issues in project management for the interviewee and the organization and sources of project uncertainty.
3. Project success criteria present in our interviewees’ organizations, in accordance to the dimensions explained in section 2.4.3. Here we present the ratings of importance of these criteria in relation to each criteria, and discuss the further explained motivations of importance for respective criteria. Here we also discuss the tensions between longer terms and shorter term dimensions and the connection of different projects and customers for project success. We also discuss the importance of the project team.
4. CSF, in accordance to the PIP model and own elaborations of interviewees, presented in 2.5.3. Similarly, the ratings indicating perceived importance in the interviewee’s projects are presented, and the reasons of their importance are presented.

4.1 Startup Characteristics

After some background questions and a short description of the company, our interviewees were asked to reflect upon statements representing the typical features we described in the section about startups. These questions were asked in order to make sure that the companies show the typical characteristics of startups according to our definition we formed based on literature. The statements presented to the interviewees were based on the OLC features of companies in the first life cycle stage and entrepreneurial orientation, as an additional characteristic. When being asked to confirm or deny statements about early state OLC features, the companies in most cases accepted these
statements as true. The statements asked and the detailed findings are presented in Appendix 4 and only the general results are discussed in this section, as this is not the main topic of this thesis.

It showed that all interviewees recognized the early stage OLC features independency, simplicity in structure and information processing, growth orientation (one of the companies only wanting growth in turnover, but not employees) and smallness as true. Smallness raised some comments, in all cases due to a specialization of the company in an industry niche where competition is scarce or also small in size. Centralization of decision making and power was considered centralized to the founder or owner(s) in all but one company, although some stated (FIN1, FIN5) commented that employees are allowed to make their own decisions as well. In the exception of FIN2, it was stated that two other individuals are also more involved in decision-making.

As the OLC literature described startups as being entrepreneurial, the next statements described features of Entrepreneurial Orientation mentioned in OLC literature, namely risk-taking propensity, innovativeness and proactivity. All respondents agreed on proactiveness, and most provided a concurrent answer on being innovative, although some felt the word “innovation” was too strong and rather spoke of “redefining things” (Interview SWE4, 2015) and “new packaging or [combinations]” (Interview SWE2, 2015).

The topic of risks brought twofold answers. Taking risks was something, which a big part of the respondents was rather uneasy with and 5 of 12 could not confirm the statement. The responses show that despite “risk” being a somewhat characterizing part of entrepreneurship, not all entrepreneurs are risk-takers and often try to avoid it whenever they can.

For the final two EO dimensions, the statement about the autonomy of employees was considered true and as a very important point, nobody confirmed being aggressive towards competitors. However, most companies (11 out of 12) mentioned, that they are either not concerned by competitors due to their specialization or that they just did not have sufficient funds and market power to challenge competitors. The responses regarding this subject in particular indicated a willingness to be proactive or simply a level of specialization that makes it possible to disregard competitors.

4.2 Projects

In this section we discuss the matters of project practices currently featured in the interviewees' companies.

Different Kinds of Projects
The kinds of projects that our interviewees considered their startups to be involved in were often highly industry-specific. Many did, however, refer to few internal development projects and specific types of customer projects related to their core competences and business forming the majority

Internal and External Projects
Most of our interviewees considered their companies to work mostly in external projects. FIN3, stated that in terms of quantity, external projects are more numerous than one
internal development project. Only three companies (FIN2, GER2, GER3) considered their projects to be mostly internal, but of these FIN2 mentioned that although they are internal, they are always done for the customer and GER2 noted that their smallness dictates the matter.

**Work in Partnership Projects**
Most of our interviewees identified that they work in partnership projects to some extent. For instance FIN1, FIN4, and SWE4 built their business model on projects that are, by design partnerships or network-oriented. Three interviewees stated a negative stance for the matter (FIN2, FIN5, SWE2), FIN2 stated they do not work much in partnership projects, FIN5 commented that they are mostly self-sufficient and SWE2 commented that they do not do it yet.

**Amount of Business Run as Projects**
All of our interviewees considered their business to be run mostly as projects. Four interviewees (FIN1, FIN2, FIN3, GER1) stated that just about everything they do is project-oriented. Three (FIN4, FIN5, SWE2) commented that certain administrative tasks and routines cannot be run as projects but mostly everything else is.

**Experience in Project Work**
Most of our interviewees had accumulated a number of years of experience in projects or project management. Only one (FIN3) explicitly mentioned an education in project management. A few (FIN1, FIN4) explicitly mentioned work in project management in previous occupations. Most had project work experience in own ventures, previous and current ones.

**Portfolio and Program Management**
Some companies had more or less formalized methods of portfolio management and/or review methods, such as project diaries (FIN1), yearly and quarterly planning (FIN2, SWE3), separation of portfolios by main concentration (FIN3). FIN4 felt that the direction is clearly defined but did not mention defined practices. Program-type management was not too commonly mentioned, but in certain cases (FIN1) the results projects were mentioned to be used in future cases, and FIN2 mentioned that internal development can happen in program form. Many of the others (FIN5, SWE1, SWE2, GER1, GER2, GER3) felt that they only have defined project management practices to an extent at a project level. More generalizable project management practices were sometimes deemed impractical due to an ever changing nature of customers and requirements of customizability (FIN5, SWE1, SWE2, SWE3).

**Main Issues for Organizations and Owners in Project Management**
Many of the interviewees considered a major issue in project management for themselves or there to be lack of people or other resources (FIN2, FIN4, FIN5, SWE1, SWE3, GER1). On a related note, the optimism or ambitiousness organizationally was mentioned as an issue of project management by some (FIN1, FIN2, FIN4). Many interviewees explicitly mentioned the management of time or meeting schedules as a main issue for themselves (FIN1, SWE2, SWE3, GER2, GER3). The difficulty to plan was mentioned by great amount of our interviewees, in connection to a lack of resources (FIN2) reaching an overview of the project (GER2) or customer requirements (FIN3), keeping focus (SWE1), planning for multiple projects at once (FIN5), making sure projects reach their own goals and benefit “the bigger picture” (FIN4) and communicating the customers to do “their
bit” (SWE2). SWE4 asserted that personally, meeting customer value in relation to the budget is the main issue.

Finding stable structures of project management was mentioned by FIN3 and SWE2. SWE4 mentioned that in a collection of entrepreneurs it can be difficult to assign leadership. GER3 considered planning ahead their main organizational issue, and GER2 found adherence to plans to be a problem internally. A large portion of the interviewees considered the same things that were issues for themselves to be main issues for the entire organization (GER1, FIN2, FIN SWE1, SWE3).

**Main Tasks of Startup Owners in Project Management**

For a majority of our interviewees, their most salient project tasks included communication (FIN1, FIN3, FIN4, FIN5, SWE1, SWE3, GER3). For three (SWE2, GER1, GER2) involvement in more practical implementation of the projects was central, and it was an additional task of interviewees SWE1 and FIN3. Often the communication was between clients and project workers (FIN3, FIN4, FIN5) or customers and partners (FIN1, SWE1) or financiers (FIN2, GER2). SWE3, SWE4 and GER3 related to communication under the titles of “relationship management”, “attending customer meetings” or “talking to customers” as central matters. SWE4 also mentioned administering the projects, and FIN4 the goal-setting and strategic direction of projects. For FIN2, the involvement of the CEOs in projects was mentioned as limited.

**Sources of Project Uncertainty**

The matter of sources of project uncertainty in startups was discussed with our interviewees in relation to the NTCP model of Shenhar & Dvir (2007). Here the suggested dimensions are: novelty of the service to the company and the target market, technological novelty: a need for developing new technologies to create the end product, complexity, numerous systems or functions need to be combined to create the project and pace or speed of development to not lose a market position to competitors. In all but three interviews (FIN5, GER2, GER3) the novelty was mentioned, if not as the only factor, as an important contributing factor. The companies often deal in completely new-to-the-world products and services or markets where the end result of projects are completely untested. Technological advancement was a contributing factor, but only explicitly mentioned by FIN3. Complexity was a matter of importance to SWE4 and GER1. The pace or speed of development and getting to the market was a major contributing factor to some interviewees (FIN2, FIN5, SWE4, GER3), although of these, FIN5 commented that this is in relation to customer happiness more than beating the competitors to the market. FIN2 mentioned that all are contributing factors, highlighted two as especially important.

**4.3 Project Success Criteria**

*In these sections we discuss the value of different project success criteria for our case companies, grouping them by dimensions in the framework presented in chapter 2.2.3. A summary of further discussion of some factors can be found in the section about the more general dissonances and reasons of prioritization of project success criteria discussed during the interviews.*

In this section we discuss the importance and reasons of different project success criteria. These criteria are discussed in accordance to the dimensions presented in section 2.4.3.
In the beginning of the presentation of the results, we present ratings of importance of project success criteria, as they were evaluated by our interviewees. These ratings are presented in tables, and the numbers are according to an evaluation on a scale between 1=not important at all and 7=very important. Afterwards we discuss what we discovered while discussing the importance of respective criteria with our interviewees.

4.3.1 Efficiency

Table 8: Project Efficiency Goals

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting schedule goal</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7</td>
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</tr>
<tr>
<td>Meeting functional performance</td>
<td>7</td>
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<td>7</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Changes in projects stay to a minimum</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Meeting budget goal</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Meeting Schedule Goal

For many meeting the schedule goal was an important matter, and something that was carefully considered as a main factor in creating a professional, reliable image. The customers’ reactions were highlighted when discussing the need to deliver projects on time. Although most considered meeting schedules an important matter, some of our interviewees felt that meeting the schedule may not always be an excruciatingly rigid criterion. The uncertainty of very novel products or services and practices in their creation can be expected to create unpredictability in startups and only a few companies mentioned scheduling as a matter that is unlikely or where changes are strongly avoided two due to external, customer related motivations (SWE2, GER2) and two (FIN1, SWE1) due to internal motivations. All of our other interviewees commented on how the changes in projects should not be considered as unexpected issues, but that it is rather due to the uncertain nature of the projects for these companies, the scheduling is a multifaceted criterion. Some interviewees explained that even though it is important, schedule overruns may be caused by reaching a better mutual understanding of what is sought after, and interviewees believed that their customers are not bothered by occasional delays in schedule, and the relationship with the customers had a considerable role in determining whether time was not as strict a criterion. GER1 was one of the companies who supported that mindset:

GER1: “Yeah doesn’t really matter that much right now, usually our customers are flexible and then get back to us with comments and changes anyways, but of course it makes a bad impression if you are really late.”
**Meeting Functional Performance**

Meeting the immediate, specialized task a project is set to achieve was mostly considered a priority issue. This view was agreed by interviewees, discussing the matter as a priority because these goals are often set in cooperation with the customers, and meeting it connects to fulfilling the customers’ goals and a promise that was made to the customer (FIN1, FIN5, SWE2, SWE3, GER1). Not meeting the specific problem and the immediate goals that they are hired to solve was also considered a sign of the counter productiveness of a project, like GER1 stated.

GER1: “*That is really important, because we have to deliver something that works and what we promised, if that didn’t work, something went really wrong.*”

However, there were also certain opposing views of the importance of meeting immediate functional performance. FIN2, and FIN3 suggested that different dimensions, such as satisfying the customer and upholding the customer relationship should be held in higher priority than the more specific, preset goals of a singular project. These views speak of the dynamism identifiable in the projects of startups, as was made clear already in the comments regarding the occasional overruns in scheduling. SWE4 also commented that in their business functional performance can be a moving target and GER2 noted that though the app needs to work, the main purpose of it is to be fun.

**Changes in Projects Stay to a Minimum**

Among our case companies, the idea of a need of minimal changes made within projects received a clear disapproval. Often the changes were seen as something that is only beneficial, because it is derived from forming a better understanding of customer needs, leading to a better result for them. Eight interviewees saw the internal changes of projects as usually quite unavoidable and just a part of the process as e.g. SWE4 stated.

SWE4: “*Not really, I mean the customer always change their mind at some point so we have to adapt. It’s no big deal, we usually expect something along these lines. Of course if the changes are too extreme then it’s not good.*”

Projects in startups are started with a certain understanding of what the project is supposed to achieve but the way of getting there is often an explorative process. In certain cases the need to make changes was, again considered to be connected to the novelty or creativity included in the business. The unpredictability of the new product both for the customer and for the startup seems to create a basis where creativity, learning and flexibility is necessary. The individuals and the company are still learning, both in the implementing organization and within the customer, and certain companies stressed that changes are usually in connection to understanding the happiness of the customer (GER1, FIN5). Therefore the increasing amount of information available for the organization truly needs to change the projects as they move forwards. The idea of projects changing was only received negatively by one interviewee, where (GER3) it was, explained that direct economic effects were anticipated if changes were to occur. In these cases the context or industry-specific features are, of course, an important factor in the reality of how important those changes in projects are.

**Meeting Budget Goal**
Finishing the projects on budget was nearly unanimously a priority issue for our case companies, and mentioned as the kind of goal one usually cannot exceed. Although two interviewees saw the matter as flexible or negotiable (GER1, FIN5) six interviewees (FIN1, FIN2, SWE1, SWE2, SWE3, SWE4, GER3 referred to the financial effects that are implied if the budget is exceeded) and two (SWE2, SWE3) mentioned expected problems with the customer. SWE2 provided an example of the problem that arises with the customer relation:

SWE2: “The clients, we give them a price for the project, and of course the price includes a small amount of profit, of course. And we want to keep that price that is the budget for the project and we don’t want to work more hours than we have calculated, because then we lose money. And we don’t want to go back to the client and say ‘well this price was wrong’ that because then you will not get another job for them.”

Some of the reasons mentioned revolved around the profitability of the project and maintaining the customer relation. These statements seem to highlight two central themes apparent in the answers, the need to meet the budget to not make a loss and survive as a business, and the need to be able to maintain a positive relationship with the project customer. Three interviewees (GER1, FIN2, FIN3) did, however, refer to their flexibility in projects and stated if the budget needs to be changed, it is possible though it may be unlikely.

### 4.3.2 Impact on the Customer

Table 9: Impact on customer

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting a customer’s requirements &amp; specifications</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Customer’s performance is enhanced</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>7</td>
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<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Solving a customer’s problem</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Customer is using the product</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Customer satisfaction and loyalty is created</td>
<td>7</td>
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<td>7</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>7</td>
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<td>7</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Brand name (and loyalty) is created</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Meeting Customer Requirements and Specifications

Meeting the needs of customers was a priority issue for most of our interviewees. The happiness of customers was considered a multifaceted issue and it is discussed in different viewpoint across this section. The responses communicate that the customer does in fact dictate what needs to be the outcome. Four companies (SWE1, SWE2, SWE3, GER2) mentioned this as being connected to possibilities of repeat business and long-term relationships. However, in specialized companies creating novel things, the discussion with customers’ needs to be a dialogue, as both parties are learning of the needs and possibilities as e.g. FIN2 suggested.

FIN2: “I think that’s a starting point right, so like you are like first you’re looking at […] what is going to satisfy the customer, right, and based on that you derive what are the expectations and requirements and what you think you should be delivering and what’s your capacity to deliver. “

Regarding the ability to meet the initial requirement and specifications, some interviewees (FIN4, FIN5, GER2, GER3) reflected upon the potential dynamism within the relationship, as the specific goals of certain projects may be a matter of negotiation, even if customer satisfaction is a priority.

The Customer’s Performance is Enhanced by the Product

Similarly, that the customer is able to enhance their performance was mainly considered a priority issue. For three of our interviewees (GER1, GER2, GER3) the customer’s performance benefits were not a main goal. However, for eight our interviewees the outcomes of the projects were generally expected to positively affect the customers. For seven interviewees (FIN2, FIN3, FIN4, FIN5, SWE1, SWE2, SWE3, SWE4) improving the customer’s performance was the focus of their business. Three interviewees (FIN1, FIN3, FIN5) noted of the importance of the matter in connection to creation of repeat business. FIN3 also commented on the importance of making the connection of performance benefits obvious.

FIN3: “[We aim to] also make sure that the customer understands how the performance is improved, so not only that the performance itself has improved but that we can communicate on that the customer understands that… it was because of this. Because the better performance to keep the customer loyal and that we can keep the customer.”

Solving a Customer’s Problem

Solving a customer’s problem was another matter of accentuated importance, and for instance SWE2 connected solving a problem to the functional performance of their projects. Others also highlighted the need to solve a customer’s problem for repeated business and a long-term strategy (FIN1, FIN2). Solving a problem connects to understanding customer needs, allowing the creation of benefits of importance. For three interviewees, problem solving was considered a key feature of their business (FIN5, SWE2, SWE3, GER2) and for two simply a way for creating value and customer happiness (GER1, GER3). Two mentioned that understanding a thoroughly solving the customer’s problem is at times difficult.

GER1: “Yes that is very important, because if you solve a customer’s problem they will be happy and think you’re awesome. That’s value creating right there.”
The Customer is Using the Product

Similarly as solving a customer’s problem, the continuous use of the product was of high importance, because the active use of the product was seen as a sign of having understood the customers’ needs well (FIN2, SWE1, SWE2, GER1, GER2).

FIN2: “It proves that the customer needs that, right? So, so if you have something that the customer is not using, it’s probably not on their priority list, which means that maybe next year, they aren’t going to pay for that.”

While identifying the use of a product may be difficult in some industries, this statement is connected to research purchases and continuous business, and as such very important for startups. Where divergent views of the topic emerged, the explanations revolved around the opinion that a long-term use of the end project’s end product is not always the main driver of the co-operation from the customer (FIN5), the or the current status of customer usage being one where the matter isn’t of too high a value (FIN1, FIN4, GER3).

Customer Satisfaction and Loyalty is Created

For nearly all our interviewees, customer loyalty was of a high importance, as e.g. SWE4 mentioned.

SWE4: “I mean of course the customer is central and more customers mean more business and happy customers mean a better reputation and then more business.”

FIN2 mentioned that understanding what will create customer satisfaction is a starting point for all projects. With divergent views, SWE1 asserted that in their organizational education business total customer satisfaction is not a feasible goal. FIN4 commented that not all customers are ones that lengthy relations are formed with. This can be reflection of own problematic state with customers, but identified as a signal that in certain situations, startups need to be able to prioritize customers to find the ones that can be expected to help in longer term development. In general, however, this criterion was mentioned as a matter of importance, and this seems important for both generating cash flow and the ability to plan long-term benefits. SWE3 and GER1 reflected on the importance of recurring business and long-term relationships, and two interviewees (FIN5, SWE4) commented on the benefits of word-of-mouth marketing.

Brand Name (and Loyalty) is Created

Creation of brand name and loyalty is a topic that received generally a positive yet practically reserved reaction from six of our interviewees. Five interviewees (FIN1, FIN2, FIN4, GER1, FIN4) stated that in general the topic is important for the business, but that at the moment the matter is not acted upon on tremendous level practically. For some of our respondents, brand building is currently only the result of doing good business, as can be found in the exemplary quote of GER1.

GER1: “Brand name is important, but it’s not our main focus right now. First we want to make the customer happy and then we automatically improve our reputation”

This seems to imply that brand building is not considered a separate, conscious effort but something that happens as a result of implementing a company’s core competences. However, in some cases (FIN5, SWE1, SWE2) the brand name and loyalty was seen as an important factor and a clearly business-enhancing feature. As a divergent view, SWE3
considered brand features unimportant, as in their field of business, the human relationships are more central and GER3 stated that due to fear of competitor reactions, branding is still limited.

4.3.3 Impact on Team

Table 10: Impact on team

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team satisfaction</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>5</td>
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<td>Team morale</td>
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<tr>
<td>Skill development within team</td>
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<td>Team member growth</td>
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<td>6</td>
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<td>Project team member retention</td>
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<td>6</td>
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<td>7</td>
<td>7</td>
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<tr>
<td>No burnout among team members</td>
<td>7</td>
<td>6</td>
<td>5</td>
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</tbody>
</table>

Team Satisfaction

Team satisfaction, in general was an important feature of project success for our interviewees. However it was noted that the insecurity and uncertainty of the business will have an effect on how enjoyable and stressful the work can be, and thus how productive the employees will be (FIN1, FIN2, SWE1, SWE2, GER2). FIN5 and FIN2 stated that the customer is first, but the team comes right after. In some of the cases it was considered a feature of reality that sometime the team cannot be completely satisfied. Five of our respondents (SWE3, SWE4, GER1, GER3, FIN4), considered it the reality that sometimes in startups the enjoyability of the work cannot be a priority of projects. Instead, the profitability and getting tasks done needs to be prioritized. In these contexts the company requires that projects get done and upholding the satisfaction of the team can be difficult, as GER1 stressed:

GER1: “I think it’s important that we are happy and satisfied, but we won’t always be 100% happy. We probably still have situations that we are not 100% happy but the project was still a good and successful one”

Team Morale

Team morale was unanimously considered a matter of importance, and in some crucial. The scarcity of resources seems to dictate a need to get a maximum effort out of the human resources, which requires that employees are enthusiastic about their work (FIN1, FIN5, SWE2, SWE4, GER1, GER2, GER3). The project team is a major portion or all
of the company’s resources, and much is expected from them so it is mentioned as necessary that they are motivated. However, even when it was considered important, some noted that morale is sometimes hard to control completely (FIN2), and that team morale, although an important issue, cannot always be prioritized as a project-choosing or implementation principle (SWE3), or managed during the implementation of a project. However, a majority of our interviewees saw team morale as a crucial feature of startup success, such as FIN5.

FIN5: “Basically we are creating something just in our and delivering that to the customer, so in order to have a good quality product in the end, we need to have good people behind it, competent people that know how to do in what way. If we have people who are not competent or bright and also not, also not actually passionate about what they do, then the end result will be, of a lesser quality than what the customer expects.”

Skill Development within Team
Skill development, for the most part, was also a matter of importance for our interviewees. The statements of our interviewees reflect a view that skill development within projects is very important in all startups (SWE1, GER1, GER3) as it is good for individuals’ sense of accomplishment (FIN1, FIN2) and an integral part of a startup business being able to develop as a company (FIN2, FIN5, GER3). The goals are ambiguous and the so the ability of the team to learn new skills for low compensation is necessary for the development of the organization.

FIN2: “I think that’s one of the reasons why people join a startup. So that you’re very likely to end up with nothing since so many startups fail, alright, so that you need to make sure that you take something away, and what you learn nobody can steal, right?”

The skill development of individuals was also related to what makes the company an attractive employment option, and something that the companies need to count on in the long term to keep their company profitable. In some cases (SWE2, GER3, SWE4), our interviewees did, however explicitly consider the founders to have an acceptable amount of competence in their field, or possibilities of acquiring new help to be tangible enough to make the skill development an important issue, but not a crucial one.

Team Member Growth
The personal growth of team members is related to the skill development criterion discussed previously, and it was generally considered important as well, because not only was the importance of specific skills, but also handling of the business considered to be of importance as e.g. FIN3 stated.

FIN3: “We need to learn to develop our product for longer term vision, not only like following the customer requirement. [...] So we need to learn what’s important and we need to have good eye on recognizing those opportunities, not only listening and start doing everything without thinking or having any bigger picture of it.”

The companies need to develop the ways in which the company functions. In other comments, it was considered more of a humane mean of motivating through having a chance to grow and develop within the company (FIN1, FIN5). Similarly as with skill development, the possibility of personal growth seems to be a factor of motivating people, but also something that company needs from their employees to stay profitable and
produce best possible quality for the customers (FIN2, SWE2, SWE3, FIN3). Notably some of the companies considered individual growth a matter that should be considered more important in the future, or the growth of team members was not of crucial importance currently, and it was seen as a context-specifically necessary prioritization of establishing the company instead of developing personal competences (GER2, GER3, SWE4).

**Project Team Member Retention**

Project team members’ happiness with their job and the company was described as a central asset for people working in startups. In relation to comments regarding the skill development and personal growth, the companies expect a certain kind of effort with limited financial compensation, and this seems to require a certain type of happiness with one’s job and tasks. People are expected to work better when they do feel happy with their work (FIN1, FIN2, SWE4) and happiness is central to long-term work capability (SWE2). The situation of employee commitment in their company and underlined how the company needs their employees to appreciate and be motivated about what they are doing to move both themselves and the company’s tasks forward. These answers accentuate how the companies expect quite tremendous efforts from their employees, and as such their motivation towards their job is required in every project. A different view emerged also, as SWE3 explained that this matter is thought of less, as it is only the founders working in the company, but they still had to like what they do.

SWE3: “[There is] only two of us. It actually doesn’t matter. But it is important that we like what we do.”

**No Burnout Among Team Members**

The issue of possible burnouts in small companies is salient for all respondents. The resources are limited, and therefore the long-term capability of individuals is required - burning out is not an option. A majority of interviewees reflected upon the detrimental long-term effects someone burning out would have on the organization (FIN3, FIN5, SWE2, SWE3, GER1, GER2, GER3). The statements of our interviewees reflect that in startups, where the pressure on employees may be high, amount of capable employees are few and the employees want to keep working together, the inability of any individual to put in the their effort is a grave issue, as employees incapable of working are naturally counterproductive.

GER3: “That is really important, because if we burn out then we are all screwed or one person is left alone and has to do everything himself and that wouldn’t be good. The team has to stay together and needs to be motivated.”
4.3.4 Business and Direct Success

Table 11: Business and direct success rating

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generated Sales</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>3</td>
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<td>4</td>
</tr>
<tr>
<td>Generated Profits</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>3</td>
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<td>4</td>
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<td>Increased Market Share</td>
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<td>4</td>
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<td>7</td>
</tr>
<tr>
<td>Positive ROI (company)</td>
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<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Contribution to REO (shareholder)</td>
<td>7</td>
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<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>1</td>
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<tr>
<td>Cash Flow</td>
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<td>6</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>7</td>
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<tr>
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<td>7</td>
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<td>Cycle time</td>
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<td>7</td>
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<tr>
<td>Regulatory approval</td>
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<td>7</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

**Generated Sales**

Generating sales was considered a priority for a clear majority of the companies. However, some considered sales along with other economic factors unimportant or that their financial goals was not yet too defined (SWE4, GER1, GER3). These interviewees were still more immersed in pursuing other features of the company. In some cases it was mentioned that sales is a priority because it means the creation of a possible relationship with new clients and because it has to do with understanding and producing for the market needs. Interestingly, SWE3 commented on a divergent willingness to create profits instead of sales. Often the comments regarding the subject and the importance of sales had to do with obvious, yet not always direct economic reasons of projects needing to lead to sales (FIN2, FIN4, SWE1, SWE2): the company needs to survive and it is its purpose to grow and generate profits at some point. Their concentrations lie more on the development of the business as a whole. FIN5 exemplified how sales can be an important factor of relationship-building, and should, as such be a part of project success.

FIN5: "Yes, we want to build long-term relationships with our customers, so [...] one thing leading to another, so the first project we just see that as getting the foot [...] in the door and be able to, to serve the customers in many ways with many different projects coming up, so generated sales is [...] a part of our strategy and a project that doesn’t generate additional sales is well, not a failed project per se, but still, it’s good if they do. They should!"
Generated Profits

Regarding profits, there was clearly a sense of polarization within our interviewees. Some found profits of a lesser importance currently (GER1, GER2, SWE4). Others saw profits unlikely in the projects of their starting phases in which generating revenues is more important (FIN2, FIN4) and one reflected upon the idea that sometimes profits can be less important for creating a relationship with a customer (FIN5). Still, many also found it an important matter for the feasibility and survival of the business (FIN1, FIN3, GER3, SWE1, SWE2, SWE3). FIN1 mentioned that newly acquired financiers create a positive pressure for profits. SWE2 exemplified the stance, where the lack of funding created a sense of necessity for profits.

SWE2: "I would say it is a special situation because we have been able to... from day one we have been able to get our own salary. We haven't used any cheques, credit or anything. Now, we every dime, every... every krona, that we have in our salary we have earned and that's important for us. So that's why cash flow, keeping track of the cash flow and have sales and profits it's, it's important for us."

Increased Market Share

Increasing the market share was a priority matter for most of our companies. However, it seemed that comments from our interviewees reflected a willingness for a controlled, organic growth (FIN1, SWE4, GER1), such as FIN1.

FIN1: "Yeah, well, of course we are also willing to increase the market share, but, but like in our business it will... like when we work, do our work well, so then [...] the market share will also increase [...]"

For many creating the market share was a crucial matter, inherent for the startup strategy or necessary for survival (FIN2, FIN3, FIN4, FIN5, GER3) It seems that in a startup, the ability to learn during the growing process and the well-being of the team are also salient matters to consider, as the establishment of the business as a more stable entity as a whole seemed to be a priority. One interviewee (SWE3) stated they consider profitability of key customers a more major criterion, and one (SWE1) had not concentrated any thoughts on increasing market share.

Positive Return on Investment

It seemed highly important that the company is able to create a positive return on their own investment, although this was again an idea that some interviewees considered irrelevant at this point, although they may be important in the future (GER1, SWE4, FIN4, SWE1). Also with this criterion, some referred to their lack of economic goals at the moment. Still, many saw it as important that companies make positive returns on investments all the time (FIN1, FIN2, FIN3, FIN5, GER2, SWE2). FIN3 explained how the startup status affects pressure on returns on investment:

FIN3: “Because we are still like funded by ourselves and some amount of money coming in as funding [...] so that’s why it’s important that we need to learn doing like profitable projects from the beginning. I mean we are not doing that kind of startup that we would use like two million euros to develop some product and then figure out if we can sell it or not.”
Contribution to Return on Equity

The return on equity was generally an important issue for the interviewees. In two companies the owners have invested their personal assets into the company and are quite keen in making their investment work (SWE3, FIN5) and in one (FIN1) the newly received funders are expecting a return on investment. However, when the matter is discussed in more detail, many (SWE1, SWE2, SWE4, FIN2, FIN4, GER1, GER2) mention that in the short term the return on equity is not a prioritized matter. Even FIN1 noted that it is likely that for the next years, all generated equity is spend in internal development. It seems that internally things like team satisfaction, development and stabilization of the company are more important than making their investment profitable.

SWE4: [...] *I’m the only shareholder so this isn’t important at all, I could have red numbers and zero income and it wouldn’t matter. It is more important that my co-workers love their work and we do greater numbers later on.*

Cash Flow

Cash flow was an important factor to most of the interviewees, because of a need to fund following projects or the core business (GER1, GER2, GER3 FIN2, FIN4), as the company has not yet followed a steady base of capital and the money is needed (SWE2, FIN5, FIN1). Therefore, as the monetary assets derived from customer projects fund much of the projects, which are often a majority of the business, the constant ability to receive payments from customers is a priority for startups. GER1 addressed this issue in a clear comment:

GER1: “*That may actually be more important than the other ones because if we run out of cash we can’t really do any other things, but need to wait until we have the funds again.*”

Service Quality

In all businesses it seems that the quality of the company’s service to its consumer is an important feature. Wherever a constant involvement with the customer was needed, the matter of quality in service was considered a central criterion for reaching success, therefore this was seen as criterion connected to reaching customer satisfaction (FIN2, FIN5, GER1, GER3), as GER1 argued:

GER1: “*Yeah we have close relationships with the customers, so service is important.*”

Similarly as in previous dimensions, the close relationship with the customer seems to be a contributing factor to the prioritization of the project success criteria in this sense. In service-oriented companies this is the exception. For GER2 the idea of service quality was not quite as important, due to the nature of their business.

Cycle Time

Cycle time was a polarizing issue for many of our interviewees. Many considered the issue an important one, even if two (FIN2) were not sure if it was completely applicable to their business at least yet. One interviewee (SWE4) considered the matter completely inapplicable to their situation and one simply not important (GER2) currently. Two interviewees commented that longer cycle periods will have detrimental effects on customer relations or profitability (SWE3, GER3) For others, the specialization and uncertainty of the business in development or customer implementation, in one way or the other, seemed to allow them to consider this matter of less critical importance than
meeting economical or functional goals, in a similar sense as meeting schedule goals is a complicated issue and one that is not a baneful cause of trouble (FIN4, FIN5, SWE2).

**Regulatory Approval**

Regulatory approval proved to be a very polarizing topic among our interviewees. Some considered it important, due to apparent reasons of a personal sense of necessity (FIN1, FIN4) and the consequences that are expected to occur for not adhering to laws (FIN2). It seemed also the case that where the area of business was connected to a highly sensitive, dynamic legal environment and the company’s image depended on it, adherence to laws and rules of the industry were quite the priority (SWE1, GER2, GER3) e.g. to GER3.

**GER3:** “*In our production we always follow the EU regulations, so that is very important to us, especially since this is also a competitive advantage for us. We fulfill the regulations and are environmental friendly.*”

However, for others it was less important as a criterion of success. The comments indicated that it is simply something that is not central when they consider the success of their business (SWE2, SWE3, SWE4, FIN3, FIN5). Many of the companies commented that since they do not require very difficult and formal legal approvals for their projects, considering the adherence to any specific laws and rules is not a matter of priority for them.

### 4.3.5 Preparing for the Future

Table 12: Preparing for the future

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a new product line</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Developing a new technology</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Establishing new markets</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>New organizational capabilities &amp; core competences</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

**Creating a New Product Line**

Regarding the project success criteria that were generally considered to be more geared towards preparation for the future of the business, creating new product lines was an extremely polarizing one. While it was an important matter for certain interviewees, many (FIN2, FIN3, FIN4, SWE2, SWE3, SWE4, GER2, GER3) found the need for creating new product lines is not a priority issue for developing their business currently. Thematically, the production of new product lines seemed a non-prioritized feature for most startups currently, and few comments were made of why this was considered an
important strategic decision. For two interviewees (FIN1, FIN5) creating new things was important, and a result of prior strategizing and development, that now leads to a possibility of creating new products. FIN5 mentioned in other comments that this has actually changed during the past year as result of a formed growth strategy. For one company (GER1) creating new things is simply important at their current stage. SWE1 also commented that they currently have a product development project underway for long term benefits. It seemed, however, more salient in many comments that there is a level of redesign in the scope of a product or service much rather than the creation of entirely new products as such. FIN3 exemplified the majority view.

FIN3: “[…] I don’t see that creating product lines would be the way of doing good business. Traditionally it’s even like, many companies think too much of segmentation, product set, do lots of different kinds of products, they think they can have more market share if they do just lots of different versions of projects, products and product lines. But I don’t believe on that. Of course we need to try many things, but creating new product line it doesn’t make the business work.”

Developing New Technology
Regarding developing technology, there was a clear sense of polarization. For some it was very important (FIN2, SWE4, FIN5) and for others it was not relevant, as their core services were not very technologically oriented (GER3, SWE1, SWE2). However, even where the products were more technologically oriented, it was often the feeling of the interviewees that it was more important to keep on the level of current development and learn to develop and make use of existing technologies in an optimal manner (FIN1, FIN3, FIN4, FIN5). Developing new technology as such seems irrelevant to some, but startups develop technologies in the context of customer needs and what benefits their own strategy most. FIN2 commented that there is a need to adapt and develop among the technology, or the company will fall behind competition. FIN5 summed up the more common view:

FIN5: “[…] I think that, that at the rate that our […] technology is moving today […] we don’t have the funds or resources to develop new technologies ourselves. More, more in this manner of keeping track of what’s happening and thinking of new ideas how to use new technologies that others have developed. “

Establishing New Markets
Finding new markets was a matter of importance and the willingness to grow was labeled strategically inherent (SWE4, FIN2, FIN5) and necessary for fitting current products (FIN4) for certain startups. The direction for our interviewees seemed to be a timely establishment of new markets, sometimes foreign ones, for their products (FIN3). For some it was a will or need for diversification (GER1, GER3, SWE2), making use of the uniqueness of their product and non-competitive markets and limitedness of markets. However, some also choose concentrate less on finding new markets (FIN1, SWE1, SWE3) as the current markets are still untested or the company wants to prioritize in profitability or establishing the business.

FIN3: “It’s quite unique, our product. And we need to, either expand our markets... by finding those kind of projects we already have, so similar, but it’s still like expanding the markets or, like, geographically it’s really needed we go abroad quite early. We have already started that as well.”
New Organizational Capabilities and Core Competences

Establishing new organizational capabilities were explicitly mentioned as important by five companies (FIN2, FIN4, SWE4, GER2, GER3), according to some because adapting constantly is necessary in actively changing markets (FIN2, SWE4, GER3). However, in some of the companies (SWE1, SWE2, GER1, FIN5) it was commented that finding new directions for the company was not currently a priority, because the company’s scarce resources were needed in establishing a more stable stature in the specialties and niches that they were currently pursuing. Establishing new competences and capabilities is implied as a consuming development, and thus it is not pursued if not necessary. SWE4 explains the importance of adaptability in their business:

SWE4: “Pretty much the same thing as technology growth, new stuff is coming out every week. You have to adapt your organization, your competence, maybe they’re setting the goal so high so that we have to hire a new consultant just to keep up with this is important to stay up date.”

4.3.6 Additional Success Criteria

Table 13: Additional success criteria

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>FIN1</th>
<th>FIN2</th>
<th>FIN3</th>
<th>FIN4</th>
<th>FIN5</th>
<th>SWE1</th>
<th>SWE2</th>
<th>SWE3</th>
<th>SWE4</th>
<th>GER1</th>
<th>GER2</th>
<th>GER3</th>
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<tr>
<td>New partners in network</td>
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<td>7</td>
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<tr>
<td>Network satisfaction and cooperation</td>
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<td>7</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>7</td>
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<td>7</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Project fits the organization and its strategy</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Project helps build success in other projects</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
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<td>5</td>
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<td>4</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Get new Partners in Network and Network Co-operation

As the network related questions were often well connected for our interviewees, they can be discussed together. For many, making sure the network co-operation worked out was considered as important as or a more important than finding new partners into their network, two mentioned that there is no need to grow their network (FIN4, SWE4). Both were an important matter for most interviewees. Notably, some interviewees discussed the importance of the network in both competence and sales creation (FIN1, FIN2, FIN5,
Networks were also seen as a way of marketing through word-of-mouth marketing generated by positive customer referrals (SWE1, SWE3) as e.g. SWE3 stated:

**SWE3:** “It can be a way to grow, finding new clients if we have a bigger network [...] Basically it’s in our industry, the word of mouth that generates new business brings new clients and creates references, so for us it’s very important to create and maintain our network at a high level and to expand it, constantly. To our, and our customers’ benefit.”

In further comments it was pointed out that partners are needed for creating a better solution for the customer or compensating capability or expertise deficits (FIN5, SWE2, GER1, FIN2). One commented that partnerships with strong organizations can also help in creating credibility (FIN2).

**Project Fits the Organization and its Strategy**

How well the projects fit the organizational strategy seem to be a factor that, is somewhat polarizing among our interviewees. Some wondered if any companies could deny that it cannot be followed in the early stage (SWE3, SWE4, GER1), and others commented of its importance (FIN1, FIN2, FIN4, FIN5, SWE2, GER2). The previous referred to the realities of small businesses when justifying their views of lower prioritization regarding this particular criterion. Two companies identified with having done comments that were much less connected to their strategy in the earlier stages simply to get some assignments (FIN1, FIN5). It was important simply to survive financially, and sometimes economic insecurity seemed to mean compromising from the company’s longer term goals in order to make ends meet. GER1 exemplified the struggle between taking short-term assignments and building for the longer term.

**GER1:** “Beggars can’t be choosers. Right now we just try to keep an open mind, but of course it has to somewhat fit out strategy, but sometimes it’s also good to try new things.”

**Project Helps Build Success in Other Projects**

Aligning the projects with one another seemed an important issue, as all the projects do are supposed to benefit the greater goals (FIN2, FIN5, GER3, SWE1). Even though most interviewees considered the synergy of projects a significant matter and an important strategic guideline, some did recognize that this was not necessarily always a priority issue during implementation (FIN1, FIN4, SWE4, GER1, GER2). GER2 exemplified how the matter is sometimes not of crucial importance:

**GER2:** “Yes if that happens that is of course great, but I think a project could still be considered a great success if it just fulfills its purpose, but if it goes beyond that then that’s awesome.”

**Approval of External Stakeholders**

The idea of whether external stakeholders and third parties need to be considered received mixed responses. Some interviewees stated a reflection of corporate or personal responsibility (FIN1, FIN2, FIN3), an industry that required a certain level of consideration for external stakeholder (GER3, SWE2), or long-term perspectives (SWE4). FIN1 commented that external stakeholders can turn into customers. However, others considered the matter unimportant due to their business orientation, target markets or perceived own stature in the grander scheme of things (SWE2, SWE3, FIN5, GER1,
GER2). These customers saw no major benefits from paying attention to external stakeholders and also saw no major repercussions for currently not taking them into consideration.

**Contribution of the Project to Overall Success of the Business**

Table 14: Overall success of business benefited by a project

<table>
<thead>
<tr>
<th>Success Criterion</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>General success of the business</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
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<td>6</td>
<td>7</td>
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</table>

For all but one of our interviewees, the general success that a project creates towards the business as whole was a major consideration. This is an indicator that although projects may at certain points be somewhat imperfectly aligned with the organizational strategy, it is expected to contribute in one way or another. GER1, who found it of not of an utmost importance, commented how the insecurity of the business creates a need to adapt to reached success.

GER1: “Yes important, but it’s not everything right now. It’s awesome if we are successful, but if not, well then we need to come up with something else and be better.”

**4.4 Additional Questions about Project Success**

**Different Stakeholders: Impact of Different Customers**

For many interviewees, the experiences with different customers have proven to be a factor that requires adapting the project management principles and success criteria to an extent. Some customers are more promising for the company in the longer term (SWE2, SWE3, FIN3), and as such they need to be taken into consideration more carefully.

SWE2: “[...] Of course we have some customers, like dream customers who want to have a long relationship with. But we want to have the reputation that we want to have a reputation that is about, that we deliver what they want and what they need, and that they are satisfied.”

Additionally, even if the offered product or service or even the problems that the customer are looking to solve are similar (SWE3). The goals of the customer may require some fundamental reconsideration in the prioritization of success measures of projects (GER3). However, to some extent, the differences in how they react to different customers in different projects is limited. The product or service varieties or scopes (GER2, FIN4) may limit the amount of adaptability that is required or even possible from the startups.

**Different Stakeholders: Main Benefits of Taking the Team into Consideration**

When discussing what the main benefits of taking the project team into consideration are, many commented on the importance of the additional skills and viewpoints or synergistic benefits (FIN3, FIN4, GER1, GER3, SWE1, SWE4). In these statements it seems that the people involved in the company and their skills are seen as a major asset for the company,
in creating the implementation of the project and value or the customer (FIN2, FIN3, FIN4, SWE4). The team is expected to bring and develop expertise and creative viewpoints for the companies. In other comments regarding the matter, the team well-being of the team was stressed even more (SWE2, SWE3, GER2). In these views it is made apparent that the prosperity of the company is not only dependent of the working capability, but maximum effort of everyone involved in the company. These answers exemplify that the efficient performance of the entire team is of utmost importance for the survival and development of startups. When asked if there are any times when the project team is taken into special consideration, it was stated that the team plays an important part in the input on the approach of the projects (FIN3, SWE4).

SWE4: “[The team is important] in all situations, in defining the specification and forming the idea and in the production and the follow up”

The team always provides viewpoints that mold how the project if formed. Short-term goal inputs are provided by the customer (FIN2, FIN4), longer term goal inputs are internal and there the team needs to play a major role (FIN2, FIN4, SWE3). The importance of the team is tremendous in finding the ways in which projects are developed towards the customer-set goal, because the goals and means of getting to them are often ambiguous or unknown as an entity.

**Project Types and their Impact on Project Success Assessment**

For some interviewees, the internal variables such as the types, sized and strategic importance of the project had an impact on how project success is viewed (FIN2, FIN3, SWE1, SWE3, GER2, GER3). GER3 summarized this issue in one of their statements:

GER3: “The nature of the different projects just have different goals. Well some projects have the goal to generate money, and some have the goal to mainly create customer satisfaction or help sustainability. So there the emphasis on the success criteria is different there.”

The internal developmental projects (FIN5) or promising, strategically important or potentially long customer relationships (FIN3, SWE2, SWE3) were mentioned as possibilities to put some thought also in the long-term goals of the business. In some of the cases the goals of different types of projects were considered to differ quite fundamentally (GER3), and priorities or practices could differ between different types of project. For some, their experience thus far was that although differences may occur, the process of project goal setting or project management was similar (FIN4, SWE2). In these cases the function of projects was to act as shorter term activities that are small steps towards greater goals, which are the longer term goals and customer satisfaction. Therefore the longer term goals were also considered, but not necessarily within the project implementation (FIN2).

**Short-Term Efficiency and Long-Term Effectivity**

When discussing the emphasis that is currently put on long and short term goals in projects, a few interviewees mentioned that for them it is difficult or unnecessary to differentiate between the two (FIN2, FIN4, GER2). For these companies the short term goals are a means of getting towards the long term goals, and the long-term goals are also considered in relation to each customer. For these interviewees a dissonance between
concentrating on projects that serve the long-term goals and ones that reap immediate benefits seemed to be a solved or unimportant issue. However, many of our interviewees were able to identify a need towards an emphasis for shorter-term goals in their company or referred to a current situation where concentration on a specific short-term goal is important (FIN5, SWE1, SWE2, SWE3 GER3. FIN3). This need is often created by financial instability, a need to maintain or create customer relationships, or a lack of a clear long-term strategy. Additionally, when asked about situations where the short term goals may be more important than long term ones our interviewees seemed to have a few connecting themes of thought. In general, the short-term goals and long-term goals should be connected, and heavy divergence should not occur. GER1 commented that short-term goals are currently the big goal, they noted that the short-term goals are set in order to build for the long-term goals, and the day-to-day business should run for reaching the short-term goals primarily. In many cases, however, the interviewees stated that what may create a necessity to consider short-term goals more important in some situations is the relationship with the customer. Some new customers need to be proven the efficiency of their companies (SWE3). Additionally, where long-term relationships are probable and the company sees many types of benefits, meeting the initial short-term goals is more important than in less important relationships (SWE2, SWE3, SWE4). FIN1, however, did also refer that the need to survive may cause this.

4.5 Critical Success Factors

Questions about factors critical to success consisted of two parts, one first exploratory part where we just explained the concept of CSF and provided the definition according to our literature review, and asked the interviewees to come up with their own factors, and a second part where we presented the list of the PIP described in the theoretical framework. The participants were then asked to rank all the factors (including the ones they came up with on their own) on a Likert scale from 1-7 like the success criteria and explain why they considered them to be important or not, if that was the case. The factors they mentioned on their own were often concurrent with the ones from the PIP, but they also named factors which had not been included. The table shown below views a summary of the factors, which were mentioned before the PIP factors were revealed. In case these factors overlap with the PIP factors, they are presented in the PIP evaluation, additional factors are presented at the end of this section.
Table 15: Exploratory CSF

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<tr>
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4.5.1 The PIP Factors and Their Importance

Project Mission

Table 16: Project Mission CSF Ratings

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<th>PIP</th>
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<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
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</table>

Project mission was considered important as a CSF by all participants, many of them even rating it as absolutely critical to success. This factor was also mentioned relatively often (6 out of 12) when initially being asked about CSF without having the list, which shows that it is something that the participants are conscious about. Setting internal goals was important, to have a general sense of direction and making sure everybody knows what to do (FIN1, SWE1, SWE2, SWE4, GER1, GER2, GER3), as for example GER2 stated:

GER2: “Only if you have defined the mission of a project everybody knows what this is all about and pull in the same direction. It is important that the leaders lead the others and clearly communicate and transfer the mission to them.”

More than half of the companies also mentioned the customer’s role (FIN1, FIN2, SWE1, SWE2, SWE3, SWE4, SWE5). Setting goals and making specifications together with the client was essential, in order to make sure to be on the same page and not run into problems later regarding e.g. misunderstandings on objectives. SWE4 e.g. mentioned the importance of clear goals and their approval through the client.

SWE4: "The specifications is the first thing that follows the idea, [...] the specification is the groundwork for the project as a whole and it is everything the project is measures against. If the customer changes their mind we can say this wasn’t included before, but we can talk about it. It needs to be very clear and very narrowed down, otherwise the customer can always change their mind."

However it was also noticeable that many of the participants (FIN4, SWE4, GER1, GER2) were very aware that goals were not something static, but rather accepted the fact that goals can always change and one needs to be flexible and adapt, as e.g. GER1 mentioned.

GER1: “I think clear goals are important, but they also change sometimes, so you have to keep that in mind. Our strength isn’t just sticking to be plan but working with whatever may come up.”
Top Management Support

Table 17: Top Management Support CSF Ratings

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<th>PIP</th>
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Top management was not a factor which was mentioned in the exploratory part of the questions, but many of the participants rated it still high, or even absolutely critical to success. Yet some understood top management support as only internal, while others thought of external management support, i.e. the top management of a customer they are doing the project for. The ones who only understood the concept as internal top management and only had few employees more often said that they thought it was overrated or not applicable to them, as they were so small and they did not have a top management in the traditional sense (FIN4, GER1, GER2, GER3). The ones who took external management into consideration (FIN5, SWE1, SWE1, SWE3) rated this factor as very important. FIN1 was one of the companies who thought of external top management and figured it was necessary in order to get the necessary financing for the project.

FIN 5: "If top management doesn’t support our project, the middle manager won’t get the financing for them so it’s critical that the top management supports the project."

The companies with more employees (FIN1, FIN2, SWE4) also considered it an important factor. They thought of it more in terms of support instead of resources and SWE4 mentioned it as an important factor for the team, e.g. in order to hold it together.

Project Schedule/Plan

Table 18: Project Schedule/Plan CSF Ratings

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<th>PIP</th>
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<th>FIN 3</th>
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</table>

When being asked to come up with their own factors many participants (6 out of 12) stated that a project plan/schedule seemed necessary in order to implement their projects successfully. All but one of those who had mentioned this in the exploratory part rated this factor as either absolutely critical to success or at least very high. The importance was based on coordination within the firm and the customer, as well as the chance to monitor progress when having a plan. GER2 specifically mentioned the importance of a project plan when coordinating with other team members and customer.

GER2: “As soon as more than one person is involved it is really important to coordinate and plan in order to be efficient. That only works when you plan and have a schedule.”
The exception was SWE3 who rated the factor as not very important based on the argument that at least strict plans are overrated, as they usually will be changed by either the customer themselves or other human factors.

SWE3: “[…] it’s human to human, and of course we start with a schedule but usually the customers, they make changes. So initial schedules, very often are undermanaged over time and they have to be updated on a regular basis.”

The other companies who rated the factor as not especially important (FIN2, FIN3, GER1), also argued for this position due to changes through the people involved and the customers. GER1 stated that especially the creative process, which was necessary for them in order to make their products made it difficult to stick to a project plan or schedule, however they divergence from the schedule should not be too big, as it was important to prove the reliability to the customer.

GER1: ”We are creative, things change all the time and they need to change and so does the project plan. It’s a development process. Of course the project should get done within reasonable time though, but it’s not like if we don’t finish tomorrow we are out or something like that. However it is important that the customer gets what we do and they know that they can rely on us, so we need to communicate that to them.”

The other companies who did not mention the factor on their own (FIN4, FIN5, GER3), but still rated it as very important in order to be clear about the process, internally, as well as with the customer, but also argued that one should be aware that changes occur and one will have to adapt the plan and schedule.

**Client Consultation**

Table 19: Client Consultation CSF Ratings

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<th>PIP</th>
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Five (5 of 12) of the participants mentioned client consultation on their own as being critical to success. In general this factor was considered to be very important, being rated high to very high.

Reasons for the importance of client consultation was the argument that the product was developed for the client and its purpose was to solve their problems, so the exchange with them was very important to critical and regular communication made the project implementation process much easier. It was also mentioned that it would be very important to get the client’s inputs in order to understand the client’s need and to meet the specifications. These arguments were supported by all the companies we talked to. Yet two companies (FIN2, SWE2) indicated that although it was very important, it would also be possible to make a project successful, but it would be more difficult as e.g. SWE2 described.
SWE2: “It’s important and the idea, it would be great to have clients support. [...] It’s great but you can do it without it. It’s not that critical for the project.”

Personnel

Table 20: Personnel CSF Ratings

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<th>PIP</th>
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Good and skilled personnel was the most named factor in the exploratory part of the questions about CSF (7 of 12). As a whole, personnel was reported as being important or very important, by all the respondents. The comments showed that the team in a startup is being seen as central and absolutely essential and is definitely regarded a very critical factor, not only to the success of a project but in many cases to the company as a whole. The skills of the people involved were valued very highly. FIN4 and GER2 provide good exemplary statements for the role of the team and their skills in the startups.

FIN4: “Practically if the people aren’t skilled enough, the project’s not going to work out.”

GER2: “The team for us is the most important thing and matters the most. They execute everything and are therefore the key drivers for success, in regards to skills, as well as motivation.”

Technical Task

Table 21: Technical Task CSF Ratings

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Technical task was not recognized by any of the participants when being asked to find their own CSF. It mainly was considered less important in comparisons with the other factors. Only one company (FIN1) rated it as being absolutely critical to success and a few others thought it was at least somewhat important (FIN3, FIN4, FIN5, SWE2, SWE3, GER1). It was seen as an advantage to have the technical skills and the necessary technology, but very often it was mentioned that it was not really necessary to have them and one could make up for the deficits in other ways, such as through good personnel as FIN2 stated.

FIN2: “Like if you have motivated people with some skills they will acquire additional skills needed or so [...] Like bridging that gap shouldn’t be that difficult as long as people are motivated, then it’s something they want to do.”

Only two (SWE3, SWE4) of these companies, who rated the factor as higher made comments that it was really necessary.
SWE3: “It’s basically, especially when we work with technology-centered, […] we need the proper support from the very beginning until the very end. It’s basic, that you have to understand what you are doing.”

GER2 did not rank this factor as especially important with a similar explanation as the others. Even though they believe it is beneficial to have the right technology and to be able to use it, there are ways to work around it or make up for deficits in the area. Although FIN1 had given the factor a really high rating, he came to the same conclusion, that it was important, but due to the team and the skills therein not necessary. One company (GER3) argued that this was not relevant for them, as they did not have technology involved and did not rate it.

**Client Acceptance**

Table 22: Client Acceptance CSF Ratings

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<th>PIP</th>
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<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Acceptance</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
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</tbody>
</table>

Client acceptance, was only brought up three times (3 of 12) in the exploratory part, but many of the interviewees thought it to be closely related to client consultation, as it is not only about selling the product, but also making the client understand the product. It was one of the highest rated factors, with 10 of 12 people rating it as absolutely critical. Here the customer focus was accentuated and economic measures in terms of sales were mentioned. FIN2 made a poignant statement about having a product, but not getting it to the customer.

FIN2: “Well if you develop something what the customer is not going to use in the end then it useless by its nature.”

**Monitoring and Feedback**

Table 23: Monitoring and Feedback CSF Ratings

<table>
<thead>
<tr>
<th>PIP</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring and Feedback</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

Monitoring and feedback regarding projects, was indicated to be a CSF only twice (2 of 12) in the exploratory part, but when being asked to rate this factor most respondents considered it as rather important or very important. Five thought it was absolutely necessary for the success of a project, but also other companies thought it was important, with FIN2 being the only exception rating it as neutral, however without a clear comment. The others argued in a similar manner. Monitoring and feedback was seen as important in order to detect if one was still on the right track, and to be able to change things quickly if necessary e.g. as SWE3 state in order to not waste resources for activities, which do not add value for the customer.
SWE3: “It’s good to know if you’re heading in the right direction or not. That’s it. Just for the sake of [staying] on track. Because you don’t want to waste your time on activities and tasks that will generate no value to the customers.”

It became clear that many thought this process was closely related to the customer and communication (FIN1, FIN5, SWE, SWE4, GER3) and that it helps to improve the client relationship, as well as the product. SWE4 e.g. made a case for the importance because of the customer.

SWE4: “We know more about the product, but then if we do a well specified product this is really important because you need to check with the customers. I also think giving each other feedback within the company only makes the process and the product better.”

**Communication**

**Table 24: Communication CSF Ratings**

<table>
<thead>
<tr>
<th>PIP</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
<th>FIN 4</th>
<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GER 1</th>
<th>GER 2</th>
<th>GER 3</th>
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<td>Communi-</td>
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</table>

Similar to monitoring and feedback the factor communication was only brought up on their own from twice respondents (2 of 12), but also got positive ratings in the latter part of the CSF questions. Together with client acceptance it belongs to the two factors, which almost all respondents considered absolutely critical to project success, only three companies not giving it the highest ranking, but still ranking it as very important. Reasons for the high ratings were the effects communication was considered to have on efficiency and effectiveness, through e.g. the avoidance of misunderstandings or through learning. Within this discussion communication within the company, as well as the communication with the clients was considered. In general it was also thought to be important to make sure the goal was clearly communicated to all involved parties. SWE2 also saw communication as an important element of the client relationship in order to build trust.

SWE2:”Yeah it's important [...] because it’s, so that we have a clear view of what we want and that we are following the goal. [...] but mostly to have a good communication with the client so that they feel that they can rely on us as well."

Communication was furthermore seen as a mean to detect mistakes and improve things. The creation of a better work climate, and the reduction of stress were also mentioned as arguments, why communication was very relevant as e.g. SWE1 mentioned.

SWE1: “Yes, it’s relevant because we want to minimize the stress factor with everything, [...] so that we don’t get exhausted and stressed out during the process.”

**Trouble-Shooting**

**Table 25: Trouble-shooting CSF Ratings**
Trouble-shooting was not brought up by any of the respondents, when being asked to come up with factors on their own, but it still got high rankings in the discussion of the PIP CSF. All the interviewees thought of it as important, more than half thinking of it as absolutely critical to success. When being asked why this factor is important, the respondents referred to a wide set of statements. An inferior quality of the end product was mentioned, higher costs, and even damages to reputation in case of faulty or not sufficient trouble-shooting. This was stressed by e.g. GER2.

GER2: “If you don’t notice problems, they will get worse over time and can cause high costs or even damage your reputation.”

One company (GER1) one also stated that mistakes are not necessarily a bad thing, as long as you find them in time and learn from them.

GER1: “I don’t think mistakes are something bad, as long as you find them soon enough, but no you can learn from them and improve, so we have scheduled times where we just go through everything and check if there are any mistakes left.”

One of the lower ratings (SWE4) was explained by the statement that the company had their focus on communication rather than troubleshooting afterwards in order to avoid problems before they happen. Other companies also considered it to be part of communication (FIN2).

FIN5 thought of proper trouble-shooting also as a customer service, in a sense that if the customer ran into any trouble it would be the company’s (meaning his own) task to identify and fix the problem.

FIN5: ”We need to be able to support our customers, since it’s custom software we deliver, we’re the only ones knowing the ins and outs of it, [so we need to be able to figure out] in an efficient way, what’s wrong with it, this use case or program, it’s customer service.”

Yet again the necessity to prioritize was also taken account when trouble-shooting, e.g. by FIN3.

FIN3: “Is important, but not all the problems must be solved even during certain project. There are, sure, many problems and issues but you just need to, need to figure out which are the most important ones.”

4.5.2 Additional Critical Success Factors

As stated before the participants were asked to come up with their own factors, before they got confronted with the PIP list. Many of these factors were part of this list and are therefore described above, however some of the factors were not mentioned in the PIP or at least not mentioned explicitly. They will therefore be described now. A summary of all
factors from the exploratory part can be found in the beginning of the chapter ‘Results – CSF’.

**Personality**

It was mentioned twice that personality was an important factor for the startups. In both cases the companies were very small (2-3) employees and the co-founders were also friends. They both argued that they complemented each other regarding to skills, as well as personality, but one of the companies also stated that they sometimes had difficulties due to their very different personalities (GER3).

GER1: “Well it is really important. My partner and I just klick and [complement each other], I think if we were the same we wouldn’t be as good, but we cannot be too different either.

GER3: “We work and live so closely together, so personality is a big factor for us, which is influencing us in a big way. It sometimes makes us less efficient, because we are so different, but then we kind of are more creative that way, we just have more ideas, and complement each other too somewhat, so my partner he knows a lot about chemistry, and I studied business for example.”

**Motivation**

Three of the respondents also referred to motivation as being important for them. They saw it as an influence on quality (SWE1, GER2) and a reason to keep working as the financial compensation was not very high, as e.g. GER2 stated.

GER2: “Team morale is really important, so motivating the team members is critical for them to do good work. The pay is not so good so it should at least be fun.”

**Clear Line of Authority**

The third personnel related factor was only mentioned by one company. It caused problems as the line of authority sometimes was not clear, which had a negative effect on efficiency.

SWE4: “If you don’t know who has the final say you don’t know who to ask and the timeline will be messed up. If you don’t have a clear line you have to wait till the project meeting, but you can go directly to the guy and get your answer. It affects efficiency.”

**Flexibility**

Throughout the interviews it often became clear that many of the startups figured that staying flexible was a very important factor and that problems caused by new situations could be solved by flexibility and adaption. Three (FIN3, FIN4, GER1) of the respondents brought this factor up in the exploratory part, two of them arguing that it is not possible to plan a project well enough to not have to change things in the process. GER1 stated that the changes in their last project were even very positive for both, the customer, as well as them and that although the timeline changed, as well as the initial goals it was a full success.

GER1: “Maybe also defining what exactly you want to do, but then you also have to be flexible there.” ;“[Talking about the last project] So the goals changed and the timeline too, but it was even better than we thought it would be, customer included.”
Sufficient and Right Resources
Having enough resources to do the project, being it financial resources, enough time, personnel etc. was mentioned by five interviewees in the exploratory part, which made it one of the most considered factors in this part (FIN4, FIN5, SWE1, GER2, GER3). Their argument was that a lack of resources makes executing a successful project very difficult or even stop the project. GER3 described the problem in a pragmatic way.

GER3: “You need to have enough funds and other stuff or you can’t develop or produce or do anything and as a small company you don’t have a lots, so you need to somewhere get what you need.”

High Quality of Network
Building a high quality network was only mentioned by one company (SWE3), but there it had a critical role and the interview also mentioned this factor being the reason why their last project was unsuccessful.

SWE 3: “That brings customers, basically and that brings new business. [...] in our line of business, big marketing is really mouth-to-mouth marketing. It’s not the ads, it’s not the commercials in newspapers, radio or television. Its recommendations. If we do a good job for someone, we’re usually getting recommended to his or her friends. And that’s what brings new business.”
5. Discussion and Analysis

In this chapter we analyze and discuss the empirical results we have accumulated in our research in relation to the theoretical framework of extant literature presented earlier on in chapter 2, and scrutinizing the concepts and their connection to the contextual setting. The order of discussed matters in this chapter is similar to the one in chapter 4.

5.1 Startup Characteristics

Regarding the startup features we discussed in section 2.6., our interviewees identified with a clear majority of the statements. The features of early stage companies mentioned in OLC literature, namely informal or simple structural form, smallness (Ferreira et al., 2012; Lester, 2003; Hanks et al., 1993; Miller & Friesen, 1984), growth orientation (KPMG), informality in information processing (Lester, 2003 in Perényi, 2014), and independency (Luger & Koo, 2005) were almost universally present. Only the feature of smallness was questioned, and in all cases where such was the case, it was specifically mentioned because direct competition in niche markets was very scarce or the competing companies were of similarly novel or small stature. As the entrepreneurial orientation dimensions of innovativeness risk-taking propensity (Ferreira, 2011, p. 254 Miller & Friesen, 1984, p. 1170), proactivity (Miller & Friesen, 198p. 11704) were included in mixed terminology across OLC literature, also the missing entrepreneurial dimensions of Lumpkin & Dess (1996) were included, because in combination the OLC literature seemed to mention all dimensions but two: autonomy (Lumpkin & Dess, 1996, p. 140-142), which we expected to be related to the lack of formalities and clear task structures in startups, and competitive aggressiveness. Of these dimensions of entrepreneurial orientation, it was indeed only the competitive aggressiveness that was not identified with by most interviewees, as the companies did not see a need to react to competitors or the simply had very few. Others that were sometimes doubtful were risk-taking propensity that was discussed by some as more of a calculated, unwilling risk-taking. Finally, innovativeness was thought of by two interviewees as too powerful of a term for what they were doing, but they did admit to doing things in a novel manner, which by a broader definition we consider innovation as such.

Despite some of the comments the findings confirm the major expectations the OLC literature holds for the young and small companies in this study to a very high extent. A divergence was only visible regarding two features of EO, risk-taking propensity and the aggressive reactions towards competitors. However as some other entrepreneurial features were still present, all but one of the chosen companies qualified as a startup according to our definition, therefore providing the necessary grounds for a study on startups.

5.2 Project Practices in Startups

All of our interviewees considered their startups to be mostly project-based, as a majority of their business was run in project form. A majority of companies felt that most of their projects are external, and even where internal projects were a majority, their focus was on the customer. Most companies had some partnership projects and although many indicated having some sort of strategic project management practices, many also felt that
there were few set practices in project management at all. The tasks of many startup owners included communication, but a portion also had practical implementation responsibilities. The lack of resources and ability to meet schedules, as well as ambiguous project practices were mentioned as problems in project work. Noticeably, all but three of our interviewees identified with project uncertainty being caused by novelty of the end-product to the market and implementing company. This seems fitting for innovative, entrepreneurial startups.

5.3 Project Success Criteria

Regarding project success, it is again suitable to discuss the matters of interest in the context of the framework established in section 2.4.

Efficiency Goals
The success dimension of efficiency goals included two of the traditional, more tangible measures of project management success, adherence to schedules and budgets. Of the two, it seemed more crucial for our interviewees that budgets are met. This was explained by the financial status of the companies and an unwillingness to hurt potential customer relations, as inability to meet goals creates an unreliable image. It has been the case in larger studies that the budget goals are of central importance (White & Fortune, 2002, p. 6; Belassi & Tukel, 1996, p. 147). In these contexts our respondents’ statements about the need for meeting budget goals is not very surprising. The reaction of our interviewees towards schedule overruns was more lenient. In some cases it was explained by the relationship with the customer, the nature of the business and sometimes by the insecurity and novelty of the business. The need for maintaining customer relations was mentioned as a factor that adds importance to this particular criterion. This was, to an extent, in contrast to the studies of Karlsen et al. (2006, p. 535-536), Wateridge (1998, pp. 61-62) and White & Fortune (2002, p. 6) where scheduling was of a considerable importance. Meeting the initial functional goal was also considered an important factor, which can be considered to connect, to an extent, to the iron triangle dimension of “quality”. This criterion was considered important, but in some cases the interviewees indicated that this feature was not of one that could be amended, because initial plans change. These findings mirror general findings of earlier studies, where customer satisfaction (White & Fortune, 2002, p. 6; Belassi & Tukel, 1996, p. 147) and quality (Belassi & Tukel, 1996, p. 147) have been considered major project success criteria.

Remarkably, keeping changes to a minimum was almost unanimously not considered an important success criterion. In contrast to the proposition of Dvir & Lechler (2004, p. 12) that changes of projects should be kept to a minimum, it seems that in startups, the nature of projects is accepted as a continuously changing process. This was, in some cases, connected to the novelty and uncertainty of the process internally and changing requirement from customer, indicating novelty and uncertainty of the process also for the customer. Shenhar & Dvir (2007, p. 31) suggest that projects of lower risk are expected to be managed in a way that stresses the efficiency goals more. Additionally, Shenhar & Dvir (2007, p. 63) also suggest that the novelty of the projects, which was a major cause for uncertainty for most of our case companies, will have an effect on the market uncertainty and the project goal uncertainty. In the sampled companies the projects were often novel and the interviewees identified their companies as innovators and certain kind of risk-takers. It is therefore suitable that although many considered the efficiency goals important, especially during the project implementation, as has been suggested also by
Shenhar et al. (2001, p. 728) there were also many opposing views of the absolute importance of meeting specific short-term efficiency goals, some in relation to factors such as the ones included in the dimensions of impact on the customer.

**Impact on the Customer**

The customer relation criteria were the least polarizing measures of success for the interviewees, as they were nearly universally of utmost importance for all of them. This connects to a suggestion of Greiner (1998, p. 6), that in early-phase companies, “management acts as the customer reacts.” Meeting customer requirements and creating loyal, long-term relationships with the clients were considered important features of business for most companies because finding customers with whom to find financial stability and find a chance to develop were important features of these relationships. Solving customers’ problems and enhancing their performance were factors that considered connected to an important knowledge of what the customer is looking for in the projects with the startups. The project success criteria related to the impacts on customer were generally considered important, as is Shenhar & Dvir (2007, p. 69) suggest to happen in projects where novelty is a central factor. Implementing the projects well and building strong relationships with customers was also mentioned as the major practical means of brand building, which created word-of-mouth marketing among target markets. The accentuated attention paid towards customer-related criteria is supported by earlier studies of White & Fortune (2002, p. 6), Wateridge (1998, pp. 61-62) and Karlsen et al. (2006, p. 534) where meeting customer requirements was found the most usual project success criterion among all respondents. In the research of Karlsen et al. (2005, p. 535), satisfied users was very much a priority criterion, and notably even more so in small organizations. The view of the customer seems extremely salient in startups, where the input of partners is a necessary for establishing the direction of projects and development of the company.

**Impact on the Team**

The criteria of “impact on the team” were also consistently considered matters of high importance. In relation to the framework of Atkinson (1999, p. 341) these are benefits of the organization derived from projects. Some of our interviewees indicated that because the companies often have limited financial resources, they need to rely on their employees in finding a way of doing an unpredictable task to reach an unprecedented goal. The pressure on the team to develop their skills and grow is high, but the companies have limited chances of compensating them with high rewards. Additionally, hiring replacements for their employees seems unlikely as the companies have limited resources and the accumulated knowledge is assumedly unique.

However, certain interviewees did partially reject the idea of a need for new skill development and wished to seek profits and specialize in their current, steady field of competence. The different needs for organizations to learn mirrors the findings of the study of Midler & Silberzahn, (2008, p. 484-485) where their case companies used two different patterns of learning through projects: a wider portfolio-type process of working on what assignments they can get and a more specific, product target that concentrates on developing a certain product.

The considerable amount of attention that startups put towards the development and well-being of the project team, expressed e.g. through team morale and satisfaction, suggests that startups are in fact a special context for projects: in the study of White & Fortune
(2002, p.6) the amount of times that the staff or project team is mentioned is minimal. Also, in the research of Wateridge (1998, pp. 61-62), team-related factors were rarely prioritized project success criteria for project managers or users. Similarly, in a more recent, European study of SME project success criteria, Turner et al. (2009, pp. 291) found that appreciation of project personnel was significantly lower in micro companies than in larger ones. This implies that startups by our definition need to consider team-related criteria in an accentuated manner. While the customers are a priority issue, the project team is a major asset for startups. These findings in general connect to the suggestions of Shenhar & Dvir (2007, p. 69), who note that in majorly novelty-based projects the personnel are expected to gain experiences and explore new fields of expertise.

**Business and Direct Success**
Interestingly, although certain financial restrictions, insecurities and worries were present with all startups, the financial requirements are quite polarizing as success measures, and often it was expressed that the economic goals of the company are not a priority. A few startups were adamant about the irrelevance of creating profits or returns on equity, and mention that it is a priority to create the idea, not financial surplus. All agree upon a need for creating a certain level of economic security, however. Compromises that result in economically negative short-term goals are taken when it is believed to create a benefit regarding, for instance, a new relationship with a customer or the creation of a new feature for the business that will generate profits in the long term. The quality of service towards customers in projects was considered an important feature, as the human interaction was an important feature in projects and seen connected to the impact on customer.

The ability to get the product to a customer quickly was, however, more of a dividing criterion, as some companies saw it as an important feature while others did not see it as a measure of importance due to the uncertain and changing nature of their projects. The adherence to laws and rules was generally seen as an important factor, but within the projects of many of our interviewees, they did not see it as a criterion that is greatly connected to success considerations.

In the studies of both White & Fortune (2002, p. 6) and Wateridge (1998, pp. 61-62) achieving commercial success was often one of the major success criteria. Here it seems some of our case companies have a partly divergent view of what constitutes project success, in relation to general views found in earlier research. Apart from the evident need to find reasonable levels of financial resources for survival, the strategic views of economic and business success are fitting to the suggestion of Shenhar & Dvir (2007, p. 69) that novelty-based projects are expected to have economic impacts on the longer term, rather than immediately.

**Preparation for the Future**
Interestingly, a number of our interviewees disregarded the need to create a new product lines in projects. Where this was the case, it was considered more important to develop and establish a market presence for the main product of the company, and that creating new products is not a plausible business strategy in the current situation. Attitudes towards the development of new technology were also connected to where the company’s core services and products were technologically oriented, but even in that regard the comments implied that it is the priority to keep up with the existing technology and learn to understand and make use of the current technologies relevant to the core business.
Establishing new markets was considered a priority issue for these companies specializing in niche markets. Establishing new core competences and capabilities were generally considered matters of importance, but in certain cases the companies considered it a necessity to concentrate project efforts in specializing in and developing the niche of competence already chosen.

Even though organization gains and learning and preparation for the future have been suggested as a project success criteria in previous literature (Atkinson, 1999, p. 341; Shenhar et al., 1997, p. 12), neither of the studies of White & Fortune (2002, p. 6) or the study of Wateridge (1998, p. 61) considered the matter of preparation for the future to a major extent. In the study of Karlsen et al. (2005, p. 535) certain longer-term goals, notably contribution to improved efficiency, was considered of high importance in IT projects. Again, as the majority of our cases considered their projects novelty-based, it is suitable that as suggested by Shenhar et al. (2007, p. 69) the creation of new markets and establishment of steady market positions, also in new markets, were a priority to many of our interviewees.

**Additional Success Criteria**

Regarding the additional criteria that were not included in the project success framework of Shenhar & Dvir (2007, p. 27), building and maintaining networks in projects were mostly connected and important features. In connection to the building of network was seen connected to building additional capabilities and opportunities in sales, which suits. The approval of external stakeholders was, again, a polarizing issue as some companies felt that it was an important issue as a factor in their line of business or responsible demeanor as a business in general, but similarly certain companies considered it unimportant in their current projects, as they were small in stature and their interest lied more in the approval of their target markets. Atkinson (1999, p. 341) suggested that such parties could present indirect benefits, but the study of Karlsen et al. (2006, p. 536) also found the interests of other stakeholders than the customer being much less important for companies implementing IT projects in Norway. The reactions of our respondents suggest that the importance of these factors is specific of a particular industry and business orientation, as many considered to only have a need to consider their main markets.

The way in which projects help build success in other projects was seen as an important issue, and startups seemed to embrace a project-based strategy approach. These comments connect to the case studies of Midler & Silberzahn (2008, p. 484-485) where the case startups were found to need and implement strategic project learning and the results of White & Fortune (2002, p. 6), where companies in general already mentioned the fit between a project and the general strategy of the company as a success criterion. However, when discussing the matter of how important the fittingness of a project in the organization’s strategy is as a success criterion, certain interviewees mentioned that it is the harsh reality of startups that sometimes one must accept any means of finding economical resources, whether they fit the long-term goals or not. As an overall criterion, the contribution of a project towards the organization’s overall success was an important factor, reminding that as a business task they are not separate from the organizational entity.
5.3.1 Summary Success Criteria

In summary, generally the success criteria that include the customer are important for startups. Gaining a thorough understanding of what customers need and forming a lasting relationship with customers was crucially important to a majority of interviewees. Efficiency goals are also important, mostly as they affect the relationship with the customers. Project teams are generally also an important asset for our interviewees, providing the input for project implementation, making their well-being and satisfaction important. As such, project team criteria related to development are also mostly of a considerable importance, as the personnel are a major investment for the company.

Certain economic criteria are generally important, but here it is much more visible that startup and project types, growth strategies, ownership arrangements and industries may have an effect on the level of importance being put towards them. Some want to reap benefits, but most want to survive and grow in the long term. Criteria for future preparation are also ones where the customer guides the development. Development of new products, technologies and capabilities is only considered feasible if it serves the strategy and current operations of the company, and helps co-operation with customers develop. Although relatively few of our interviewees identified their company to have larger-scale project management definitions, most companies felt that projects should be steps towards a greater goal, and that projects should be interconnected to make a logical pattern. Some interviewees asserted this to be unrealistic for startups, due to a need to compromise on pursuing the long-term goals to survive, and certain interviewees felt that in their line of business, the customer requirements differ too much to synergistic benefits between projects. As a noteworthy point, networks were considered tremendously important in projects of startups, because of the competency and connection potential that they offer.

5.4 Critical Success Factors

The results of the CSF demonstrate that when the respondents are shown the PIP list and are asked to evaluate the importance of the single factors, almost all factors are regarded as important or very important. The significance of each factor and the relation to success criteria is discussed in detail in the following paragraphs. A summary of the findings of the analysis of the CSF can be found at the end of this section. It should be noted, that when we refer to the PIP framework/list, we refer to the CSF framework by Pinto & Slevin (1987, pp. 22-23) presented in the theoretical framework. We furthermore want to clarify at this point, that we will only discuss the factors, which were mentioned by the interviewees. Factors, which may be included in the literature review of Fortune and White (2006), but have not been a topic of discussion will not be taken into account, although the negligence of these factors could be seen as a finding itself.

5.4.1 The PIP Factors

Project Mission
The results show that project mission is an important factor, which the participants were conscious about, which supports its position in the PIP framework, and the high ranking in the list, generated by Fortune and White (2006). Project mission was not only seen as an internal issue to make everyone understand the project and get on board, the coordination with and the approval of the customer also played a predominant role in the specification of the project goals. The customer’s approval was important, as it presents
some sort of security that the customer cannot just change their mind in the end, but it also showed the high significance of the customer for the startups. The customer focus was also reflected in the success criteria and supports the according proposition by White and Fortune, (2002, p. 6) as well as Belassi and Tukel, (1996, p. 147) that customer satisfaction is seen as a major criterion for success. That customer satisfaction and happiness is a very prominent theme for the startups can also be seen in the later discussed CSF ‘client consultation’ and ‘client acceptance’.

The other thing that stuck out in the discussion of the project mission, was the high awareness of having to be flexible and to be able to adapt, even regarding the goals. This fits the statements which were made about the success criterion ‘changes stay to a minimum’, which was not regarded by all to be a high indicator for a successful project, due to the uncertainty during the project implementation process and ambiguous goals (Shenhar & Dvir, 2007, p. 31). On the contrary, the questions about the CSF showed that if the changes were not being too big and too costly they could even be seen as something positive, not only for the company itself, but also for the customer, through the development of a better end-product.

The inclusion of these success criteria implies a need for involvement from all higher management (project owner) to ensure the effectiveness metrics and holistic view of project management as a strategic asset. A lowered interest towards project management involvement by project owners is associated with unsuccessful projects, project owner involvement and project input involvement in strategic considerations can be considered an important factor in achieving project success (Judgev & Müller, 2005, p. 28).

**Top Management Support**

None of the interviewees referred to top management as a CSF in the initial question about their own factors. Later on it was still ranked high by some of the participants, but also disregarded as not important, and even as not applicable in two cases. These statement stand in contrast to not only the PIP, but also the theories of Judgev and Müller (2005, p. 28), who described the involvement of higher management as a significant factor to achieve project success. The companies who had ranked this factor highly mostly understood it as an external factor, i.e. the support of the top management of the customer to grant necessary resources, and authority. This revealed the high dependency the startups had on their customers, as they often did not have the necessary resources themselves and were dependent on the customer to provide them. This could also provide some insights, why customer focus is of such high regard.

The startups who thought of internal management, had twofold answers, which was in some cases connected to their size (in number of employees). Some of the ones who had only very few employees did not consider this factor applicable or very important, as they were top management and project managers at the same time. Others who had more employees granted it rather high importance, with focus on the team or seeing it as a natural thing. One can assume that once the companies start to grow this factor will gain significance, but the high position it has in the Fortune and White (2006, p. 55) literature review cannot be confirmed for all startups, taking the above mentioned arguments into consideration. From the literature it did not become clear if internal or external top management was considered in this factor, which makes it difficult to find any distinct results.
Project Schedule/Plan
A clearly specified and detailed schedule/plan of the project, as stated by Pinto & Slevin (1987, p. 23) was brought up by half of the interviewees in the exploratory part, which then later on also considered this as very important. While the benefits of making a plan were often mentioned, the implementation of a very detailed plan was seen as critical by almost all interviewees. The disbelief that following a strict plan was the best solution caused some of the lower rankings. Instead the respondents stressed the fact that a plan usually always changes, especially since customers and other human factors were involved. These views provide similarities to the statements about ‘project mission’. Customer focus and the need for flexibility are salient themes. “A strong detailed plan/kept up to date” as a factor taking a high ranking in the Fortune and White (2006, p. 55) review may therefore only be applied keeping in mind the continuous development process startups undergo when implementing a project and their strong focus on flexibility and adaptability. This can also be led back to the novel character of many of the startups’ projects and furthermore connects to the success criteria, for which we found that keeping a strict schedule was not seen as a necessary element in order to evaluate a project as successful, as long as it stayed within an appropriate timeframe.

Client Consultation
The respondents generally had a very clear response on the involvement of the client in the project process, especially when the goal of the project was to produce something for the client. This factor was also brought up by five participants on their own, which shows that the customer plays a central role for them. Client consultation in all cases was seen as very beneficial to the project, having a big effect on its success. A lot of other factors were affected and put in relation with client consultation, such as client acceptance, but also project mission and communication. Impact on the customer was also a theme which was seen as very significant as a success dimension, supporting the relevancy of client consultation as a CSF. The proposition of Greiner (1998, p. 6), that young companies’ management “acts as the customer reacts” also fits in this case. As meeting customer requirements takes a very high position for startups, the significance of client consultation is also regarded as high, which mirrors the current stance of the literature of CSF, as also found by Fortune and White (2006, p. 55).

Personnel
Next to the customer, the personnel was the most preeminent theme in the discussions about the CSF. Seven mentioned this factor in the exploratory part, and in general personnel was regarded to be extremely important and one of the central factors for the startups. It was seen as critical as it was considered the most important asset of all startups. Many interviewees mentioned that due to the small size of their team, the skills each one of them had were of great importance. This supports the attitudes towards the crucial role the team has as a success criterion. The arguments the participants brought up are similar, they mention limited resources, which makes each team member essential for success. The high relevance of skilled and sufficient staff/team congruent with the one found in the literature (Fortune & White, 2006, p. 55).

Technical Task
None of the participants referred to technical task, as defined in the PIP framework in the exploratory part of the CSF questions. In comparison to the other factors it was rated lower, with only one participant rating it as absolutely critical to success and only two companies commenting that it was really necessary. Although some of the companies
also determined it to be important, it was not really seen as critical, and the lack of it was rather perceived to be an inconvenience, which could be overcome. The varying answers may indicate that this is not something startup specific. As we do not take any industry specifics into account in this thesis, we can only speculate that these answers seemed to somewhat affected by the company core competence, e.g. SWE4 whose work was based on web development thought of it as very important, while GER3, producing cleaning products, argued that this was not even really applicable to them, as they were not even really using technology and SWE1 arguing it was a low rating due to their industry. The somewhat lower ratings fits the lower ranking the factor ‘proven and familiar technology’ has in the Fortune and White review (2006, p.55) which may strengthen the assumption, that this is an industry specific factor. In regards to success dimensions this factor was usually mentioned in connection to efficiency, in a sense that it was not really critical, but made things easier and faster.

**Client Acceptance**
Many of the interviewees considered client acceptance as somewhat similar or the same as client consultation. Consulting with the client during a project creates a close relationship, making sure the project is implemented according to the client’s specifications, this at the same time will increase the acceptance of the client. Just like client consultation it was one of the highest ranked factors, and the respondents brought up similar arguments for both the factors. Client acceptance as a specific factor does not appear in the literature review (Fortune & White, 2006, p. 55), it can be assumed that client consultation and client acceptance is summarized in ‘user/client involvement’ and as such it has a rather high ranking. As our participants also considered client consultation and client acceptance to be similar we will also treat these factors as one, including the consultation of the client, as well as the act of making them want the product. Summarizing the two factors and taking a look at importance it makes sense that the impact on the customer is considered such as strong success dimension, showing the very strong presence in startup project management, as it also has in the literature.

**Monitoring and Feedback**
Monitoring and feedback was considered important in regards to staying on the right path and the waste of resources. It was argued that as resources (time, personnel, etc.) were limited and should only be spent when they created value. It also became clear that the high customer focus was affecting this factor too, as many mentioned this process to involve the customer in order to e.g. create a better end product together. Effective monitoring/control was not as frequently mentioned according to the Fortune and White review and therefore had a lower ranking, but our results show that the startups, with one exception were conscious of its significance and considered it to be important. It should be noted that Fortune and White (2006, p. 55) include feedback in communication, which will be the next factor, which is discussed.

**Communication**
Communication was seen as a very important factor, within the company, as well as with the customers. As the factor ‘communication and feedback’ it takes a very high position in the Fortune and White (2006, p. 55). Communicating with customers was seen as important due to similar reasons, as client consultation and client acceptance were regarded significant, such as the avoidance of misunderstandings, detecting mistakes, setting clear objectives and making sure to progress in the right direction. In terms of communicating within the team the same reasons were brought up, which also made good
client communication important, but additionally the effect of communication on efficiency and effectiveness was stressed, as well as its benefits for a good work climate. It became clear that ‘communication’ is a multifaceted concept, which is of essential importance and has an effect on many different areas in startups. It does also constitute the basis or affect most other factors such as client consultation, client acceptance, monitoring and feedback, the specification of clear goals and objectives to just name a few. It should therefore be seen as an essential influence on every one of the success dimensions.

**Troubleshooting**
Troubleshooting, while not brought up in the exploratory part, was still ranked highly by the respondents. The reasons why trouble shooting was important were manifold. Trouble shooting as a way of avoiding a compromised end product, higher costs through undetected problems were named, but this factor was also stated to be great connected to communication and also showed a high customer focus. As a factor troubleshooting does not appear in the Fortune and White review (2006), it could be assumed that this topic is treated with the factor effective monitoring and control.

### 5.4.2 Additional Factors

The additional factors gathered in the exploratory part, which were not included in the PIP list are analyzed in the following parts. Three of the factors (personality, motivation, clear line of authority) can be seen as connected to the CSF ‘Personnel’, or the factor ‘Skilled/suitably qualified/sufficient staff/team’ in the review (Fortune & White, 2006, p. 55). Since the factors in the literature can be seen as rather broad, and as the respondents put special emphasis on the found factors in the exploratory part they are going to be treated separately here. The quantity of factors which were noted in relation to personnel, underlines the value, which startups assign to their team in the project process.

**Personality**

Personality of team members is a factor which does not appear anywhere in the list generated by White and Fortune (2006). Two of the interviewees mentioned this factor and made quite a strong case for it. It is noticeable that both these companies were very small (2-3) employees and that the co-founders were friends before they founded the company together. One of the respondents was really happy with his co-founder, stressing that they complemented each other and worked well together. The other respondent mentioned having difficulties due to issues the difference in personality between the two co-founders caused. These issues sometimes caused problems and a bad work climate and were highlighted as they spent a lot of time on their own and only had one other coworker who was not that involved in the company yet. However the benefits of being different and especially having different skill sets were mentioned also in this relationship. Due to the closeness of the working relationship in startups in comparison to bigger companies, with more people involved, personality may be a much bigger issue in this particular organizational context.

**Motivation**

Motivating the staff and making sure that their employment is mentally rewarding was considered to be of a considerable importance among the interviewees. Three of the respondents named this as a factor in the exploratory part of the CSF questions, but it became visible throughout most of the interviews (see success criteria: team morale, satisfaction) that motivation plays a major role in startups. They admit that maintaining
team satisfaction within certain projects is at times difficult in the startup context, as the nature of working in startups creates certain insecurity; motivation was even named as a critical success factor. Maintaining team morale and happiness is important, but some interviewees admit that practically this is sometimes hard to ensure within particular projects. The restrictions and insecurities are numerous, and the discussions with our interviewees mirror the suggestions of Greiner (1998, p. 6) who suggested that while in the early phase involvement in the company and motivation drives employees in early phases, maintaining a similar dynamic with employees may cause a crisis later on. Despite the importance motivation has as a CSF in startups it is not specifically referred to in neither of the two frameworks provided in the theoretical framework (Pinto & Slevin, 1987; Fortune & White, 2006).

A Clear Line of Authority
A clear line of authority was only mentioned by one company, which was special in a way that they worked closely together with freelancing consultants, which were hired whenever they were needed. Despite the other companies sometimes mentioning having many discussions with their co-founders this factor was not considered and also was not mentioned in neither the PIP (Pinto, 1987) nor the Fortune and White review (2006).

Sufficient and Right Resources
It could be argued that to some extent resources might not belong to CSF as they cannot be influenced in all cases and therefore not fit the definition of CSF. However as they are mentioned in the literature as a CSF (White & Fortune, 2006, p. 55), and we believe that they can be influenced, at least indirectly we still discuss them as a CSF in this paper. Many of the startups mentioned this factor, despite it not being in the PIP review, it does appear in the Fortune and White review, even though it is not among the highly stated factors. From the discussion we get the clear view, that sufficient and the right resources are very critical for the startups. This can be seen reflected in the success dimensions, in which the criteria ‘meeting the budget goal’ and ‘cash flow’ were rated as very important as a measure of success. This fits with the startup typical feature of being a young, resource deprived company (Greiner, 1998, p. 60) and presents a special challenge for project management and success in startups.

Flexibility
Flexibility as a CSF was only mentioned by three interviewees, but it was a very prominent theme in the discussion of the various topics on success and project management in startups. As a factor it cannot be found in either of the theoretical frameworks on CSF (Pinto & Slevin, 1987; Fortune & White, 2006) chosen for this thesis. The amount of times that flexibility or adaptability was mentioned during discussion regarding matters of project success and CSFs draws attention to the matter of project uncertainty in startups.

High Quality of Network
The quality of network was only mentioned once as a CSF, but the relevance of networks was stressed in the discussion of the success dimensions, in which the criteria ‘getting new partners in network’ and ‘network satisfaction and cooperation’ got assigned great importance as criteria success can be measured against by many of the participants. However it seems that this topic is seen as a result (success criterion) by the startups, rather than an activity (CSF i.e. something that should be done). It should also be noted that network as a CSF is neither mentioned in the PIP nor in the Fortune and White review.
However, this notion in the realm of CSFs and the comments network-related matters received in project success criteria mirrors what has been suggested by Ritter and Gemünden (2004, p. 553): innovation success is connected to network competencies.

5.4.3 Summary CSF

It becomes visible that almost all factors of the PIP received high ratings, but there is an emphasis on certain themes and groups of factors in the startups. These factor groups and themes mirror the results of the success criteria results in many ways and show clear connections. Only very few exceptions could be identified, where certain factors were not considered relevant or applicable to the startups. Sometimes different perspectives created twofold opinions, e.g. top management was seen as either internally or externally and was rated as not really applicable or very important, but it became visible that most answers show coherent tendencies that the factors described by Pinto & Slevin (1987) in their PIP framework are applicable to project management in startups to a high extent.

In order to find out if any additional factors were relevant for startups, which may not have been described in the PIP framework the startups were first asked to depict the CSF, which they consider important in their project management. This way it was also found which factors the respondents were conscious about. The results found in this initial exploratory part somewhat overlapped with the PIP. However, within these, answers three of the factors of the framework, namely top management support, technical task and trouble-shooting were not mentioned by any of the interviewees. Instead they brought up additional factors, of which personality, motivation, flexibility, sufficient and right resources, were mentioned more than once. Additional factors of having a clear hierarchy and the quality of network were also referred to, but only by one interviewee respectively.

Here, the results show a strong focus on personnel and resources, which are the two basic things startups need in order to implement projects. This strong focus on resources (human resources excluded) cannot be seen in the PIP framework, although it is mentioned in the Fortune and White review (2006, p. 55) as the 10th most frequently named factor in project success literature. This, in connection to the project success criteria, implies that startups do have certain special features when it comes to project success concepts.

After having talked to the interviews and considering the two in this described thesis frameworks it appears that many of the factors in the PIP overlap and are structured differently in the Fortune and White review (2005). It was noticeable that the interviewees often considered factors to be similar and therefore brought up the same arguments or understood them in two different ways, mostly internally and externally, which brought different answers. This confirms the problem states by Cooke-Davies (in Pinto & Morris, 2007, p. 238), who states that the incoherent conception of the CSF of the practitioners, as well as the researchers in the field presents a problem. Müller and Turner (2007, p. 299) mentioned the unique features of every project as a challenge when trying to compare projects or find general patterns. Although the results show that the factors are somewhat influenced by the type of project (for example, differences in the ranking of technical task) the main themes for the CSF in startups appear to be coherent. What was noticeable was that all these factors were connected in one way or the other, or even overlapped (see client acceptance and client consultation), similarly as in project success assessment ratings, where dimensions often included highly connected criteria. These close connections and interrelationships between CSF often made it difficult to get precise answers on one individual factor, instead the interviewees rather assign importance to all
the factors through the connection with other important factors. The problem of interrelationships has been discussed by researchers before (Belassi & Tukel, 1996, p. 143; Fortune & White, 2006, p. 54). The high interdependence of factors makes it challenging to define a specific list of single factors, which are of most critical importance. That is why we identified four main themes, which the startups considered critical in project success:

**Team:** The team builds the foundation of every project and the company. Two main factors making the team critical to success are the skills the team members provide and keeping the team motivated, as the financial rewards are usually rather low in startups in the beginning.

**Resources:** The fact that sufficient and the right resources (e.g. financial, time, material) are needed in order to complete the project was regarded a main factor for project success for almost all startups.

**Customer:** The customer was a pre-eminent theme for the startups. The client relationship has a big effect on most other factors, and its significance was stressed in the discussion of the factors client acceptance and client consultation.

**Communication:** The startups considered communication a necessity for success and it appears that communication builds the basis of many other CSF. One main focus was on communicating with the customer, but also internal communication was seen as essential, because understanding exactly what the goals are is necessary and not always simple in their projects. Next to being influenced by the customer other important factors, such as a clear project mission, monitoring and control, feedback, trouble-shooting were presented as being closely connected to communication, or being a part of it. This makes communication the fourth main theme for CSF in startups and the most versatile theme therein.

These four main themes are then again affected greatly by the high uncertainty the startups perceive when doing their projects due to e.g. novelty, as discussed in section 5.2. Although flexibility was only mentioned by three of the respondents in the exploratory part of the questions as a CSF, it was one of the most present topics on the discussion of the factors, as well as the success criteria. The projects in startups are seen as rather dynamic tasks, which require flexibility and adaptability, as discussed in the topic of project changes staying to a minimum and is importance. This supports the ideas of e.g. Fortune and White (2006, p. 54), who criticized that projects were too often considered a “static process, instead of a dynamic phenomenon”. In fact very few of the companies mentioned clearly defined specific project practices and mechanisms, which differs from the project management of larger organizations. Instead of planning extensively, startups seem to accept that they need to come up with solutions and mechanisms when situations arise.
6. Conclusions

In the last chapter of this thesis we will now discuss conclusions that can be made based on our findings, and we will answer our research questions. Furthermore we will present the theoretical and practical contributions, taking societal aspects into consideration. Further on, we discuss limitations and possible future directions for research in related fields.

The purpose of this thesis is to study, what startups focus on when trying to implement a successful project and how they then measure the success, once the project has been executed. This is relevant as they offer a unique organizational context, which differs from other organizations in later life cycle stages. The role of the startups being a young, small and entrepreneurial firm is taken into consideration in this process and the influence of these special organizational conditions is evaluated. Based on a review and developed frameworks from extant literature we performed an empirical study in startups aimed at answering the following two questions:

(1) “What success criteria are perceived to be most relevant in the project management of startup firms?”

(2) “What critical success factors are perceived to be most relevant in project management of startup firms and why?”

In long and fruitful discussions with the decision-makers in young, entrepreneurial firms, we have been able to gain insights into project success in startup management and find answers to our two research questions, making it possible for us to fulfill our research objectives and accomplish our own personal “mission”.

In reference to our first research question:

Our interviewees mostly identified with dimensions typical startup features and EO dimensions and project novelty. It can be said the organizational situation of the startups is a dynamic and explorative one. The uncertainty of the projects of highly innovative startups makes the absolute stability of plans a matter of little importance and meeting schedules a goal that is approached with some flexibility. Reaching the customer goals are almost universally of absolute importance, because the startups wish to create considerable benefits for their customers. Therefore reaching an understanding of what is truly the need of customers is necessary for startups. It is also noteworthy that our case startups rarely saw developing internal projects a feasible opportunity, as there are ever present economic constraints focus is always on the customer. Even when the efficiency goals are of most accentuated importance, they are often discussed in relation to maintaining customer relationships. The nature of a relationship and strategic importance of the customer seem to guide the behavior and goal-setting: with certain customers short-term goals are important. Another point of a heightened importance for projects in startups, is the satisfaction and development of the team. The project team can be expected to be modestly compensated and often presents an inexperienced group, yet they often need to work with ambiguous goals and create methods of achieving them, because the goal of the project is novel to both the company and the customer. The goals of the customer may change and the project team is expected to learn new capabilities and develop entirely new solutions, under organizational pressure of survival. Due to these reasons, it is the goal of the startups to keep the employees motivated, capable to work and happy with their tasks. However, the customer comes first and sometimes the
employees need to be flexible in many of these terms. The uncertainty of the projects dictates that certain economic success criteria are assessed with caution in startups, as finding steady income of economic assets and creation of relationships can be more important than fast creation of profits. Preparation for the future can be important, but also with this the concentration of startups lies in establishing relationships, footholds in niches and specialization in their particular competences rather than broader portfolios of capabilities or products. While long-term goals are important to startups, it is often stressed that during the implementation a majority of singular projects, many long-term success criteria are not extremely significant.

Apart from the entrepreneurial and inherent insecurity related factors, the smallness and newness of startups does indeed seem to affect certain project success priorities. Startups need to find funding for their business and projects, creating a need to satisfy short-term goals of customers, in some cases take on projects that are at worst not completely aligned with the company’s strategy and make decisions that are counterproductive for the well-being of the team. Although it seems that many startups owners are not primarily interested in the shorter-term economic benefits that a project can produce, in the cases where it is sought simply to reach survival it is prioritized. The ideal situation is that projects work towards helping the company reach its long-term goals and success in other projects, but certain interviewees contested that sometimes a lack of personal or economic resources require that these goals are dismissed. It seems that the goal of startups is that the long-term goals are always considered, but often in projects it is necessary to concentrate on maintaining the existence of the company, and there the short-term benefits must be stressed. Generating profits and returns on equity are salient matters to those that stressed limited external funding or self-funding of their companies. Maintaining relationships with customer and generating return business was a driver of importance regarding the quality of services. Establishing and maintaining professional networks is important because they contribute to lacked capabilities and sales results.

Industries, business models and phases of the business also affect the prioritization of project success criteria to an extent. For instance, the importance of adherence to laws seems very context and company-specific, as well as the quickness to produce the service or product. Also, the importance of developing new technology seems related to how closely the company is connected to technology in its core competence, but even where technology was central, it was considered more important to keep up with general development for the sake of serving customers better and not simply for creating new things. In relation to existing literature and prior studies, it seems that the main success criteria of meeting a customer’s demands and managing the project effectively are similar in our case companies and in larger samples of companies of more general groups. However, in contrast to prior studies, the importance of the project team is stressed in startups, as the team is a major asset, on which the expectations are tremendous. It is also noteworthy that due to partly similar reasons, the importance of networks to startups is considerable. Identifying particular singular criteria for startup project success is a difficult task, but the results of our cases show clear indications of where priorities lie for startups. Without the customer, no success criteria are ultimately meaningful. The team is a major criterion, but the customer is omnipresent.
In reference to our second research question:
The respondents identified with many of the PIP factors to a great extent, which might raise the assumption that their project management practices do not differ from large organization to a big extent. However some difficulties with the specific list of CSF were identified, which are in line with the difficulties mentioned in previous research on project success. First we noticed that the lack of a common understanding of the individual factors often brought multifold perspectives and therefore also very different answers into the discussion. This makes it challenging in some points to assess the significance of the factor as stated in the literature, especially since not even the literature of the subject has defined the boundaries of each factor and topics involved in a coherent manner. This problem was also stressed by the fact that the interviewees often considered the various interrelationships between the factors and based on these interrelationships all factors were assigned importance. Even though it was often difficult to specify the importance of single factors, in the interviews the prominence of certain main themes present. These main themes that we identified were not only considered important as factors, but also were named in connection to many other factors and their salience is noticeable throughout the entire discussion.

The pre-eminent themes the startups were most conscious about and built their project management on were: first the team, in which skills, but also motivation and personality played a big role, second the sufficient and right resources, which stresses the strong focus of many of the participants on short-term goals, third the customer, who was omnipresent throughout the entire interview and influenced the startups to a great extent and fourth and last communication, which was seen as the foundation of many other factors such as feedback and troubleshooting, to just name two.

However instead of having specified, linear processes and practices in project management, addressing these themes, the need for flexibility in the young companies is accentuated and plays a major role. The identification of the interrelationships of these topics makes it easier to understand that project management in startups is a dynamic process, which is characterized by the willingness to be flexible and adapt. In addition to the varying perspectives on some factors, the type of project, as well as the industry somewhat had an effect on differing views on the relevancy of certain factors. That the type of project matters has been an often discussed topic in project management research (e.g. Müller and Turner, 2007, p. 299) and the industry has also been identified, influence the opinions on project success (e.g. Hyväri, 2006, p. 33) and could therefore be taken into consideration in further studies on project management in startups.

Despite the fact that the interviewees sometimes present different views on how success is seen and achieved in their companies, prominent themes they had in common became visible, not only in project success assessment, but also when discussing CSF. The common themes affecting project success of startups in terms of success criteria and CSF are the customer, the team and resources. The entire process is characterized by the necessity to be flexible and adapt due to the low predictability of the situations in which startups do projects. It showed that CSF focus more on ad hoc project management, while project success criteria also include longer-term matters. The tension between short term efficiency and long term effectivity is not present in CSF, as they are more concentrated on the implementation of the project. The polarization between cases is much more noticeable in the project success criteria when discussing trade-offs between instant economical needs and preparation for the future.
6.1 Theoretical implications

In regards to the objectives we have set for this study, we were able to form frameworks that were assumed suitable for our case companies, and many of them show indications as being transferable to other companies, fitting our startup definition. Previous project success research has neglected startups, thus this study contributes to the understanding of project success in this particular organizational context. Additionally, the understanding of the views of a decision maker in a startup has now been clarified to a great extent. We found explorative data on the main themes of project success in startups. We also added to the knowledge of how and why these things were found of a specific importance, or different than found in extant literature.

Project success assessment tools have developed from limited, internal and operational concepts to more strategic frameworks of quite noticeable orientation towards external parties and stakeholders. Our cases show that in young, small and entrepreneurial companies the customers are a major factor in project success definition, as is also the insecurity of new products, services, customers and businesses.

The results of this study indicate that the use of only the constraints that appear in “the Iron Triangle” is in fact not an option for our case company, suggesting that it is an outdated tool for project success assessment. This is found through a holistic research, which has been called for among the researchers of the factor school on different occasions. Additionally, the framework of startups created in the theoretical framework appeared to be mostly one that our participants identify with, therefore this study has also contributed by creating implications for a more holistic startup definition.

It is also noticeable that the value of, and requirements or expectations towards the project team may be more accentuated than has been suggested by previous research. Startups do witness a struggle between preparing for the long-term effectivity of and adapting to short-term efficiency, but in practical project management this is dictated by the requirements of customers. Our cases also suggest that adaptability, unlike forceful stability is an important feature of startup projects and that networking is of high relevance in the project success of startups, and network-related criteria could be made part of any startup-related project success frameworks. Critical success factors of projects in startups mirror these findings, highlighting the need to adapt in accordance to the company’s strategy, customer expectations and resources available, the latter meaning liquidity and human resources. Furthermore the identified main themes in startups provide the groundwork to build upon and develop more descriptions of project success in more narrow organizational contexts.

6.2 Practical Implications

Although the results of this study may not affect every startup, one can find certain things that are to be learned from our study. The entrepreneurial case of startups in our study showed considerable affinity towards management by projects and towards project management, which highlighted a need to create a constant long-term relationship with customers and to understand the needs of customers. In the project process the project teams are seen as a major or even the most critical asset of the company. The concentration in projects towards the customer and the team is of a more long-term nature,
even though the customers also create the input for short-term goals. Many of the companies concentrate most of their effort in reaching the short-term goals, but it seems that in start-ups the thinking of the long-term is also guided by the long-term hopes of customer relations and survival.

Our findings can be used as guideline of prioritization in projects for starting entrepreneurs, or project personnel in larger companies willing to find an understanding how project success is seen in entrepreneurial startups or for public decision-makers that want to understand the business reality of startups and may be able to provide support in the most important areas. In our case companies, the role of projects in general business was also highlighted, which can considered a beneficial addition towards reaching an understanding how uncertainty-ridden young companies do business. The research contributes towards understanding the reality of entrepreneurs in society in general, which is necessary for responsible creation of new businesses. It also shows how much the input of stakeholders is valued in startups, providing insights into how startups are connected with the rest of society and are affected by their surroundings.

6.3 Limitations and Suggestions for Further Research

This study is conducted in a selection of startups located in different cities of Finland, Germany and Sweden. The industries vary to considerable extent, but the sample is not complete in any national context industry. This study does not take cultural factors or national differences into consideration. Where further research is conducted, country-specific studies on startups could study the effects of cultural backgrounds and effects of national backgrounds and industries on startup project success, as a culture and context specific concept. Additionally, more context-specific studies in startups could form a better understanding of the dynamics of startup project success in those industries or even incubators respectively. As we have already mentioned this could also include the type of projects, which as our findings and previous research has shown (e.g. Müller & Judgev, 2012, p. 768), affect the view on CSF for projects.

Our study is conducted from the view of the decision-maker in a startup, these people include founder, owners and CEOs. In certain cases, the views of other partners, project managers or employees from different levels of the organization could have produced different kinds of results. Additionally, as our goal has been to concentrate on companies that can, by our definition, be considered startups. A comparative project success study of companies in different phases of their organizational development or a longitudinal study conducted in a developing organization could be able to find further insights to the development of project success in organizations. Additionally, our research has concentrated on the very concepts of project success. Different types of studies related to projects and project management could be conducted in startup contexts, as such studies are scarce. For instance the role of the project team seems to be a topic worth studying in startups, as its importance to the strategic feasibility of the organizations seems tremendous. Studies could be conducted also on different types of projects and what kinds of success criteria are used during certain project types. It could what is the connection to perceived success levels. Our research was of an exploratory nature, as we wanted to find out what success criteria and CSFs are most salient to startups. Therefore we did not find out what the actual strategic, tactical and operational effects of using the success criteria our interviewees used were.
Our time constraints made the time available for obtaining data from the interviewees limited, and although we did get a rich set of data from our interviewees, further contact and involvement in the business context of the interviewees could have given us more insights on the motivations of success criterion and CSFs in the particular startups. Future longitudinal studies would have the advantage to be able to take the project life cycle into consideration, which could provide more insights about what themes might be particularly important in certain lifecycle stages. Our study does not address the lifecycle and considers the project as a whole, not differentiating between initial and ending phases. To take the project lifecycle into consideration has been an often discussed topic among researchers such as Müller and Turner (2012, p. 199) and Alias et al. (2014 p. 62).

The choice using semi-structured interviews and structured questions formed through theoretical framework therein might be considered a limitation as well, as it may limit our views to a certain frame and forces us to use our own interpretations as means of understanding only the viewpoints of these individuals in particular. Although the explanatory motivations for success criteria and CSF ratings are used, and they should help justify why certain ratings were chosen for particular by the interviewees, the descriptiveness and quality of the explanations can sometimes be limited, due to time constraints during the interviews or misinterpretations of the interview questions. In-depth interviews with larger samples of native speakers would perhaps help alleviate a bias due to reasons of language. Additionally, as is the case with semi-structured interviews, there is a possibility of interpretive bias from the researchers, which may have been caused also by language barriers and our previous knowledge of the theoretical literature. While the amount of cases did not make the data collection impossible, using further methods of data collection on fewer cases, optimally for a longer time, could help in forming a better understanding of the concept of project success in a single startup. Large, quantitatively oriented surveys on project success of startups would help form an overview of the concepts in startups in particular.

This study has studied only project success and CSFs as general concepts within an organization, and not in relation to any projects, respectively. Projects differ in their sizes, shapes and types, Additionally, as Shenhar and Dvir (2007, p. 30) suggest, certain project success criteria would be interesting to study in a longer timeframe in startups, to see what kind of project success maintains its value in this type of companies. Additionally, the NTCP model of Shenhar and Dvir (2007) would be an interesting basis of studies for a larger sample of startups and their singular projects. The startup context could be expected to dictate some success criteria therein, but separate projects would help the relation of project uncertainty in their importance better. Furthermore, this study has used its own adaptations of theoretical suggestions and existing theoretical frameworks as bases of enquiry and analysis. Using other frameworks or inquiring about the success criteria and CSF in similar cases or samples of startups could produce additional interesting results.
Reference List


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Vuori E., Mutka, S., Aaltonen, P., Arto, K. (2013),"That is not how we brought you up: how is the strategy of a project formed?", *International Journal of Managing Projects in Business, 6* (1) : 88 - 105


APPENDIX 1: Fortune and White (2006) list of CSF (28 factors)

| 1. Support from senior management | 16. Risks addressed/assessed/managed |
| 2. Clear realistic objectives | 17. Effective monitoring/control |
| 3. Strong/detailed plan kept up to date | 18. Adequate budget |
| 4. Good communication/feedback | 19. Organisational adaptation/culture/structure |
| 5. User/client involvement | 20. Good performance by suppliers/contractors/consultants |
| 6. Skilled/suitably qualified/sufficient staff/team | 21. Planned close down/review/ acceptance of possible failure |
| 7. Effective change management | 22. Training provision |
| 8. Competent project manager | 23. Political stability |
| 9. Strong business case/sound basis for project | 24. Correct choice/past experience of project management methodology/tools |
| 10. Sufficient/well allocated resources | 25. Environmental influences |
| 11. Good leadership | 26. Past experience (learning from) |
| 12. Proven/familiar technology | 27. Project size (large)/level of complexity (high)/number of people involved (too many)/duration (over 3 years) |
| 13. Realistic schedule | 28. Different viewpoints (appreciating) |
| 14. Risks addressed/assessed/managed | |
| 15. Project sponsor/champion | |
APPENDIX 2: Interview Questions and Guidelines

1. Background questions
Name of the company, respondent;
Current country of operation;
Position in the company (title),
Industry of the company,
How many are employed? Full-time?
Age of the company?
Co-operative status of the company (independent, spin-off, partner…)?

2. Startup features

<table>
<thead>
<tr>
<th>Reason for question (source of question)</th>
<th>Question/statement</th>
<th>Source for connected theory/research</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLC: Relative smallness (Perényi, 2014)</td>
<td>Our organisation was small, both in size and relative to our competitors.</td>
<td>(Perényi, 2014, Lester, 2003, Ferreira, 2012, Hanks et al., 1993, Luger &amp; Koo, 2005)</td>
</tr>
<tr>
<td>OLC: Organizational formality (Perényi, 2014)</td>
<td>Our firm’s organisational structure could best be described as simple.</td>
<td>(Perényi, 2014, Lester, 2003)</td>
</tr>
<tr>
<td>OLC: Centralization of Power and Decision-making</td>
<td>Power and decision-making is centralized in the founders.</td>
<td>(Perényi, 2014, Lester, 2003)</td>
</tr>
<tr>
<td>OLC: Growth</td>
<td>Our goal is to grow, in terms of employees and/or turnover.</td>
<td>(KPMG, 2010)</td>
</tr>
<tr>
<td>OLC: Independence</td>
<td>Our company is an independent venture, not structurally a spin-off of a larger organization.</td>
<td>(Luger &amp; Koo, 2005)</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>EO: Autonomy</td>
<td>Employees in our company are invited to bring their own ideas and approaches present in their work.</td>
<td>Lumpkin &amp; Dess, 1996</td>
</tr>
<tr>
<td>EO: Innovativeness</td>
<td>Our strategy is built on finding new innovations.</td>
<td>(Ferreira et al., 2012; Lumpkin &amp; Dess, 1996)</td>
</tr>
<tr>
<td>EO: Risk-taking propensity</td>
<td>We gladly take risks to achieve our goals.</td>
<td>(Hanks et al., 1993; Lumpkin &amp; Dess, 1996)</td>
</tr>
<tr>
<td>EO: Proactiveness</td>
<td>Our strategy is based on advantages created by proactivity.</td>
<td>Ferreira et al, 2012, Hanks et al., 1993, Lumpkin &amp; Dess 1996</td>
</tr>
<tr>
<td>EO: Competitive aggressiveness</td>
<td>In competitively challenging situations, we react aggressively to our competitors’ acts.</td>
<td>Hanks et al., 1993, Lumpkin &amp; Dess 1996</td>
</tr>
</tbody>
</table>

3. Project practice question guidelines:

* Are your projects internal or external?
* Do you work in partnership projects with other organizations?
* How much of your business would you say is run in project form?
* How much experience do you have in project work?
* How many projects would you say have been done in your company?
* Do you have defined project management practices at:Portfolio, program or project level
* What would you currently consider your personal main issues in project management?
* What would you currently consider your organizational main issues in project management?
* Regarding projects, what tasks do you spend most of your time on currently?
* What are the main sources of your project uncertainty in terms of (Shenhar & Dvir 2007):
  * Novelty (new to market)?
* Technological advancement (existing technologies or ones that need to be created)?

* Complexity (combinations, systems, large systems or arrays)?

* Pace or the speed of development needed (ranging from extremely fast and competitive to a non-existent field where competition requires no quickness of reaction)?

4. Ratings of success criteria importance:

1: Not important at all; 7: Very important

<table>
<thead>
<tr>
<th>Efficiency</th>
<th>Meeting schedule goal</th>
<th>Shenhar et al. (2001, p. 172); Shenhar &amp; Dvir (2007, p. 219); White &amp; Fortune (2002, p. 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>Changes in projects stay to a minimum</td>
<td>Shenhar &amp; Dvir (2007, p. 219); Dvir &amp; Lechler (2004)</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Meeting budget goal</td>
<td>Shenhar et al. (2001, p. 172); Shenhar &amp; Dvir (2007, p. 219); White &amp; Fortune (2002, p. 6)</td>
</tr>
<tr>
<td>Impact on customer</td>
<td>Meeting a customer’s requirements and specifications</td>
<td>Shenhar et al. (2001, p. 172); Shenhar &amp; Dvir (2007, p. 219); White &amp; Fortune (2002, p. 6)</td>
</tr>
<tr>
<td>Impact on customer</td>
<td>Benefiting a customer</td>
<td>Shenhar &amp; Dvir (2007, p. 219)</td>
</tr>
<tr>
<td>Impact on customer</td>
<td>Solving a customer’s problem</td>
<td>Shenhar et al. (2001, p. 172); Shenhar &amp; Dvir (2007, p. 219)</td>
</tr>
<tr>
<td>Impact on customer</td>
<td>The customer is using the product</td>
<td>Shenhar et al. (2001, p. 172); Pinto &amp; Slevin (1988); Shenhar &amp; Dvir (2007, p. 219)</td>
</tr>
<tr>
<td>Impact on customer</td>
<td>Business and direct success</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Brand name (and loyalty)</td>
<td>Created a large market share for yourself</td>
<td></td>
</tr>
<tr>
<td><strong>Impact on team</strong></td>
<td><strong>Impact on team</strong></td>
<td></td>
</tr>
<tr>
<td>Team satisfaction</td>
<td>Team morale</td>
<td></td>
</tr>
<tr>
<td>Skill development within team</td>
<td>Team member growth</td>
<td></td>
</tr>
<tr>
<td>Team member retention</td>
<td>No burnout among team members</td>
<td></td>
</tr>
<tr>
<td>Generated Sales</td>
<td>Profits</td>
<td></td>
</tr>
</tbody>
</table>

Shenhar & Dvir (2007, p. 219); Shenhar et al. (2001, p. 172); Shenhar & Dvir (2007, p. 219)


Shenhar & Dvir (2007, p. 27)

Shenhar & Dvir (2007, p. 27)
<table>
<thead>
<tr>
<th><strong>Business and direct success</strong></th>
<th><strong>Market Share</strong></th>
<th><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Return On Investment</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Return On Equity</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Cash Flow</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Service Quality</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Cycle time</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Business and direct success</strong></td>
<td><strong>Regulatory approval</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27); Shenhar et al. (2001, p. 172)</strong></td>
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<td><strong>Preparation for future</strong></td>
<td><strong>Creating a new product line</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27); Shenhar et al. (2001, p. 172)</strong></td>
</tr>
<tr>
<td><strong>Preparation for future</strong></td>
<td><strong>Developing a new technology</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27); Shenhar et al. (2001, p. 172)</strong></td>
</tr>
<tr>
<td><strong>Preparation for future</strong></td>
<td><strong>Establishing new markets</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27); Shenhar et al. (2001, p. 172)</strong></td>
</tr>
<tr>
<td><strong>Preparation for future</strong></td>
<td><strong>New organizational capabilities and core competences are established</strong></td>
<td><strong>Shenhar &amp; Dvir (2007, p. 27)</strong></td>
</tr>
<tr>
<td><strong>Additional</strong></td>
<td><strong>New partners established into network</strong></td>
<td><strong>Atkinson (1999, p. 341)</strong></td>
</tr>
<tr>
<td>Additional</td>
<td>Network (suppliers and partners) satisfaction and cooperation</td>
<td>Atkinson (1999, p. 341) Westerveld (2003);</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Additional</td>
<td>Project fits the organization and its strategy</td>
<td>White &amp; Fortune (2002, p. 4)</td>
</tr>
<tr>
<td>Additional</td>
<td>Project helps build success in other projects</td>
<td>White &amp; Fortune (2002, p. 4)</td>
</tr>
<tr>
<td></td>
<td>Overall Success</td>
<td></td>
</tr>
</tbody>
</table>

5. **Success criteria question guidelines**

**Efficiency:**
- Why are divergent features of lower/higher importance
- What creates situations where short-term goals of a project become more important than long-term goals?

**Impact of customer:**
- Why are divergent features of lower/higher importance
- What influence would you say do customers have on your projects? (long-term vs. short term goals: brand building, relationship building vs. just looking for instant monetary compensation through customer etc.)

**Impact on team:**
- Why are divergent features of lower/higher importance
- Why is taking the project team into consideration important: what do you see as the benefit?
- In what situations is the project team (opinions, development of skills, well-being etc.) important?

**Business and Direct success:**
- Why are divergent features of lower/higher importance?
- Why are different economic measures important?
- Can you imagine a situation where economic factors are not that important anymore, but other things may be?

**Preparing for the future:**
- Why are divergent features of lower/higher importance
- What creates situations where long-term goals become more important than short-term goals?
● How would you describe the emphasis you put on short-term goals of projects and long-term strategic goals of projects?

● **How have project-specific factors** (size, type, strategic importance of project, project uncertainty in NTCP) affected how you view success in your projects?
● What differences have you noticed in success criteria between different projects? Why have those differences occurred?
● Has it been necessary for you to change the goals or success criteria of a project during their implementation?

6. Critical Success factors

CSF Definition: “the elements of a project which, when influenced, increase the likelihood of success; these are the independent variables that make success more likely” (Müller & Judgev, 2012, p. 758). What would you consider CSF in your projects? Why? How would you rate their importance in a similar scale as with the previous project success criteria?

Please rate the following CSF:

<table>
<thead>
<tr>
<th>PIP</th>
<th>CSF</th>
<th>Rating</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Project Mission (Clear realistic objectives)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Top Management Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Project Schedule/Plans (Strong detailed plan kept up to date, realistic schedule)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Client Consultation (User/Client Involvement)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Personnel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Technical Task (Availability of skills and technological assets)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Client acceptance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Monitoring and feedback (during the implementation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Communication (Good communication and feedback)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Troubleshooting (efficient problem solving)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. Reflective questions about each + exploratory factors: Why are these PIP CSFs important in your projects? What do they affect?
### APPENDIX 3: Interview Descriptions

<table>
<thead>
<tr>
<th>Company code</th>
<th>Date</th>
<th>Interview length</th>
<th>Mode of interview</th>
<th>Recorded</th>
<th>Additional inquiry</th>
<th>Position Part.</th>
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<tr>
<td>FIN1</td>
<td>23.4.2015</td>
<td>58 min</td>
<td>Personal</td>
<td>Yes</td>
<td>Yes (phone)</td>
<td>CEO, founder</td>
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<tr>
<td>FIN2</td>
<td>24.4.2015</td>
<td>54 min</td>
<td>Personal</td>
<td>Yes</td>
<td>Yes (Skype)</td>
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<td>37 min + 16 min</td>
<td>Personal + phone</td>
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<td>FIN4</td>
<td>24.4.2015</td>
<td>1h 7 min</td>
<td>Personal</td>
<td>Yes</td>
<td>No</td>
<td>CEO</td>
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<td>FIN5</td>
<td>29.4.2015</td>
<td>1h13 min</td>
<td>Skype video call</td>
<td>Yes</td>
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<td>CEO, Co-founder</td>
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<td>SWE1</td>
<td>16.4.2015</td>
<td>1h 5 min</td>
<td>Personal</td>
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<td>Yes (personal)</td>
<td>Co-founder</td>
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<td>SWE2</td>
<td>17.4.2015</td>
<td>59 min</td>
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<td>SWE3</td>
<td>24.4.2015</td>
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<td>Phone</td>
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<td>SWE4</td>
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<td>Skype</td>
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<td>GER1</td>
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<td>GER2</td>
<td>21.04.2014</td>
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<td>GER3</td>
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<td>Skype video call</td>
<td>Yes</td>
<td>Yes (Skype)</td>
<td>Co-founder</td>
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## APPENDIX 4: Startup and OLC Statements

<table>
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<tr>
<th>Company Code</th>
<th>FIN 1</th>
<th>FIN 2</th>
<th>FIN 3</th>
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<th>FIN 5</th>
<th>SWE 1</th>
<th>SWE 2</th>
<th>SWE 3</th>
<th>SWE 4</th>
<th>GE R1</th>
<th>GE R2</th>
<th>GE R3</th>
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<td>Smallness</td>
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## APPENDIX 5: CSF Rating: PIP Ratings Overview

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