Financial Bootstrapping as Relational Contract

Linking resource needs, bootstrapping behaviors, and outcomes of bootstrapping exchanges

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TANYA KOLYAKA | DEPARTMENT OF BUSINESS ADMINISTRATION

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Tanya Kolyaka

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Abstract

The aim of this thesis is to develop a conceptual model for understanding conditions for and outcomes of bootstrapping behaviors. Recent literature on financial bootstrapping in new firms acknowledges the necessity to consolidate and conceptualize the existing knowledge. Yet, the focus and findings of current research remain dispersed and at times contradictory, which might indicate the need for consolidation and conceptualization. Bootstrapping to date has been mostly studied cross-sectionally, with the help of quantitative methods and with reliance on theoretical concepts borrowed from disciplines that poorly describe a new firm's reality. In this thesis, I develop the understanding of bootstrapping exchanges as relational contracts between the entrepreneur and resource-providing stakeholders, and demonstrate the process-bound nature of norms, conditions, and gradually emerging outcomes of bootstrapping behaviors. My longitudinal study employs a qualitative, case-within-a-case approach, offering a methodological contribution to upcoming research. This study also contributes with comprehensive literature studies of bootstrapping and relational contracting knowledge, comprising the systematic reviews and bibliometric analysis. The study offers contribution for practicing entrepreneurs by discussing the gradually emerging, fine-grained outcomes of bootstrapping behaviors that may lead to larger implications, for instance for a firm's growth and possibilities for attracting external financing. Thus, the main contribution to policy actors and entrepreneurial practice is presenting the practical, multi-stakeholder perspective on bootstrapping exchanges, conditions for bootstrapping behaviors, and their outcomes.

Key words: Entrepreneurship, Financial Bootstrapping, Relational Contract, Contractual Norms, Bootstrapping's Conditions, Bootstrapping's Outcomes, Longitudinal Case Study

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Preface

A question of how entrepreneurs acquire and manage their resources, despite the challenges and uncertainties they face, lies close to my heart. For over ten years, and at the time of starting my doctoral studies, I myself have been an entrepreneur. I enjoyed the perks and challenges, victories and downfalls, and the immense learning unique to the process of starting up and running my own business. Then, at the beginning of my research journey, the financing of new firms interested me deeply. I knew I could bring to this field of research my own, practical experience, as well as individual voices of some of the entrepreneurs I met over my start-up journey. I was familiar first-hand with borrowing, begging, and stealing – within the legal boundaries, of course. I also knew, prior to getting introduced to academic perspectives, that resources rarely come from banks and venture capitalists at early development stages of firms – despite what the idyllic Silicon Valley cases might depict.

In practice, one rarely speaks of financial bootstrapping the same way academia does. The term is out and about, but much like trendy lingo in the circles, a stamp of belonging to the start-up crowd. Yes, just like hockey stick, pitch deck, exit strategy – you name it – bootstrapping is the term to know and use in order to fit in and impress the potential investors. In reality, pulling ourselves up by own bootstraps is what we do to survive. Although metaphorically speaking, it does ring a life-or-death question when your own start-up is your baby.

Academic perspective on entrepreneurial financing intrigued me. There are certainly numerous opinions and perspectives to untangle. Come up with the best idea, and you will raise money! No, idea does not matter – just be a salesman, be charming, be charismatic, reciprocate for any support you receive, and you will be successful! Use your own money for as long as possible, that is the only way to retain control over your business! No, do not use your own money – this will limit your possibilities for growth! Involve your family and friends, they are your biggest advocates and motivators! No, do not involve your personal network – they are biased judges, and you need the brutal honesty!...

In this turmoil, I was fortunate to find great mentors and excellent thesis advisors who helped me navigate this confusing landscape of knowledge, keep my head cool, read a lot and from diverse sources, and not expect to come up with The Question for my project overnight. I did just that, and slowly, but steadily my bootstrapping study was born.

My thesis is about what entrepreneurs actually do when it comes to financing their firms – small, young, risky, and – let's face it – barely attractive to the traditional capital market. It is also about what resource needs actually are, and how an entrepreneur can separate the needs from wants and apply reason to the own choices in relation to resources that can be obtained for free versus others that might be worth paying market price for. It is also about potential costs and benefits of frugal resource management. In my research project, I work to understand, interlink, and conceptually ground the three essential categories of interest – resource needs, conditions for bootstrapping behaviors, and the possible outcomes thereof. I argue that these cannot be effectively measured or contained within the defined toolboxes, but they ought to be qualitatively understood in their layered complexity and as a process that is far from linear. I conduct my study longitudinally, triangulate my data rigorously, and build my theory from the ground up based on first-hand insights from entrepreneurs and their resource providers. This is a multi-phase, case-within-a-case study in which I develop the conceptual model for understanding bootstrapping exchanges as a set of relational contracts.

My study contributes to bootstrapping knowledge development by building the nuanced empirical and conceptual understanding of bootstrapping exchanges between the entrepreneur and the firm's bootstrap resource providers. My findings demonstrate the changing, process-bound nature of conditions for bootstrapping behaviors, and outcomes thereof. Secondly, I demonstrate an approach to studying entrepreneurial phenomena longitudinally, and through a case-within-a-case design. Such a design offers the possibility of developing varied and nuanced findings, without relying on particularly large case samples. Theoretically, my study builds at the intersection of two fields of research – bootstrapping, and relational contracting. To understand the landscape of existing knowledge within these respective fields, I combine the systematic literature reviews with bibliometric analysis.

I hope that my conceptualizing and theory-building effort will open new doors for teaching practice and research within bootstrapping, entrepreneurial financing, and relational contracting. I also hope that my thesis may help to extend and nuance the understanding of new firm financing – for policy actors, practicing entrepreneurs, and their resource providers.

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This study would not be possible without financial support from the Sten K. Johnson Foundation for Entrepreneurship, which continuously provides a generous resource backbone for cutting-edge entrepreneurship research and education in Lund.

I am eternally grateful to my supervisors Hans Landström and Joakim Winborg for their continuous constructive feedback, and critical and encouraging guidance. Through all the ups and downs of working towards my degree, I could not have asked for better mentors.

During my years as a doctoral student, I have enjoyed generous opportunities to discuss this study with a number of excellent researchers. Especially warm thanks extend to inspiring women of science – Saras Sarasvathy, Ann Langley, Helle Neergaard, Gry Alsos.

I extend my deep gratitude also to Lund University's librarian, Sandra Elebro, for extensive hand-on coaching in systematic literature reviews. An invaluable help in learning the art and science of bibliometric analysis was kindly offered to me by Gouya Harirchi at the University of Trieste in Italy, and Fredrik Åström, an excellent bibliometrician and associate professor in Information Studies at Lund University. For patiently answering my countless email queries, I am grateful to bibliometric software developers Nees Jan van Eck and Ludo Waltman at the Centre for Science and Technology Studies of Leiden University.

All my fantastic colleagues at Lund University's Department of Business Administration and the Sten K. Johnson Centre for Entrepreneurship – it was a pleasure to be a part of working environment like that. My incredible PhD colleagues at the Department of Business Administration – walking this rocky path of thesis writing was only possible knowing that you walked this path as well.

Prologue

K is an entrepreneur. He did not plan to become one. If you asked him a few years back if he ever aspired to be an entrepreneur, or even considered it a possible career path – his answer would be a straight no.

K is a networker. He performs best when he is seen, when he is recognized – building and maintaining useful connections is worth the time and energy. Relationships make the world go 'round; quid-pro-quos are the path to success with limited resources at hand.

K is an exemplary citizen. He has a keen eye on anything that is unjust, unlawful, and unfair. In everything he does, he wants to be seen as a role model – and he certainly has a thing or two to be proud of. The company he started out of a serendipitous discovery is steadily growing in recognition and sales turnover, attracting talented employees, celebrity supporters, and industry sharks. And the best part of it all – K still owns and controls the majority stake of his business.

Entrepreneurs may cut a corner or two to access and manage resources for their ventures. This is a given. They may borrow, beg, and steal – but there is always a good reason behind and a higher purpose in mind, a question of the firm's survival and well-being. Resources are scarce. Relationships are the key and often the first and most sustainable resource at entrepreneur's disposal. And thus, they should never be compromised. They are to be nurtured and strengthened – be it with internal staff, or external investor, or suppliers and customers, or public and media.

Successful entrepreneurs always give back; it is an imperative of sustaining the business over the long term. What resourcing through relationships might cost to the entrepreneur and the firm is a different question. A question one cannot answer with confidence, unless one tries the strength of relationships on their own skin. Because experiences of others make little difference, and it is the individual path of trial and error that matters. This sure means that there cannot be a one-size-fits-all solution. Nevertheless, achieving the conceptual understanding of bootstrapping behaviors and their implications is possible.

Chapter 1.

Problem formulation

New firms and their role in society attract the interest of researchers across a wide range of disciplines, from economics to social sciences and management studies (Reynolds et al., 1994; Acs and Audretsch 2001; Smallbone and Welter, 2001; Katila and Shane, 2005; Acs et al., 2009; Landström and Benner, 2010). While multiple factors may contribute to start-up firms' successes and struggles, the role of resources is anything but trivial (Starr and MacMillan, 1990; Brush et al., 2001; Aldrich and Martinez, 2001; Martens et al., 2007). There are a variety of concepts and theoretical perspectives on understanding new firms' resources and their role. My study will focus on financial bootstrapping[1] – behaviors directed at gaining access to external resources at no or minimum cost, while simultaneously minimizing the firm's internal expenditures (Ebben and Johnson, 2006; Brush, 2008; Frid, 2009; Vanacker et al., 2011).

There are some limitations in earlier research on bootstrapping in new firms. The aim of this study is to tackle some of these through a qualitative, longitudinal, theory-building inquiry. I will develop a conceptual model for understanding conditions for and outcomes of bootstrapping behaviors.

My thesis is structured as follows. In Chapter 1, I define bootstrapping and problematize the current bootstrapping research based on the literature review presented in the next chapter. Here, I also offer my suggestions for addressing some limitations in current knowledge on bootstrapping, and discuss my study's expected contributions. Chapter 2 offers the systematic review and bibliometric analysis of bootstrapping literature. Chapter 3 is dedicated to methodological discussion, where I lay out the path to answering my research questions and present my study's two-phase design. In Chapter 4, I introduce my case firm, primary data from the study's first, longitudinal phase, and my conclusions in regard to a suitable theoretical framework. The selected theoretical framework is then discussed in Chapter 5, where I once again apply the systematic literature review and bibliometric analysis to map out the

[1] For the purpose of my study, I use the terms 'financial bootstrapping' and 'bootstrapping' interchangeably.

knowledge on relational contracting and operationalize the theory for my data analysis. Chapter 6 is dedicated to the study's second empirical phase. Here, I introduce and discuss my cases-within-a-case, and dive deeper into the underlying norms and conditions of bootstrapping exchanges and outcomes of bootstrapping behaviors. Chapter 7 concludes my thesis with a presentation of the developed conceptual framework for understanding conditions for bootstrapping behaviors and the possible outcomes thereof.

1.1 Different approaches to resource acquisition and management in new firms

1.1.1 Conceptual understanding of resource acquisition and management

Resources that new firms might require are diverse and highly specific to each particular new firm and its founders. Some firms may be able to go a long way on bootstrap financing, while some will require external financing immediately; some entrepreneurs may have easier access to a richer set of resources from the start, while some other may struggle more (Lichtenstein and Brush, 2001). Moreover, the entrepreneurs' ability to acquire and manage resources for their firms is challenging due to a number of internal and external factors associated with information asymmetry and liabilities of age and scale (Stinchcombe, 1965; Singh et al., 1986; Delmar and Shane, 2004; Martinez and Aldrich, 2011).

For the purpose of my study, I understand resources as a wide range of tangible and intangible assets that a new firm may require and use (Welter et al., 2016). Researchers often name human resources (such as manpower), social resources (such as personal and professional network), financial resources (such as money in bank accounts), and physical resources (such as production facilities). However, there might be other categories and combinations thereof, depending on the type of firm, individual characteristics of the founders, and numerous other factors in a firm's internal and external milieus (Lichtenstein and Brush, 2001). Entrepreneurship literature offers a number of concepts that may help us understand resource acquisition and management in new firms. Concepts adopted from financial and management research – theoretically inspired by a resource-based view, resource dependence theory, and transaction cost economics – are often used as theoretical lenses (Harrison and Mason, 2004; Vanacker et al., 2011). However, research also acknowledges that these concepts are only marginally applicable, and require significant adaptation to study new firms (Lichtenstein and Brush, 2001; Aldrich and Martinez, 2001; Zahra and Dess, 2001).

In recent decades, entrepreneurship research has developed its own concepts that might be useful for understanding resource acquisition and management. The ones that explain entrepreneurs' behaviors in relation to resources are effectuation (Sarasvathy, 2001, 2009), bricolage (Baker and Nelson, 2005; Salimath and Jones, 2011), and financial bootstrapping (Winborg and Landström, 2001).

Effectuation is a broad concept contrasting the entrepreneurial decision-making with the managerial reasoning seen in established organizations, where the uncertainty is lower and organizational routines are established (Sarasvathy, 2001; Sarasvathy and Dew, 2005). Effectuation applies the logic of resourceful handling of means available at hand. Such means inform the firm's possible paths to determining and achieving the flexible goals. An effectual entrepreneur's behavior is guided by four core principles – focusing on resources here and now, learning by trial and error, co-creating with others, and making do with "a bird in the hand" rather than aspiring the unattainable. Effectuation is useful for understanding a new firm's resources; however, it lacks the specific focus on resource acquisition and management of both the internal and external resources (Mansoori and Lakeus, 2019).

In this respect, bricolage also presents an approach entirely based on the availability of resources at hand or in access. In difference to effectuation, bricolage perspective is agnostic to whether or not the firm's goals are defined or flexibly emerging, but it explains how entrepreneurs may recombine and efficiently use the resources that others discarded or neglected (Garud and Karnoe, 2003; Baker and Nelson, 2005; Mansoori and Lakeus, 2019). In essence, bricolage presumes that entrepreneurs may already have all the critical resources at hand or within feasible access, and focuses on how entrepreneurs may efficiently extract and use the value of these resources (Baker and Nelson, 2005; Welter et al., 2016), while the attention to resource acquisition and its possible costs is lacking.

Bootstrapping, on the other hand, encompasses the understanding of behaviors to both manage what is at hand and access in an external environment what might be lacking. The concept explains behaviors directed at gaining access to external resources at no or minimum cost, while simultaneously minimizing the firm's internal expenditures[2] (Ebben and Johnson, 2006; Brush, 2008; Frid, 2009; Vanacker et al., 2011). From the perspective of a firm's financing, what is typically lacking for new firms is access to debt and equity capital[3] (Landström, 2017). In this respect,

[2] I present here my study's understanding of bootstrapping, synthesized from a variety of definitions in current research.

[3] I will further refer to debt and equity capital as 'traditional financing', based on Landström, 2017.

bootstrapping[4] is able to explain what entrepreneurs do in order to bridge the firm's financing, until debt and equity become more available (Freear et al., 1995; Harrison et al., 2004; Carter and van Auken, 2005). Thus, bootstrapping offers a more holistic, all-encompassing perspective on a firm's resource needs, entrepreneurs' behaviors to address such needs, and the possible implications thereof, which most accurately answers my research interest. In addition, I consider the potential to contribute to entrepreneurial theory and practice with my study. Out of concepts explaining new firms' resource acquisition and management, I find that the concept of bootstrapping has a notable potential for conceptual development (Winborg and Landström, 2001; Miao et al., 2017).

1.1.2 Bootstrapping as a field of knowledge

I build my argumentation for the necessity of conceptually developing the bootstrapping knowledge based on my findings from systematic review and bibliometric analysis of bootstrapping literature, which will be presented in detail in the upcoming Chapter 2. From the literature, it is clear that bootstrapping behaviors are widely used, and are presumed to be beneficial for new firms (Freear et al., 1995; Van Auken and Neeley, 1996; Harrison et al., 2004). There also exist various typologies of bootstrapping behaviors (Thorne, 1989; Winborg and Landström, 2001; Malmström, 2014). Some studies discuss the possible implications of bootstrapping behaviors for the firm (Ebben and Johnson, 2006; Patel et al., 2011; Vanacker at al., 2011). Although most of the studies are empirical, some of the latest studies presented a conceptual overview of bootstrapping as a field (Bellavitis et al., 2017; Miao et al., 2017).

However, conclusions of my review demonstrate several aspects of current knowledge that could be beneficial to explore further. The various empirical studies are dispersed and rarely refer to one another, which might indicate a need to consolidate and conceptualize the knowledge. While studies are able to describe the diversity of tools and techniques for acquiring and managing resources, the existing knowledge does not provide the nuanced understanding of individual bootstrapping behaviors and their possible implications for the firm. Moreover, I find that bootstrapping studies have used management and financial theories as frames of reference, which is not optimal for studying new firms (Lichtenstein and Brush, 2001; Aldrich and Martinez, 2001;

[4] Literally, a bootstrap is a leather strap on the back of a boot that serves as an aid when pulling the entire boot on. The term 'bootstrapping' comes in a given context from an idiom "to pull yourself up by your own bootstraps".

Zahra and Dess, 2001). Based on my literature review, I can pinpoint the following areas for potential development:

- There is still a need to understand bootstrapping behaviors as something entrepreneurs inevitably do to acquire and manage resources, and the conditions informing bootstrapping behaviors over time;
- There is still a need to develop a nuanced understanding of outcomes of bootstrapping behaviors, and the long-term implications of such behaviors on factors such as a firm's growth and survival; and
- There is still a need for an analytically transferable conceptual model, linking the conditions for bootstrapping behaviors and their possible outcomes over time.

My qualitative, longitudinal, theory-building study is designed to address the above limitations in current knowledge. I collected and analyzed data from multiple sources of evidence, and from both parties in bootstrapping exchange – the resource recipient and resource providers. The suitable theoretical frame of reference is discovered by means of step-wise data collection and analysis, which starts out as a purely inductive inquiry and then proceeds in an abductive mode (Kirkeby, 1990). I used relational contracting theory (Macneil, 1980) and operationalized the relational contractual norms in order to understand and answer research questions presented below.

1.2 The study's purpose and expected contributions

This study will offer empirical findings and the conceptual model for answering the following research questions:

1. How do contractual norms act as conditions for bootstrapping behaviors?
2. Based on conditions for bootstrapping behaviors, how do the possible outcomes of these behaviors emerge and develop over time?

For the purpose of my study, I understand the outcomes as states that are continuously produced as a consequence of resource needs being addressed through bootstrapping behaviors. Such understanding helps to resolve the contradictory findings in current research as regards bootstrapping's implications of firms' growth, survival, possibilities for attracting long-term financing, and so on. Through understanding of norms and conditions of bootstrapping behaviors, I demonstrate how bootstrapping behaviors may lead to fine-grained outcomes while contracting for bootstrap resources, thus extending and nuancing the divergent perspectives on bootstrapping's long-term implications.

Following the phase-wise design and inductive-abductive analytical inference, I am open to discover that linkages between the resource needs, conditions for bootstrapping behaviors, and their outcomes might be strong and pronounced, or weak and subtle, or I might discover that the links do not exist at all. No matter which case, I see the usefulness of such a study in untangling the process through which bootstrapping exchanges come to emerge, develop, grow, or dissolve over time, for one reason or another, leaving space for other bootstrapping exchanges or/and the financing of firms in a non-bootstrapping manner.

In developing the knowledge on bootstrapping, there are generous opportunities to contribute to research, teaching practices, policy, and entrepreneurial practice. The present study's empirical and conceptual contributions may uncover new perspectives on bootstrapping exchanges and, consequently, spark research interest to novel questions and theoretical cross-fertilization of bootstrapping with other fields of knowledge. With my study, I also aim to methodologically contribute to upcoming research by developing an analytically-transferable conceptual model that could be applied to the study of same or similar phenomena in a variety of contexts. As the teaching practice might build upon the new directions in research, I see my study making an important contribution in providing up-and-coming entrepreneurs with practical tools for reflecting on the relationship between resource needs, behaviors to address such needs, and a wider spectrum of possible outcomes of bootstrapping. For policy actors and public organizations at the periphery of entrepreneurial practice, my study offers practical insights for reflecting on support offerings to new and small businesses. While entrepreneurs already have access to grants, subsidies, and coaching programs, the bootstrap resource providers would benefit from coaching in regard to risks and benefits of bootstrapping exchanges as well.

My next chapter present the systematic literature review and bibliometric analysis that built the background for problem formulation and research questions.

Chapter 2.

Literature review and research agenda

In this chapter, I guide the reader through the literature review process, and discuss my findings on prior bootstrapping research. Working on this review has been the very first step on the path of this study. The earlier problem formulation, the background to study's research questions, and the contributions this study aims to deliver are all developed based on insights and findings this chapter will discuss. Conducting the systematic literature review at the start of the research project bears implications on my study's methodological and paradigmatic choices, and I realize that the earlier-mentioned path of inductive inquiry may now be justly questioned. I will revisit this discussion and justify my choices in the upcoming methodological Chapter 3.

My aim with this review is to not only incorporate the depth and breadth, but also both synthesize and analyze the available knowledge on bootstrapping in new firms. While taking first steps to familiarizing myself with bootstrapping as a field of research, I realized that the list of literature specifically focused on bootstrapping in the relevant context would be rather short. A preliminary review of the field showed that bootstrapping in new firms is discussed in colloquial and business press to a larger extent than in academic literature. To analyze the limited academic literature most qualitatively, I decided to employ a combination of systematic literature review and bibliometric analysis (Frank and Hatak, 2014; Gabrielsson et al., 2020). The following sections will consequently describe these parts of investigation and offer the reader discussion of my findings.

2.1 Systematic literature review

2.1.1 The process outline

Systematic literature review is an established methodology whereby the researcher applies transparent protocols and procedures through which the studies were accessed and analyzed (Macpherson and Holt, 2006). The key to systematic review is the replicability of the process, so that research bias can be minimized by an audit trail to the researcher's choices and conclusions (Tranfield et al., 2003). In the following, rather meticulous description of my review process, I aim to achieve just that. Figure 1 below illustrates the review steps, where I followed the review protocol suggested by Cacciotti and Hayton (2015). The figure is followed by the description of review procedures, justification of choices, and the review conclusions.

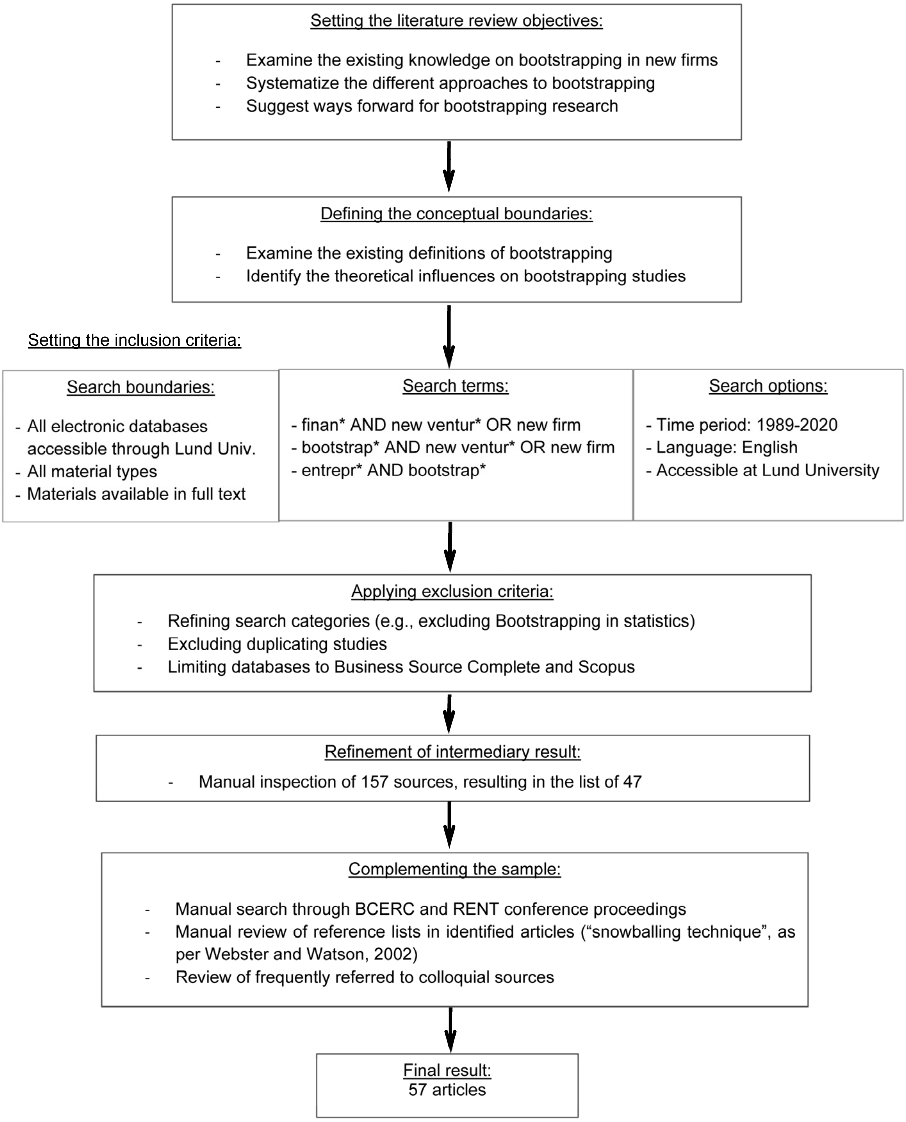

Figure 1 Summary of the systematic review process

The total number of studies reviewed and prepared for further bibliometric analysis is 57. A set of 47 studies was obtained by systematic, replicated multiple searches through online databases available at Lund University libraries. An additional set of 10 studies was obtained through snowballing technique, or a manual review of reference lists of the initial 47 studies (Webster and Watson, 2002; MacDonell et al., 2010). I also conducted a manual search through available records of the Babson College Entrepreneurship Research Conference (BCERC), years 1989 to 2013, and the EIASM Research in Entrepreneurship and Small Business (RENT) conference proceedings, years 2014 and 2015 – all of the proceedings are available through open access to date. Some non-academic studies were found through Google Scholar, but excluded from the review scope, as it would not be possible to include these in a bibliometric analysis. As an inexperienced researcher, conducting this type of study for the first time, I actively worked to minimize bias by means of frequent feedback from senior colleagues, supervisors, a specialist in systematic literature search at Lund University libraries, a Lund University employee specializing in bibliometric analysis, and several more experienced scholars whom I consulted in the review process.

Out of the 47 studies found in Lund University libraries, 43 are research papers published in scholarly journals, 2 are case studies published in scholarly journals, 1 is a *Harvard Business Review* article, and 1 is a conference paper available through a citations search. The dataset was obtained following the steps outlined on Figure 1, which I further describe in more detail.

In the review process, I first looked at published material of all types across all databases within Lund University digital libraries using the various combinations of keywords – bootstrap*, finan*, enterpr*, new ventur* and new firm. I searched for relevant titles, keywords, abstracts, and categories, and recorded the results returned at each step. Next, I introduced the exclusion criteria. For instance, I excluded categories like “Bootstrapping (statistics)”, “Business models”, “Industrial management”, as the manual review of a handful of articles in these categories showed that the context in which bootstrapping is used is not relevant for my study. After excluding the duplications, the number of studies remaining was 202, and search databases were further limited to Business Source Complete and Scopus. Business Source Complete appeared to be the most inclusive database, as it returned the highest number of relevant results – an important consideration given the fact that bootstrapping is a rather young field of research. The second database, Scopus, was selected considering the upcoming bibliometric analysis, as Scopus lists could be directly exported into the bibliometric software. As a result, I had a list of 157 studies at hand that was further reduced to 47 studies by relevance of abstracts, keywords, and reference lists.

Realizing that this dataset might be too limited, even given the scarcity of relevant publications, I additionally employed the snowballing review of the 47 studies (Webster and Watson, 2002; MacDonell et al., 2010), and searched among the proceedings of BCERC and RENT conferences. I also contacted three prominent authors of found studies to identify any relevant unpublished data (Rauch and Frese's, 2007). These additional steps resulted in the inclusion of 10 more studies, of which 8 were conference proceedings.

The final dataset of 57 studies formed the basis of my review, and this same dataset served as an input for bibliometric analysis. I give account to the number of citations for selected articles, the summaries of their aims, methodologies, findings, and definitions of bootstrapping in Appendix 1. On the next few pages, I will descriptively present the selected studies.

2.1.2 Longitudinal development of the field of research

The formation of bootstrapping research can be traced back to Thorne's article "Alternative financing for entrepreneurial ventures", published in *Harvard Business Review* in 1989. Thorne explored entrepreneurs' financing strategies, or in other words – bootstrap financing in new firms, as opposed to traditional business financing through debt and equity. He studied the resource-related behaviors of nearly 500 entrepreneurs he met while acting as a chairman of a local entrepreneurial network in Pittsburg, Pennsylvania, USA. He discovered the seven most commonly used bootstrapping techniques, acknowledging that these findings barely scratched the surface of the to date unexplored techniques and behaviors. Thorne's study quickly sparked the interest of other researchers. The questions asked next were – who finances technology-based firms (if not the traditional capital market) and why (Freear and Wetzel, 1990); what are the personal characteristics of a successful bootstrapper (Bhide, 1992); what is the role of initial resources at hand in subsequently getting financed through the traditional capital market (Cooper et al., 1994).

Freear and Wetzel (1990) confirmed that it is the private individuals – a new firm's internal and external informal stakeholders – that provide the initial financing to technology-based firms, and not at first hand venture capital firms, investors, and credit institutions. Bhide (1992) concluded that it is certain kinds of entrepreneurial behaviors that ultimately attract financing for new firms, and not factors like the uniqueness of the business idea or a fit to market trends. Cooper et al. (1994) found that an entrepreneur's knowledge and skills, as well as their own initial financial resources, not only influence the possibilities of attracting subsequent traditional financing, but also largely predetermine the firm's survival and growth.

These were some of the most influential findings during the early years of bootstrapping knowledge development. This first wave of bootstrapping research was led almost exclusively by USA-based scholars with a distinct financial management background. Authors of these early studies departed from an interest in non-traditional sources of financing available to entrepreneurs. Early studies usually looked at successful firms and described how they attained their financing. The growing evidence that new firms are indeed financed in a number of different alternative ways, rather than through debt and equity, triggered interest in studying various empirical phenomena related to alternative financing. Thus, the number of bootstrapping studies has grown quickly in USA (Freear et al., 1995; van Auken and Neeley, 1996; van Auken, 2001; Carter et al., 2003; Carter and van Auken, 2005; Brush et al., 2006), with European scholars catching up (Harrison and Mason, 1997; Harrison et al., 2004; Winborg and Landström, 1997, 2001). The follow-up studies of what may be called a second development wave aimed to close empirical gaps in regard to how bootstrapping behaviors may present themselves in various types of firms and contexts. The questions asked by second-wave studies were popularly concerned with bootstrapping preferences in different kinds of firms, such as technology-based firms (Freear et al., 1995; Harrison et al., 2004) or firms led by women (Carter et al., 2003; Brush et al., 2006).

As the body of empirical studies grows, the understanding of bootstrapping expands from merely alternative financing techniques to strategies that entrepreneurs employ to successfully navigate the resource landscape. Bhide (1992) and Cooper et al. (1994) previously proposed that an entrepreneur's individual human and social resources are essential for attaining traditional financing at later development stages. Exploration of this idea continues in empirical studies in the decade 1995–2005. The growing attention to the complexity of the bootstrapping phenomenon is noticeable even in the way the definitions transform, from Thorne's financing from alternative sources (1989) to highly creative ways of acquiring resources in Freear et al. (1995) and to imaginative and parsimonious strategies for accessing and gaining control over recourses in Harrison et al. (2004).

Bootstrapping research continues to be empirically-driven and contextually-bound, inquiring into behaviors and techniques used in particular types of firms operating in defined geographies. The first study that aimed to conceptually develop and systematize the knowledge landscape was the one by Winborg and Landström (2001). The authors suggested a taxonomy of 32 bootstrapping techniques spread across five different types of bootstrapping entrepreneurs – delaying bootstrappers, private owner-financed bootstrappers, minimizing bootstrappers, relationship-oriented bootstrappers, and subsidy-oriented bootstrappers. Until today, this study remains the most frequently cited reference for types of bootstrapping behaviors.

The beginning of 2000s marks an increased interest in an entrepreneur's decision-making and strategizing based on individual characteristics. For instance, Carter and van Auken (2005) linked entrepreneurs' willingness to invest their personal finances to the individually-perceived likelihood of a firm's success. They concluded that an entrepreneur will maintain a high personal equity investment in the firm only if the individually-perceived likelihood of business success is high. Thus, the study indicated that there might be a layered complexity of strategic choices of financing options that individual entrepreneurs navigate. Ekanem (2005) asked how resource-related decision-making depends on the previous experiences of individual entrepreneurs and their peers, and drew conclusions on the importance of individuals' prior experiences for bootstrapping – the more one bootstraps, the better one becomes in strategically navigating the resource-related behaviors. Ekanem's study is also one of the first in the field qualitative ones.

The studies of the subsequent development wave asked questions such as – what are the possible financing choices in new firms and how are they individually handled (Schwienbacher, 2007; Gartner et al., 2012); what are the more nuanced typologies of bootstrapping behaviors (Jonsson and Lindbergh, 2013; Malmström, 2014); what is the relationship between bootstrapping and a firm's long-term development (Ebben and Johnson, 2006; Patel et al., 2011; Vanacker et al., 2011).

Bootstrapping is increasingly discussed as behaviors highly reliant on social resources – the personal and professional network. Mason and Harrison (2004), introducing the special issue in small business research in the journal *Venture Capital*, speak of new perspectives on firm financing that include subjective elements of entrepreneurs utilizing their non-cash relationships, with bootstrapping being an example of such relationship utilization. Since then, bootstrapping research becomes increasingly cross-fertilized with sociology and network research. Yilmazer and Schank (2010) discuss the interchange of resources between family and business, or the concept of intermingling. They focus particularly on three gray zones in resource acquisition – the external economic context, the stage of a firm's development, and the influence of gender on resource-related behaviors. The authors conclude that studying bootstrapping techniques alone is not enough for understanding how entrepreneurs acquire and manage resources, but cross-fertilization with other fields of research is not only beneficial, but necessary. Jones and Jayawarna (2010) developed this argument further in their longitudinal study of the influence of social network on resource acquisition. They conclude that existing social ties could explain both how entrepreneurs bootstrap and what kind of outcomes bootstrapping behaviors may have on the firm. In a similar vein, Jonsson and Lindbergh (2013), in their in-depth qualitative study of Swedish fashion industry firms, conclude that building the network is critical from the early days of the firm's development, as a strong position in the network increases the firm's legitimacy and decreases information asymmetry, consequently improving the firm's chances of acquiring capital from traditional sources.

I conclude that bootstrapping as a field of research developed in the following phases, or development waves as they were previously called:

1. The financial management research perspective dominates in the period from the late 1980s through the early 1990s. Researchers find different financing patterns in new firms and contrast them with financing patterns in more established organizations (Thorne, 1989; Freear and Wetzel, 1990).
2. Being a popular way for new firms to acquire and manage resources, bootstrapping becomes an interesting empirical phenomenon for a wider group of researchers, assuming the management concepts as a theoretical lens. From the beginning of the 1990s, a growing number of empirical studies look at particular industries, geographical contexts, and an entrepreneur's individual characteristics (Freear et al., 1995; Harrison and Mason, 1997; Harrison et al., 2004; Carter et al., 2003; Brush et al., 2006).
3. In the beginning of the 2000s, the body of bootstrapping knowledge grows, but remains dispersed across contexts and not conceptually developed. Some researchers attempt to aggregate and systematize bootstrapping behaviors (e.g., Winborg and Landström, 2001). New concepts are offered for understanding the different bootstrapping behaviors, the possible reasons for bootstrapping, and different types of relationships with resource-providing stakeholders (Mason and Harrison, 2002; Carter and van Auken, 2005). Studies thus far have only been quantitative and cross-sectional.
4. In the second half of the 2000s, first qualitative studies appear (Ekanem, 2005; Brush, 2008). Bootstrapping becomes increasingly recognized as a dynamic phenomenon that depends not only on characteristics of individual entrepreneur or founding teams, but also on factors that are largely outside of an entrepreneur's control (Smith, 2009; Lam, 2009). Consequently, the ability of an entrepreneur to navigate social situations and contexts becomes the focus of inquiries (Jones and Jayawarna, 2010; Jonsson and Lindbergh, 2013; Malmström, 2014; Mac an Bhaird and Lynn, 2015; Harrison and Baldock, 2015).
5. Recognizing the interactive nature of bootstrapping and the importance of relationships between entrepreneurs and their surrounding environments, some studies take a critical perspective on bootstrapping. Such studies note the possible adverse outcomes of overreliance on bootstrapping (Ebben and Johnson, 2009; Patel et al., 2011; Vanacker et al., 2011; Turturea et al., 2012).

I note that the evolution of approaches to bootstrapping is aligned with developments in entrepreneurship research overall. Researchers in recent decades emphasize the criticality of an entrepreneur being embedded in surrounding, building and utilizing relationships for efficiently operating and growing the businesses (Martens et al., 2007;

Welter et al., 2016). Researchers also argue that quantitative and cross-sectional study designs are poorly suited for understanding the entrepreneurial phenomena (Aldrich and Zimmer, 1986; Low and MacMillan, 1988; Baker and Nelson, 2005; Landström et al., 2012; Frank and Landström, 2015; Fayolle et al., 2016), and, in later development, bootstrapping studies show more mixed and qualitative methodologies, as well as more attention to an entrepreneur's own reasoning and resource decision-making that cannot be fully understood in quantitative fashion (Ekanem, 2005; Brush, 2008; Jonsson and Lindbergh, 2013; Malmström, 2014; Mac an Bhaird and Lynn, 2015).

2.1.3 Updating the literature scope with latest studies

In 2020, while working on the final version of my thesis, I repeated the search steps so as to extend my review with the latest studies on bootstrapping in new firms. As earlier, I selected Scopus as the search database, and followed the previously described search procedures. This time, I selected the temporal scope 2017–2020 for my review addition. Eleven articles were found on Scopus, and an additional one, through Scopus reference, was retrieved through Google Scholar.

A proliferating number of entrepreneurship studies with financial bootstrapping in focus discuss entrepreneurial orientation, intentions, and learning, while understanding of process linking the resource needs, bootstrapping behaviors, and their possible outcomes is still lacking. Bootstrapping is often understood by latest studies as creative, alternative techniques that entrepreneurs apply to reduce dependence on external capital (Rio Rita, 2019). This definition implicitly points out the possible outcome of financing through bootstrapping – reduced capital dependency. These findings contradict earlier studies touching on bootstrapping's outcomes (e.g., Patel et al., 2011) that concluded that bootstrapping results in increased capital dependency. Thus, I find support for my earlier argumentation that understanding of bootstrapping's outcomes needs to be nuanced and extended, while single unified one-size-fits-all conclusions about outcomes can probably not be made at all.

There is an agreement in research, including the latest studies, that start-up businesses do not require large amounts of traditional financing. It is not the extensive financial capital, but rather the entrepreneur's human and social resources that propels the business to success (Kurian et al., 2020). Interestingly, the same was suggested by the very first bootstrapping studies in the late 1980s – the early 1990s (Thorne, 1989; Bhide, 1992), and thus the decades of empirical discoveries strongly proved the point of departure.

The latest empirical studies also mention power and control relationships between the stakeholders as one of the possible challenges of overreliance on bootstrapping.

Bootstrapping, researchers suggest, is most efficient when used as bridge techniques until the firm is ready to enter the traditional capital market, and entrepreneurs often make a mistake of missing the opportunity, reluctant to give up control (Smith et al., 2019; Kurian et al., 2020).

In the following presentation of my bibliometric analysis, I distinguish the studies by different theoretical and empirical approaches to understanding bootstrapping behaviors. The development waves discussed above are also recognizable in bibliometric clusters presented and analyzed further.

2.2 Bibliometric analysis

2.2.1 Bibliometric map and clusters description

With my literature review, I aimed to systematize the existing knowledge and outline the different approaches in bootstrapping literature. The earlier overview of historical development suggests that there might be certain themes that influenced bootstrapping research at different stages of its development. To understand the knowledge landscape even better and to map out the various theoretical influences on bootstrapping studies, I conducted a bibliometric analysis based on my dataset of 57 studies.

Bibliometric analysis is a quantitative evaluation of various publication and citation data. It is essentially the use of numbers in order to map out the existing knowledge within the field (Åström and Sandor, 2009; Pendlebury and Adams, 2012). One example of such mapping is citation analysis, which is best done with help of bibliometric tools that are specifically designed to prepare and visualize the data obtained in systematic literature reviews (Garfield, 1998; Small, 2003; Åström et al., 2009). Small (2003) argues that studying clusters of authors who are cited together, or who reference a common third work in their studies, may help to identify trends within a research field. I further present a step-wise process of creating the bibliometric map and discuss the identified clusters of studies. The below description of the process may seem excessive, but, just as with systematic literature review, I aim to provide an audit trail for my choices so as to increase the legitimacy and applicability of my study for future research.

For my bibliometric analysis, I used VOSviewer software in version 1.6.4. The dataset of 57 studies was exported directly from Scopus as an Excel table. The fields in the export file included citations, abstracts, and references. In selecting the essential criteria and building my bibliometric analysis, I benefited greatly from email consultations with VOSviewer software developers (van Eck and Waltman, 2014).

VOSviewer software is sensitive to spelling options. For instance, it treats “Landström” and “Landstrom” as two different names. To reconcile such differences, I manually created a thesaurus file consisting of 2088 non-repetitive names across the reference lists in the review studies. The Scopus Excel file and the thesaurus served as input in creating the bibliometric map. Following the advice of Waltman and van Eck, I then selected “co-citation” as the type of analysis, and “cited authors” as the unit of analysis.

VOSviewer software suggests to select a threshold, or a minimum number of citations that the unit of analysis has to have received in order to appear on the map. In establishing the appropriate threshold, I followed considerations on the optimal number of authors that should appear on the map in order to still be able to interpret the clusters as accurately as possible. By means of experimenting, I set the value of 6 citations as a threshold, which resulted in visualization of 118 references. The final map with the distinct four clusters is presented in Figure 2.

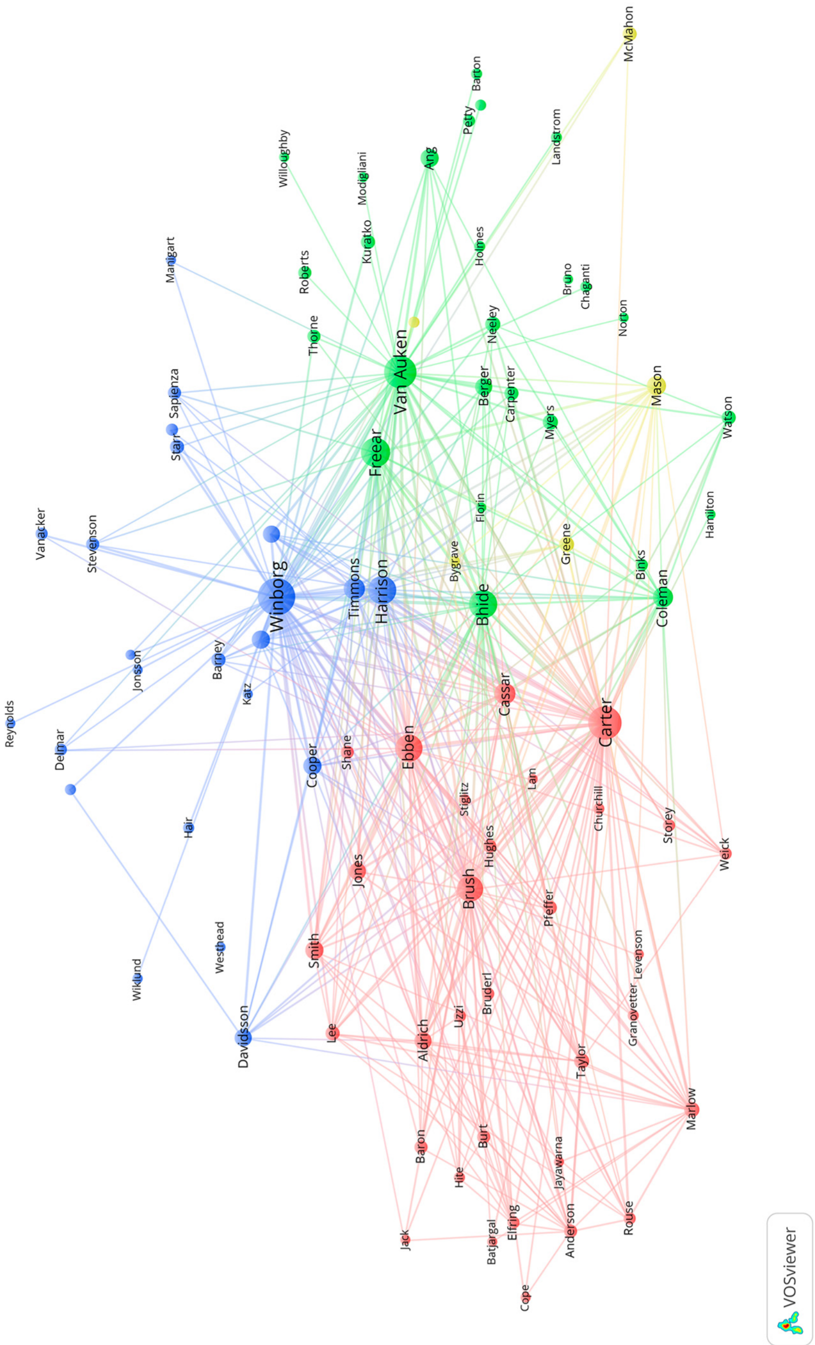

Figure 2 Bibliometric map of bootstrapping literature

The colors in Figure 2 represent the groups of authors that have most similarities in citation patterns. I acknowledge, in line with past research, that bibliometric connections may not perfectly reflect similarities in theoretical bases, similar topics of research, or alignment in the researchers' understanding of certain phenomena. What bibliometric clusters often represent is the groups of authors that are connected by citation patterns, which might be merely a consequence of authors belonging to the same network, or a group of researchers that are in frequent communication with one another (Small, 1980). Considering this, I also evaluated the bibliometric clusters based on the following criteria:

(1) the study's text explicitly indicates a certain theoretical lens;

(2) the reference lists cite the classic works within a certain theory;

(3) theory-related concepts are defined and emphasized in the study;

(4) research hypotheses and/or research questions explicitly relate to specific theories; and

(5) authors' prior background indicates belonging to a particular school of thought.

I only used the fifth criterion in case of doubt that the other criteria could not resolve, and I evaluated the authors' background by looking through their curriculum vitae, collaborations, and publications lists. I used these sorting criteria to identify the core themes of each cluster in Figure 2, which I describe in the upcoming sections.

It can be noted in the bibliometric map that there are very few authors that are heavily cited, while many are connected by rather weak relationships. Apart from a few influential circles, the map is scattered, with sizable variation in circles sizes. This supports the earlier argument that bootstrapping knowledge has not accumulated well and remains dispersed.

By applying my sorting criteria, I identify the following themes that have influenced the studies in the selected sample: (1) management theories perspectives ("blue" cluster in Figure 2); (2) financial theories perspectives ("green" cluster); (3) network perspectives ("red" cluster); and (4) diverse group of empirical studies ("yellow" cluster). The upcoming sections will consequently present the common features of four bibliometric clusters. As mentioned before, non-academic sources have discussed bootstrapping extensively and had an influence on academic research, although they could not be included in the bibliometric analysis. After presenting each of the four clusters, I will therefore touch upon non-academic perspectives on bootstrapping.

2.2.2 "Blue" cluster – management perspectives

A significant number of bootstrapping studies used management theories – resource-based view (Penrose, 1959; Barney, 1991) and resource dependence theory (Pfeffer and Salancik, 2003) – as frames of reference. Background presuppositions of studies belonging to this cluster are that, for a new firm, a set of critical needed resources can be defined, and access and control over these is the basis of a firm's competitive advantage, survival, and growth (Cooper et al., 1994; Patel et al., 2011; Vanacker et al., 2011; Gartner et al., 2012; Rutherford et al., 2012). Consequently, accessing and managing the necessary set of resources in a bootstrapping manner is a commonsense necessity to ensure the firm's competitiveness and, consequently, survival (Starr and MacMillan, 1990; Winborg, 2009, 2015b). The studies in this group often operate such concepts as survival, ownership, control, and strategy when discussing bootstrapping in new firms. The most common way to define bootstrapping for this group of studies is as creative strategies directed at acquiring resources that an entrepreneur does not have in their possession or control (Harrison et al., 2004; Malmström, 2014).

Although the studies may take inspiration from management theories or often explicitly refer to resource-based view or resource dependence theory, researchers recognize that management perspectives on bootstrapping originate from research on established organizations and often require significant adaptation to entrepreneurship reality. For instance, some studies acknowledge that a set of resources cannot be defined and targeted directly for new firms, but entrepreneurs strategize about resources based on frequently-changing internal and external conditions (Lichtenstein and Brush, 2001); or that new firms cannot access resources the same way as larger established firms do due to liabilities of age and scale (Aldrich and Martinez, 2001). Therefore, entrepreneurs often use creative informal techniques – bootstrapping in particular – to tackle resource acquisition and management challenges.

2.2.3 "Green" cluster – finance perspectives

Financial theories perspectives propose that entrepreneurs would prefer to use traditional financing, such as credit and equity capital. However, as these forms of financing are generally unavailable for new firms, entrepreneurs choose to – or are forced to – bootstrap. In choosing from options for acquiring and managing resources, entrepreneurs are guided by economic rationality, evaluating the costs and risks against expected rewards (Donaldson, 1963; Myers and Majluf, 1984; Berger and Udell, 2003). Arguably, bootstrapping is an alternative to traditional financing that may help new firms become operational while other options are lacking (Willoughby, 2008;

Geho and Frakes, 2013). Researchers adopting this perspective define bootstrapping as alternative financing techniques that entrepreneurs use in order to expand options for raising finances while simultaneously limit business expenses (Winborg and Landström, 2001; Perry et al., 2011; Mount, 2012).

Real options analysis and pecking order theory are two perspectives from financial management literature that bootstrapping studies in the "green" cluster draw inspiration from. A real option is an alternative or a choice available when making investment decisions (Myers, 1977; Luehrman, 1998). In bootstrapping research, real options are used to explain how entrepreneurs evaluate the costs and risks of resource acquisition and management paths available to them (McGrath, 1999; Ekanem, 2005; Bosse and Arnold, 2010; Atherton, 2012). For instance, a hardware development firm might be making a choice between investing in owning equipment or outsourcing production to an external manufacturer. Similarly, pecking order theory proposes that firms rate their financing options according to costs of resource acquisition and management associated with one option or another. Entrepreneurs use pecking order as follows: bootstrap financing is used first, debt is the next in order, and equity options are explored last (Donaldson, 1963; Myers and Majluf, 1984; Berger and Udell, 2003). Researchers find strong support for pecking order logic, concluding that bootstrapping is often preferred as the path that is most attainable and least costly (Frid, 2009; Fitzsimons and Hogan, 2014, 2015).

2.2.4 "Red" cluster – network perspectives

Both the management and financial theoretical perspectives are frameworks developed to study established organizations, and they require adaptation to small business and entrepreneurship research (Lichtenstein and Brush, 2001; Frid, 2009). More recent studies criticized these approaches for being normative, instrumental and neglecting the individual's logic, ambitions, skill sets, experiences, and other subjective factors (Ruzzier et al., 2006; Zahra, 2007). For instance, Ebben (2009) argued that entrepreneurial firms build and manage their resources not only differently to established organizations, but also in widely diverse ways. Therefore, there cannot be any recipe for success that would fit all. Based on study of technology-based start-ups, Smith (2009) argued that resource acquisition and management behaviors are highly subjective, and are specific to the industry, the firm, and its founder(s). Over the past decade, bootstrapping research has taken steps to expand beyond the traditional management and financial theories to understanding new firms' resources from the perspectives of sociology and network theories.

Granovetter's seminal article "The strength of weak ties" (1973) significantly influenced bootstrapping research in later development years. Granovetter discusses individuals' interactions with surrounding social milieus, concluding that all of the experiences and actions are closely bound with various aspects of social structure. Consequently, the firm's development process is largely beyond the control of a particular individual, but rather is influenced by various external factors, as well as ties and networks. Johannisson and Moensted (1997) built upon Granovetter's work, and suggested that an individual's networks, comprising social and professional ties, are instrumental in entrepreneurial activities, including resource acquisition and management. The number of studies that recognize the interconnection between entrepreneurs and their social environments as the key factor is thus growing.

The understanding of the concept of network could be summarized as specific social and professional relationships that allow individuals – the firm founders or teams of founders – to access various resources (Jayawarna et al., 2015). From the network perspective, bootstrapping behaviors are understood as utilization of social and professional ties in order to access and manage the needed resources (Jones and Jayawarna, 2010). Jayawarna et al. (2011) demonstrated how ties and social resources are linked to the bootstrapping behavior of entrepreneurs in socially disadvantaged and resource-deprived regions. The authors concluded that ties and social resources predetermine the success of resource acquisition and management, particularly for entrepreneurs from socially disadvantaged backgrounds. The study further argues that the entrepreneur's strong position in the network and individual relationships brokerage could to some extent mitigate the resource challenges posed by the external environment. Similarly, Lam (2009) understands bootstrapping as acquiring resources through social relationships at minimum costs, conditioned on the ability of an entrepreneur to adequately respond to resource needs by utilizing personal and professional relationships.

The attention to an individuals' ability to navigate their social environments is very pronounced in studies belonging to the "red" cluster. These studies see human resources (i.e., education, prior experiences, skills) and social resources (i.e., personal and professional network) as enablers of bootstrapping behaviors. The human and social resources, researchers argue, are the critical resources for starting and developing new firms. In my literature review, I could find both conceptual (e.g., Yilmazer and Schrank, 2010; Jayawarna et al., 2014; Jayawarna et al., 2015) and empirical studies (e.g., Carter et al., 2003; Brush et al., 2006; Neeley and van Auken, 2010; Smith, 2009) that adhere to this line of argumentation.

2.2.5 "Yellow" cluster – diverse empirical studies

A significant proportion of bootstrapping knowledge available today is empirically-driven. This is not surprising considering that bootstrapping is a relatively recent field of research inquiry. In order to cover as many knowledge gaps as possible, researchers looked empirically into how new firms behave when it comes to resources, and provided plentiful practice-near insights into how bootstrapping behaviors might manifest themselves in a number of different situations (Cassar, 2004; Rutherford et al., 2017). Studies in the "yellow" cluster looked at bootstrapping preferences by types of firms and external contexts (Afolabi et al., 2014; Fatoki, 2014), types of entrepreneurs (Stephens and Iskandarani, 2006; Schinck and Sarkar, 2012), or analyzed the existing cases and success stories (Lahm and Little, 2005; Markova and Petkovska-Mirčevska, 2009; Basu and Patel, 2009; Yazdanfar, 2011; Holland and Herrmann, 2013). These studies demonstrate that bootstrappers can be improvising, creative or frugal, spontaneous or strategic, social or individualistic, but most importantly – that all the bootstrapping stories are unique, and there is no one-size-fits-all solution.

Although "yellow" is the smallest cluster in my review, it is necessary to note that diverse empirical studies are prevailing in the field. The fact that only a small number of such studies showed up in my bibliometric inquiry confirms the argument that the field of knowledge remains dispersed and studies seldom rely on one another, while consolidation and conceptualization of available knowledge is still ongoing and will require persistent efforts.

Not only the scientific publications, but also the entrepreneurial practitioners publishing in business press outlets emphasized the role of ties and social structures in resource acquisition and management. The practitioners' perspectives, with Godin (1998) and Kawasaki (2004) frequently cited across the academic literature, build an extensive body of knowledge on bootstrapping in new firms. I will briefly discuss the practitioners' perspectives in the upcoming section.

2.2.6 Practitioners' perspectives

Many studies enriching the field of bootstrapping have accumulated outside of academic literature. In my systematic review, sources like *Inc.*, *Entrepreneur*, *Forbes*, *Harvard Business Review* returned a substantial number of results that could not be included in the bibliometric study since they are not available in the Scopus citations record. I nevertheless would like to mention the practitioners' perspectives together with practice-near scholarly studies. The articles by Thorne (1989) and Bhide (1992), available through a social citations search and thus included in my bibliometric analysis, were instrumental in tying together the practical and academic perspectives on bootstrapping. One could say that Thorne and Bhide brought the practical interest in bootstrapping into the academic research. At the start of academic field of research development, Bhide (1992) studied the founders of Fortune 500 companies to identify and describe a "successful bootstrapper", and not the tools and techniques. Bhide suggests that the quality of the business idea is by far outweighed by the founder's individual ability to drive forward virtually any business idea by being a successful bootstrapper. Such individual, according to Bhide, is not afraid to take risks, acts fast in face of market opportunity, is an excellent salesperson, and uses their own social skills and networks extensively. Being close to network approaches in later literature, Bhide argues for strategic navigation of network, rather than mere utilization of ties. Bhide warns of "wasting time by scheming to raise money", which could be dangerous for the firm in a long run.

The prominent practicing entrepreneurs also understand bootstrapping as a specific individual skillset that propels successful financing. In "The Bootstrapper's Bible" (1998), Seth Godin advises aspiring entrepreneurs to not waste their time looking for innovative ideas that could change the world in an instant, but instead polish their soft skills, learn to be an excellent salesperson, build their network and not be afraid to use it. Godin argues that starting up and running a successful firm is a matter of identifying a problem with a simple, cheap and appealing solution, and then applying the bootstrapper's mindset to claim the market share.

The difference in how the professional researchers and professional entrepreneurs understand bootstrapping is worth noting. While most of the academic studies discuss bootstrapping in terms of alternative strategies, tools, and techniques, practitioners focus on individuals that either possess the necessary qualities to bootstrap or lack such qualities. The latter group of knowledge contributors suggest that bootstrapping is more intuitive and less rational than what many scholarly studies, particularly the earlier ones, may indicate. Practice-near perspectives also indicate that it is the bootstrapper who is the key to financing the firm, and not at first hand the tools and techniques used for that purpose.

Practitioners' perspectives become increasingly influential in later academic studies across different bibliometric clusters in my review (e.g., Vanacker et al., 2011; Patel et al., 2011; Politis et al., 2011; Jonsson and Lindbergh, 2013; Malmström, 2014; Jayawarna et al., 2015). In the final section of this chapter, I will summarize the literature review findings, discuss the contributions of bootstrapping studies to date, and suggest the implications for future research and practice.

2.3 Review synthesis and findings

2.3.1 Conclusions on longitudinal development of knowledge

My literature review pursued the following objectives:

(1) to outline the historical development of bootstrapping as a field of research;

(2) to map out the existing knowledge on bootstrapping to date, including the different perspectives on bootstrapping; and

(3) to suggest development pathways for bootstrapping research going forward.

In my ambition to provide an explicit overview of the extant knowledge on bootstrapping in new firms, in this review I employed dual methodology, comprising systematic literature review and bibliometric analysis of citation patterns, with qualitative interpretation of bibliometric clusters or groups of bootstrapping studies. I conclude that the scientific base that bootstrapping research builds upon is divergent, and existing knowledge does not provide a sustainable base for the upcoming research. Different backgrounds of researchers who have shown interest in bootstrapping presupposed variations in ways bootstrapping is defined and discussed (see Appendices 1 and 2). In an attempt to address the above challenges, concluding sections of this chapter will propose some directions for future research.

The review conclusions support the argument that bootstrapping as a field of research is in an intensive development stage (Smith, 2009). Researchers realize that concepts adopted from research on large established organizations are only marginally suited for studying financing in new firms (Lichtenstein and Brush, 2001; Willoughby, 2008; Smith, 2009; Frid, 2009). Some of the studies of later development wave (Grichnik and Singh, 2010; Grichnik et al., 2014) expressed concerns that the popular understandings of bootstrapping – such as strategies for accessing the resources not owned or controlled by an entrepreneur (Harrison et al., 2004), a set of methods for obtaining resources (Ebben, 2009), and a variety of techniques that entrepreneurs use to raise financing and limit expenses (Patel et al., 2011) – might have missed the different rationality and individual reasoning entrepreneurs may apply. Latest research within the field developed terms and definitions that are more suitable for entrepreneurial reality – focused on behaviors, experiences, relationships, human and social resources (Jones and Jayawarna, 2010; Jayawarna et al., 2015; Mac an Bhaird and Lynn, 2015; Jayawarna et al., 2020). This development is in line with overall tendencies in entrepreneurship research, characterized by persistent calls for qualitative and longitudinal studies that place the individual entrepreneur in focus (Aldrich and

Zimmer, 1986; van Auken and Neeley, 1996; Ekanem, 2005; Winborg, 2015a). Future bootstrapping research may benefit from applying this tradition to further extend and nuance the understanding of the links between bootstrapping as objective tools and techniques, and bootstrapping behaviors as subjective individual financing logics. In summary, the findings of my review are as follows:

- Existing research is empirical. A modest number of conceptual studies are based on theoretical frameworks from organizational and financial management that only marginally fit the entrepreneurial reality. Conceptualization based on bootstrapping as an entrepreneurship phenomenon needs advancement.
- Bibliometric analysis demonstrates that bootstrapping research is fragmented, and a common conceptual apparatus for understanding resource needs, bootstrapping behaviors, and their possible outcomes is missing.
- Existing research, by and large, focuses on instrumental bootstrapping techniques and methods, while there is still a need to understand bootstrapping behaviors as something entrepreneurs inevitably do to acquire and manage resources.
- In discussing the outcomes of bootstrapping, research operates the normative measurements, such as performance, growth and survival, while the nuanced understanding of fine-grained outcomes that may lead to thereof implications is lacking.
- Existing research is prevailingly quantitative, cross-sectional, and focused around hypotheses testing. In line with perspectives on the fields of research development (Edmondson and McManus, 2007), qualitative, longitudinal, theory-building studies are needed.

Below, I present the suggested directions for future bootstrapping research.

2.3.2 Directions for future research

A vast number of ontological positions, analytical paths, and methodologies may be considered while designing empirical studies. It may be reasonably expected that studies designed in different ways might result in different, at times contradicting, conclusions. With the help of Edmondson and McManus (2007), I conclude that one viable path to resolving the contradictions is to aggregate the divergent findings in a qualitative, theory-building inquiry that could lead to the development of a conceptual model applicable to studying the same or similar phenomena in various contexts. Such a theory-building effort might encourage future research, whether qualitative or quantitative, to inquire into, for instance, novel bootstrapping behaviors and cross-fertilization of bootstrapping with other research fields.

From the literature study-informed understanding of the field of knowledge, I suggest the following paths to developing the theory and research practice:

1. Firstly, bootstrapping is a relatively new, empirically-oriented field of scientific inquiry. It is important to recognize and account for the knowledge development outside of academic literature. Publications in business outlets, such as *Inc.*, *Entrepreneur.com*, *Forbes*, and *Harvard Business Review*, need to be more widely considered, as they are often offered by successful practicing entrepreneurs and business consultants (e.g., Godin, 1998; Gendron, 1999; Kawasaki, 2004).
2. Secondly, I note the discrepancies as regards understanding the bootstrapping's antecedents – or the conditions that lead to resource needs being addressed through bootstrapping behaviors – and bootstrapping's possible outcomes (Brüderl et al., 1992; Ebben and Johnson, 2006; Patel et al., 2011; Vanacker et al., 2011; Miao et al., 2017; Kurian et al., 2020). For instance, research recognizes that relying on bootstrapping techniques diminishes with time – newer and smaller firms rely more heavily on bootstrapping, while growing and more developed firms are more likely to use traditional financing (Jonsson and Lindbergh, 2013; Grichnik et al., 2014). However, some studies found an increase in the use of particular bootstrapping techniques with firm's development, due to expanding human and social resources that entrepreneurs build with time (Jayawarna et al., 2011; Afolabi et al., 2014; Mac an Bhaird and Lynn, 2015). These contradictions might indicate that there is still a need to understand bootstrapping by means of qualitative analyses and longitudinal study designs. Future research might benefit from considering alternative and revised methodological tools for studying bootstrapping.

In the upcoming Chapter 3, I discuss my study's methodology. I begin by presenting the study's scientific principles and ontological perspective. I then elaborate on my study's design, beginning with a discussion of options considered and then proposing the execution path towards the study's purpose. In Chapter 3, I also provide a full account of the data collected, and the method for its collection and analysis, preparing the reader for descriptive presentation of my empirical work.

Chapter 3. Methodology

Financial bootstrapping in new firms is a relatively new and small field of entrepreneurship research. Designing my study, I rely on Edmondson and McManus' (2007) argumentation that pattern-seeking, theory-building studies are needed to promote knowledge advancement. I will develop answers to my research questions through a longitudinal study with two main empirical phases, and an explorative phase 0. Explorative phase 0 aims to confirm the relevance of my study from the perspective of real-life entrepreneurs. It also aids me in establishing the selection criteria for my overarching case. My study's core phase 1 is longitudinal and data-driven. It is aimed at discovering the insightful instances where my study's object can be observed, asked, and read about. My study's core phase 2 is sensitized by phase 1 findings, and the theoretical frame of reference that is selected based on phase 1 findings.

This chapter is structured as follows. I begin my design argumentation by presenting the study's adopted scientific principles and ontological perspective. By introducing the different existing perspectives on case study, I develop my own understanding of case method and present the arguments for a case-within-a-case design. I then outline specifically what my study's case is, and what object and subjects are my study's focus. The practical, step-wise execution of the study is thoroughly elaborated upon next. I introduce the data collection interventions – interviews, observations, and documents study – for each of the phases in turn. Lastly, I touch upon methodological limitations and implications of my research.

3.1 Study's scientific assumption

3.1.1 Scientific principles

I collect and analyze the empirical material triangulated from multiple sources of evidence so as to develop an in-depth understanding of study's object. The longitudinal design and rigorous data triangulation allow me to study one and the same instance representing the phenomena of interest on multiple occasions in time, and from the perspectives of various data sources (Ragin and Becker, 1992; Flyvbjerg, 2006; Stake, 2005, 2010). The triangulation principle also extends to the methodological tools, whereby I develop my understanding of the object of the study by asking about, observing, and reading about the studied phenomena (Bates et al., 2000). I employ unstructured and semi-structured interviews, researcher's observations, and documents study as data collection tools.

A critical aspect to consider is the researcher's subjectivity. In the frame of my study, I will inevitably interact with human subjects, while observing and asking about the study's phenomena of interest. My personal involvement with the study's subjects and empirical data – through face-to-face interviewing and observations over a prolonged period of time – has its strengths and weaknesses. On the one hand, I have an opportunity to build a strong rapport with the study subjects, allowing me to tap deeper into empirical discoveries. On the other hand, I run the risk of influencing my subjects and allowing my own judgement to be influenced. In understanding how to treat subjectivity so as to elevate its advantages and manage its possible downsides, I rely on Alvesson and Sköldberg's "Reflexive Methodology" (2009). With the help of Gehman et al. (2018), Gioia et al. (2013), Alvesson and Sköldberg (2009), I define the following legitimacy criteria to be fulfilled in my work with data:

(1) depth of description – rich illustrative presentation of primary data;

(2) accuracy – close reliance on primary data in analysis;

(3) intellectual honesty – diligent description of the process, its gray zones and limitations;

(4) rigor in the method used – triangulation through multiple sources of data;

(5) reflexivity – recognizing the possible bias and continuously questioning my judgements; and

(6) searching for possible alternative explanations – considering perspectives of the entrepreneur, resource-providing stakeholders, and the researcher as an outside observer.

Thus, the scientific principles for my study are longevity, rigorous triangulation, and reflexive account for subjectivity. I now consider the ontological perspectives. The way I collect, analyze, and validate my data, the theoretical framework of reference that my study will eventually assume, my own place in the study as a researcher – these are the questions that will be ontologically guided.

3.1.2 Ontological perspective

There is a rich paradigmatic diversity that can be operationalized by empirical studies. The three cornerstone ontologies to draw inspiration from are positivism, critical realism, and interpretivism (Hlady-Rispal and Jouison-Laffitte, 2014). In my study, I cannot exclude the possibility of causal patterns, regularity, and linkages between the study's essential categories of interest – resource needs, bootstrapping behaviors, and their possible outcomes. Interpretivist ontology is therefore not optimal. Neither can I rely on positivism, as its normative, deductive approach is exactly what I see as problematic in current bootstrapping research. The study is thus ontologically close to critical realism.

I aim to develop plausible explanations behind possible causal patterns connecting the phenomena under study. The work of Langley et al. (2013) and Gioia et al. (2013) sensitize my understanding of theory-building research. Inspired by critical realism ontology, I define five principles that my study should observe (based on Bhaskar, 1975/1997):

1. There is a reality in which the phenomena exist, and can be observed and asked about.
2. This reality is best understood through rigorously triangulated data from various sources so as to develop plausible accounts for how the phenomena manifest themselves.
3. In developing the plausible explanation of studied phenomena, I consider that the world is dynamic, process-bound and full of causalities, and thus, I stay open to discovering that one thing might lead to another.
4. To understand the possible causalities, it is important to consider that discovered patterns are not uniform, but rather need to be contextualized.
5. My study is led by empirics, and not by disciplinary lens so as to fulfil my theory-building ambition. Thus, the study's theoretical frame cannot be established from the start.

These principles are coherent with my own view of the way the study should proceed in practical terms. I thus conclude that I can best fulfill my study's ambition through a narrow, but rich and varied inquiry into one or a limited number of cases. Case study is a widely popular method of social inquiry across a range of disciplines (Morgan and Smircich, 1980; George and Bennett, 2005; Gerring, 2006). Therefore, while defining my case, I find it important to elaborate on the definition of case study that I will further rely upon.

3.2 Study design

3.2.1 Study's case, object, and subjects

There are various perspectives on case study. In light of the present study's ontological inspiration, I synthesize my understanding of case study by studying a critical realism perspective on case research (Sayer, 1997; Perry, 1998; Easton, 2010). From this perspective, case study is a method that involves investigating one or a small number of social entities, from which a holistic description of the studied phenomena can be developed. Relying on Easton (2010), I outline the following essential characteristics of case research for the purpose of my study:

(1) the study's methodology is qualitative;

(2) the study relies on one or a small number of cases that are characterized by comprehensive and rich representation of phenomena of interest;

(3) the study employs rigorous triangulation of data from multiple sources of evidence; and

(4) the study gathers the evidence in real-life situations, and is considerate to the contextual setup within which these situations occur.

I ground my understanding of what case study is and what methodological and analytical choices it entails on the above principles. The next step in designing my study is defining my case.

The study's case should delimit a common stage on which all the phenomena of interest – resource needs, bootstrapping behaviors to address such needs, and possible outcomes thereof – unveil. All these phenomena are contained within a new firm as the stage. I therefore assume the new firm as the case binding together my phenomena under study. Out of pragmatic considerations, the study that involves researcher's presence on-site and multiple inquiries made over a prolonged period of time should optimally be done within the researcher's physical proximity. Thus, the geographical context of my case is Southern Sweden. To be able to best answer the study's research questions, my selection pool of potential cases comprises new firms that require and use a variety of resources, addressed through substantial bootstrapping behaviors, and where the various internal and external resource-providing stakeholders are involved, so that the possible outcomes of bootstrapping behaviors could be studied from different individual perspectives.

I considered different kinds of firms and concluded that newness of creation is a subjective term, as proposed in earlier research (Choi and Shepherd, 2005; Diochon et al., 2007; Reynolds and Curtin, 2010). For the purpose of my study, I will consider the firm new for as long as its founders are working towards achieving the sufficient resources for sustainable business operations – or the phase in development where the balance of resource in- and outflow is achieved, and is able to support the business operations (Davidsson and Klofsten, 2003). The availability of data related to my case and the willingness of the firm's founder(s) and other stakeholders to partake in research are critical success factors as well. It is yet to be established how many cases my study should include.

In my search for methodological possibilities to study the rich and varied representations of my study's object within a case firm, I come across a case-within-a-case methodology (Mills et al., 2010). The idea of splitting one or a small number of cases into meaningful subunits in order to promote a deeper understanding of the overarching phenomenon is also inspired by systematic data-driven research designs discussed in e.g., Corley and Gioia (2004), Gioia et al. (2013), Gehman et al. (2018). I decide to start the investigation with one firm, and wait to select additional case firm(s) until some analysis of data from one case and its possible meaningful subunits is conducted. I design my case study in phase-wise fashion so as to understand what kinds of possible meaningful subunits my case firm may contain. Before I can make the decision on case firm selection, I propose an account of my study's object and subjects.

The interest of my study encompasses emerging resource needs, bootstrapping behaviors to address such needs, and possible outcomes thereof. All three phenomena, as they unveil and – possibly – interlink with one another over the firm's development, serve as the object of my study. I stay open to possibly redefining the object once some initial data is analyzed and the study's theoretical frame of reference is established. The object will be observed and asked about directly through my study's subjects – the founder(s) of the respective case firm, and, where possible, resource-providing stakeholders partaking in the firm's activities. My study's primary informant is the firm's founder – the entrepreneur. In the spirit of the scientific principle of triangulation, I plan to approach the individual resource-providing stakeholders as secondary informants for my study.

3.2.2 Preliminary data collection – explorative phase 0

Preliminary data collection begins with explorative phase 0. Given my study's object, I develop a set of criteria that a potential case firm should satisfy:

(1) To adhere to the study's understanding of a new firm, the case selection pool consists of firms that are in the process of attaining the development stage,

where there is a sustainable balance between resource in- and outflow, but have not yet achieved this stage.

(2) To fulfill the study's interest in substantial resource needs, my case firms operate a resource-demanding, product-developing business, where it is most plausible to find a variety of entrepreneurs' behaviors to address the substantial resource needs.

(3) To fulfill the study's interest in individual (non)perceptions on the study's object, my case firms are entrepreneur-driven, and not owned or controlled by any other firm that could otherwise influence such perceptions.

(4) To fulfill the study's interest in observing and understanding the possible outcomes of resource needs being addressed through bootstrapping behaviors, my case firms should have operated long enough to allow for some outcomes to be observed and asked about, while still complying with the adopted definition of a new firm.

(5) To fulfill the condition of the researcher's in-depth involvement in the firm over a prolonged period of time, my case firms are such where the founder(s) are willing to share information to the desired extent, and are available to partake in the study over its whole duration.

In close proximity to my physical location, I found a number of new firms. In order to establish which of them, if any, satisfy the above criteria, I decide to conduct a series of explorative unstructured talks with the founders of seven firms. These seven firms were identified with the help of a contacts directory, and advice from my employer. In order to minimize the selection bias, I excluded such firms where I might have had any relationship with the founders – prior common professional relationships, common personal network, and so on. Neither have I decided at this point that the shortlist of seven firms is exhaustive. I started my study's explorative phase 0 with this number of firms, being ready to discover that any number of them, or none of them, may fit my study as a case.

I contacted the individual founders of the shortlisted firms, introducing my study and asking for an informal meeting. Four of the approached seven founders responded positively, and I met them individually during the first half of 2017. As a result of these meetings, two firms were found suitable for my study, based on the above criteria. My final shortlist thus included two potential cases. The founders of these two firms were reinterviewed during the summer of 2017, and both expressed an interest and readiness to partake in the study. Soon after, however, the founders of one of the firms informed me that they are unable to be a part of research for longer than a few months. I considered this to be a significant risk for my longitudinal study, and excluded this firm as my potential case. To best support my study's longitudinal ambition, I decided to begin collecting the empirical data at one selected firm, staying open to the possibility of including additional cases once some preliminary insights have emerged from the work on my one case.

Although not resulting in selection of more than one firm, interviewing the four firms' founders was a vital research step. The step-wise selection process allowed me to verify that data-driven study design is indeed able to offer interesting individual perspectives on my study's object. I was also able to establish that connections exist between the firm's resource needs and bootstrapping behaviors, and that these may lead to various outcomes. For instance, firm founders shared the following insights[5]:

> Question: How about friends and family as resource providers?
>
> "*No, not so much. In a way it is kind of tricky, I feel, if something goes bad, I do not want to be responsible for ruining the relationship.*" *(founder of firm 3, interview on 170818[6])*
>
> Question: Tell me about your experiences with raising grants and subsidies
>
> "*It is… you know, it has been driving me crazy, and I have spent… 99% of my energy has gone in this direction, and only 1% has been about moving things forward with the company.*" *(founder of firm 4, interview on 170113)*
>
> Question: Why is it so important for you to build personal relationships with people?
>
> "*One thing is – you sit in your whatever egg shell, and you can dream and think about whatever you want, but what is important is what other people think. […] you are not just going to go and give 1000 kronor[7] to someone on the street, but there has to be trust from the start.*" *(founder of firm 2, interview on 170607)*

Having selected a case firm to begin the empirical work with, I start by positioning the firm within its context and mapping out the firm's retrospective and prospective development timeline. I also define, together with my informant, the resource needs, behaviors to address such needs, and the firm's related stakeholders. These initial steps are strictly data-driven, and include only the aspects perceived by the entrepreneur. I do not at this point apply any judgement or interpretation of what I hear from the entrepreneur. Neither do I yet conduct any observations of documents study that could help me to develop the understanding of possible non-perceived aspects.

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[5] Most of the interviews for the study are conducted in Swedish, transcribed, and then translated into English.

[6] Here and further, I abbreviate the dates as YYMMDD.

[7] Here and further, all financial figures are provided in the Swedish national currency, SEK, unless otherwise specified.

At this stage, I discover that resource needs, bootstrapping behaviors, tasks and activities involving various resource-providing stakeholders, as well as the possibilities for tapping into the possible outcomes – as perceived by the entrepreneur – are rich and varied. I am intrigued by various specific instances – potential cases-within-a-case, representing my study's object within this one firm, and now begin to consider whether including more case firms is reasonable. I continue structuring my empirical work in a phase-wise fashion, as illustrated in Figure 3 below. Following the figure, I will offer a descriptive presentation of my study's two core phases, one by one.

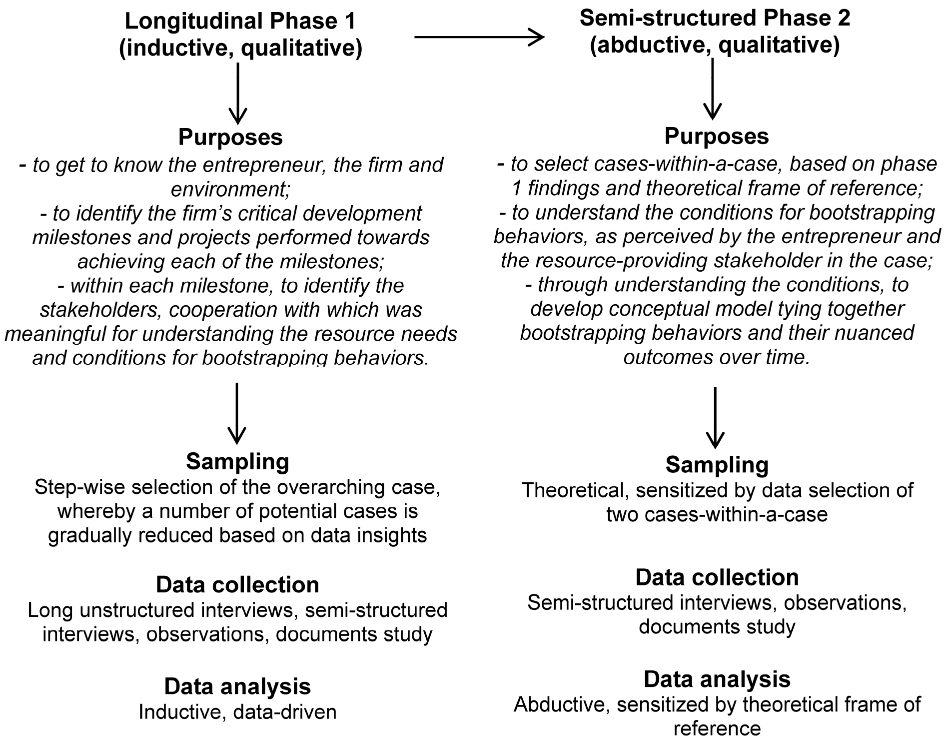

Figure 3 The study's empirical phases

The explorative phase 0 sparked my interest in discovering the possible meaningful subunits – cases-within-a-case – within my overarching case. To understand what these subunits might be, I design the study's core phase 1. I work with data following the path of pure discovery – in other words, I do not develop any template, other than a dedicated Excel spreadsheet where I work practically through the material repeatedly, and develop new angles of inquiry as the new, more focused and relevant to study's purpose insights emerge from data. The study's phase 2 is informed by phase 1 analysis, as well as the theoretical frame of reference selected as a result of phase 1. During the data-driven phase 1, I discover that resource needs, bootstrapping behaviors, and outcomes should possibly be the main focus of the inquiry going forward with empirical investigation. However, I stay open to the possibility that my data may show some other categories as well.

The detailed account of phase 1 data interventions will be given later in this chapter, and a presentation and analysis of phase 1 data will be offered in Chapter 4. The detailed account of phase 2 data interventions will also be offered later in this chapter, while the empirical Chapter 6 will present the data and analysis.

3.2.3 Data collection and analysis – empirical phase 1

My overarching case – the firm – is the stage on which the phenomena related to study's interest unveil. The purposes of empirical phase 1 are to develop an extensive presentation of the case, analyze its resource needs and the entrepreneur's bootstrapping behaviors, and introduce the involved stakeholders over time. Chapter 4 will descriptively present phase 1 and its findings, while the purpose of the current section is to introduce the data interventions at phase 1, and the way I work with data.

3.2.3.1 Long unstructured interviews and follow-up semi-structured inquiries

The interviews are conducted with two main purposes in mind:

(1) to give the entrepreneur an opportunity to discuss any past and ongoing projects, and future plans; and

(2) to give the researcher an opportunity to clarify any questions that arose during observations and documents study.

The first long unstructured interview with the entrepreneur lasts two and a half hours, and its execution is inspired by McCracken (1988). I provide my informant with a clean sheet of A1 paper, on which I ask them to map out the firm's longitudinal development, from the birth of the idea up to the date of the interview. I intentionally avoid the terms "bootstrapping", "implications" and "outcomes", and generally refrain from leading the informant in the direction of my study's interest. I simply let the entrepreneur tell me the story of the firm's development, and map it out on a sheet of paper. It is the entrepreneur who gets to establish when the timeline is complete.

Together, we then go through a set of semi-structured questions. The semi-structured questions regarding experiences with specific bootstrapping behaviors are inspired by previous research on bootstrapping conducted by my senior colleagues

(Winborg and Landström, 2001; Winborg, 2009, 2015a, 2015b). I keep each question open, and discussion continues for as long as the informant continues to speak. Some questions are changed in line with conversation, some are omitted, and new ones may be added. The purpose of the questions is to guide the informant to reflect on the insightful instances over the firm's development, within which I could later study the resource needs, bootstrapping behaviors, and the possible outcomes. Appendix 3 presents the interview guide for the first unstructured interview with the follow-up semi-structured inquiry.

In addition, I have occasional informal discussions with the entrepreneur and other staff members so as to understand how the firm operates. Apart from such informal talks, I have long unstructured interviews with the entrepreneur – first weekly, and later more seldom once the insights become exhaustive. Exhausting the insights does not mean that interviewing stops when the entrepreneur begins to mention certain instances repeatedly. On the contrary, it is important for my study to hear about an insightful instance more than once. Every long unstructured interview is followed up with an informal talk, where I remind the entrepreneur of some insightful details of the previous interview – without applying any of my own judgement or interpretations, and without asking any direct questions. During these talks, the entrepreneur gets to comment, supplement or reiterate any information that comes up. I consider the interview insights exhaustive when I notice that the entrepreneur no longer expresses an interest in further elaborating on the insightful instances.

3.2.3.2 Observations

While working on-site at the firm's office, I observe interactions within the firm and with external stakeholders. I attend internal weekly meetings, where the entrepreneur and members of staff share with each other information about completed and upcoming projects. I document these meetings in digital and handwritten notes, and record and later transcribe most of them. Whenever the audio recordings are in Swedish, I translate them into English after transcribing. I participate as a silent observer in other significant meetings and events, such as meetings with potential customers and partners, interviews with potential employees or interns, board meetings, internal strategic planning meetings, and informal social events with the firm's stakeholders. These meetings are also documented in digital and handwritten notes, and some are audio recorded, and later transcribed and translated, if necessary. Following the meetings and other observation instances, I have follow-up discussions with the entrepreneur – face-to-face, or over the phone or by email – asking in more detail about the recently observed and recorded instances. I lead these discussions in an open-ended manner. I may occasionally have similar follow-up discussions with the firm's employees and interns, if they played an important role in my observed instances.

At all times, I am a passive observer, which is clearly communicated to the study's participants prior to the study. Observations are recorded in field notes, most often handwritten, and also digital on some occasions. The notes are descriptive, and include my immediate comments. I try to refrain from judgement or interpretation of the material as I go. If I nevertheless find it useful to interpret anything while in observation, I note my interpretations under "reflective notes" so as to separate what should be understood as the researcher's own perception from the rest of the material. The notes use direct quotations and the own words of the informants to capture the first-hand views and perceptions. In Appendix 4, I present the observations protocol that I developed based on Creswell (2007). Observation notes describe and reflect upon the following components:

(1) physical setting in which the observable instance is situated;

(2) activities that are occurring in real-time;

(3) verbal interactions between the individuals partaking in the observation instance (these are audio recorded and later transcribed);

(4) nonverbal communication, in the form of gestures, expressions of emotion, etc.; and

(5) any other things that caught my attention, such as interruptions, delayed or cancelled appointments, distractions from the main topics discussed, etc.

At study's phase 1, I cannot yet judge which of these components – if not all, or if any – will be used in my analysis. It is only when I can view the whole range of aggregate data that I can analytically discover the components useful for triangulation purposes.

3.2.3.3 Documents study

In addition to recorded and transcribed material and written notes, the entrepreneur granted me access to the firm's documentation. In Appendix 5, I present the protocol for documents study that I developed based on Bowen (2009). There, I also provide a list of documentation that was processed as phase 1 data. At this stage, documents are primarily used as contextual reference, for building up the overall familiarity with the firm and its past, current, and planned activities. Documents also help me to stay aware of any resources, bootstrapping behaviors, and stakeholders that my informant might not perceive as significant, or simply forget to mention during the interviews. Documents study is another triangulation tool used in line with the study's design choice, as outlined earlier. I do not at this point plan to use any of the documents directly in my thesis. All of the gathered documentation is stored in digital format on my employer's secure servers. Some of the documents are stored in printed form, strictly following the employer's established protocols for storing these kinds of materials.

Once the insights from interviews, observations, and documents study become exhaustive, I pause the regular meetings, and only follow up with the entrepreneur and other interviewees, when applicable, once a month. On such occasions, I update my informants on the study's progress and ask if there any new developments at the firm that might be of interest for my study.

3.2.3.4 Working with phase 1 data

In September 2017, before my study's phase 1 can commence, I and the entrepreneur sign a Doctoral Research Project Agreement[8]. One copy of the Agreement is submitted to my employer, one copy is kept by the entrepreneur, and one copy is stored by me, together with other printed materials related to the study, strictly in line with established protocols for storing these kinds of materials.

I begin gaining understanding of the firm's longitudinal development by mapping out its progress and critical milestones over time, starting from early idea generation. I follow the process of unstructured critical incident-like interviewing, inspired by the works of Flanagan (1954) and Chell and Pittaway (1998a, 1998b). I first need to understand the firm's progress over time – the basis of my developed presentation of data and its analysis in the upcoming Chapter 4. Through interviewing, observations, and studying the documents, I discover and map on the timeline the firm's critical development milestones achieved, and the specific projects within the milestones that each involved resource needs, the entrepreneur's behaviors to address such needs, and internal and external resource-providing stakeholders.

I and the entrepreneur agree on data collection procedures. For the first year of empirical data collection, I work from the case firm's office on average two days a week. As the data becomes saturated, occasions of my physical presence on-site become less frequent. The process of observing, asking about, and documents study at phase 1 was ongoing for 24 months, and resulted in the following analysis-ready material:

- Observation notes – 9,531 words/28 pages.
- Picture material from original drawings, presentations, whiteboard notes – 21 pages.
- Audio-recorded interviews (in Swedish) – 23 hours.

[8] I further refer to the Doctoral Research Project Agreement as the Agreement. A copy of the Agreement is available upon request.

- Material transcribed and translated into English – 82,443 words/239 pages.
- Synthesized data in the form of my immediate reflections, footnotes, and the like – 1,043 words/3 pages.
- Documentation relevant for my study's phase 1 purposes (the list of documents accessed and analyzed is presented in Appendix 5).
- Limited video material on office setup, product, and the like (could not be used in full, based on the Agreement).

Analytically, phase 1 is purely data-driven. In developing the understanding of the firm's milestones and projects (see Figure 4 in Chapter 4), I rely strictly on the data constructed by the entrepreneur and refined by myself and the entrepreneur together. In developing the data structure for phase 1 (see Figure 5 in Chapter 4), I extend the presentation of the firm's milestones by condensing the relevant raw data into categories of critical resources and bootstrapping behaviors. Developing the data structure for phase 1 (Figure 5) is data-driven at the start. I read and reread my phase 1 empirical data multiple times and sort the insightful interview quotes, observation notes, and documentation excerpts into uniting themes that speak to the interest of my study. The themes related to critical resources and bootstrapping behaviors emerge. At this point, the previously purely inductive sampling of data becomes theoretical.

As presented in introductory Chapters 1 and 2, for the purpose of this study, the resources are understood in line with Lichtenstein and Brush (2001), while the typology of bootstrapping behaviors developed by Winborg and Landström (2001) is considered the most robust frame of reference in bootstrapping research to date. I rely on these two studies to operationalize the common themes uniting my empirical data on key resources needed and used within each of the milestones, including the social resources in form of resource-providing stakeholders, as well as bootstrapping behaviors employed to address the resource needs. In order to establish the fit of the operationalization categories to my raw data, I take inspiration from Charmaz (2005, 2012), and cross-examine my data with operationalization themes multiple times. Practically, I ask myself – does this group of empirical material speak to the resource needs/bootstrapping behaviors, and in what way? Does this operationalization accurately describe what the informants, my observations, and the documentation tell me? I revise and refine the data groups accordingly and repeat the cross-examination. I stop the process when I am satisfied with the answers. The examination iterations are noted in my working Excel document.

Next, I discuss the phase 2 data, following the same structure as above.

3.2.4 Data collection and analysis – empirical phase 2

As discussed earlier, my overarching case – the firm – is the stage on which the phenomena of my study's interest unveil. The purpose of empirical phase 2 is to study the specific cases-within-a-case – or insightful instances explaining the study's object. Chapter 6 will explain how the cases-within-a-case were selected, descriptively present the cases, and offer an analysis of cases individually and cross-case. The purpose of the current section is to introduce the data interventions at phase 2, and the way I worked with data.

3.2.4.1 Semi-structured interviews

Semi-structured interviewing is the key data intervention at phase 2 of the study. The collection of interview data proceeds according to the principles described earlier in interviewing for phase 1. However, in contrast to phase 1, interviews are now focused on the specific insightful instances – cases-within-a-case – that I need to understand in depth. Interviewing at this stage is also sensitized by the selected theoretical frame of reference, which means that I guide the informant in a semi-structured manner towards discussing the study's object in relation to entrepreneur-stakeholder cooperation, and bootstrapping exchanges there within.

My subjects of inquiry at study phase 2 are thus the entrepreneur as the primary informant, and resource-providing stakeholders involved in phase 2 cases. In semi-structured interviews, I and my informants discuss the resource needs, behaviors to address such needs, and the possible individually-perceived outcomes thereof, specifically in relation to entrepreneur-stakeholder cooperation. The interviews last for at least one hour, and for as long as the informants continue sharing. The interviews are audio recorded and transcribed. Whenever the interviews are conducted in Swedish, transcribed material is translated into English.

The interview guide for study phase 2 is presented in Appendix 6. The list of questions is not explicit, but merely a guideline. As often as applicable, I revert the informant's responses with a request to explain, guided by reflexivity considerations (Alvesson and Sköldberg, 2009; Alvesson, 2011). For triangulation purposes, I also cross-check the insights from interviewing with data from observations and studied documentation (Charmaz, 2012), for instance by asking myself whether or not the complementary materials related to one and the same case complement and explain one another so as to allow for rich analytical findings to emerge. In case of doubt, I follow up the interviews with another semi-structured inquiry, now focused specifically on aspects requiring reconciliation.

3.2.4.2 Observations

In study phase 2, my observations focus specifically on insightful subunits – my cases-within-a-case – where the entrepreneur and resource-providing stakeholders interact. I use the same procedures and protocol as in phase 1 (see Appendix 4) to conduct and record my observations, and I am now specifically interested in understanding each particular instance of the entrepreneur-stakeholder cooperation. There are significantly fewer occasions of observations in phase 2, compared to phase 1.

Looking ahead, as phase 2 cases are already selected and partially analyzed at the time of writing up of this chapter, I hereby acknowledge that there were no case-relevant observations conducted on interactions with external stakeholders. That is because the respective instances of cooperation between the entrepreneur and resource-providing stakeholders were retrospectively finalized by the time of phase 2 data collection. Therefore, in the account of my phase 2 data, presented in this chapter, the account for recorded observations material is rather limited, and it comprises the notes on interactions with internal stakeholders partaking in respective cases.

3.2.4.3 Documents study

As earlier discussed, the inductive longitudinal phase 1 results in identification of the pool of potential phase 2 cases. The documents become an important triangulation tool in interpreting and understanding the individual (non)perceptions upon my study's categories of interest at the start, during, and at the end of entrepreneur-stakeholder cooperation. Documentation also helps me understand the roles on resource-providing stakeholders in the respective cases. In Appendix 5, I provide an account on documentation that was processed as phase 2 data.

Staying true to my inductive-abductive approach, in study's phase 2 I extract the data from documents as a part of theoretical sampling based on concepts that in study's phase 1 have proven relevant to my research interest (Strauss and Corbin, 1990; Charmaz, 2005). By now, the study's theoretical frame of reference is defined, making it possible for me to conduct my theoretical sampling in abductive fashion. Practically, I review and code the documents – words, paragraphs, phrases – similarly to any other source of my data.

3.2.4.4 Working with phase 2 data

In study's phase 2, I examine bootstrapping exchanges within the specific cooperation with resource-providing stakeholders so as to understand the conditions for bootstrapping behaviors and, based on this understanding, develop the conceptual model for examining bootstrapping behaviors and their possible outcomes. These specific instances of cooperation will become my phase 2 cases – cases-within-a-case, as per research design. Phase 2 cases are selected based on phase 1 empirical findings and the theoretical frame of reference.

Once the data for phase 2 is collected with help of the three types of interventions described in this chapter, I code the data with inspiration from Gioia methodology (Gioia et al., 2013). My analysis of coded material is sensitized by findings from phase 1, and the study's theoretical frame of reference. I develop and follow the below step-by-step data analysis guide:

1. I read and reread my raw data – interview transcripts, notes from observations, and notes from studied relevant documentation – several times.
2. I first check whether or not, and in what way, my data speaks to the study's interest – resource needs, conditions for bootstrapping behaviors, and outcomes. I also check whether the data related to the above categories of interest can be triangulated from multiple sources of evidence and studied from individual perspectives.
3. I develop the initial codes emerging in my data, with inspiration from Gioia methodology. I first check again, by reading through the raw data and consulting senior colleagues, whether or not, and in what way, my data speaks to the study's interest. I decide to use the raw data excerpts as initial codes. I ask myself which of the data excerpts illustrate the extensive resource needs and bootstrapping behaviors to address such needs, and in what way, and demonstrate the involvement of resource-providing stakeholders that could be asked about my potential cases-within-a-case.
4. I then develop a pool for potential suitable cases for further investigation in phase 2, and confirm with the entrepreneur that key resource-providing stakeholders can be approached for interviews. The empirical Chapter 6 will start with a presentation of the selection of two cases-within-a-case. I identify the textual material related to the two cases – observation notes and documents – and then repeat the semi-structured interviews with the entrepreneur, now focusing specifically on the selected cases. I approach the resource-providing stakeholders relevant to the cases, and interview them.
5. I repeat the above steps #1 to #3, now focusing on data relevant to the cases. In this iteration of steps, I refine the raw data excerpts – the initial codes – as illustrated in Figures 8 and 10 in Chapter 6. Note that I present a representative selection of raw data codes in the respective figures, while I conduct and record the extensive coding in a working Excel document.

6. I reduce the raw data codes to a manageable number of common themes. Here, my study's key categories of interest become meaningful. While sorting my data into meaningful segments, I make sure to consider and separate the perspectives of both parties – the entrepreneur and resource provider.
7. Once the codes are connected and themes are developed, I build my aggregate concepts that codes and themes represent – the bootstrapping's conditions, bootstrapping behaviors, and bootstrapping's outcomes (see Figures 8 and 10 in Chapter 6).

The process of selecting the cases, a descriptive presentation of data, and its analysis will be offered in Chapter 6. The process of observing, asking about, and documents study at phase 2 was ongoing for 12 months, and resulted in following analysis-ready material:

- Observation notes – 2,160 words/6 pages.
- Picture material from original drawings, presentations, whiteboard notes – 24 pages.
- Audio-recorded interviews (in Swedish) – 15 hours.
- Material transcribed and translated into English – 53,699 words/156 pages.
- Synthesized data in the form of my immediate reflections, footnotes, and the like – 8,950 words/26 pages.
- Documentation relevant for my study's phase 2 purposes (the list of documents accessed and analyzed is presented in Appendix 5).

To conclude my methodological Chapter 3, I summarize the methodological chapter and outline its implications for my empirical work.

3.3 Synthesis and implications for study's phase 1

Even though my study starts out as an open, inductive inquiry, it does not fully adhere to characteristics of purely data-driven research. To conclude the methodological discussion, I will first present here some considerations that should inform the reader – and myself – of the study's mixed methodological and ontological character:

- As already noted in Chapter 2, my decision to begin the study with an extensive literature review bears methodological and ontological implications. Knowing what I know of the bootstrapping knowledge landscape, I should recognize already prior to entering my empirical study that connections exist between the firm's emerging resource needs, the entrepreneur's behaviors to address these needs, and the various outcomes for the firm and its related stakeholders.

- A second consideration is the study's empirical scope. I earlier pointed out the necessity to contextualize the phenomena as one of the study's guiding scientific principles. I already specified how my case firm was selected, and acknowledged my prior experience as an entrepreneur operating locationally in the same context. Thus, the study's contextual frame of reference is not a clean slate for me as a researcher. I do not exactly take the risk of plunging into the unexplored context and developing the plausible account for it, which would answer more accurately the critical realism ontology.
- Lastly, the study's critical realist inspiration presupposes an impossibility of treating my empirical material as valid data, but rather as data that should be sorted, interpreted, and related to existing theory in an abduction research manner. Although the grounded theory (Strauss and Corbin, 1990; Charmaz, 2005) was an important source of inspiration for me at the start, my study does not adhere to the theory in full.

These considerations need to be continuously reflexively accounted for. For instance, when I introduce in earlier discussion my preliminary work with data as such that follows a path of pure discovery, I apply the prism of ontologically-inspired study, rather than a certain orthodoxy. I ensure these considerations are kept in mind not only in collecting, but also in communicating with my data and its analysis. Questions I ask in the analysis process stem from inquisitive reflexive practices outlined in Alvesson and Sköldberg (2009). For instance – How might my possible prior familiarity with local context influence my understanding of social matrix? Could this inquiry be repeated on another occasion and in a different context? Would it result in different insights? The feedback from two senior faculty members was at all times utilized to ensure rigorous and unbiased work with the data.

I recognize that I might stumble upon aspects related to resources, bootstrapping behaviors, and outcomes that my informants might not be aware of. I thus consider the lack of perceptions – or non-perceptions – in my data analysis. This means that I need to carefully account for perceptions of not only the entrepreneur and the firm's other stakeholders, but also my own perceptions as the researcher – in instances when my informants do not perceive the significance of the study's object. I devise two arguments that make my accounts for non-perceptions legitimate:

(1) being inspired by critical realist ontology, I accept the impossibility to explain the phenomena by assuming any one data source as real and true, and I only consider the aggregate, multiple and varied sources of evidence; and

(2) assuming a reflexive analytical stance, I treat the insights provided by my informants as not a priori comprehensible, meaningful or unproblematic (Alvesson and Sköldberg, 2009), but as such that need to be understood in conjunction with other sources of evidence, including the possible researcher's perceptions.

I now proceed to the first empirical chapter, focused on study phase 1.

Chapter 4.

Presentation of empirical phase 1

I have known of Urban Technologies[9] since the firm's creation in early 2013. I and UT's founder crossed paths indirectly a number of times, as I at that time worked in the same office compound. However, it was not until my study's explorative phase commenced in early 2017 that I and the founder first began interacting. My personal relationship with UT's founder was at all times limited to the framework of the study. Neither did I have a professional relationship with the firm and its related stakeholders at the time of study's commencement and over its duration.

In this chapter, I will introduce the firm, its founder, core business, and operational environment. I will also guide the reader through the firm's longitudinal development and present my empirical findings on the firm's key resources, both required and used, as well as bootstrapping behaviors over time. Here, I aim to use the empirical data to develop the pool of potential phase 2 cases. Based on phase 1 findings, I will also propose the study's theoretical frame of reference.

The presentation of longitudinal development is offered through the descriptive accounts of the key milestones achieved. These accounts are developed from data collected over the course of 24 months through interviewing, observations, and studying relevant documentation. Although not introducing any additional primary data beyond the 24-months' data collection, I will offer the reader a narrative summary of the firm's achievements and state of affairs, as well as the entrepreneur's learnings to the date of study's completion in Appendix 7 at the end of this thesis.

[9] The name of the firm is fictional and will be further abbreviated as UT.

4.1 Presenting Urban Technologies

4.1.1 Getting to know the firm

Research suggests that entrepreneurs tend to set up their firms where they live and have a personal network of contacts (Busenitz and Murphy, 1996; Dahlstrand, 2007). As the new firm is often dependent on the external environment, it is critical to have, for example, access to skilled labor, a strong representation of industry actors, private and public capital, and access to local and international markets and customers. Southern Sweden specifically, with its prominent academic institutions, high concentration of innovative activities, and close proximity to local and international markets, could be considered a fruitful environment for resource-heavy, innovative firms to emerge and develop (Rico and Cabrer-Borras, 2019). Local governments in Sweden also adopt a broad spectrum of measures to promote local entrepreneurship (Westlund et al., 2014; Eriksson and Rataj, 2019). I conclude that with generous possibilities to access human and social resources, as well as grant and subsidy financing, Southern Sweden presents rich opportunities for product-developing start-ups to access the needed resources for free or at a low cost.

Urban Technologies is a firm located in Southern Sweden. Its core business is the development and commercialization of innovative consumer products. The firm's core activities are thus specific to the firm's core business – prototyping, manufacturing, marketing, and sales. The market in which UT operates is dominated by a small number of strong and resourceful players, operating locally and internationally. UT's product has unique properties, some of which are patented, while some are legally protected in other ways. UT's intellectual property rights have limited legal protection since 2013. UT's brand name was first registered as a trademark in early 2017. The main revenue source for UT is product sales. UT outsources product manufacturing to a professional manufacturing service provider located overseas. The manufacturing cycle is long, and product batches reach Sweden three to four times a year at the time of data collection, and once a month by the time of study completion in 2020 (source: interview with the founder on 200914). Material sourcing is handled by the manufacturing partner. Other services along the value chain – quality control, logistics, customs, and warehousing – are handled by third-party service providers. Products are sold both online – through the firm's own website, through partners' web-shops and through large online retailers – and offline – through the connections established at trade shows and exhibitions, and through the partners' physical stores.

The environment in which the firm operates since the formal start up in 2013 consists of hundreds of organizations, comprising nascent and growing firms, established businesses, and public institutions. From the start through the end of 2015, the firm is part of a tight formal network, working to support local early-stage innovative businesses. Apart from access to office space at a reduced cost, the network supports start-ups with free hands-on business coaching, various free educational and training opportunities, and access to a variety of business development services for free or at a reduced fee. Since 2016, the firm is located at adjacent rental offices, having changed the status from supported start-up to growing business, but retaining access to the already established network. By the time of study completion, the firm's products are sold in over 20 countries worldwide, and sales turnover has reached SEK 9 million, having practically doubled every year since the market launch in 2014 (source: interview with the founder on 200914).

4.1.2 Getting to know the entrepreneur

UT's founder, Kevin[10], is the primary informant for my study. He generated the idea in 2012 out of a serendipitous discovery of a customer need that none of the existing products on the market could satisfy. At the time of discovery, Kevin had recently left a job in an international company, and had been actively looking for other employment opportunities. Working with UT is his first entrepreneurial experience. Kevin did not aspire to become an entrepreneur, but felt he had the time and energy to invest in developing the idea that seemed promising, while looking for other employment. With support from his local environment, however, Kevin promptly gained confidence and motivation, and in early 2013 decided to formally start UT and devote 100% of his time to it.

Kevin remains UT's majority shareholder, even after raising equity capital twice – in 2015 and in 2017. After these rounds of investment, 30% of UT is owned by a group of investors with primary portfolio interest in UT's industry. To compete for market share with well-established and resourceful firms in the industry, Kevin focuses on building close and committed relationships with customers and other market stakeholders. In the founder's own perception, the personal and professional network developed over the years has played a critically important role in running the business and achieving its key milestones. Kevin nurtures and values personal contact with market stakeholders above all.

Further in this chapter, I will present the various milestones in the firm's longitudinal development, as well as the specific projects within each milestone. This presentation

[10] As per the Agreement with the firm, all the common names and other confidential information are de-identified.

was fully developed based on unstructured and semi-structured interviews with Kevin, observations of interactions within and outside the firm, and study of the relevant documentation. To place the firm's key milestones within the context of overarching longitudinal development, I work with Kevin to identify the critical focus of each milestone. The firm's milestones and projects beyond 2018 – the end of my phase 1 data collection – are not included in the presentation of longitudinal development. One of the reasons for such a cutoff is that one of the important criteria for selecting my phase 2 cases is that the possible outcomes of resource needs being addressed through bootstrapping behaviors must have already appeared so that I could examine them in my analysis. I can, however, informally follow the firm's development up until the completion of my study in 2020, and by that time the firm has four full-time employees, including Kevin himself, with new recruitments for two more full-time employees ongoing.

The milestones discussed further present the stage on which my study's phase 2 potential cases unveil, and developing this pool of potential cases-within-a-case is one important purpose of study phase 1 and this chapter.

4.2 The firm's longitudinal development

4.2.1 The critical milestones and projects over time

Figure 4 presents the milestones achieved during the firm's longitudinal development, and the specific projects that the firm executed towards reaching the milestones. Based on available data on every milestone, I only consider such projects that are relevant for my study's purposes, meaning those that have significant and diverse resource needs that were addressed through bootstrapping behaviors, and where various external and internal resource-providing stakeholders are involved. The outcomes – another critical category of study's interest – cannot be defined at this point. The outcomes will only be discovered during the in-depth semi-structured inquiry in study phase 2. Thus, Figure 4 and its subsequent description omits the discussion of outcomes.

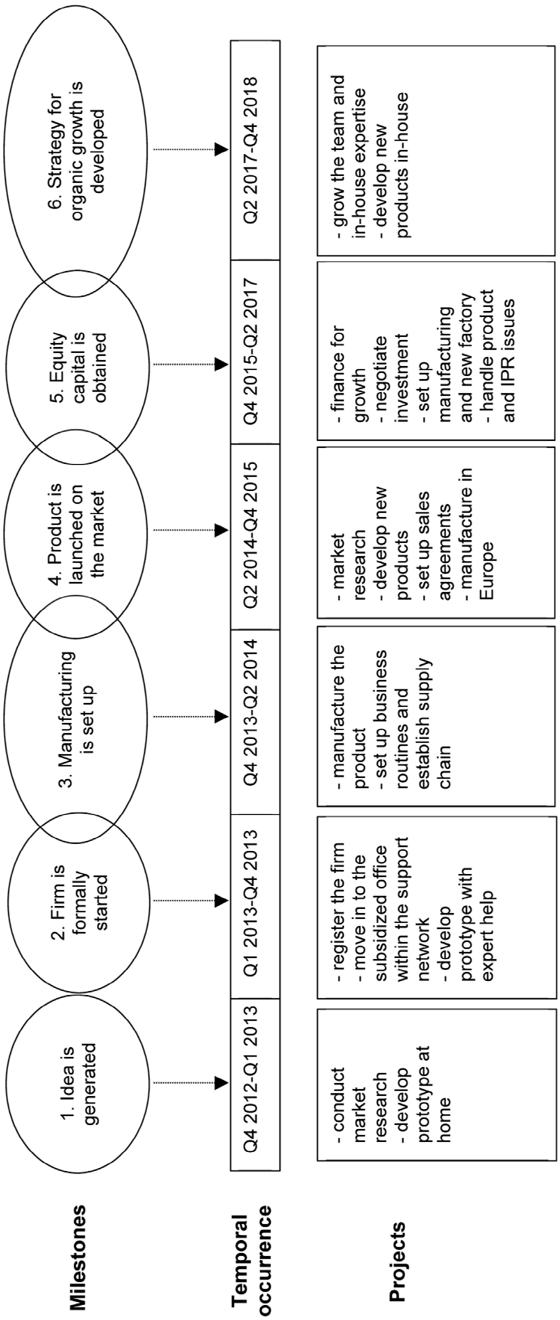

Figure 4 The firm's milestones and projects over development timeline

In the next subsection, I go through the categories that Figure 4 visualizes. I also descriptively present each of the milestones and projects within, as they were discovered in primary data from interviews, observations, and the documents study. I should note that reaching the milestones is not perfectly linear – some of the projects towards achieving the next milestone may begin while the tasks within the ongoing milestone are still being executed. In the upcoming descriptive presentation of milestones and projects, I follow the longitudinal flow as closely as possible, but the reader might notice at times that the description of the subsequent milestone might start temporally earlier than the time when the preceding milestone presentation ended. I should also note that presentation of the milestones varies in length, and milestones may consist of a different number of projects. This is due to the fact that milestones are indeed different in length, and because I only consider the projects where the data may best satisfy the interest in resource needs, bootstrapping behaviors, and resource-providing stakeholders' diversity.

The milestones and projects were formulated during Kevin's internal presentation on 171122, as well as at the internal planning workshops on 180108 and 180215. I confirmed my interpretation of data during the follow-up interviews with Kevin on 171127 and 180215.

4.2.2 The retrospective and prospective development

The information in this section will form the basis for my phase 1 data analysis, and for subsequent selection of my phase 2 cases – insightful instances within the milestones that may help me best understand my study's object. For the reader's convenience, I offer the developed presentation of the six identified milestones with the support of primary data from Kevin, my observations, and the documents study.

Milestone 1 – Idea is generated (Q4 2012 – Q1 2013)

<u>Project 1.1 Conduct initial market research</u>

At the time of the idea's birth, Kevin finds himself at a crossroads. After leaving his previous employment in 2012, he is looking for other employment opportunities and serendipitously discovers the market need for a specific product. He begins to scan the internet and related outlets to see whether the thought-of solution already exists. He also eagerly discusses the idea within his wide personal network:

"…we could not find anything that was similar to what we were after. We found [XX], we found [YY], we found [ZZ], and stuff like that. And, of course, traditional [products], but they are not designed for [the purpose] the way that we wanted to do." (Kevin, 170112)

The feedback from his personal network was encouraging. Kevin conducts further market research himself, reasoning that paying a market research firm is unreasonable:

"We have never used any [external paid] services, we did it by ourselves. In general, I do not think there is some sort of particularly good value in these services. If one has more money than time, then I can understand that one might prefer to use this kind of service." (Kevin, 170925)

At the time of the idea's birth, Kevin is still receiving a compensation package from his previous employer. He therefore believes he can afford to invest his own time and financial resources into prototyping the product.

<u>Project 1.2 Create the initial prototype at home</u>

The very first rough prototype of the product was, in Kevin's own words, two pieces of old material hastily put together (source: interview with the founder on 170112). The prototype was produced at home, using equipment and materials belonging to the entrepreneur, his friends, and family members. This initial prototype was tested by friends and family for an additional feedback. Kevin then presented this first homemade prototype to a governmental agency that supports innovative business ideas, and received a small grant to develop the prototype further. The contact at the agency was very supportive and encouraging. Kevin acknowledges that without this support, a firm probably would not have been created at that time:

"…the feeling that they believed in the idea was very encouraging, it was extremely important. […] it meant a lot at that time […] I came from situation where I have just left a job, and I was applying for lots and lots of other jobs that I thought would be interesting. And here I come with a new idea of a new product that I did not really know… and getting positive encouragement at that time was extremely important for us to continue with it." (Kevin, 170112)

Among the documents available to me, I find the early grant application, where the following data was provided to governmental support agency: description of the idea, pictures of the homemade prototype, description of UT's structure and available expertise, description of the market and justification of need for the product, expected time to market and time to income from sales, designation of the grant money, if received, and the budget, including founder's own contribution. Based on this information, put together by the founder himself, a product development grant of SEK 30,000 was obtained at the end of 2012 (source: documented grant application and the letter of approval). At this point, having firmly decided to dedicate 100% of his time and energy to the idea that will soon become a firm, Kevin abandons his job search and moves on to formally starting the firm.

Milestone 2 – The firm is formally started (Q1 2013 – Q4 2013)

Project 2.1 Register the firm

Apart from Kevin's personal finances, there are other resources available at the formal start-up phase. Kevin sells the shares that he owned at the company that previously employed him, and invests the obtained finances into registering UT:

> "*…already when we started, I knew that I have money to start up… in the beginning it was locked into shares, but I knew that when I quit this company, they would buy the shares back. So, I knew I have money coming.*" *(Kevin, 170112)*

Having the start-up capital in hand, Kevin decides not to invite any external resource-providing stakeholders at this stage. The first formal agreement Kevin makes with external stakeholders is a rental contract with the supporting network once the firm is about to move in.

Project 2.2 Become part of a formal network supporting start-ups

At the time of formally starting up the firm, Kevin still works from home, and will do so until deciding a few months later that his full-time commitment requires a work environment that would allow for better focus and for opportunities to build a professional network:

> "*When I was sitting at home, it was so easy to not work. So, I was looking for free office space, to find somewhere to go. I found [the support network] and applied [to become its supported start-up]. I am pretty competitive person, so when I have to apply for something it makes it more interesting. […] I did not want to move in [to the office space offered by network] right away, but we moved in, like, two months later.*" *(Kevin, 170112)*

Kevin joins the supporting network in late spring of 2013 (source: written contract with the network), and is now able to access various free and low-cost resources, including limited free business development coaching, limited free accounting and legal services, further discounted office rent that was negotiated from the start, and access to a variety of networking events where the important connections could be built (source: written contract with the network; observations of interactions at the community gatherings). There is also an added intangible benefit to being surrounded by like-minded entrepreneurs:

> "*Being the part of [the supporting network] is more money. […] if we are close to the money, like, getting the grant, if there are people who think like me – it is a higher chance of getting money, very easy. Here we have maximum amount of people who think like me. It is like that – I said yes to every opportunity. I think generally it is better to say yes to things, if it is possible to do.*" *(Kevin, 171018)*

Kevin continues to expose the prototype to external feedback, which bears with it risks of weakening the unique competitive edge. To protect the idea from unwanted competition, Kevin invests some money – a portion of the obtained grant, as well as some of his own finances – into taking steps towards protecting the intellectual property rights (further – IPR):

> "*A part of [the grant] we used for the intellectual property protection, to do the first patent step, the [newness research], if I remember correctly. [large international company] did it for us. […] I did some work by myself first, but then we let [large international company] handle it.*" *(Kevin, 170112)*

Kevin's decision to do some of the IPR-related work himself is guided by the necessity to fit the modest budget. The IPR-related service provider is found through the formal supporting network, and the service is received under preferential conditions (source: formal agreement with service-provider; network's generic business proposition to the belonging start-ups).

Building close personal connections with those around him and always returning the favor or paying it forward are the principles that allow Kevin to quickly become an appreciated member of the network. I observe multiple instances of Kevin's engagement, free of charge, in coaching entrepreneurs, in teaching entrepreneurship classes at Lund University, and in public presentations of UT's journey at conferences and community events. I also observe Kevin's interactions with network actors during weekly community meetings. Kevin and his firm are well-liked and appreciated equally by the network's management, business coaches, representatives of associated organizations, and fellow entrepreneurs. The generated trust and goodwill allow UT's founder to secure expert help in further developing the product prototype.

Project 2.3 Develop the product prototype further with expert help

Product development requires increasingly more resources moving forward, which Kevin did not anticipate from the start. As there were no substantial financial resources available to invest into further prototyping, Kevin further scans the network to find an expert who could help for free, with the expectation of future reward, if that becomes necessary:

> "*I am actually impressed how many people I got to work for me for free. [the involved expert] he is like a design celebrity, and he was here and sketched for free for us. I think I got his contact from [the supporting network's CEO]. [the involved expert] thought that we are going to be consulting customers for him, eventually. [...] So, we got a lot of free help from him then. We offered him to be part-owner at [UT], just go in with small money, but he refused. His company was just bought up by [large market player], and he felt that he didn't want to be a part of another start-up. [...] He spent maybe a total of 20 hours for free with us.*" *(Kevin, 180830)*

The professional relationship ended when the designer issued an unexpected invoice to UT, indicating that he is not interested in further contributing for free (source: interview with the founder on 190708; interview with the designer on 190827). Kevin shares, however, that he maintained a personal, mentorship-like relationship with the stakeholder. I secure Kevin's permission to interview the designer, and later do so during phase 2 of my study.

Milestone 3 – Manufacturing is set up (Q4 2013 – Q2 2014)

Project 3.1 Manufacture the product at a factory overseas

Kevin takes the first steps towards an industrially manufactured product in the second half of 2013. Through the supporting network, he establishes a connection with a cluster organization for manufacturers in the region:

> "*...it is a [manufacturing] center of Sweden. It is almost impossible to develop [...] products here, because [all the knowledge is in X]. Now we talk to Swedish suppliers, and they are all in [X]. Like, if we need [any material] that fits [our product] – it is in [X]. The first production batch we did, feeling very nervous about how to produce, we had a Swedish company that was based in [X] source in [foreign country] for us. So, we bought from a Swedish company, but it was sourced, they sourced it from [foreign country].*" *(Kevin, 170112)*

Membership in the organization costs a recurring yearly fee, but Kevin believes it is well worth it. The possibility of sourcing the materials abroad saved a lot on costs, and with his still limited connections and experience in the industry, Kevin believes he could not have achieved that without the organization's support. Additionally, through the cluster organization, Kevin gets introduced to important industry actors. He receives expert feedback on the prototype, meets young professionals who could help the development for a modest fee or free of charge, and finds a manufacturing service provider overseas:

> "*The very first factory we found through a [Swedish company X], who did sourcing for us… I actually met [Alise] through them, she was a summer intern there. So, the first factory, January-February [2014]. This was a lot of work, to make this function. Cultural differences that would not be able to handle ourselves, we only communicated through [Swedish company X].*" *(Kevin, 180108)*

To establish manufacturing processes with the new manufacturing service provider, Kevin obtains a loan from governmental agency – the same one that granted a small initial sum before – and also invests his own financial resources. The loan was granted for approximately 40% of total project costs, and the rest was invested by the entrepreneur from his available personal financial resources (source: interview with the founder on 180830; loan application and approval letter). Besides the personal investment as security, Kevin could demonstrate that the product has already gained rather strong interest from the market. Coupled together, these factors made obtaining the loan easier. In hindsight, however, Kevin considers his decision to take on debt financing as less than optimal:

> "*…we actually did not need it, we had money to do what we were going to do, but the wheel was spinning, and there were others that took this loan, so I did that as well. It was first year without repayment, and then 8-9% interest and repayment within 3 years. High repayment tact… we should not have taken it when we took it. The whole first year we were not even using this money, just paying for it being there.*" *(Kevin, 180830)*

The first batch of the product, manufactured at the overseas factory recommended and managed by cluster organization actors, arrives to Sweden by the end of spring 2014. There are multiple quality issues with the product – a situation that is costly in terms of both finances and time. At this stage of development, UT has no standard quality control procedures due to the lack of knowledge and financial resources to establish these, and the first experience delivers results below expectations:

> "*…the first production we made about 300 products, and there were loads of problems […] We could eventually sell only a third of it.*" *(Kevin, 180108)*

For cost-cutting reasons, Kevin continues sharing the suppliers and sourcing the materials together with other firms within the industrial cluster organization and the supporting network. He also does a lot of work in-house with the help of experience-hungry individuals who work for free or at low cost, with the expectation of gaining new experience, expanding their own network, and possibly securing employment at UT or at UT's related stakeholders. Reliance on in-house expertise and man-hours is practiced on a continuous basis, not only in tasks related to developing and manufacturing the product, but also in establishing other business processes.

<u>Project 3.2 Set up business routines and establish a supply chain</u>

Kevin continues doing most of the work related to business processes by himself to cut down on costs and applying for grant financing:

> "*I have used almost all of the public ways to finance. […] …it is extremely important to continue having focus on low costs. Without [grant financing] money, perhaps I would have found other ways of doing it, I do not know, it is impossible to say. But I could not have done it the same way.*" *(Kevin, 170925)*

Promotional power gained through these activities is instrumental in spreading awareness of the firm and its product. Consequently, many doors opened to get the needed resources at preferential conditions. Market interest in the product rapidly increases after the launch in the summer of 2014.

<u>Project 3.3 Move the manufacturing to Europe</u>

Eager to improve product quality and production routines overall, Kevin uses his connections – the industrial cluster organization, the supporting network, and the contacts gained through participation in prize competitions – to find a manufacturing service provider closer to home. Manufacturing costs would increase significantly, but Kevin believes the benefits overweigh the costs:

> "*…during spring [2015], I was trying to make a contract with large chain, [AAA]. We have been a part of the competition, […], and one of the jury guys said – I am best friends with CEO of [AAA]. We had a meeting, he said – I really like you, but I think it is going to be a hard product to sell. So, instead he connected me to this factory in [European country], where we moved the production to in the autumn same year. The benefit is that we can do small batches, and it is close, and it is easier to communicate with. This worked well, until about when [Alise] started, because then small batches became so expensive to produce.*" *(Kevin, 180108)*

I study available documentation on cooperation with the new manufacturer – such as pricing and service agreements, production volume projections, and margin expectations in relation to the desired retail price – and confirm that there is great flexibility in formulation of terms of cooperation. This flexibility is enabled by trust and goodwill existing from the start due to introduction by the mutually trusted third party, and through the existence of a favorable window of opportunity for the manufacturer, who just at the time when cooperation started planned to extend their customer base by including innovative start-up firms. In phase 2 of the study, I interview the manager of the manufacturing partner firm to get their perspective on the cooperation. At this stage of my study, however, I am only able to hear Kevin's opinion:

> "*…small batches were so expensive to produce. They still had to buy a lot of material and keep it in stock. From our perspective, we felt we are lacking information – how much we have in stock, how long are times… etc. When [Alise] started, I said I do not want to have anything to do with production. [Alise] took charge, and she can be very strict. The factory did not like that, they felt like they are being controlled. We started to have huge conflicts. Especially summer 2016 it exploded. Then we also started to produce our [product #2], and they realized they are not getting this order, we are going to use a different factory. Because they did not have the machinery, and because producing with them was too expensive.*" *(Kevin, 180108)*

The firm finds itself in an increasingly difficult financial situation, and managing the growth with internal resources only becomes ever more challenging.

Milestone 4 – Product is launched on the market (Q2 2014 – Q4 2015)

<u>Project 4.1 Conduct market research for additional market needs</u>

To finance growing expenses, Kevin applies and successfully obtains a sizeable grant from the local support organization for market research and marketing activities (source: interview with the founder on 170112). Kevin shares that the grant was instrumental in allowing UT to participate in a major industrial trade show held annually in Europe in mid-2015. UT's participation is critical for the firm's further development:

> "*Yeah, [the grant] … it happened in 2015. That financed our participation in the trade-show in [Europe], which is the biggest [trade-show] for our type of products. Pretty much the whole sum of [grant money] went there, for designing the booth, travelling, and also attending the fair. Because we set up the plan to get this money to attend the fair and attract new*

distributors, and get an outside investor, which we did December 2015. So, the plan worked." (Kevin, 170112)

Kevin believes that this was a critical investment in marketing, and in legitimizing and establishing themselves within the network on par with strong and resourceful players:

"*…we are looking to be a part of [industry trade-show] in Stockholm. Cause there is no other place to meet [domestic market players] today. …if we had deals with [leading domestic retailer A] or [leading domestic retailer B], they have their own fairs, where there are only the ones that have partner deals with them. We do not have those deals, so we need to be visible anywhere we can." (Kevin, 180215)*

Based on insights from trade shows, Kevin decides to extend UT's product portfolio. I study the internal planning documentation from 151002, and learn of the market research results and the firm's plans for subsequent product development. Kevin plans for the new product development to be done in-house, with no hired help, instead relying on the firm's loyal personal and professional network. Unpaid and low-paid interns are also instrumental here, providing the necessary expertise and man-hours. The plans for the development of new products are implemented straight away.

<u>Project 4.2 Develop additional products in line with market needs</u>

Kevin continues to primarily use his own money to finance the product development, and minimizes internal expenditures as far as possible. Doing a lot of work in-house, even when external stakeholders are involved, is the primary measure for not only short-term cost-minimization, but also long-term knowledge accumulation within the firm:

"*…I have learnt how to do a lot of things by myself, so I do not buy that many things from them anymore. … […] … some things where we feel like we need we hire. But I think things like production, product development… all of these things, I think, other consultants that we had in the beginning, web-site developers and things like that – we do not use them anymore." (Kevin, 171018)*

Development of product #2, in line with discovered market needs, begins from scratch in-house, and interns with product development expertise are instrumental at this stage. I ask Kevin to describe the development process and the roles of different actors:

"*[An industrial design student] was our intern last summer, she did the drawings for [product #2]. Then, I and [Alise] took over, when she stopped. She was with me on [manufacturing site] the last time. I need to be involved in the whole process. [product #3] is also a product that we developed in-house from scratch, so I know what kind of decisions and why we took* *on every step. In [product #2] there are still things that I have to understand, as it was another person designing it. She worked for free, she was an intern from [university].*" *(Kevin, 171115)*

Kevin successfully applies for a grant for further promotional activities, signs an agreement with his first foreign distributor, and begins receiving larger orders. I study some of the agreements with distributors, which are prepared meticulously, with explicit and extensive terms and conditions of cooperation. Additionally, I participate as a silent observer in a meeting with one potential foreign distributor, held on 171109, and in subsequent internal discussions regarding this cooperation on 180115 and 180122. My observations confirm that, when it comes to product sales and distribution, both parties act upon formal agreements, diligently prepared with professional legal help. I also conclude that Kevin is highly selective in his choice of overseas partners and follows discrete, explicit terms of cooperation.

Project 4.3 Negotiate sales agreements

At this stage of the firm's development, sales are critical for further growth. Sales expectations guide the production plans, marketing activities, and financial projections. Kevin strongly believes that sales activities cannot be delegated to any external sales professional, while the financial resources at the firm are still not at the level where recruiting and sustaining the in-house sales expertise would be feasible. Until that is achieved, sales are the activity that lies heavily on Kevin's shoulders:

> "*…we would be able to employ an external sales-person, but the business is mostly about relationships, and the most important relationships we have are with large customers that do not want this variation all the time. Another reason is of course so that we have to choose customers. [due to limited budget] we can only choose one. How is the external sales-person going to make such decision? If it would be normal retail sales then it is a different story. But here we can only have a handful of customers per each market, so here we run onto a problem.*" *(Kevin, 170925)*

To allow himself the space and time needed for sales, Kevin is continuously seeking resources to support the firm's other activities at the lowest cost possible. Through existing connections at the local supporting network and now the wider industrial network, UT joins a support program, whereby a large consultancy firm offers their services a 50% discounted price over two years. The consultancy firm has its primary expertise in legal services, and are therefore instrumental in preparing the sales and distribution agreements for UT. Now, the increased need in professional services along the supply chain can be satisfied at no particularly high cost, and Kevin is able to delegate at least some portion of his administrative burden to a professional service provider.

Milestone 5 – Equity capital is obtained (Q4 2015 – Q2 2017)

Project 5.1 Finance the growth

The firm's expenses rapidly increase. Exiting the support program offered by the network was long overdue for UT. Kevin negotiates to retain the low-cost office space longer, but the need for a larger space is inevitable due to the growing staff. Office rent cost triples in an instant (source: documented invoices issued by the renter organization in 2015 and 2016). The availability of support services via the network is now limited, meaning Kevin has to rely on his own personal and professional connections. The growing market exposure also dictates the increasing costs. Kevin begins to realize that frugality may be coming at a cost as well. UT's financial resources are drained at faster rate as UT works to satisfy the increasing market demand. It is customary in the industry for production to be partially prepaid, and payments have to be made on short payment terms. At the same time, the customers, retailers and distributors require longer payment terms on invoices that UT issues (source: documented terms and conditions in contracts with suppliers of services and materials). This poses significant cash flow challenges. At the same time, Kevin feels that delaying payments or not paying some suppliers at all goes against his personal ethos. Thus, resource management through delayed payments is an unexploited option for Kevin:

> "*…it feels bad. […] I have considered it, but have not done, I still pay everything on time. […] I think it is pretty deeply rooted in how I want to do things. […] it would almost be immoral to not do what I promise. This is the way I want to do things. I try not to break promises, and not paying on time I would say… it would break my moral.*" *(Kevin, 170112)*

Kevin, still supported by unpaid interns, invests time and finances into developing the new and existing products, which will not be launched until the beginning of 2017, and thus are very far from generating an income. The implications of new development and long lead times all together put a strain on the firm's financial position, making equity capital intake an inevitability.

Project 5.2 Negotiate the intake of equity capital

Kevin once more uses his network, this time to find investors. At the end of 2015, after a rather short and informal round of negotiations, the local investment group invests SEK 2.23 million in UT for 20% ownership of the firm. The investment makes it possible to hire Alise as a full-time production manager. She soon becomes an invaluable resource.

Sales grow progressively, both domestically and abroad. Since the product launch in 2014, UT doubles its sales turnover every year (source: internal planning documentation and published financial reports). In the beginning of 2017, amidst growing market interest that is difficult to satisfy with limited internal resources, and while handling the consequences of a prolonged, destructive conflict with his European manufacturer, Kevin turns to the same group of investors and shortly receives another SEK 2.6 million for an additional 10% share. Accepting the low valuation for the second time is disappointing, but the money is obtained in a relatively quick and uncomplicated way. Kevin believes this is worth a compromise:

> "*It was fastest, and also that we did not need that much money. But main factor was the speed. It was too little time to go out and start speaking to international investors. The angel network here in [the region] is too uninteresting. So, then we have to look at the abroad venture capital firms that are interested in the industry. It is also so that we cannot show any hugely successful technology that can become super-popular in a short time, but it is actually a slow journey, it can take a lot of time. There is no hockey stick, and there is never going to be.*" *(Kevin, 170925)*

The second investment allows Kevin to breathe more freely, but this time he approaches any financial spending with even more caution. With the firm's increasing monthly burn rate, Kevin looks out for his wallet even more diligently:

> "*[Using the network] is the way for us to get a lot of work done for free. I could say, we could not have done all we have managed to do, if not for interns. It is free labor. [Alise] did a lot of stuff free for us when she was a student. We have had so much stuff done thanks to interns.*" *(Kevin, 171006)*

The tasks that could be managed in-house are still managed this way, even if the internal staff does not have the time or skills to do the work optimally. The tasks that cannot be managed in-house are outsourced to friends and people found within close personal networks as first choice. Kevin begins to look for a new manufacturing service supplier that would make it possible to increase product quality while supporting the necessary low-cost orientation.

Project 5.3 Set up manufacturing at the new factory

To deliver on ongoing orders with good profit margins for the firm, and also before the new products could be produced, Kevin invests time and finances into moving the production back where it started – from the European factory to an overseas country. By now, Kevin feels confident enough in his knowledge of the industry to manage the selection with no external help. The agreement with the selected factory is made available to me, and I confirm that the contract is formal and explicit – there are now no preferential conditions due to the previously built relationships. This time, Alise is the main person responsible for the manufacturing process, starting with sourcing of materials and all the way until the completed products are delivered to Sweden. Meanwhile, Kevin pursues his goal of focusing on sales. I ask Kevin to reflect on the processes of moving the manufacturing back to where it started:

> "*We did not have any choice in fact. The other factory increased price so much, that we actually saved on starting up with new one in parallel. So, we have started up with new, and we still produced for a while at the old one. So now, if we decide to take in a new factory, we will still produce at the current one until we feel like with the new one, we have gone so far that we can trust them to produce everything. From the beginning, it is a lot of work on-site, it is a lot of samples back and forth. This is something that I do not want to do, without a really good reason.*" *(Kevin, 171115)*

I inspect the firm's internal project planning documentation, and confirm that each production is handled in as many as seventeen steps, each of which has a defined scope of needed resources, a temporal frame for execution, and an assigned person within internal staff who is responsible for that particular step. With rare exceptions, Alise is responsible for about 80% of the steps, and Kevin handles the rest (source: interview with the founder on 171115). Quality control, logistics and warehousing services are provided by third-party suppliers:

> "*The structure of cooperation will look approximately the same for every project. We test the prototypes at some point with [personal friends who fit the target audience], then the factory makes preproduction samples which we have to approve or return back with comments, then they produce.*" *(Kevin, 171115)*

Kevin believes that the strategy of creating, nurturing, and continuously effectuating the in-house expertise should persist even now, when the firm stands firmly on its own feet and enters the stage of organic growth. Accelerating growth does not come without its challenges.

Project 5.4 Handle product quality and IPR challenges

In the second half of 2017, a full container of damaged products is delivered from the new overseas manufacturing service provider. I am on site at the firm when the issue arises, and observe how Kevin handles the damaged products with the help of his employees and interns manually inspecting every product, discarding what could not be repaired, and repairing by hand what could be saved:

> "*…we realized that we could save a bunch of products. I washed them at home one Saturday evening, and then inspected them again, and they are still looking like a great product. From the ones that could not be saved, we cut out buckles and so on, so that they could be re-used in the next production.*" *(Kevin, 171016)*

As a result, the firm has to delay deliveries to the customers, handle the insurance claims, and negotiate a solution with the manufacturer that would prevent similar situations in the future. At the same time, the firm faces the IPR infringement caused by an overseas manufacturing site. I get a picture of the whole extent of damage – resolving the situation will require significant time, energy, and financial investments (source: observation notes from 180115; interview with the founder on 180215). Such expenses cannot be afforded now, when the firm is entering a stage of active growth. The escalating growth activities and growing personnel expenses result in critical liquid capital shortages once more. Kevin reluctantly admits that he should have invested much more and much earlier into protecting the intellectual property, but this was neither a priority nor an affordable cost at that time:

> "*We have applied for a trademark last summer, and it was done a bit too late. It is obvious that they have done it knowingly. This is quite common way of fraud in [manufacturing country], done to press a company out of the market. So, we are in a difficult place right now. Luckily, we found out before the application was approved for them. […] I have tried to read up on how this works and what can be done, I have put quite a lot of time on that.*" *(Kevin, 171127)*

Eager to avoid the unexpected costs as much as possible in the future, Kevin ever more strongly refocuses on organic growth, aiming for maximum independence from external resource providers.

Milestone 6 – Strategy for organic growth is developed (Q2 2017 – Q4 2018)

Project 6.1 Increase staff and in-house expertise

Discussions with various partners along the value chain are long ongoing, and at this point multiple steps need to be taken simultaneously towards formalizing cooperation with various stakeholders. New recruitment processes are also continuously ongoing, as turnover is high not only among the unpaid interns, but also among the firm's employees:

> "*I believe that it is fundamentally better to have fixed personnel here, in the office, because we can use people for more things, we can help each other with various tasks. …this fluidity in tasks, it also makes it so that strict internal structure is not important for us, not for our goal-setting. It is possible that in the future it will be useful to buy many services, but until then it is fundamental to have a strong team here.*" *(Kevin, 170925)*

> "*We are starting to get some structure, but not there yet. Now [production manager] is helping out. But since we are at the same time growing, each new customer requires time. We are still at the point where key account management is not structured well.*" *(Kevin, 180830)*

A strong and dedicated team is critical for building and sustaining the brand value. I get a chance to observe the brainstorming sessions where Kevin and his staff work together on formulating the brand's proposition and its unique properties (source: observation notes from 180108). The firm's staff is finally ready to shift most of their energy from scrambling for external financial resources to prototype and manufacture onto efforts towards organic growth by expanding sales, which are to be carried out primarily by internal human resources. To decrease the cost of marketing and thereby dependence on external financial resources, promotional activities are increasingly done through online personas who introduce UT's products through their social network in exchange for discounts and free products:

> "*We do primarily social media work with marketing, we use a lot of ambassadors, so we give away products to quasi-famous people, in exchange of them writing about our product, talking about them, and taking pictures. I think it is a very effective way of doing marketing. I would say most of our sales come from people looking at [social media] and what we show there.*" *(Kevin, 170112)*

The low-cost marketing and brand-building efforts through such online channels result in interest in the product reaching beyond the domestic market (source: observation notes from 171211, 180122, 180129). Kevin points out some disadvantages of the chosen growth strategy – the delays in the schedule, making mistakes because of rushing things, and lack of routines for handling partners and distributors. To decrease the costs while retaining maximum control and independence from external actors, Kevin continues to focus on exercising in-house expertise.

Project 6.2 Develop new products in-house

Increased product quality and market interest, coupled with decreased communication barriers with the manufacturing partner as processes became routinized have all boosted Kevin's enthusiasm and confidence that the firm is on the right track:

> "*Now I have a pretty strong idea of what we are doing and how we are doing things, I learnt a lot during these years, but in the beginning, there were so many gaps, so many things I had no clue about. I often describe our process as first having a project, then having company, and right now we are working on the brand. So, depending on the focus, you can say project-product-company, but branding only comes now.*" *(Kevin, 170112)*

Most of the tasks are now handled in-house, while some work is outsourced to external actors for free or at low-cost:

> "*I think at the stage we are at, a lot of stuff we do will not be perfect. What I think is, we should have video material, on our site as well, it can be about anything. Video materials are easily created with the phone, it does not have to be super-great quality material. Because I think, if we have a person doing it full-time in-house, we will also develop more sense of what we put out there.*" *(Kevin, 171122)*

In 2018, by the completion of my empirical data collection, UT fully covers the marketing and sales activities through its own financial resources (source: internal planning documentation from 180514). I get an opportunity to confirm the information received from Kevin by studying the firm's financial documentation publicly available through the state registry for years 2013–2017. By the time of data collection completion, no later annual reports are yet published. As I write up my thesis in 2020, however, I also take a look at now published reports for 2018–2019, and confirm Kevin's presentation of turnover growth:

> "*We are doubling the turnover each year right now, and if we pass the test in [new foreign market], it will be an additional 750 000. And we are going to start in [new foreign market] and they will also probably order for about 750 000. So that is 1.5 million combined.*" *(Kevin, 180830)*

Kevin is convinced that the firm is capable of growing organically just through further acceleration of sales, without additional external capital. That is assuming the firm remains frugal with resources, which Kevin intends to see to, for instance by using more interns, employing people on probation time with salary partially covered by the Swedish Public Employment Service, and redistributing and reprioritizing the time of existing staff members:

> "*I will ideally need to hire a person to administrate the stock… When we start growing, we are on a good track continue doubling the turnover every year, which is fantastic for us, more than 100% growth. If we continue, we will double next year again. Then we have to start lending money on our stock and stuff like that. We have to start doing cashflow management, because handling this growth will require it. That is a part of the plan, but we probably will not be able to take in a person like that just yet.*" *(Kevin, 180830)*

Kevin also focuses on strengthening and executing the in-house expertise and man-hours as much as possible to avoid the need to involve additional external stakeholders before the value in the firm increases:

> "*Right now, the goal is to be able to grow with sales. When we have done that some more, then it is another discussion… then we will look for capital, be able to set a good market price for the company, so that we can take… [an attractive price]. So that we can really change the company, so to speak, very cardinally. And then it is probably going to be some external VC.*" *(Kevin, 170925)*

This concludes my descriptive presentation of accounts for the firm's key milestones achieved over the time of idea generation to the date of phase 1 completion. Concluding sections of this chapter will outline what was learned from study phase 1, which forms the basis for proceeding with phase 2, and introduce the study's theoretical frame of reference.

4.3 Phase 1 outcomes

4.3.1 The developed presentation of data

I begin the developed presentation of data by summarizing the empirical findings in relation to key resources and bootstrapping behaviors within each of the identified development milestones. In Figure 5, I present some raw data excerpts from interview quotes and observations notes to illustrate my conclusions on critical resource needs and behaviors to address such needs within each of the milestones. The role of Figure 5 is not only to illustrate the condensed data structure, but also to demonstrate the key resources and bootstrapping behaviors as they emerged and transformed over time as the critical development milestones were achieved. The top row in the figure, labeled #1 to #6, represents the six development milestones discussed previously in this chapter.

Figure 5 Phase 1 data structure

Milestones	#1	#2	#3	#4	#5	#6
Data excerpts	*"two pieces of old material hastily put together" "encouragement was critical" "grant was critical"*	*"at home is too easy to not work" "it is more than just an office space,*	*"they had expertise in sourcing, we never acted directly"*	*"I have to sell by myself, it is my top priority" "the more the brand becomes, the*	*"we are the only experts in this, no one else can do it better" "interns are free workforce"*	*"we double turnover every year, we earn money"*
Key resources*	physical (premises and material) social (friends and family) financial (grant)	physical (premises social (supporting network) financial (own money, grant)	social (supporting network, industry network) financial (own money)	human (knowledge, staff) intangible (brand value, goodwill)	human (knowledge, staff) social (value chain actors)	financial (revenues sufficient for organic growth) intangible resources (reputation, brand
Data excerpts	*"I knew I had money for this, from sale of shares in other company" "it was easy and straightforward application, small grant"*	*"I was sure office was free, I was shocked it was not" "designer was young and hungry, we got him cheap, used grant money"*	*"the membership was not free, but it was a small fee" "it was beneficial for them, we negotiated"*	*"we were in perfect situation where we did not have to pre-pay the stock"*	*"many people we worked with in the beginning are not there anymore, we wanted too much for free"*	*"we need to keep focus on low cost" "we do not pay for extra services, until we have more money than time"*
Bootstrapping behaviors**	owner-financed subsidy-financed	subsidy-financed relationship-oriente	relationship-oriented	minimizing	relationship-oriented non-bootstrapping	minimizing non-bootstrapping

* For operationalization of resources, I use here the resource categories proposed by Lichtenstein and Brush (2001)
** For operationalization of bootstrapping behaviors, I use here the bootstrapping factors developed by Winborg and Landström (2001)

The typologies of resources by Lichtenstein and Brush (2001) and of bootstrapping behaviors by Winborg and Landström (2001) are popularly referred to, and they have already been mentioned as reference in my thesis a number of times. I choose these typologies to operationalize my empirical data on resources and bootstrapping behaviors. The work of Charmaz (2005; 2012) serves as inspiration here, as I develop the common themes uniting my raw data from the ground up, but I sample the data theoretically, considering the reasonable frame of reference and already achieved understanding of the study's focus areas. Figure 5 should be read and understood as follows.

At the start of the journey, as the idea was born, progression towards milestone #1 was only possible given the availability of premises and materials at hand, and with some finances from the founder's pocket and a grant. The earlier descriptive presentation of milestone #1 shows data on how the idea took shape with the help of these resources. The practical way of accessing and managing these resources was the availability of personal financing and the easily attainable small grant from a governmental support organization. When working towards milestone #2, entrepreneur leverages the supporting network built through contacts achieved through belonging to physical premises, and contacts in the supporting organization granting money at milestone #1. These respective network actors serve as the door openers for accessing the pool of resources within the wider industrial network. The resources required and accessed then are physical, human, social in the form of external expertise, and financial in the form of grants and subsidies. The network made it possible to access these resources for free or at a low cost, also during the work towards achieving milestone #3. The entrepreneur still relies on personal financial resources, but now becomes more aware of the utility the network may provide. Paying a membership fee to belong to an industry network association is considered a reasonable and necessary expense for attaining this utility. The personal financial investment is also the token of commitment, making it possible to demonstrate the seriousness of intentions to external stakeholders, and thereby gain power in negotiations for preferential prices and conditions. Upon market launch and growing sales commitments within the work towards achieving milestone #4, activities to manage customer accounts and supply chain actors require more human and legitimizing resources, and minimization of stock and accounts payable are now important ways to bootstrap. Accelerating sales and acquired equity capital in 2015 and 2017 also make it possible for the entrepreneur to acquire and manage resources in a non-bootstrapping manner, starting from the work towards achieving milestone #5. Relationship-oriented bootstrapping still remains instrumental. For example, the firm's staff use their personal network (friends and family) to prepare marketing and branding materials, such as professional photoshoots, social media exposure, and so on. The growing legitimacy – the brand value and achieved goodwill – are communicated to external stakeholders during the work towards achieving milestones #5 and #6. This allows the entrepreneur to rely on relationship-oriented bootstrapping, and use finances in the form of revenues for organic growth. The previously made agreements and strong legitimacy also allow the entrepreneur to use minimizing bootstrapping behaviors by means of negotiating the terms of contracts or quid-pro-quo arrangements.

The data structure presented in Figure 5 serves as a benchmark for evaluating how one milestone or another suits the interest of the study. The insights on criticality of relationships for possibilities to bootstrap for resources run as a common thread throughout the descriptive accounts for milestones presented earlier. Relationship-oriented bootstrapping is also the most representative in Figure 5. Additionally, I consider the study's interest in learning the individual perspectives on bootstrapping exchanges from both parties – the entrepreneur and resource providers. This means that, when selecting study phase 2 cases, I will look for instances of entrepreneur-stakeholder relationship that could best satisfy my study's interest. The detailed account of phase 2 case selection will be given in Chapter 6.

The first aim of study phase 1 – to develop the selection pool of potential phase 2 cases based on empirical data – is thus achieved. I move on to addressing the second purpose – the selection of the theoretical frame of reference.

4.3.2 Theoretical frame of reference considerations

I now consider the theories that could help me conceptualize my data. As per the above discussion, following Figure 5, the entrepreneur's personal and professional relationships played the most significant role in the firm's resource acquisition and management throughout the whole longitudinal development. Descriptive accounts of milestones demonstrate that, even when resources were acquired without critical external stakeholders involved, relationships were critical. For instance, the entrepreneur acknowledges that, in cases he had to rely on his own finances, he had to consider how it might affect his family members and negotiate for their support. I also conclude that, while the role of some other types of bootstrapping, like subsidy financing and private-owner financing, diminishes with time, and the role of some others, like minimizing stocks and accounts payable, becomes more critical, relationship-oriented bootstrapping remains important throughout the whole longitudinal development of the firm.

I first consider the real options framework, following McGrath (1999). Although Rita McGrath's primary background is in strategic management research, her work inspired many entrepreneurship studies (e.g., Wiklund and Shepherd, 2005; Politis, 2005). From the beginning of my journey as a PhD student, I myself was greatly inspired by McGrath's research. However, the fit of real options framework for my study is a different question. The article by Adner and Levinthal (2005), published in the *Academy of Management Review* journal, was particularly helpful in evaluating the fit. Here, the authors argue that real options framework should be applied when the value of options is objective, readily observable, stable, and independent of the behavior of stakeholders. The greater the extent to which these conditions are violated, Adner and Levinthal suggest, the more problematic the application of real options framework. Conceivably, if my study were to rely on real options theory, it would require a great violation of these properties, as I do not perceive the intrinsic or extrinsic characteristics of options as objective and stakeholder-independent. I therefore decide to dismiss real options as a suitable framework.

I further explore the role of relationships throughout bootstrapping exchanges over time. The non-trivial role of relationships in accessing and managing resources for new firms is extensively noted by bootstrapping researchers and entrepreneurship scholars alike, as discussed earlier in Chapters 1 and 2. Relationships, i.e., the criticality of human and social resources for enabling bootstrapping behaviors, also run as a common thread throughout my phase 1 empirical data, as demonstrated in descriptive accounts of milestones. In my early reading about entrepreneurial resource acquisition and management, an article by Starr and MacMillan (1990) was influential. There, the authors discuss the entrepreneurial social contracting for resources, relying on relational contracting theory by Ian Macneil (1978a). The principles of social contracting for attaining and managing a new firm's resources that Starr and MacMillan (1990) spoke of hold exceptionally well for the findings of my study's empirical phase 1. I begin studying Macneil's original work closely, and soon establish that relational contracting is indeed a well-fitting theoretical framework for my study. I will explain my reasoning leading to such a conclusion in the upcoming Chapter 5.

I now achieved the aims of study phase 1 – to discover the selection pool of potential phase 2 cases, and to select the theoretical frame of reference for my study. The understanding of resource needs and behaviors to address these needs developed in this chapter, as well as implicit understanding of stakeholders' roles – internal and external – will be critical for further case selection, while the theoretical frame of reference will be critically important for abductive analysis at phase 2. The findings of phase 1 are also instrumental for developing the conceptual framework and the study's overarching empirical findings. I introduce and justify my theoretical framework next.

Chapter 5.
Theoretical framework

Relational contracting theory originated from legal studies, and it was first extended beyond the legal contracting by Ian Macneil (1978a). In my empirical phase 1, I find that relationships are essential in bootstrapping exchanges. In my review of bootstrapping knowledge, in Chapter 2, I found that bootstrapping studies often refer to the work of Starr and MacMillan (1990), where the authors find that resource acquisition and management in new firms is enabled through social contracting. In essence, social contracting and relational contracting theory are exceptionally close, and Macneil's work presents a strong frame of reference for Starr and MacMillan. Although bootstrapping studies did not explicitly rely on Macneil's work so far, I find that some studies' reliance on social contracting premises is a strong argument for relating bootstrapping research to relational contracting theory (e.g., in Jones and Jayawarna, 2010; Politis et al., 2011; Jonsson and Lindbergh, 2013; Mac an Bhaird and Lynn, 2015).

To guide the reader through the process of confirming the data-theory fit, as well as to operationalize the theory for my study, I conduct a literature review similar to that described in Chapter 2. Here, I also combine the systematic literature review with bibliometric analysis. In defining the review literature scope, I consider the application of the theory in business research, and in entrepreneurship research specifically. My aims with the review are:

(1) to map out the knowledge landscape on relational contracting, including the followers and critics of Macneil's original work; and

(2) to understand how the relational contracting framework was operationalized in relevant empirical studies to date.

Chapter 5 will be structured as follows. First, I present the process used for conducting the bibliometric review and its conclusions. I then introduce the theory's essential categories – contractual norms. Next, I discuss how Macneil's contractual norms were operationalized in studies included in my review, grouping the studies by bibliometric clusters. Finally, I build the link between relational contracting theory and my study, and discuss how the theory will sensitize the study's empirical phase 2.

5.1 Review of relational contracting literature

5.1.1 Preparing for bibliometric review

First, by means of systematic review procedures described in Chapter 2, I shortlist the following scientific contributions by Macneil: 1978a, 1978b, 1980, 1981, 1983, 1986, 1987, 1988, 2000a, 2000b. Macneil has authored many more studies that might be relevant, but in order to make the review scope manageable, I only selected the most cited original works.

I proceed to develop the bibliometric review sample by analyzing the citations for each of the above works. I replicate the citations search both in Google Scholar to ensure maximum inclusion of potentially interesting studies, and in Web of Science (WoS) to limit the scope of my search to scientific publications only. I perform the complete citation analysis and run bibliometrics software twice, following different search logics. I first search for articles specifically within entrepreneurship research. However, seeing that relational contracting theory has not been explicitly used by many entrepreneurship scholars, I extend my search criteria to other fields of business research. In Macneil's original work, ten contractual norms are essential for operationalizing the theory. My purpose is thus to identify empirical studies that explicitly operationalize Macneil's relational contracting norms.

I will further work with WoS results only, replicated in Scopus, due to the possibility of importing the lists directly into the software. In Figure 6, I present the numbers returned by Google Scholar as well to illustrate the scope of knowledge available outside of scientific databases.

Publication year of ref. study	Citations (Google Scholar / WoS)	WoS: Refine step 1*	WoS: Refine step 2**	Total
1978a	3474 / 690	138	10	10
1978b	82 / 57	13	2	2
1980	3776 / 975	36	7	7
1981	712 / 161	36	9	9
1983	608 / 142	30	12	12
1986	176 / 43	6	1	1
1987	137 / 30	7	5	5
1988	27 / 9	0	0	0
2000a	76 / 19	5	1	1
2000b	443 / 108	32	15	15

* "new firm" and "new venture"
"entrepr*" (incl. "entrepreneurship") and "start up" (incl. "startup" and "start-up")
"resourc*" (incl. "entrepr* resourc*")
"financ*" ("entrepr* financ*")

** "business"
"discrete norms" AND "relational norms"
"discrete norms" AND "relational norms"

Figure 6 Relational contracting literature search results[11]

After removing exact duplications, the input for bibliometric analysis consists of 27 studies.

5.1.2 Execution of bibliometric review

I start by scanning the 27 studies, aiming to confirm that the authors indeed operationalized Macneil's contractual norms. I also create a Scopus list of the 27 studies that can be directly imported into the bibliometric software. In creating the bibliometric map, I use VOSviewer (see Chapter 2 for a developed presentation of the software and its use). The fields in the export file from Scopus included citations, abstracts, and references. I further select "co-citation" as the type of analysis, and "cited authors" as the unit of analysis.

I acknowledge that other studies theoretically inspired by relational contracting framework may exist, and that there may be other paths to building the base for a bibliometric review. I consider that any path is equally valid, as long as it diligently adheres to the established procedures for literature search and bibliometric review. In Chapter 2, while conducting my review of bootstrapping literature, I described such procedures in detail. Next, I present the bibliometric map and my review conclusions. Later in this chapter, I will also discuss how the studies in each of bibliometric clusters operationalized Macneil's contractual norms.

[11] I replicated the search several times between 191122 and 191228. Figure 6 presents the results of the latest search on 191228.

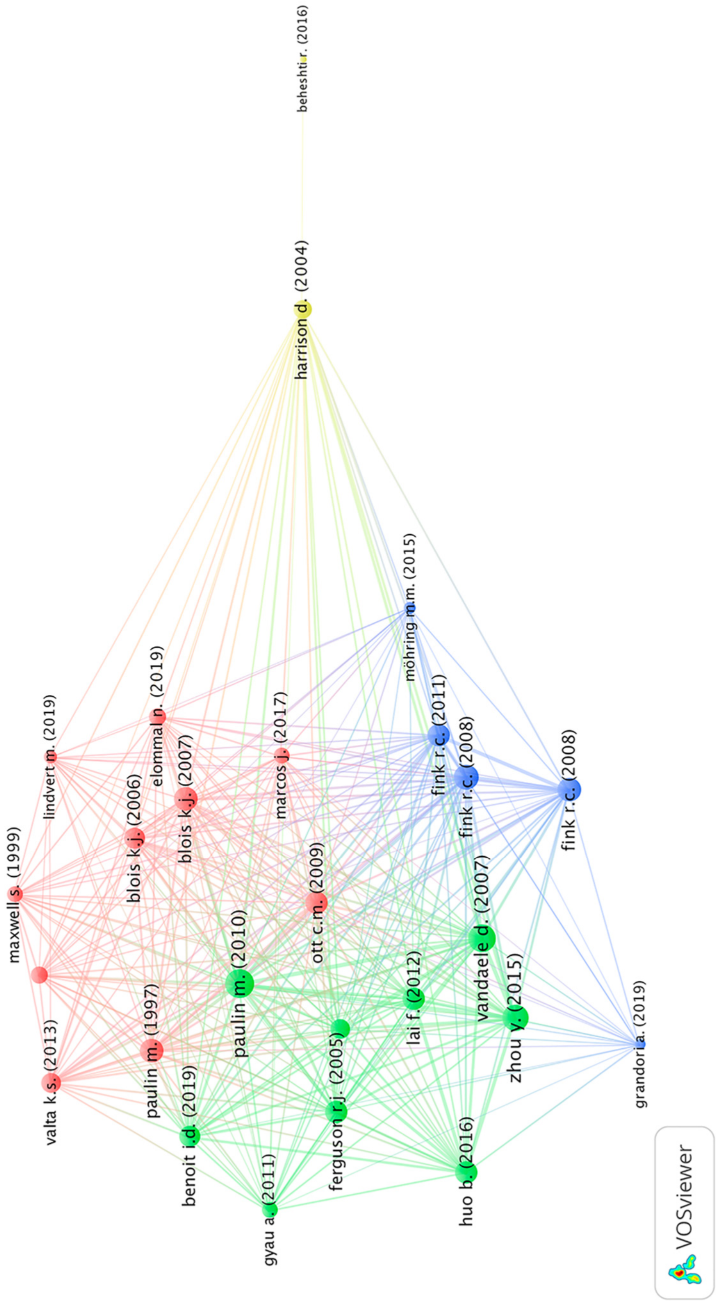

Figure 7 Bibliometric map of relational contracting literature

The colors in Figure 7 represent the groups of authors that have the most similarities in citation patterns. I offer the summaries of selected studies, grouped by bibliometric clusters, in Appendix 8. The appendix table presents the field of research, unit of analysis, methodology used, and the developed operationalization of Macneil's contractual norms for each of the studies. The descriptive presentation of conclusions below relies on Appendix 8. Thus, the below text and Appendix 8 can best be reviewed together. Further, I will first discuss the essential properties of relational contracting based on Macneil's original work, and then present Macneil's ten contractual norms.

5.2 Conceptual analysis of relational contracting theory

5.2.1 The essence of relational contracting

In Macneil (1978a), a relational contract is an informal commitment to engage in an exchange – presently or in the future – based on a relationship of trust between the parties. The explicit terms are either not at all present in relational contracts, or they are present merely as the contract guidelines that may or may not be legally enforceable. Instead, there are implicit terms and conditions that determine the behaviors of the parties (Harrison, 2004; Campbell et al., 2016; Vincent-Jones, 2016).

Macneil's understanding of the nature of contractual norms has been the subject of critique (Lindenberg and de Vos, 1985; Barnett, 1992; Eisenberg, 2000). For instance, Lindenberg and de Vos (1985) emphasize the limiting perspective on contractual consent and solidarity, whereby Macneil treats any consent as implicit and subjective. Even in instances when a contract is explicit and formalized, solidarity is conditioned upon the parties' implicit, subjectively-perceived expectations. The impossibility of the explicit and objectively-existing consent, in Barnett's argumentation (1992), speaks for the impossibility of discreteness in exchange relationships. This makes Macneil's theory "at once too encompassing and not encompassing enough" (Barnett, 1992). On the premise of relational contracting, critics argue, it is impossible to distinguish between what is actually a conflict to be guarded by law, and what is merely a social norm of conduct.

To address the critique of the theory's ambiguousness, Macneil (1987) argues that both the formal and implicit contracts are regulated by essential norms of contractual exchange that make it possible to distinguish between the discrete and relational exchanges. Thus, the consent to a contractual relationship is rather concrete and enforceable regardless of the nature of the contract. Macneil's ten contractual norms are the backbone that gives the relational contracting theory its legitimacy and clear conceptual focus. For my study to rely on relational contracting as a theoretical frame of reference, it is critical to understand the ten contractual norms and their possible manifestations in various kinds of exchange relationships.

5.2.2 The ten norms of contracting

Macneil's ten contractual norms do not explain the nature of specific exchanges, but they are the conditions that have to be in place for any exchange – whether discrete or relational – to take place. Contractual norms do not form a linear spectrum from discrete to relational, as they have been popularly perceived. It is rather the specific manifestations of norms that inform the nature of a particular instance of exchange. Below, I present Macneil's ten norms of contracting one by one:

1. *Stakeholder's role integrity*. Any exchange – whether discrete or relational – can only efficiently take place when the parties can reasonably assume that the other will behave properly to their roles and adequately to the circumstances. Whether the formal rules are assigned to the roles, as in discrete exchanges, or the parties act upon the implicit expectations, as in relational exchanges, contracts can only take place when and where stakeholders' roles can be relied upon (Macneil, 1983).
2. *Reciprocity*. Just as with the integrity of stakeholders' roles, any exchange presupposes that the behaviors of the parties are conditioned upon each other. In discrete exchanges, the terms of reciprocity are more immediate than in relational ones. Relational exchanges are often open, forward contracts that presuppose one party's right for returns and the other party's implicit obligation to provide such returns (Blau, 1964/2017). The backbone for understanding the nature of returns is the parties' perception of the value of the exchange object. Whereas a discrete exchange focuses on equality and adequacy of explicit returns, the value in relational exchanges is not necessarily equal (Blois and Ivens, 2007). This brings forth an important methodological consideration for studies aiming to understand the role of reciprocity in exchanges, as understanding the individual perceptions of value can best be achieved through qualitative inquiries.
3. *Implementation of planning*. Discrete exchanges involve straightforward planning mechanisms, as they encompass explicit commitments and terms of execution. When it comes to relational exchanges, the planning element is likely to be even more important, insofar as it serves as a mechanism of dealing with uncertainty and conflicts arising from it (Leblebici and Shalley, 1996). A

good example of handling the conflicts in relational exchanges is when the entrepreneur continues to support a suboptimal relationship with a supplier, accepting unfavorable conditions, because the economic cost of searching and negotiating with a different one is perceived as too high.

4. *Effectuation of consent.* Together, implementation of planning and effectuation of consent form the group of norms that Macneil labels "enhancing discreteness and presentation". Reliance on this group is characteristic of exchanges that are more discrete. Effectuation of consent builds upon the mutual acceptance of the inevitable sacrifice – by entering into one exchange relationship, the parties abandon other alternatives, and their actions outside of a given relationship become limited. In exchanges that are more relational, the implications of such a consent cannot be fully determined in advance, but despite risks and uncertainties, the exchange is only possible when mutual implicit consent is in effect.

5. *Flexibility.* The norms of contractual solidarity and flexibility build a group of norms that Macneil labels "preservation of the relationship". This group of norms is characteristic of exchanges that are more relational. Under discrete guidance of common contractual law, the parties adhere to an explicit pattern regulating the exchange, where the mechanisms for flexibility are built-in. For instance, a manufacturer purchases the material in smaller amounts, allowing for the opportunity to adjust the purchase amount up or down depending on how much of the end product they can sell at any given time of the contract being in force. This is how the purchasing contracts are made in established organizations, where resources and routines are in place. In exchanges that are more relational, flexibility, on par with implementation of planning, constitutes the individual perceptions of costs and rewards of alternatives. Blois and Ivens (2007) point out that flexibility is a long-term relational norm that should be understood beyond the validity of any formal contracts. Thus, flexibility in relational exchanges is a longitudinal construct that is important for my study, interested in outcomes of bootstrapping exchanges.

6. *Contractual solidarity.* The contractual solidarity norm presupposes that the parties understand and accept that society cannot function without exchanges. Therefore, the parties implicitly consent to depend on one another within the framework of the exchange relationship. Trust is commonly seen as a lubricant of contractual solidarity between the individual and organizational stakeholders. Trust refers to the ongoing possibility of a favorable state of expectations towards others (Möllering, 2006). In this respect, trust is critically important in entrepreneurial resource acquisition and management, as it helps

to mitigate the effects of information asymmetries and liabilities of age and scale (Aldrich and Fiol, 1994). In trustful relationship, the trustor remains in a favorable state of expectations towards the trustee, although they cannot be absolutely sure of the outcomes, even if they have had negative past experiences in similar situations and despite recognizing the risks and limitations. Provided that trust exists as an ongoing state in a relationship, the parties act as if the situation they face is unproblematic (Möllering, 2006). Exchanges that take place in new firms – bootstrapping exchanges in particular – are characterized by high reliance on trust, regardless of whether or not the parties perceive the existence of trust.

7. *Linking norms: restitution, reliance, and expectation interests.* Together with the understanding that society cannot function without exchanges, contractual parties understand the necessity of making adjustments in response to circumstances in an uncertain future. Linking norms constitute the whole body of principles related to such adjustments. Restitution might be necessary if one party gains an unfair advantage from the exchange, reliance is needed with regard to promises made to each other, and expectation interests are conduits of execution of exchange.

8. *Creation and restrain of power.* Contracts not only grant power to the parties, but also restrain them, limiting the contractual parties' possibilities of entering into other exchanges. More discrete exchanges are immediate, short-lived, and starting and ending instantaneously – for example, in case of breach of contract (Macneil, 1980). For more relational exchanges, the significance of creation and restrain of power is higher, as it can only be moderated by norms of reciprocity and effectuation of consent, and not by explicit terms of contract.

9. *Propriety of means.* Any exchange, regardless of its nature, is characterized by its own unique set of means that serve to achieve the goals of exchange. Different means might be considered (in)appropriate in different industrial or cultural contexts. Within any particular exchange relationship, the parties develop a unique set of means that both sides implicitly accept.

10. *Harmonization with the social matrix.* Together, the norms of flexibility and harmonization with the social matrix form a group of norms that Macneil labels "harmonization of relational conflict". In discrete and relational exchanges alike, relationships are maintained through provisions of rewards and enactment of punishments when necessary. Harmonization with the social matrix is a so-called supra-contractual norm that allows for relationships to

form and develop such provisions with a common, harmonized understanding of possible rewards and punishments (Ivens and Blois, 2004).

5.3 Operationalization of norms in empirical studies

Based on the review, I conclude that the studies often assumed inherently different perspectives of contractual norms. Despite the diversity in the ways the studies used the terminology and operationalized contractual norms, studies within each of the bibliometric clusters follow some common themes of interest. For instance, as a law scholar, Macneil was primarily concerned with understanding the relational contracting in legal transactions. Scholars within organizational and financial management disciplines often discussed the contractual norms in terms of strategic efficiency of modes of contractual governance, whether discrete or relational. Business and marketing scholars often discussed relational contracting in the context of relationship marketing, arguing that reliance on relational norms aids the successful and sustainable collaborations between various organizational stakeholders (Mouzas and Blois, 2008). Overall, the studies from different fields of research vary in underlying assumptions, units and levels of analysis, and understandings of contractual norms so greatly that they cannot be used together for devising any kind of aggregate operationalization.

I will now present my interpretation of how the studies in different bibliometric clusters operationalized Macneil's contractual norms. The reader is advised to refer to both Figure 7 and Appendix 8 when reading the descriptive presentation below. Here is the list of clusters identified on a bibliometric map:

(1) "Blue" cluster, consisting of studies that looked at performance of interfirm exchanges over time.

(2) "Green" cluster, consisting of studies concerned with opportunistic behaviors and conflict resolution mechanisms in different forms of contracting.

(3) "Red" cluster, consisting of studies that looked at different forms of contractual governance in organizations that favor formal (discrete, centralized) or informal (relational, decentralized) contracts with their stakeholders.

(4) "Yellow" cluster, consisting of legal studies that looked at different types of business contracts.

I follow this by discussing the operationalization of contractual norms within each of the clusters.

5.3.1 Operationalization of norms by studies in the "blue" cluster

Studies in the "blue" cluster are interested in performance or a measurable outcome of interfirm exchanges over time. These are, without exception, quantitative studies that look at various measurements of business performance over time, depending on the nature of business relationships between the firms (discrete or relational) and the objective, measurable uncertainty in the environment, such as availability or scarcity of resources, technological advances, and so on. These studies operationalize contractual norms through, for instance, percentage of delayed and failed deliveries (Fink et al., 2008b), measurements of industries and sizes of business actors (Fink et al., 2011), or innovativeness of a country or region (Grandori and Furlotti, 2019).

Three of the five studies in the "blue" cluster are conducted by the same or closely similar constellation of researchers (Fink et al., 2008a, 2008b, 2011), and these three develop the same or closely similar operationalization of contractual norms. The authors here rely on seven "normative dimensions" proposed by Kaufmann and Dant (1992):

(1) relational focus – the extent to which the exchange relationship is perceived as relatively more important to the parties than the individual transactions;

(2) solidarity – reflects the process by which an exchange relationship (as distinct from a series of discrete transactions) is created and sustained;

(3) mutuality – the requirement of a positive incentive to exchange for both parties;

(4) flexibility – if the change is to occur in the contracts between parties, it must conform to changes in the environment, and be permitted within the existing relationship, whether by implicit agreement or by law;

(5) role integrity – for the necessary predictability of the contract, the roles of the parties must remain relatively stable;

(6) restraint – the degree to which the parties restrain their use of legitimate power; and

(7) conflict resolution – the social context in which the contracts are created and executed.

Kaufmann and Dant (1992) develop these dimensions with the purpose of making Macneil's ten norms "more usable and measurable". Each of the seven dimensions of commercial exchange (in the authors' own terms) represent a spectrum of possible manifestations of contractual relationships, from discrete to relational. It is thus possible, the authors argue, to measure each of these dimensions on a Likert-like scale.

For instance, a lower degree of flexibility would point towards discrete exchange, the higher degree of relational focus norm would point towards relational exchange, higher reliance on trust, embodying the norm of solidarity, would point towards relational exchange, and so on.

In developing their dimensions, Kaufmann and Dant (1992) extensively reference Macneil's work, but they do not propose any direct connections between their developed dimensions and Macneil's ten norms. The authors also do not offer any explicit justification for organizing the dimensions in this way, as pointed out in a critique by Ivens and Blois (2004). Neither do Kaufmann and Dant follow Kaufmann's earlier work (e.g., Kaufmann and Stern, 1988) or explain the discrepancies compared to dimensions suggested earlier (Ivens and Blois, 2004, present a detailed account of the discrepancies).

To conclude, in operationalizing the contractual terms, studies in the "blue" cluster pursue the easily quantifiable measurements that would help to interpret the nature of exchanges as, for instance, more or less flexible, more or less long-term oriented, or more or less explicit.

5.3.2 Operationalization of norms by studies in the "green" cluster

Studies in the "green" cluster take an interest in opportunistic behaviors and conflict resolution mechanisms within the different forms of contracting. The authors of these studies argued that a general property of relational exchanges is the parties' acceptance of behaviors aimed at maintaining a relationship, and rejection of behaviors that promote individual goal seeking (Heide and John, 1992, Evanschitzky et al., 2016). Thus, the relational focus – or the extent to which the relationship is valued by the parties more than own individualistic goals – is the key to understanding the exchanges. The "green" cluster consists of nine studies that use the elements of qualitative research more frequently than other groups. Studies in this cluster also attempt to interview or survey both parties in the exchange. Gyau et al. (2011) develop the following operationalization of norms:

(1) communication and information exchange – the parties' readiness to proactively share all information that can be useful to the other party;

(2) power avoidance and restrain – the parties' expectation that no party will use their legitimate power against the other party's interest;

(3) cooperation or jointness – the parties' ability to coordinate tasks and activities to maintain and develop the contractual relationship;

(4) social bonds – the commitment of the parties to one another and personal relationships developed as a result of economic exchange;

(5) flexibility – the parties' readiness to adapt the existing contracts to changing mutual interests and environmental conditions; and

(6) conflict resolution – the parties' ability to use informal mechanisms and general social norms to resolve conflicts.

The theoretical frame of reference for the "green" studies varies vastly – from the already mentioned Kaufmann and Dant, 1992, to social exchange literature and Granovetter's (1973, 1985) notion of ties specifically, to strategy literature on trust and cooperation (Zaheer and Venkatraman, 1995). A common factor for the "green" cluster is that direct references to Macneil and relational contracting are scarce, while the influence of transaction costs economics, behavioral economics, and strategy is strongly pronounced. With minor variations, the studies use 3–6 "relational norms" that the authors devise themselves based on varied inspiration sources, and additionally use measurements related to individual behaviors. For instance, Huo et al. (2016) add to their questionnaire questions related to shirking – or intentional passive destructive behavior by one of the parties, and poaching – or using the relationship and its resources to pursue own individualistic interests. Another example is Benoit et al. (2019), where the authors develop "aggregate dimensions of relationalism" – procedural justice, distributive justice, informational justice, and interpersonal justice – that each contain a combination of discrete and relational contractual norms.

5.3.3 Operationalization of norms by studies in the "red" cluster

The "red" cluster studies look at governance modes moderated by various contractual norms. This is the largest group, consisting of ten studies that operationalize the contractual norms most closely to Macneil's ten norms. Ott and Ivens (2009) term the behaviors of parties in exchange as "norm-based actions" that divide, following the economics theory, into actions that are guided by economic rationality and actions that are guided by social norms. They further argue that the key to understanding the nature of exchange – whether it is economic norm-based or social norm-based – lies within the regulatory mechanisms behind (1) the parties' expectations of each other's behavior, and (2) the sanctions for failing the expectations or the premises of exchange. The contractual norms are scattered across all the different behaviors. The "purely discrete" norms are implementation of planning and effectuation of consent – the group enhancing discreteness and presentation. The rest of the norms are essentially relational, but they may present themselves as more or less economic norm-based or social norm-based in various contractual relationships. Based on the norms' reliance on situations and contexts, some studies in the "red" cluster devised a third mode of exchange – situational exchange – as a middle ground between discrete and relational exchanges (Tuusjarvi and Möller, 2009).

5.3.4 Operationalization of norms by studies in the "yellow" cluster

The "yellow" cluster is the smallest group, consisting of three legal studies that discuss the nature of business contracts. This group only marginally contributes to the purpose of my review. The studies discuss the business contracts in terms of being guarded by either explicit legal norms or implicit social norms. The authors conclude that most of the business contracts cannot rely strictly on one or the other group of norms, but rather incorporate the both legal and social norms (Raskolnikov, 2008; Beheshti, 2016). The studies in the "yellow" cluster follow the ten contractual norms in Macneil's original terms.

Below, I present my review conclusions, where I also add my reflections on relational contracting theory usage in entrepreneurship research.

5.4 Review conclusions

5.4.1 Conclusions from the bibliometric review

Empirical studies operationalized Macneil's contractual norms in vastly divergent ways. It is difficult to define a set of context-free operationalization categories for contractual norms. Instead, many authors develop their own interpretations of contractual norms using Macneil's norms as inspiration. In many instances, Macneil's ten contractual norms served as a basis for developing a limited-item generic questionnaire that the authors used to test their hypotheses, and such questionnaires seldom looked alike in different studies.

Fink et al. (2008) and Ivens and Blois (2004) conducted their own reviews of various ways to operationalize Macneil's contractual norms, and pointed out the lack of coherence between the studies' approaches. Further, these reviews found that authors operationalizing contractual norms often disregard even their own prior work in their subsequent studies. For instance, Ivens and Blois (2004) and Blois and Ivens (2007) point out that operationalization of norms in Kaufmann and Dant (1992) looks differently from that in Kaufmann and Stern (1988), and the authors offer neither explanation nor justification of these differences. The studies that followed also lacked the critical evaluation of discrepancies, Ivens and Blois conclude. Similarly, my own review demonstrates that Kaufmann's operationalization of Macneil's contractual norms is frequently referred to, but even so, the survey instruments developed based on Kaufmann's work vary vastly in my review studies. The terminology used in review studies is not always coherent, even between the studies in the same bibliometric cluster. The authors may term the norms differently, while using them to describe the same or similar relationships. For instance, Paulin et al. (1997), Zhou et al. (2015), Huo et al. (2016) have all developed their own specific terminology for what they called "purely relational norms".

Most of studies across all the bibliometric clusters employed cross-sectional quantitative methodologies, and developed context-specific operationalization of norms that could only be used in their respective studies (Ferguson et al., 2005; Ferguson et al., 2015; Eckerd and Eckerd, 2017). Prevailing fields of research in my review studies were industrial marketing, innovation management, transaction cost economics, organizational and financial management. Researchers studied established firms, dealing with repetitive purchases, commodity goods, and standardized relationships within their internal and external stakeholders. Thus, I conclude that operationalizations developed by the authors of my review studies cannot be directly applied to research on new firms – or to my study specifically.

There are also methodological discrepancies in my reviewed studies. Paulin et al. (1997) note that dyadic research is lacking, and studies to date have mostly considered a one-sided perspective. Even though there has been a considerable increase in multi-perspective research, only 30% of the studies in my review studied the dyads, and in many of these the authors claim that they studied the dyads, but have in fact only surveyed one party, most often the supplier (Blois and Ivens, 2007). Thus, I conclude that my study cannot methodologically rely on the empirical studies in my review either.

5.4.2 Relational contracting in entrepreneurship research

There are not many entrepreneurship studies that explicitly rely on relational contracting theory. Most of the entrepreneurship studies that utilize relational contracting perspective looked at the entrepreneur-investor relationships, and investments' antecedents and outcomes (e.g., Uehara, 1990; Hudson and McArthur, 1994; Sapienza and Korsgaard, 1996; Blatt, 2009; Huang and Knight, 2017), thus departing from the financial management research domain. By scanning the frames of reference in bootstrapping studies clustered under so-called network approaches (see Chapter 2), I find some binding theoretical concepts – the relational or social contracting (Macneil, 1978; Starr and Macmillan, 1990), and social exchange theory

(Blau, 1964/2017; Levi-Strauss, 1969). In this section, I will present some of the entrepreneurship studies that relied on these concepts. These studies are not included in my bibliometric review, as they did not develop operationalizations of Macneil's contractual norms. My purpose behind this part of the review is to become informed of some of the challenges that are specific to exchanges in new firms.

Leblebici and Shalley (1996) point out the condition of high uncertainty in contracts between new and small firms and their external stakeholders, where at least one party is always an entrepreneur venturing into the highly unpredictable prospects of business. The authors specifically look at franchising contracts, which can be discrete in some provisions – for example, the start and end date of the agreement, but can only be relational when it comes to operational provisions, as there is simply not a good way to foresee the possible contingencies and opportunities within the exchange. The authors find that it is the explicit agreement regarding dispute resolution that predetermines the relationship's success and sustainability over time. The successful relational contract is one in which the parties from the start lay the explicit groundwork to minimize the costs of upcoming disputes. Failing to do so may lead to weakening of the network ties, as is also argued in Larson (1991). The weakening of network ties might limit the entrepreneur's ability to build and sustain the small and dense network of partners and supporters, and, consequently, decrease the new firm's chances to survive, grow, and combat the larger competitors.

Sustaining and transferring the relational contracting experiences have been an object of interest for Hite (2005). The author argues that entrepreneurial phenomena should be viewed as a process that is (a) social and contextual, and (b) developing over time rather than statically observed. To that extent, the network theory (Granovetter, 1985) is arguably limited in its static view of networks and ties, while relational contracting prospective assumes the process view, and is thus more suitable for entrepreneurship research. The same process view is more suitable for studying the resource acquisition and management, as concluded by Aldrich and Fiol (1994). Hite (2005) differentiates three stages in which entrepreneurs become efficient actors in contractual exchanges:

(1) the emergence of ties or the process of networking;

(2) leveraging of the social components (e.g., "I like you, so I will introduce you to my network" or "you helped me before, so I will reciprocate"); and

(3) facilitation of trust (in Lee and Jones, 2008, discussed as "relational social capital").

As important as relationships are for new firms, entrepreneurs do have significant limitations in establishing and taking care of their network (Aldrich and Fiol, 1994). After all, the new firm is often highly reliant on the individual founder or a small founding team, and it can be impossible – due to limitations in experiences, expertise, and time – to incorporate the processes perspective on exchange relationships. There is therefore a high degree of dependence on a small number of external stakeholders, as Yli-Renko et al. (2001, 2008) suggest. To extract the maximum utility from the exchange relationship, Yli-Renko et al. conclude, entrepreneurs employ so-called contractual governance flexibility, meaning that explicit terms and conditions of exchange are given less weight as the network becomes broader and ties become stronger with time, and the implicit norms of reciprocity and trust become more important. Reuer et al. (2006) further suggest that successful entrepreneurs learn to find the balance between "too much" and "too little" contractual governance simply by weighing the costs against the opportunities – for example, the probability of one partner betraying the entrepreneur's trust versus the cumulative costs of switching to another partner. This brings an important perspective on process character of exchanges, but does not correspond to my study's argumentation against the strategic, calculated choice of opportunities.

In the selected sample of entrepreneurship studies, there are some of the already familiar bootstrapping researchers – Jonsson, Lindbergh, Patel, and Bosse. These specifically examine the relational contracting in resource acquisition and management – through bootstrapping (Jonsson, 2015) and bank loans (Bosse, 2009). Here, relational social capital is specifically discussed as a necessary precondition for entrepreneurs to access the external resources, as it is the relational social capital that helps to mitigate the negative impact of information asymmetry and liabilities of age and scale (Bosse, 2009). Venture capital acquisition studies (e.g., Lim and Cu, 2010, Strätling et al., 2012) reach similar conclusions, but in relation to attaining investment funding.

In summary, the empirical studies within the domain of entrepreneurship research propose that successful contractual relationships for a new firm are such where:

1. The formation and termination provisions are as discrete as possible, while the operational provisions are as relational as possible (Leblebici and Shalley, 1996). Here, the linking norms implementation of planning and effectuation of consent are the primary guarding norms.

2. The instance of exchange is treated by parties as a dynamic, evolutionary process of building and retaining the relational social capital, rather than as one-time opportunity utilization (Hite, 2005). Here, the norms of stakeholders' role integrity and reciprocity are the primary guarding norms.

3. The contractual governance flexibility is observed (Yli-Renko et al., 2001) so as to extract the most favorable cost-value ratio from dependence on a small number of close partners, rather than a large number of distant ones (Reuer et

al., 2006). Here, the norms of flexibility and contractual solidarity are the primary guarding norms.

I should note that my review conclusions at this stage are already sensitized by insights from my empirical phase 1. In other words, I identify the ongoing discussions that resonate with my data. Interestingly, all of the empirical studies similarly conclude that the formal contracts are not the driving force behind successful and sustainable stakeholder engagement in new firms. Although there usually are explicit agreements in place, the researchers conclude that explicit contracts are not as important for contractual exchanges in new firms as the relational (e.g., Larson, 1991). I now reflect on how the conclusions from the literature review might help to shape my study's conceptual framework. In the upcoming section, I will also to present my argumentation as to why relational contracting is relevant for bootstrapping.

5.5 Developing my own conceptual framework

Below is the step-by-step structure of conceptual framework development, proposed by Miles and Huberman (1994), which I applied when developing my study's conceptual framework.

1. Identify the key theoretical framework that can be applied in the subject area of the study. Here, I identified relational contracting theory.
2. Draw out key concepts within the key theoretical framework by means of literature review. The key concepts I drew out are Macneil's ten contractual norms.
3. Keeping in mind the aim of my study, segregate the concepts of primary importance. At this step, I decided to retain the ten contractual norms as originally defined by Macneil as concepts of primary importance for my operationalization of theory.
4. One by one, brainstorm all the possible things related to the selected concepts of primary importance. I will conduct this step at phase 2 of the study by relating what is observed, asked and read about the study's object to the ten contractual norms.
5. After the selected concepts have been brainstormed, identify the relationships they can form with each other. This I will also do during analysis of my phase 2 data by developing the common themes uniting my primary data. I will then develop the empirical and conceptual understanding of themes that emerged

from the data by means of abductive inference, and thus devise my conceptual framework.

For the purpose of my study, I understand contractual norms as the means by which conditions for bootstrapping behaviors emerge, develop, and lead to outcomes. I cannot know in advance what kind of norms may act as conditions for bootstrapping behaviors in my study's cases. Next, I propose the theoretically informed perspective on how the contractual norms may help us understand bootstrapping behaviors and, consequently, their possible nuanced outcomes.

5.5.1 Bootstrapping exchanges as relational contracts

In developing my study's conceptual framework, I establish the key operationalization categories that would help me to select and interpret phase 2 cases – the contractual norms. I consider how the original theory distinguishes between such categories. While any contract is situationally and contextually bound, regardless of the quality of the relationship between the contractual parties, Macneil (1987) argues that all the exchanges, despite being simplistically delimited as either discrete or relational, can be best understood as relational contracts.

In bootstrapping exchanges, the relationships between the entrepreneur and resource-providing stakeholders are seldom legally regulated. Therefore, the guarding norms and conditions for building, sustaining, and terminating the contracts for bootstrapping exchange require more nuanced understanding. Research devises five guarding premises for relational exchanges (e.g., Cropanzano and Mitchell, 2005; O'Boyle et al., 2012):

(1) the rewards and punishments invoked by the parties upon one another are subjectively perceived by the parties as valuable and acceptable;

(2) the costs and means of executing the relational exchange are subjectively perceived by the parties as appropriate and acceptable;

(3) the ongoing condition of trust in the exchange relationship is subjectively perceived by the parties;

(4) the parties subjectively perceive the relational exchange as fair and just, or such that adheres to norms of reciprocity, role integrity, and flexibility; and

(5) the parties subjectively perceive that their relationship is committed, long-term oriented, and based on mutual goodwill and trust.

Lounsbury and Glynn (2001) discuss these premises as the background notion of social (relational) exchange, whereby actions of one party create obligations for the other, who then reciprocates. Bootstrapping research suggests that insofar as these principles are in place, resource exchange relationships between the parties can be successfully built and sustained over time (e.g., Jonsson and Lindbergh, 2013).

Just as any discrete types of contract relationships, bootstrapping contracts may also be guarded by explicit provisions of rewards and enactment of punishments, when necessary. As established earlier, it is the specific instance of exchange in its contextuality that indicates the nature of the exchange – whether more discrete or more relational. To bring some examples from my study's data (see Chapter 4), when a manufacturer purchases material in smaller amounts, allowing for opportunity to adjust the purchase amount up or down depending on how much of the end product they can sell at any time of the contract's duration, the contractual norms of flexibility and implementation of planning will manifest themselves in a more relational way; when the manufacturer has a reference frame in the form of the entrepreneur's explicit commitment – for instance, "We buy from your factory X amount of ready products every 4 calendar months, with reservation for adjustment up or down based on current market expectations" – flexibility and implementation of planning are manifested in a more discrete fashion. Thus, one or the other contractual norm's manifestation may depend on the firm's development stage, the presence or absence of past experiences relevant to the specific instance of bootstrapping exchange, market expectations at any given point of time, and so on.

Relational contracting theory offers insights on dealing with conflicts arising from uncertainty that are relevant to my study. On the premise of relational contracting, contractual parties in bootstrapping exchanges individually evaluate the perceived costs and potential rewards of alternatives – to preserve the contractual relationship despite the conflict when the prospects of rewards outweigh the costs, or to terminate the contract if it has outlived its usefulness. Note that even though the above statement may read as presupposition of a conscious strategic choice of alternatives, when it comes to bootstrapping exchanges, the prospects of outcomes are so vague and the reliance on implicit personal commitments between the parties is so high that this "choice" often happens in a non-perceived fashion – as the dynamic opportunities may serendipitously present themselves, windows of opportunity may open or close for either contractual party, or other conditions may play a role. One empirical example of such unconscious, non-perceived conflict management in bootstrapping exchange is the case when the entrepreneur finds him/herself in a long-term destructive relationship with a manufacturer because the risks and costs of other alternatives, or even the availability of such alternatives, cannot be estimated at all. I further link the premises of relational contracting to my study's assumptions.

5.5.2 Linking relational contracting and my study's assumptions

To relate my study's assumptions to the above discussion, I first ask myself – is bootstrapping always relational? How about some instances of bootstrapping that do not explicitly involve other parties – can these be seen as relational contracts, too? Such is the case, for example, with owner-financed bootstrapping techniques – using personal credit cards for business purposes, working from home instead of renting office space, and so on. I have above given some other examples of resource acquisition and management that are "uninteresting" for my study. My thoughts here span in two directions.

Firstly, by analogy with Macneil's argumentation that any exchange may best be treated as a relational contract (1987), I believe that even the bootstrapping instances that do not explicitly involve the resource-provider can only be understood and interpreted within their larger contexts. For instance, when the entrepreneur uses their personal credit card for business purposes, the financial institution providing the personal line of credit is indirectly a stakeholder in the transaction, and in the case when the entrepreneur is working from home, family members, roommates and neighbors can be seen as indirect stakeholders as well. Building on the core premises of relational contracting, I conclude that it is possible to view any bootstrapping instance as contextually and inter-relationally loaded, and therefore based on relational contract.

Secondly, my study is not primarily concerned with outlining the multiplicity of possible bootstrapping exchanges and their various types – the reliable topologies of bootstrapping behaviors already exist (Thorne, 1989; Winborg and Landström, 2001; Malmström, 2014). Research also acknowledges that new and different types of bootstrapping behaviors may constantly develop, and that the established bootstrapping techniques may be used in various novel ways and combinations. This makes it virtually impossible for me to delimit with certainty what is the instance of bootstrapping exchange and what is not, and to what extent the specific bootstrapping exchange is discrete or relational. For the purpose of my study, I instead choose to focus on such instances of bootstrapping exchanges that can be reasonably viewed as relational at the time of my study, and within my specific case(s) and their contexts. My study's cases of interest are therefore such where bootstrapping exchanges based on relational contracts are best represented. This means that the involvement of internal and external resource-providing stakeholders that are approached by the entrepreneur in a bootstrapping manner is one of the critical criteria for selecting the phase 2 cases. I now move on to presenting my understanding of how the study's subsequent empirical process is linked to relational contracting framework.

5.5.3 Linking relational contracting and my empirical process

In my study's empirical data at phase 1, I discover that interesting exchanges between the entrepreneur and resource provider(s) typically happen when the contracts are guided by implicit terms (e.g., the instance of experts' involvement for free or at low cost, as described in Chapter 4), whereas the exchanges guided by explicit terms are typically uninteresting from the bootstrapping perspective (e.g., the instances of standardized manufacturing processes at a firm's later development stages, as described in Chapter 4). Thus, my theoretically-developed understanding of bootstrapping exchanges will also inform my study's execution at phase 2, alongside the phase 1 empirical findings.

There certainly exist different subjective perspectives on a firm's emerging resource needs, on addressing of such resource needs through bootstrapping behaviors, and on the possible outcomes thereof. All of the perspectives are important to understand and account for. Despite the recognized importance of accounting for the subjectivity of the parties in bootstrapping exchanges (Bhide, 1992; Brush et al., 2006; Johnson and Lindbergh, 2013), theorizing efforts for understanding the bootstrapping exchanges are scarce. In relating bootstrapping to relational contracting theory, I aim to offer such theorizing. Before presenting phase 2 of my study in Chapter 6, I will summarize this chapter's learnings.

5.6 Synthesis and implications for study's phase 2

In further analysis, I am guided by understanding of bootstrapping exchanges as relational contracts. I also assume the process perspective, whereby the resource needs, conditions for bootstrapping behaviors, and outcomes thereof unveil gradually over time, and may possibly be interlinked with each other. My study's phase-wise design is important to consider. I have funneled my case selection through the process of shortlisting from a range of suitable firms (study's preliminary, explorative phase 0), to one firm that was followed longitudinally and in open inductive fashion (study phase 1), and to a number of cases-within-a-case that were investigated in-depth in a semi-structured manner (study phase 2). By means of phase-wise execution, I obtained a wide spread of rich qualitative data. In my phase 1 data, I observed that the entrepreneur and various resource-providing stakeholders engage in multiple bootstrapping exchanges working towards a specific purpose, for instance, attaining a critical milestone. My study's cases in phase 2 are the specific instances of cooperation between the entrepreneur and resource-providing stakeholders, where the instances of bootstrapping exchanges can be observed, read, and asked about.

I consider that the process of resource needs being addressed through bootstrapping behaviors, and possibly leading to various outcomes, does not necessarily have a continuous, linear, and unambiguously timeline-related structure. Instead, bootstrapping exchanges may be terminated, resumed or combined in various ways. The outcomes of bootstrapping behaviors may emerge shortly in cooperation, during the cooperation, and long after its termination. I explain and illustrate this process in detail in the upcoming Chapter 6. Chapter 6 will start out by introducing the selection of my phase 2 cases based on the findings of empirical phase 1 and theoretical frame of reference. I will further guide the reader through presentation of cases one by one – from the perspective of the entrepreneur, from the perspective of the resource-providing stakeholder, and from the perspective of the researcher, as developed in case analysis – within the individual cases, and cross-case.

Chapter 6.
Presentation of empirical phase 2

> *"My biggest insight from our conversations was – how much of what I told you had to do with our lack of money, and how much this influenced our choices. Apparently, I spoke about it all the time. It was interesting, and I thought it was completely unreasonable that I am thinking this way. In the moment, one does not have any distance from what one does and how one does it. Now, I can see that we did not choose our actions because we did not have enough money for something else, and how much difference it actually makes…" (Kevin, 190305)*

I will structure my presentation and analysis of phase 2 cases, as well as my cross-case analysis, around three temporal stages:

1. The commencement of cooperation between the entrepreneur and the resource-providing stakeholder towards achieving the milestone.
2. The case's longitudinal flow as can be observed and asked about through the parties' understanding of the relationship within or during the cooperation.
3. The ending of cooperation between the entrepreneur and the resource-providing stakeholder towards achieving the milestone.

Thus, I understand the cooperation between the entrepreneur and resource-providing stakeholder, in line with relational contracting logic, through the contractual norms and conditions existing at the start of the cooperation, over its duration, and at its end. Understanding the conditions at the end does not limit the appearance of outcomes to a certain temporal frame. My study's understanding of outcomes is also extended by following the evolution of norms through the firm's longitudinal development, as the instances of interviews, observations, and documents study are conducted here-and-now during 2017–2019. Temporally, I understand the outcomes as appearing early, during, and by the end of the relational contract in force. All of these outcomes, although appearing gradually throughout the cooperation, may appear long after the end of cooperation between the bootstrapping exchange parties.

6.1 Introducing phase 2 cases

6.1.1 Different perspectives on exchange value

As a thought experiment, consider the following, fictional story inspired by Starr and MacMillan (1990). Imagine a typical situation for any young entrepreneur – various resources are needed, and finances are lacking to acquire these at a market price. Instead of renting an office space on discrete contractual terms, our entrepreneur persuades a manager of a larger established company to loan out a conference room, free of charge, on the days the room is not in use. The conference room, being an important resource for our entrepreneur – the needed physical working space – is not at all that valuable for our established company. The entrepreneur is only using that space on the days when the space is not otherwise utilized; it does not matter to our established company if someone else occupies the room at that time. In fact, it might even give management some sense of satisfaction. Management may reason – "We pay for that space either way. Might as well put it to use and help out an entrepreneur in need." While our entrepreneur works from this conference room, there might be other resources to use free of charge – a telephone line with credit for international calls, free coffee in the office kitchen, free pizza every Friday night, the company's accountant ready to answer a question or two, and more. These perks are just there – neither the entrepreneur, nor the company's management come to think of these as extra services, at that time.

Now, consider some time has passed and the start-up has indeed grown into a successful business. The manager of the company that loaned out the conference room back in the early days most probably does not have the intention or the legal grounds to require the entrepreneur to pay back any debt. In fact, the manager probably does not feel like there is any debt to be paid back. Nevertheless, as the entrepreneur's business advanced with time, the early resource provider may reason – "Our contribution made a big difference for the entrepreneur. In fact, the entrepreneur met their very first customer at one of our office parties. I believe that the firm would not have achieved success so fast had it not been for our endorsement." At same time, the entrepreneur might reason – "Sure, having this opportunity was very helpful at the time. We learned a lot, and we are grateful to the company's management. But I would not say they really made a difference in us getting where we are now. We did it all by ourselves."

The value of resources needed and used may be perceived very differently by the resource recipient and the resource providers. Moreover, either party's perceptions of the resource value may vary and asymmetrically change over time. The established company that provided the entrepreneur with free office space back in the early days feels they might be entitled to a share of the firm's success – whether in form of material compensation, or most often merely in recognition of being part of the firm's successful journey. That will be true, even though the resource provided at the time neither added nor subtracted any substantial value for the established company. For the entrepreneur, on the other hand, that same resource had a substantial value at the time it was needed. With the time passed and some critical milestones for the firm now achieved, the entrepreneur may reason – "Yes, that office space was good to have, but we could have just as well worked from anywhere else – a café, a public library, my own home after all."

In contrast to the entrepreneur, resource-providing stakeholders may perceive the resource needs, bootstrapping behaviors, and outcomes only within the frame of a particular, standalone project executed as a means of achieving a critical development milestone. Whenever entrepreneurs may believe they set flexible goals, stakeholders might see blurry vision and lack of structure. When entrepreneurs may spread resources thin across the multiple tasks and activities, stakeholders might lose motivation to continue cooperation, as they feel down-prioritized. Whenever even the smallest investment may be a matter of life or death for the entrepreneur, stakeholders might see the short-sighted frugality. There is not only asymmetry and opacity in the information the parties have regarding the firm and its resources, but also conflicting perceptions of the resource value at any given point in time. Here are some examples of asymmetric perceptions in bootstrapping exchanges that I found in my data:

1. The stakeholders' resources are used up to their maximum capacity within the framework of the bootstrapping exchange. Resource-providing stakeholders are willing collaborators, as per relational contracting logic, so the entrepreneur perceives the resource utilization as solidary and consensual. As time passes, the parties do not assign the same value to the stakeholders' contribution. Should the purely relational contracting norms – reciprocity, role integrity, and flexibility – fail to be duly addressed, the relationship would be terminated by the resource-providing party, often irreparably.

2. To engage the stakeholders, the entrepreneur must formulate the norms and conditions of cooperation in a concrete, discrete-like manner, even though uncertainty is high. Given the risks and uncertainties, the entrepreneur is willing to accept any outcome as positive – or best possible there and then. The stakeholders perceive the outcomes by weighing them against their own expectations on the discrete-like terms and conditions, as well as against opportunities to cooperate with other firms that might be more profitable. This means that stakeholders' tolerance of accepting any outcome as positive is significantly lower. Should the entrepreneur fail to observe the discreteness of

formation and termination of the exchange – through the norms of implementation of planning and effectuation of consent – cooperation is likely to be terminated, with expectations unsatisfied.

3. Resource-providing stakeholders would often assume a more objective frame of reference to their perceptions of propriety of means in which resources are acquired and managed by the entrepreneur. The stakeholders, as a rule, have rich experiences with similar kinds of contractual exchanges, and thus can be a better judge. Moreover, they can be an impartial outside observer, with perceptions that are not clouded by deep personal attachment to the firm, as opposed to the entrepreneur. Should the entrepreneur fail to organize the relationship in such a way that stakeholders feel like a long-term, committed partner – through the supra-contractual norm of harmonization with social matrix – the cooperation would not have long-term success, and the entrepreneur would need to endure a financially costly and time-consuming change of resource provider.

Perception asymmetry is an important reason why the resource needs, bootstrapping behaviors, and their outcomes ought to be studied from multiple perspectives, and as a process with its layered complexity rather than as a static state of affairs here and now.

6.1.2 Selecting the phase 2 cases

Once the theoretical frame of reference for my study is established, I analyze the milestones discovered in study phase 1 so as to identify the interesting case(s), i.e., the instances of cooperation between the entrepreneur and the resource-providing stakeholder. As per earlier Figure 4 (see Chapter 4), there are six milestones that form the stage on which my study's phase 2 cases unveil:

#1 – Idea is generated (Q4 2012 – Q1 2013)

Stakeholders: entrepreneur's personal network consisting of friends and family, GGO (governmental granting organization).

#2 – The firm is formally started (Q1 2013 – Q4 2013)

Stakeholders: the supporting network providing the office space and business development services, IPR-related service providing company, Jack Jones (design consultant from the supporting network), Design Ltd. (consulting company located mid-country), Bill Farrow (an independent design consultant), Advisory Board consisting of four experts supporting the firm for free, Alise Smith (the firm's first intern who in 2016 became the firm's full-time employee), Nellie Lawson (the firm's product design intern hired to support Alise Smith).

#3 – Manufacturing is set up (Q4 2013 – Q2 2014)

Stakeholders: Industry Organization United (the local professional network actor), Sam Hero (the representative of factory 1 overseas), Thorsten Miles (the owner of factory 2 close to home), Marco Gill (an independent design consultant), Alise Smith (the intern), GGO (governmental granting organization), LSO (local support organization that grants the firm money for marketing and sales activities).

#4 – The product is launched on the market (Q2 2014 – Q4 2015)

Stakeholders: established supply chain actors, manufacturing service provider overseas, unpaid interns, customers – retailers, distributors, and individual consumers, Concept X (large consultancy company that will help the firm with legal services at preferential conditions).

#5 – Equity capital is obtained (Q4 2015 – Q2 2017)

Stakeholders: Concept X offering legal help with production quality and IPR-infringement disputes, customers – retailers, distributors, and individual consumers, established supply chain actors, investors – Angel Network close to home, employees – marketing manager Mike and former intern Alise, manufacturing service provider overseas, seven unpaid interns.

#6 – Strategy for organic growth is created (Q2 2017 – Q4 2018)

Stakeholders: suppliers of services and materials, manufacturing service provider overseas, internal staff – employees and four unpaid interns.

Having established that potential cases for phase 2 are all contained within the milestones presented above, I next devise a set of criteria delimiting the six milestones to such that are most likely to contain the interesting cases. Thus, out of the six milestones, I will consider as a pool for case selection only those that:

(a) could not possibly be executed without extensive involvement of external resource-providing stakeholders;

(b) required substantial use of relationship-oriented bootstrapping behaviors; and

(c) temporally occurred so that the outcomes of bootstrapping behaviors could be fully observed, asked about, and read about.

I begin refining the pool for case selection by considering the above criteria. The work towards attaining each of the milestones required substantial resources, and the involvement of internal and external resource providers. Within all of the milestones, relationship-oriented bootstrapping behaviors were instrumental in attaining and managing the resources. However, these were particularly critical at milestones #2 and #3, as phase 1 findings indicate (see Figure 5 in Chapter 4). Within the same milestones #2 and #3, the cost of required physical resources – materials, premises, equipment – was disproportionally high in relation to the firm's own financial capacities, as the firm had neither ongoing revenue from sales nor accumulated capital from past operations. Simultaneously, the entrepreneur struggled in particular with attracting resources from the network, as the firm's intangible resources in the form of strong brand value, reputation and goodwill were not yet in place at that time. Thus, the internal and external liabilities of age and scale acted most strongly against the firm just at the time of working towards attaining milestones #2 and #3. Temporally, milestones #2 and #3 also satisfy the interest in outcomes – by now, at the time of study phase 2 execution, all of the interesting instances of bootstrapping exchanges within milestones #2 and #3 have already taken place and, with reasonable expectation, resulted in outcomes.

I conclude that milestones #2 and #3 are a good fit as the stage where interesting phase 2 cases can be seen. I thus decide to proceed with milestones #2 and #3 and select my cases within them. Following the tradition of developing theory from data, I stay open to the possibility that selection might be reconsidered in the process of analysis, or that new cases might be added or removed.

I once again discuss with the entrepreneur the possibility of retrieving rich and detailed information regarding milestones #2 and #3, and the entrepreneur reassures me of the feasibility of such investigation (source: interview with the founder on 190521). I also secure the entrepreneur's permission to approach the stakeholders critically important for achieving the respective milestones. Furthermore, despite the conclusion that milestones #2 and #3 are suitable for discovering my study's cases-within-a-case, I decide to additionally consult with my previous data and confirm with the entrepreneur the richness and spread of resource needs, bootstrapping behaviors, and stakeholders involved for each of the two milestones.

I decide to start out with milestone #2 – *The firm is formally started (Q1 2013 – Q4 2013)*, and conduct a series of semi-structured interviews with Kevin specifically covering the work towards achieving this milestone, reassuring its fit to the criteria listed above. During the summer of 2019, I approach three resource-providing stakeholders, and conduct a long unstructured interview with Bill Farrow – the critical resource-provider who ensured attainment of the milestone. I followed up the interview with Bill with a semi-structured discussion via email and telephone. Thus, the cooperation with Bill Farrow becomes my first phase 2 case. I supplement the case data with relevant documentation – emails between Kevin and Bill, written agreements, financial data related to the time of cooperation. I also conduct interviews with internal stakeholders involved in work towards achieving milestone #2 – Alise Smith and Nellie Lawson – and gather their insights on the firm's cooperation with Bill Farrow.

The second case I select in a similar fashion belongs to milestone #3 – *Manufacturing is set up (Q4 2013 – Q2 2014).* Here, the critical resource provider that ensured attainment of the milestone is Thorsten Miles, the owner of the factory manufacturing UT's products. Thus, the cooperation with Thorsten Miles becomes my second phase 2 case. I conduct a long unstructured interview with Thorsten digitally, with the help of video conferencing tools due to external force-majeure circumstances that excluded the possibility of travel and physical meetings during the spring of 2020. I follow up with a semi-structured conversation with Thorsten to confirm and clarify any remaining questions. I supplement the case data with documentation available to me – emails between Kevin and Thorsten, explicit written agreements between UT and the factory, sales projections and financial data related to the time of their cooperation. Additionally, I speak with an internal stakeholder involved in work towards achieving milestone #3 – Alise Smith – to gather her insights on the cooperation with Thorsten Miles.

The interviews with Bill and Thorsten were audio recorded and later transcribed. To avoid translating the material, I asked for the interviews to be held in English, which is the main working language of the stakeholders, as they work primarily with international customers. I then send the transcribed material to Bill and Thorsten by email to give my informants an opportunity to supplement, correct, extend, or comment on the recorded data in any other way. Once the presentation of case data was developed, the stakeholders were offered another chance to read through and approve the material by signing a written approval form. Bill has read and provided written approval of the contents of Section 6.2.2, and Thorsten has read and provided written approval of the contents of Section 6.3.2. In line with the Agreement from September 20th 2017, Kevin has read and provided written approval of the contents of Sections 4.1, 4.2, 6.2.1, 6.2.2, 6.3.1, and 6.3.2.

Earlier, in methodological Chapter 3, I describe the execution of my semi-structured interviews and list the questions asked. I also list the interesting instances of observations and studied documentation. The presentation of my cases will be structured as follows. I first present the conditions at the start of the cooperation, during the cooperation, and at its end from the perspective of the entrepreneur. In a similar fashion, I then present the perspective of the respective resource provider. My analysis of the individual cases follows, and I conclude this chapter by analyzing the data cross-case. The conclusions of this chapter present the study's empirical findings.

6.2 Presentation of case I

6.2.1 Entrepreneur's perspective

6.2.1.1 Understanding the conditions at the start of the cooperation

By the end of the summer of 2013, Kevin believes he invested a lot of resources, but the prototype at hand is not production-ready. It is disappointing because, just half a year earlier, Kevin firmly decided in favor of running his own business instead of building a career elsewhere. With that, he hoped that his full dedication in terms of time, energy, and personal financial resources would make it possible to launch the product on the market by now. At the current state of product readiness, any potential manufacturer would also need to engage in product development, and this would mean the financial costs that Kevin is not ready for. Before taking the product to the potential manufacturer, he decides that he needs to develop the product more, and that this needs to be done in-house given the tight budget.

At the same time, Kevin realizes that the firm's internal human resources – consisting of himself, his personal network, and unpaid interns, – need to be further strengthened with external expertise. Kevin considered options to get more paid professionals involved in order to develop the product faster. However, this option was rejected, for several reasons. Firstly, financial constraints. Secondly, difficulty communicating efficiently with external professionals and explaining to them the vision for the firm and its product. Lastly, due to lack of experience with this kind of product, it was difficult for Kevin to evaluate the costs and benefits of every option, as well as the possible running time of either scenario. Therefore, Kevin once again decides to turn for help to the established network actors, hoping to save costs and find like-minded experts:

> "*I had searched for possibilities to produce. I was a member in the network for [industry companies], something like that. I became a member in spring 2013, it costed maybe 1000 per year, and with that one got free coaching and different tips and recommendations. […] From there, I got a suggestion to take contact with […]*" *(Kevin, 190614)*

Thus, through the contacts in his existing network, Kevin secures the support of a prominent designer within the industry, Bill Farrow, who agrees to run several workshops and to answer Kevin's various questions on product and business development. Bill and Kevin were introduced to each other by a mutually trusted third party within the professional network. Besides, Bill has some time on his hands at that time and a desire to help out an entrepreneur with an interesting product idea. Thus, there was the trust and goodwill to enter the cooperation and a harmonized understanding of the parties' roles.

6.2.1.2 Understanding the conditions as the cooperation progresses

Kevin continues to invest personal finances into the firm. At that time, he has very little doubt that this bridge personal finance investment will return with sales in a rather short time. Besides, Kevin reasons that using own resources is a better solution than attracting external capital at the price of giving up a significant share of the firm:

> "*I put in around 500,000, totally… So, that is probably my investment, besides time. […] I do not think of it. Because if I were to think of it, and also if I were to count my time and how much money it would have been worth if I had the same type of salary that I had at my old job… It is there, it is a choice I made.*" *(Kevin, 170112)*

While working closely with Bill, Kevin begins to realize that this cooperation does not come without a cost:

> "*[…] he is like a design celebrity, and he was here and sketched for free for us... [He] thought that we are going to be consulting customers for him eventually.*" *(Kevin, 190402)*

> "*…we got a lot of free help from him then. We offered him to be part-owner [of the firm], just go in with small money, but he refused.*" *(Kevin, 190708)*

Kevin recognizes the value of relationships as a resource. Kevin realizes already then that the long-lasting effects of strengthening the network and building up goodwill will be instrumental later in the firm's development. Kevin reasons that, with the help of Bill's expertise, he is able to lower costs and increase the quality of the product by using the network and doing a major share of development work in-house. The firm's unpaid interns dedicate 100% of their time to product development, often without any direct financial compensation. Bill continues to give valuable feedback and helps with further development of the prototype – free of charge – in the same time period and beyond, based on a favorable personal relationship with Kevin.

6.2.1.3 Understanding the conditions at the end of the cooperation

Although much slower than initially expected, by the end of 2013 Kevin has a production-ready prototype of the product and is ready to take steps to find a suitable manufacturing partner. Kevin believes this positive outcome justifies all the not always smooth edges in the cooperation with Bill. Kevin shares that he would not have invested as much of his own personal money had he known how long development would take. However, when asked if there is something that he wishes he had done differently, he says he believes the best possible decisions at that time were made, and the outcomes are generally positive and appreciated:

> "*…so much of what we did there in the beginning is just learning things. Like, the time we spent together [with Bill] made me learn a lot, about how [industry] production facility works. Because I had no idea at that time. So, I think… the outcomes were generally as good as they could have been. Today, everything would be handled completely differently, because we have so much knowledge*." *(Kevin, 190708)*

Kevin remarks on the occasion of an unexpected invoice issued by Bill to him. He evaluates the request for payment as not quite well granted, as the designer's contribution was only marginal and mainly involved teaching Kevin and his staff some basics about business in their industry:

> "*He was part of a workshop, together with a bunch of other people, but he did not do much more than that… We had lunch maybe 5 times, discussed things, but it was more general… He did not draw anything or actively develop the prototype, or anything like that.*" *(Kevin, 190319)*

From Kevin's perspective, the knowledge he gained by means of cutting costs and personally controlling the cooperation process overweigh the implicit costs along the way. He also believes that he gained an awareness of means and ways to maintain upcoming relationships in the future, as he has now an opportunity to evaluate the high potential cost of switching partners as well.

6.2.2 Resource provider's perspective

6.2.2.1 Understanding the conditions at the start of the cooperation

Kevin and Bill are introduced to each other through a common business network in 2013. Kevin is looking for hands-on help in designing the product, and Bill has some time on his hands and a willingness to help out a young entrepreneur. There is a high level of trust and goodwill between the parties due to introduction through a reliable third party and a mutually favorable window of opportunity that enables cooperation. At that time, Bill understands that Kevin has little knowledge of the industry and of product development and manufacturing:

> "*I believe they have a pretty good know-how at the company, but at that time he had very little knowledge. He was trying to get some samples from the factories, and was not happy. And it was not that the factory did not do a good job, but it was that he expected the sample*

back exactly how he envisioned, and it is not how it works. Some can deliver immediately, some do it step-by-step." *(Bill, 190827)*

And so, Bill understands that the nature of first contact is that Kevin tried to bridge this knowledge gap. Bill shares his memories of the first interaction with Kevin:

"*He presented it as that he identified a need on the market somehow… […] he needed, I think… initially he asked if I can help with the design, find sourcing and so on – quite broad perspective. Then we met, discussed it for a while, then he got back to me…*" *(Bill, 190827)*

Bill is a successful and fulfilled professional. Being an experienced entrepreneur, Bill has previously received similar collaboration requests. He is usually happy to help, provided he has time and the implicit agreement is mutually beneficial. He shares that the extent of his involvement was rather intense for the few first months of cooperation. While at that time Kevin worked with a hired consultancy bureau that helped him with the product prototype, Bill understood that with his support Kevin wants to increase the in-house knowledge and expertise. Following the verbal cooperation agreement, Bill holds a number of workshops at the firm's office. Additionally, he receives some questions and inquiries from Kevin via phone, email, and during a few face-to-face meetings. To my question as to what motivated him to invest his time into the development of Kevin's firm, Bill responds:

"*You know, I want the local entrepreneurs to be successful. It is good for the region, and he has a great product – I am sure he will do well. He has some tough competitors…*" *(Bill, 190827)*

Apart from genuinely liking Kevin and his idea, the expectation of a fruitful and mutually beneficial cooperation is why Bill decided to get involved. The cooperation runs smoothly, based on contractual solidarity and mutual expectations interests. Bill elaborates:

"*I try not to have a predetermined mind; I try to listen and understand what are their needs and expectations. [Kevin] did not have much, he did not have any experience, but I felt like he has such a commitment. He already won some competitions; he was out there… I could feel that he has the potential. Plus, he was open-minded. Some entrepreneurs are asking for advice, but they do not really want to listen to anyone but themselves. [Kevin] was not like this, I knew that I can provide him some information, and he can decide how to go about it. I could help him clean up his thoughts a little bit, because it was easy for me, I have already done loads of benchmarking*." *(Bill, 190827)*

So, the reasoning is simple – Bill meets an entrepreneur he likes, he feels that his help is appreciated, and he continues to help for as long as his time and energy allow.

6.2.2.2 Understanding the conditions as the cooperation progresses

Mid-cooperation, Bill feels that the window of opportunity for further pro bono investment from him is narrowing. The bridge between the mutual interests of the parties is missing, as Bill's contribution to Kevin's firm makes it difficult to prioritize other, paying customers. Bill is able to invoice Kevin only for part of the services provided. At this point, he informs Kevin that he will not be able to offer as much of his time moving forward:

> "*I feel like, in most companies, or with entrepreneurs, when you are invited, you either invite, or kind of leave the content exchange very brief. [Kevin] was early on very demanding, asking for, basically, a lot of stuff which is my whole intelligence. My sourcing contacts and so on. […] Some of the stuff he wanted was quite fundamental to setting up the business, like understanding the materials, understanding how to do business with [overseas partners], getting trusted people over there, that you can work with. I do that gladly for free, sometimes, but if it gets too much then I would rather get a small share in the company, or get some kind of kick-back. After a while, I had to tune it down a little bit, it was taking a lot of my time. I understand him, he is a driving entrepreneur. But I could not spend more time, go deep into the project with that quality, as a free service. …I am involved in one project in Denmark where I have committed to invest my time for free for 5 years, in exchange of possibility to buy out a part of the company later on. It's all different…*" *(Bill, 190827)*

Bill shares that he received an offer to buy a share in Kevin's firm, to formalize the relationship. However, Bill refused the offer. He had just recently exited his own start-up and did not want to get involved with something similar at that time:

> "*I was just selling my last part of [own company], and in my mind I would not go into another start-up project at that time. Because I know how much time it requires. He had a good concept, and [this specific] market is incredibly powerful. If you have a product that is must-have in this sector – sky is the limit. But I was a little bit doubting, I was not entirely convinced by the product semantics.*" *(Bill, 190827)*

From the start, Bill has an expectation that this implicit cooperation might turn into a formal service agreement later on, but it does not turn out so later in the cooperation:

> "*I think, both in terms of economy, but also because he likes to do this stuff by himself. But also, he had a very limited budget. I do not know why but he did not really come back with design project, but he came back for advice on a stuff he has done, prototype he has received, and so on.*" *(Bill, 190827)*

Seeing that the expectations and interests are not harmonized between the parties, Bill questions the propriety of means that Kevin applies to cooperation, and tunes the relationship down to where it started – to informal, occasional mentorship-like contacts with Kevin.

6.2.2.3 Understanding the conditions at the end of the cooperation

"*I have never had a customer who would not pay me for my work*" shares Bill in our interview on 190827. He means that the mere fact that the cooperation with Kevin was quite extensive, yet did not result in a formal consultancy assignment predetermined the impossibility to cooperate on these conditions any further. Bill and Kevin, however, managed to sustain the goodwill between them and preserve the personal relationship. The informal support Bill gladly offered to Kevin extended beyond prototyping and product development matters to also encompass the guidance in organizing and running a young business. Bill gives an example of such implicit contribution:

> "*One piece of advice I also gave him was that when you take in money, make sure you are not offering up too much of a control because you will not be only taking in money once. You will be doing it over and over again, and then you have to make sure that you still have some control left. …Last money-in always has the most weight, they have a say. If you are taking subsequent investments, and you have been successful with the previous ones, you have a lot of power, you can negotiate on your terms. But if the ambition with previous investments was not achieved, you will have to negotiate on the new investor's terms, you get more diluted and lose control.*" *(Bill, 190827)*

What enables the preservation of a relationship beyond the duration of cooperation is the harmonized understanding of the parties' roles and flexibility in the cooperation's terms and conditions. Bill feels that his contribution is appreciated, and Kevin is receptive and grateful for support, even if limited and short-lived. From his personal experience of working with entrepreneurs, Bill shares the following:

> "*Some entrepreneurs want to have all the expert advice they can get, but are not ready to listen. It is also very common that entrepreneurs underestimate the time, money and efforts needed to achieve the aspirations set at start. Even experienced entrepreneurs and successful managers fall for this trap – they do not learn; they enter the new start-up leaving all their experiences and learnings behind. [Kevin] was eager to learn and grateful for the opportunity. I do not know if he actually followed my advice, but I saw that he is ready to listen, and I can really make a difference.*" *(Bill, 190827)*

Bill shares that he is happy with how things turned out, and that he has no regrets or reservations about having joined this cooperation with Kevin on implicit terms. He believes Kevin is happy too, which gives additional value to the cooperation for both parties. I ask whether the results are specific to Kevin's case, or the short-lived professional relationship and preservation of personal relationship is common for Bill's experiences with other start-ups. Bill responds that firms and entrepreneurs are very different. He brings up an example of cooperation with a firm of roughly the same age and industry as Kevin's that Bill is still closely involved with. Bills explains that cases cannot be compared – despite there being struggles that are common to all the new businesses, entrepreneurs have different approaches to acquiring and managing their resources. Bill shares:

> "*[Kevin] is a great entrepreneur, with fantastic drive, and I like him a lot, and I think now he has come to a better structure… but back then there was none. First, it is the lack of experience, but also that [Kevin] invested his personal money, he had to think carefully about every dime… I think [the other firm] initially was a bit more structured, more company-like. [the founder] had more understanding of what time it will take to develop the company. Time and money. [The other firm] had better understanding of this, [Kevin] did not, he had a bit different mindset in the beginning.*" *(Bill, 190827)*

Having both personal experience in starting up and running his own business, and professional experience in collaborating with different entrepreneurs, Bill has understanding and appreciation of every individual story. He evaluates his cooperation with Kevin positively, and is happy to see him succeed.

6.2.3 Case I analysis

6.2.3.1 Data structure and analytical steps

I begin discussion of case I analysis by schematically presenting the case data structure in Figure 8.

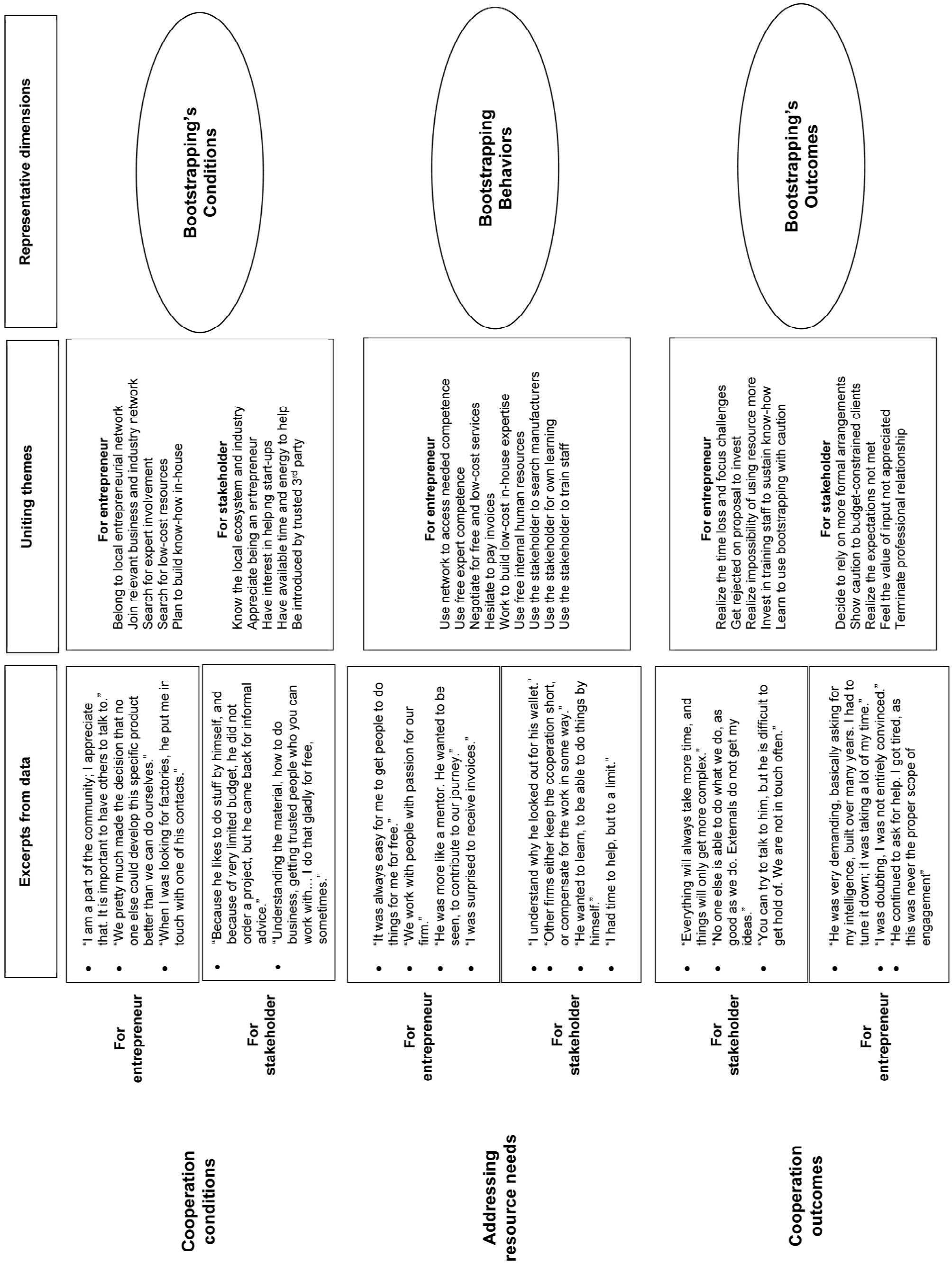

Figure 8 Case I data structure

I proceed to systematize my case I data in the following steps:

1. An open data-driven step, where the case is summarized in raw data excerpts from the entrepreneur and from the interviewed stakeholder. Initial codes emerge from primary data and are categorized into the entrepreneur's and the stakeholder's perceptions of the cooperation conditions, addressing the resource needs, and cooperation outcomes.
2. Uniting the raw data excerpts into common themes. The themes in Figure 8 above present the study's understanding of cooperation conditions, addressing the resource needs through bootstrapping behaviors, and cooperation outcomes, developed from raw data.
3. Uniting the common themes into the dimensions they represent in order to tie together the previous levels of analysis and aggregate the study's findings that open up for theory development.

I perform the three analytical steps in a working Excel spreadsheet that is stored together with other data and data-like materials on Lund University's secure servers. Next in this chapter, I descriptively present my three-step analytical process, where the data and data-like materials at each step are grouped by directly addressing the study's research questions. For the purpose of this study, my analysis focuses on conditions for bootstrapping behaviors and outcomes thereof that are specifically relevant for the particular selected instances of bootstrapping exchanges towards achieving a milestone. Within the framework of case I, bootstrapping exchanges happen between the entrepreneur and designer Bill Farrow. These two exchange parties were the subjects of my empirical inquiry. The representative dimensions that my work with data has funneled into are bootstrapping's conditions, bootstrapping behaviors, and bootstrapping's outcomes. In the subsections below, I guide the reader through the findings of cooperation's norms and conditions in the respective temporal intervals, and the empirically discovered outcomes. By doing so, I build the empirical understanding of the study's research questions within case I.

6.2.3.2 Norms and conditions at the start of the cooperation

Thus far, the entrepreneur has only relied on the personal network in the form of friends and family, and limited external stakeholders in form of a governmental agency that supports young innovative businesses with grants and subsidies. Now, not feeling fully satisfied with the product development results achieved during the process of initial prototyping with the support of the network, Kevin begins to inquire about opportunities within the wider industrial context. Kevin realizes that all of the important players in the country are focused around one geographical area. Thus, entering the work towards achieving the milestone #2, Kevin first joins the formal industrial network. There is an associated membership fee, but Kevin is confident the investment is worthwhile. Thus, he ensures his social position and role is established and harmonized with what can be expected of the network member. The network itself plays the role of a trusted third party, the matchmaking body through which a suitable partner is soon found. Prerequisites to joining the cooperation are thus mutual goodwill and trust as well as contractual solidarity, as the interests of the entrepreneur and resource-providing party are perfectly matched then and there. Namely, the resource-providing company is just at that time seeking opportunities to test their new brokerage services between local industry players and overseas product manufacturers.

6.2.3.3 Norms and conditions as the cooperation progresses

I would like to go back to my case firm and preliminary findings from study phase 1. I have empirically observed that behaviors to address resource needs and manage the resources are used based on the principle of what works now, and for as long as it works, even if the entrepreneur does not perceive the resource as optimal. On the same premise, the stakeholders are accepted at the firm for as long as they act as resource providers, even if the entrepreneur does not believe this is an optimal partner at that time. To avoid the increasing costs, Kevin chooses to preserve the relationship with his existing prototyping and manufacturing partner, despite the already acknowledged poor fit to the firm's demands and expectations. Simultaneously, Kevin keeps actively seeking to build product development expertise in-house – an essential precondition for restraining the power in the current and upcoming relational contracts at hand.

For as long as stakeholders' roles are perceived by both parties in the concise and harmonized fashion, both the presentation of these roles and expectations and the mutual consent remain discrete. Consequently, within the bootstrapping exchange that, as already established, represents an instance of relational contracting, it is the enhanced presentation of stakeholders' roles – one as resource recipient, and another as resource provider – that makes the bootstrapping behaviors acceptable as a reasonable means of acquiring and managing the resources. This discrete mutual consent to cooperation holds until the point when perception asymmetry arises between the contractual parties in regard to mutual roles and resource value, whereby the means in which resources are acquired and managed are questioned by the resource provider.

6.2.3.4 Norms and conditions at the end of the cooperation

As the entrepreneur reaches the point of no return, having chosen full-time engagement in their own firm over a promising career elsewhere, he struggles with distribution of power, control, and trust within the cooperation he engages in. Thus, the situation where the entrepreneur perceived the cooperation as equally valuable for the resource provider as it was for him – the perception asymmetry – results in conflicts, and consequent termination of the relational contract.

I will now present the outcomes discovered in case I data one by one based on understanding of the conditions and resulting states at the respective temporal stages – at the start, during, and at the end of the cooperation.

6.2.3.5 Early outcomes: legitimacy and resource pool challenges

A number of bootstrapping behaviors led to legitimacy challenges, developing throughout the work on achieving the milestone. This had immediate implications for the firm and its operational environment. Intangible resources, such as reputation, goodwill, and social resources within the network, would need to be managed under transformed norms and conditions upon achieving the milestone so as to minimize the potential negative outcomes. Specifically, analysis of case I showed the following legitimacy implications:

(1) limited access to the same or similar resources within the social matrix – not only for the firm in question, but for similar start-up firms operating in the same network, as the resource provider shares that this specific cooperation made him reconsider how similar exchanges should be approached in the future;

(2) necessity for the entrepreneur(s) to create and maintain a story justifying their own choices and behaviors, and invest in upholding the image within the network; and

(3) the need to address the effects of asymmetric perception on resource value by forging and nurturing the strong ties relationship with resource provider(s), which later in the firm's development leads to financial scalability and the prioritizing of challenges.

The use of free expert competence, use of the network to enable access to free competence, use of network stakeholders for consequent introduction to third parties, and negotiating the terms of payment upon occasional invoices were the bootstrapping behaviors particularly decisive for this group of outcomes. These bootstrapping behaviors were enabled from the start by norms of stakeholders' role integrity, harmonization with the social matrix, and contractual solidarity, and fulfilled through learning and acceptance of the rules of the game and pre-existing trust and goodwill due to the parties belonging to the same network. Over the cooperation's duration, the norms of stakeholders' role integrity, effectuation of consent, and implementation of planning were decisive for cost minimization and relationship preservation. The norms of harmonization with the social matrix, role integrity, and contractual solidarity remain in effect throughout the cooperation, but asymmetric resource value perception and restitution claims, discreteness in presentation and restitution interest claims become more pronounced. The entrepreneur refocuses on building and preserving the personal relationships, while the professional relationships might be compromised. The entrepreneur also acquires the essential knowledge of the rules of the game, and this learning will have critical implications on resource acquisition and management instances to come.

6.2.3.6 Intermediate outcomes: finance scalability and prioritizing challenges

Using a free in-house workforce and working to build the critical expertise in-house were the bootstrapping behaviors that influenced the intermediate outcomes. Altogether, the entrepreneur's purpose with these behaviors was to decrease expenditures on workforce during the work towards achieving the milestone, and to build a sustainable platform for minimizing expenditures on knowledge and know-how in the future. The outcomes of these behaviors seen in the data were twofold. On the one hand, the entrepreneur indeed managed to secure the base for long-term expenditure minimization. On the other hand, this base turned to be unstable, as the execution of these bootstrapping behaviors meant high staff turnover, which overall was costly for the firm. Moreover, extracting the free knowledge sharing from the resource-providing stakeholder also did not last long term, as the resource provider's willingness to supply the expertise for free or at low cost diminished. As a result, the provided resource halted in scalability, and was mostly useful in solving some here-and-now problems.

The norms that enabled the use of a free in-house workforce and building the expertise in-house at the start were role integrity, contractual solidarity, and implementation of planning, whereby all the parties had far-reaching expectations – the entrepreneur had the expectation of long-term cost cutting, unpaid interns had expectations of eventually getting employed by the firm, and the external resource provider had the expectation of recognition and material compensation down the road. As the cooperation progresses, the resource-providing party's expectations of planning discreteness became more pronounced, while the norms of reliance and solidarity kept the bootstrapping behaviors possible for the entrepreneur. The end of the cooperation showed that most of the expectations were not met, apart from partial fulfillment of the entrepreneur's expectations. The work on building the in-house expertise allowed the entrepreneur to gain some independence and power over future knowledge-dependent decisions, while the unfulfilled expectations for other stakeholders mean the dissolution of the professional relationship. In the long run, this relationship could not be preserved in any other way than an informal personal mentorship-like relationship.

6.2.3.7 Late outcomes: dependency, power, control, and reciprocity challenges

This group of outcomes in the case I included:

(1) the loss of control over the milestone's execution timeline due to the inability to prioritize the activities that could bring more sustainable financial inflow;

(2) a high level of dependency on the resource-providing stakeholder's know-how that might have resulted in long-term ownership claims.

The bootstrapping behaviors that led to these outcomes were using the external stakeholder to train in-house staff for free, and withstanding payments upon occasional invoices without further negotiations. The entrepreneur's aims with these behaviors were similar to those earlier in the cooperation – to build the sustainable base for in-house knowledge that would allow them to gain and retain power and control in future resource acquisition and management instances while minimizing long-term expenses, and to decrease short-term expenditures through utilization of the free expertise.

From the time the cooperation began, behaviors were enabled through existing trust and contractual solidarity, implicit consent to cooperation, and expectations interest through all parties' long-term planning. Throughout the cooperation, the parties' expectations and planning remained the guarding norms, as well as the mutuality and readiness to compromise for relationship preservation. The situation changed by the end of the cooperation, when the internal staff and resource-providing stakeholder realized their expectations will not be met in full. An asymmetric perception of resource value arose between the parties, and the entrepreneur refocused on building and preserving the personal relationship as a substitute for the professional relationships that could not be reconciled. The positive aspect for the entrepreneur was also present in outcomes, as he managed to gain a degree of short-term independence and control that could be transferred to the upcoming instances of bootstrapping exchanges.

6.2.3.8 Case I analysis results

I present the summary of analysis results in Figure 9. Here, I use the data structure from Figure 8 and its subsequent descriptive presentation to understand how the conditions for bootstrapping behaviors may have led to early, intermediate, and late outcomes for the firm and the contractual parties. As defined earlier, the outcomes are states that continuously emerge as a result of bootstrapping behaviors in action. Figure 9 should be read and understood as follows. At each temporal stage of cooperation, there exist certain conditions preceding bootstrapping behaviors, and certain states that emerged as a result of bootstrapping behaviors. Bootstrapping behaviors at each temporal stage are likely to be moderated by certain contractual norms, as presented in the figure. By understanding the preceding conditions and resulting states, it is possible to define the groups of outcomes that are likely to emerge at the different stages of the cooperation.

	Empirically found conditions	Contractual norms	Bootstrapping behaviors	Empirically found resulting states	Outcomes
Early in cooperation	• Pre-existing trust and goodwill due to belonging to network and 3rd party introduction • Expectations interest from stakeholder • Implicit consent to contract due to harmonized perception of roles • Cooperation is favorable for both parties • Reliance and dependability	Harmonization with social matrix Stakeholders' role integrity Contractual solidarity	Use network to enable access to free competence Use free expert competence Use the project's stakeholder for subsequent introduction to 3rd parties Negotiating the payments upon invoices for services	• Goodwill and reputational resources difficult to leverage • Limited access to similar resources in the network, limited resource pool • Termination of professional relationship influences relationships with 3rd parties in the network • Carrying over unresolved claims into subsequent contracts	Legitimacy Resource pool challenges
During cooperation	• Entrepreneur has learned the rules of the game • Explicit enhancing of discreteness and presentation • Harmonized perception of propriety of means due to past experiences • Explicit efforts to preserve the roles' integrity • Low-cost expertise execution mutually favorable	Flexibility Implementation of planning Propriety of means Effectuation of consent	Work to build expertise in-house Use free and low-cost internal and external human and social resources	• Short-term expenses possible to minimize, but unsustainable • Costly turnover of staff and external stakeholders • Long-term priorities difficult to establish	Scalability Prioritizing challenges
Late in cooperation	• Agreeing to compromise for relationship preservation • Asymmetric perception of value • Restitution claims • Perceived independence • Refocusing on personal relationship • Dissolution of professional relationship with unsatisfied claims	Reciprocity Creation and restrain of power Linking norms	Agree to continuous free contributions Use free internal human and social resources Use the project's stakeholder to train in-house staff for free	• Loss of control over project's timeline and focus • High cost of retaining relationships • Dependency on stakeholders' expertise, risk of know-how claims	Dependency Power, control, and reciprocity challenges

Figure 9 Case I analysis results

As pointed out in Chapter 1, one of the limitations in current knowledge is the lack of coherence and depth in understanding the possible outcomes of bootstrapping. In order to address the study's research questions, the critical categories of case findings are conditions leading to bootstrapping behaviors, contractual norms guarding these behaviors, states resulting from the behaviors, and the groups of outcomes that are likely to occur at different stages of cooperation. Note that the outcomes at each stage of the cooperation continue to influence the subsequent conditions for bootstrapping behaviors and their results. Further, I present and analyze the case II, following the same structure.

6.3 Presentation of case II

6.3.1 Entrepreneur's perspective

6.3.1.1 Understanding the conditions at the start of the cooperation

The first experience of manufacturing overseas leaves the entrepreneur disappointed. Only a third of the first manufactured goods could be sold, while the rest of the products had significant quality defects. Thus, the conditions leading to commencement of work towards achieving the milestone #3 are far from optimal:

> *"Half of what [was produced at the first factory] we could not sell, because of the poor product quality. […] the production process was very… there was so much back-and-forth, and misunderstandings." (Kevin, 190521)*

> *"We got samples for testing, and we thought – oh, you really do not understand how the product is supposed to be used. […] as soon as we got the products, we realized that we cannot continue." (Kevin, 191108)*

Communication challenges, time-zone differences, cultural differences, impossibility of thorough quality control – these were some of the reasons why in 2014 Kevin begins to look for a manufacturing partner closer to home. Half a year earlier, in the autumn of 2013, Kevin participated in a country-wide innovative ideas competition. Although he did not win any monetary prize, the entrepreneur received much-needed media exposure and was given an opportunity to significantly broaden his professional network. Hoping to secure an important nationwide retail channel and find a more suitable manufacturer, in the summer of 2014 Kevin turns to one of the connections made as a result of that competition – the CEO of a large national retailer within the industry. Pending long negotiations of terms and conditions for a potential retail deal, the management of the retailer company concluded that UT's product is not as close to market-ready as they would like to be. The CEO, however, introduces Kevin to a manufacturer that could help the firm take their product to the next level and up to the retailer's requirements:

> *"They had our prototype at their, like, product council at that time, it went back and forth a couple of times, but finally they decided that they will not work with us. But then to reconcile his friendship with [us], because he just wanted to be a nice guy, he said – but here, you should contact this guy from [European factory], whom we will also not work with. So, he was like… instead of just saying no to us, he said – I can offer you this instead. They were also in touch with this [European factory], to see if they can produce their own products there, but they eventually decided to do it [elsewhere]. So, he connected us with them and did everyone a favor, and was a nice guy to everyone."* (Kevin, 191108)

The manufacturer is located in Eastern Europe, and is just at that time looking for product development companies to collaborate with. There is a favorable window of opportunity on both sides, and the parties soon begin their cooperation in the autumn of 2014. The new manufacturing partner is not only easier to approach and communicate with compared to the previous one, but also has a strong interest in cooperation, as they are also at the start-up phase of their business. Moreover, there is strong goodwill between the parties from the start, as they were personally introduced to each other by the mutually trusted third party. On the premise of mutual benefit, the cooperation extends to other tasks than merely manufacturing – the new partner is able to support UT in product development efforts, material sourcing, warehousing, and more:

> *"They said – we could easily do this; this is just the type of products that we do. They got the sample, to give us a price offer, and I think about June-July 2014 I got the price offer from them. […] We had a very good first meeting, I would say that they were very keen on starting to work with us. We were the first small company that they would work with. They were very sales-oriented, and they were just starting on their own."* (Kevin, 191108)

The parties sign a cooperation agreement that includes some explicit terms and conditions, but a lot of cooperation norms are implicit, based on trust and mutual interest.

6.3.1.2 Understanding the conditions as the cooperation progresses

The technical improvements to the product, changes in design, colors and materials, the development of smaller side products – these were the tasks offered by the factory pro bono, as a part of the package deal. As the manufacturer is closely involved in the product development and prototyping, the mere physical proximity makes it easy for Kevin and the firm's employees to travel to the manufacturing site and join the development work hands-on. This not only ensures that Kevin retains power and control over the results achieved within a milestone, and also that the firm is able to build a sustainable knowledge base within the firm. Having taken off smoothly and as per mutual agreement, this development work, however, brings up a principal disagreement between the parties later on in the cooperation. The manufacturing partner ever more strongly requires financial reimbursement for additional services that have been implicitly agreed on:

> *"…[they] called it "product development", I call it "production adjustment". We had to teach them how they should produce the product, so it has gone about 3 iterations of prototyping and adjusting. They called it "product development", but it was not. We had big discussions around it, perhaps not then at the start, but on other occasions. We had a ready prototype that should have been produced, and they thought anyway that what they do is product development. It actually only has to do with how this particular thing should be produced, how our prototype should be adjusted to their production, how many people should participate in the process, and what kind of machines are there available. This kind of work [they] called product development, and I call it production adjustment. They wanted to be paid for product development, of course… On first iteration, they did not get anything extra, and going forward it became a discussion. We became quite hostile to each other in the end. […] it became a real conflict."* *(Kevin, 190402)*

There were also some side products developed together with manufacturer, in parallel to the main product. No additional payment is offered to the partner, as the product development was done in-house:

> "*We started to think – what could we add, that would not cost too much of time and money, and that we do not need to design in a complex way. What could be a nice add-on product… [the factory] produced exactly following our specification, and we evaluated the result.*" *(Kevin, 190402)*

The production of side products was briefly terminated due to lack of interest from the market as well as the partner's flaws in handling the work:

> "*…the production for that was very much delayed. It was an easy product to prototype, but then when it came to production it became very complicated. Partially because we were bad purchasers, but also the supplier for material … delivered a bad quality material, and then [the factory] were not used to working with [this kind of] material. So, it was wrong all the way through.*" *(Kevin, 190416)*

The manufacturing partner took care of all of the communication with the third party – the packaging and printed materials supplier – which also saved Kevin a lot of time and effort, up until it became apparent that the manufacturing partner will not be mediating this relationship anymore:

> "*…we also had a problem with packaging. It was made in [Eastern Europe] … I believe actually that it was made in [Asia], and then offered to us with a price mark-up that [the factory] wanted to have. We had this [factory] that made packaging for us, but we never had direct contact with them. So, they were first – we cannot provide this kind of package, and then suddenly they could. So, I am sure they just found a package to buy in [Asia] and resell to us. … But when the relationship [with manufacturing partner] got worse, we were forced to take a direct contact [with packaging producer], and do a lot of guessing on what has been said and agreed upon. Same thing with the company that did printed materials for us, brochures etc. – in the end I was forced to communicate directly with them, and they spoke no English either. They were good suppliers, but it was difficult to work like this.*" *(Kevin, 190416)*

Kevin acknowledges that the fact that the firm's turnover did not grow as rapidly and significantly as predicted at the start is also a factor that contributed to worsening of relationships with the European service provider. Despite the growing dissatisfaction of the parties with each other, the cooperation lived on up until 2016, when the first external investment made it financially possible for Kevin and his employees to pursue other options. "*We basically waited for them to tell us to go elsewhere. We did not have resources to buy out our stock and pay for product development in full,*" as Kevin states in our interview on 190521.

6.3.1.3 Understanding the conditions at the end of the cooperation

In 2016, manufacturing of the product was completely moved to a different manufacturing partner overseas both because the conflicts with the current partner were draining the firm's resources and because the new overseas manufacturer could offer the entrepreneur lower prices for services. With two years having passed, Kevin's evaluation of the reasons why the cooperation with European partner did not continue is as follows:

> "*… [It was] entirely about money. We wanted to have a cheap production, they wanted to earn a lot of money. Also, we thought we did a lot of things to make the production easier, and they thought that these changes justify higher prices. We have tried to build this model that is completely transparent, and then prices would only change depending on fluctuations in currency rates. From their perspective, every change that we ever did made the production more and more expensive. […] So, it was constantly rising price.*" *(Kevin, 190402)*

Breaking ties with such a long-term and closely involved partner has a long-lasting echo. As late as 2017, Kevin shares, there is still an ongoing dispute regarding the remaining stock of material that the European manufacturing partner holds. Kevin bought the material out, as per agreement. However, as there has not been clear communication and many terms and conditions of collaboration were not explicitly written out, Kevin is unsure whether UT received the remaining stock in full. Moreover, some of the material that the firm got back is unusable due to improper handling and storing:

> "*…the [material] we use inside, it must not be exposed to light when it is stored, or it turns yellow. It is the same with this type of [material] everywhere. We have white inner lining, and if the [material] is yellow it shows. So, they have produced 100 [products] at some point, but cut maybe 500 pieces of that [material]. So, all the remaining 400 [products] turned yellow, because of the way they stored it. And they were still saying – it is not our fault; this is how we always store… and so on. […] there were a lot of stuff like that.*" *(Kevin, 191108)*

Trying to resolve the disagreements has not only taken a toll on Kevin's ability to spend more time on other tasks, like sales and marketing, but also strained his relationships with employees who refused or were unable to handle the disputes without Kevin's direct involvement. Alise, a former intern who became the firm's first full-time employee in 2016, was closely involved in the conflict with the European manufacturer and has shown a reluctance to work on the conflict resolution-related issues independently, without Kevin's close involvement. This ultimately affects the relationship between Kevin and Alise. Kevin evaluates that the experience of manufacturing with the Eastern European partner had negative consequences for the relationship with Alise, who had eventually decided to terminate her employment at UT.

Kevin also shares that the need to buy out the stock of materials that the European manufacturer held for the firm at the time of cooperation has majorly strained UT's financial position:

> "*Now we are pretend-polite to each other when we meet, because we paid for everything, in the end. But they almost bankrupted us, because they wanted everything now, now, now. At that time, it was a lot of money, maybe 200-300 thousand, and at that time we also did not have any products out on the market, because it was them who decided what and how they will produce. We had a lot of stock of materials in Europe which we had to send to [new manufacturer], and we had logistics costs [and extra taxes]. And the long lead-time when we did not have any revenue… I think, like, one of the closest times when we almost failed… This is what led to taking in the second investment, in the beginning of 2017, we could not have survived otherwise.*" *(Kevin, 191108)*

Although no further cooperation with the European manufacturer is now possible, Kevin retained a personal relationship with one of the factory owners. I secure Kevin's permission to approach the owner to study the stakeholder's perspective on the same case.

6.3.2 Resource provider's perspective

6.3.2.1 Understanding the conditions at the start of the cooperation

Kevin and Thorsten meet in 2014 through a common business contact, a large national retailer that Thorsten's previous employer closely collaborated with. The meeting with Kevin happened at a time when Thorsten's factory was looking for new product development companies to collaborate with. Moreover, the manufacturing business has just started and the factory was not loaded to its full capacity. There is thus contractual solidarity, goodwill and trust at the start of the cooperation due to the mutually favorable window of opportunity and introduction by the trusted third party. Thorsten tells about his business situation at the time collaboration with Kevin started:

> "*… [I and my business partner] acquired this factory. That was in 2013. By that time, we had a production agreement with [an established brand] for a couple of years forward, but of course, we understood that this will be only a limited time, and then we have to look for our own customers. So, almost immediately when we started, in 2013, we started to communicate with a lot of potential customers. […] This […] market is quite small, and it was the director of [company X] by that time who asked us if we were interested to meet up with [the entrepreneur]. I think this was in 2014… So, that was the background. […] by that time, [company X] were quite big, so we had some discussions, that is why I think this connection was set up.*" *(Thorsten, 200319)*

Both parties have a harmonized understanding of what the cooperation entails. The agreement between the parties is explicit and formal. Apart from manufacturing, the factory offers some extra services. Thorsten explains that the offering is standard for all the new product-developing businesses, not specific to Kevin's business. Some services, however, are agreed on verbally, outside the framework of the formal agreement, considering both parties' needs, expectations, and capacities at that time. The nature of the agreement with Kevin was as follows:

> "*We had this [product], as a product in our production, and we also helped [Kevin] to develop it. […] we made some minor changes, I would say. And we also were into the process of developing alternative designs, fabrics, and so on. There were also some [side products] developed in conjunction with this product. […] we said from the beginning that we probably will not be competitive on the price level, but we actually were the company that gave [the*

entrepreneur] the prototype for [product #2]. We agreed to that [the entrepreneur] could use our factory, for a very small fee – we only took the cost that it takes to use the people, and we actually opened up the factory for him to develop this product." *(Thorsten, 200319)*

Thorsten has both personal experience of being an entrepreneur, and professional experience of working with other entrepreneurs. He therefore has a good understanding of why a start-up firm – any start-up firm, not just Kevin's – needs special norms and conditions of cooperation. Kevin needs a lot of support and lacks finances. Thorsten empathizes with Kevin's situation and is ready to invest some resources at the start:

"[our investment] was, maybe EUR 1000, because that is what was needed. I do not really remember; it is such a small amount of money… For us, it was actually more like trying to support, and not trying to earn a lot of money. We were just looking into what it could mean, we were not having full capacity at the factory, so… Now, today, we could not have done it, now the cost would have been much higher. But due to the fact that we had some capacity in the factory, we thought – OK, let's do it." *(Thorsten, 200319)*

Guided by his willingness to share experiences and help out a promising entrepreneur, Thorsten enters the cooperation believing already from the start that it might be a priori more beneficial to Kevin and his firm than to Thorsten's business:

"*…it is a big difference to produce your product in [our factory], which is the same time zone and only two hours [to go there] … I think from practical perspective, to be a prototyping factory, or a lab, or whatever you call it, and also trying to make it industrialized, i.e., trying to make the first production batches, I think it was probably rather good for him and the team, to work there. […] I think they gained quite a lot from developing the product on a short distance, and we did not have any expectations that the business would continue.*" *(Thorsten, 200319)*

A common understanding of stakeholders' roles – where one is resource recipient and the other is resource provider – enables many compromises over the cooperation.

6.3.2.2 Understanding the conditions as the cooperation progresses

Thorsten believes that a prerequisite for a successful and sustainable business relationship is frequent and open communication regarding the conditions of cooperation and mutual expectations, and both parties making an effort to establish such communication right from the start. During the cooperation, Thorsten and Kevin have regular and open discussions regarding the cooperation:

"*It is better to be honest, we had this discussion with [the entrepreneur] where we said – this is how we evaluate your situation: you have good possibilities to develop your product here, however, we would not be really that cheap that you might be able to find in [other countries],* *where I think some of this stuff is done. So, then it is better to be honest and not try to fool anyone. We know that at some point you will take your product somewhere else and try to benchmark, that is what anyone would do. Is it not just better that we just conclude that this is how it is? But, we will do the development for you, anyhow, since we have a capacity. If you pay for our working time, and the material, of course, and then we can do it.*" *(Thorsten, 200319)*

Already from the start, Kevin's product made a solid positive impression on the market and consequently on the manufacturing partner. There has been a reasonable expectation of the rapid turnover growth, as Kevin had projected. However, over the cooperation Thorsten has had reasonable doubts based on the past experiences:

"… *[it] is very common when you start something up – there, he had very high expectations on sales, but it never came in the beginning. And because of that, we went in to the very low… To be honest, this has been a very low margin for us. … it was OK to do it, because we also had a contact and we learnt a lot about and from. But, if we would have had a full production and limited capacity, we would never be able to do it, with these low margins that we brought on the product. But now, I mean, when you start something up, you look for businesses that might be something in the future…*" *(Thorsten, 200319)*

Thorsten's intention is to support Kevin up until the point when it did not make economic sense for either party to continue the cooperation. As a part of a compromise based on solidarity and effectual consent, over the cooperation, the production facilities at Thorsten's factory are partially readjusted to match the upcoming needs of Kevin's firm. As the cooperation progresses, this becomes another reason to question the low compensation and the firm's slow growth in the form of turnover from sales:

"…*we quite quickly understood that we could not meet his requested cost price in the factory, and we were very clear on that this is probably not the product that is fitting very well into our production. We were lacking some of the equipment, and so on, and because of that the cost price became quite high. And I knew the price that he wanted to have on consumer market, which means that we could already conclude that we will not be able to produce it. But we said – OK, fine. We do not think that you will use us anyhow. We do not have expectations that you will place any orders later on, because of that you have to pay our very low cost for development.*" *(Thorsten, 200319)*

As the factory gains traction with other larger and more resourceful customers, the window of opportunity is closing, and prices for services provided to Kevin have to be adjusted accordingly. The propriety of means for acquiring and managing the factory's resources is questioned. Not only was the financial compensation not up to the desired level, but, as Thorsten evaluates, Kevin also failed to meet the explicit commitments as per the formal agreement. Thorsten mentions that impossibility to plan for production volume caused problems and extra expenses, as the factory had to buy in and store the materials and invest in additional equipment, not being sure of when and if Kevin will use these:

> "*… [Kevin] always had a problem – which I also understand – to commit to volumes. Which is also the problem I can understand… […] that is also why at some point we decided that he had to buy the raw material, because… You know, if we agree on a business deal, and you say that you project that you will sell for X number of thousand kronor, then of course we also buy all that material, so that we have it on our stock. We have invested for him for quite a long time. That we solved… and I think it is also quite understandable, that if you do not commit for volume that you project for the long time, then of course you have to take some of the investment into materials. So, that we agreed on, that was done, I think, after a year or so, that he had to pay for the material.*" *(Thorsten, 200319)*

During the cooperation, there has been additional side product development. As Thorsten explains, development of additional products was only regulated by a non-disclosure agreement that Kevin required. The rest of the terms were considered part of the initial cooperation agreement, and they were only regulated by verbal consent. In practical terms, the development project meant that Kevin got to use the factory's facilities at a fixed low price to prototype the additional products by themselves. Thorsten evaluates this positively, as Kevin's hands-on involvement saves resources for the factory:

> "*…we really appreciated that they were really engaged into product development. That I think was also a big difference, because when we do the product development today, we are getting a brief, discussing the material qualities, and then we do most of the development ourselves and we present the alternatives to the customer. That is maybe also because those organizations are quite big… That is another way, but in [Kevin's] case, he and the team were very much engaged in details and so on, which I think was good.*" *(Thorsten, 200319)*

For Thorsten, the factory's agreement to provide Kevin with resources for side product development was primarily guided by a willingness to help out the long-term partner. Thus, the stakeholders' role integrity is preserved mid-cooperation, even when the factory's flexibility diminishes and expectations of more thorough planning become stronger.

6.3.2.3 Understanding the conditions at the end of the cooperation

Further into the cooperation, it becomes ever more apparent to Thorsten that Kevin's projections for the firm's sales turnover over time will not be met, and the factory needs to take decisive steps towards prioritizing other customers. Thorsten makes a decision to not extend the cooperation agreement once the initially agreed validity term was running out:

> "*…we were actually the party that took the initiative to cancel the contract, that, of course, I do not think that [Kevin] liked it so much. But, since we were coming closer to the contractual length, and we were not reaching the volume that we said, we just decided that we do not want to continue the contract, and said that we would like to have those clauses and conditions that we had in the contract to be executed.*" *(Thorsten, 200319)*

Even having decided to not continue working with Kevin, Thorsten evaluates that the factory's overall goal for the cooperation – to find novel ways to successfully collaborate with product-development companies – is fulfilled. Through the cooperation with Kevin, Thorsten and his factory could define and verify a suitable business model for upcoming collaborations of a similar nature:

> "*The good thing from it is that one of the customers that we have today, which is then more or less giving the majority of volume to the factory […] …I think that this work with [the entrepreneur] has helped us to be better in how to take in and develop a product together with another party.*" *(Thorsten, 200319)*

One of the important conclusions for Thorsten is that as long as the factory can fill its capacities with orders from established market players that can commit to secure production volumes and sales turnover, such customers should be and will be prioritized. Thorsten's manufacturing business has developed and grown well over the past years. Any bootstrapping entrepreneur interested in potential cooperation with the factory would now need to have a much stronger offer that could meet the advantages of running collaborations with established market players:

> "*…we started with zero in 2013, and I think 2018-2019 we are around 20 million in sales.*" *(Thorsten, 200319)*

> "*…that was a strictly business decision. By that time, we also started to grow the volumes with some other companies. And to be honest, if you have to choose to load your production with high margin products or low margin products, then you have to choose those with high margin. So, that was also the profitability decision on our side.*" *(Thorsten, 200319)*

Thorsten stays open to collaborations with firms similar to Kevin's – resource-constrained product-developing start-ups at early stages. However, the agreements for such collaborations, he believes, have to be much more formalized and explicit in the future:

> “*…one learning for us is that I think we can probably work with more start-up companies, but we should be then clearer on that, we should never listen to projected volumes. Instead, we should do it like this that – OK, we will develop it together with you: either we can do the development for free, if you commit to a volume, or you have to give us a part if your business will be successful in the future. I think this would be a smarter way of working, because that would mean that the entrepreneur does not have to pay, we can open up and we can take some risks, but we need to make sure that we will have some payback in the future.*” *(Thorsten, 200319)*

Thorsten does not think that the doors to possible future cooperation with Kevin’s firm are completely closed. On the contrary, he shares that he would gladly join forces again, but only on the premise of the parties approaching the work as equal partners and for as long as the offer is economically attractive and able to withstand competition with the factory’s existing customers:

> “*…either you have to charge quite a lot for product development, and then you do not bother about taking the part in the future products or volume, or instead you can give away the product development, but then of course you would like to take part in the future growth and profitability. And then you also share the risk with the client. I think if we started over, we would probably be very clear on how we should work. And, to be honest, I think we would not have had any objections to work again with start-ups, if they could accept this kind of set-up. The problem is that when you are an entrepreneur, you would not like to give away that easily something that is your idea and your baby. So, it could be very difficult to convince, I think, a company or an entrepreneur to do it like that. But I think, for us, we have learnt to be very much clearer and more straightforward with expectations, and financing stuff and so on.*” *(Thorsten, 200319)*

Thorsten mentions, however, that he does not believe that this could interfere with potential future business.

6.3.3 Case II analysis

6.3.3.1 Data structure and analytical steps

By analogy with case I, discussion of case II data analysis will also begin with presenting the case data structure, shown in Figure 10.

		Excerpts from data	Uniting themes	Representative dimensions
Cooperation conditions	For entrepreneur	• "I became part of this network because all the actors in the industry are here." • "It was difficult the first time, but once we did it, there is not much to think about." • "Because he wanted to be a nice guy to me, he said – here, meet this factory."	**For entrepreneur** Search to change manufacturing partner Turn to trusted actors within the network Evaluate possibilities for financing the project Choose to do most of the work in-house Build on past experience to negotiate	**Bootstrapping's Conditions**
	For stakeholder	• "As we were changing our business model, one of the past business contacts set up the meeting." • "As we had extra capacity, we said – ok, now we do this for you, on time-limited terms." • "As you grow, we expected there to be more planning and formalization."	**For stakeholder** Belong to local ecosystem and industry Be introduced by trusted 3rd party Have experience and interest in start-ups Have favorable window of opportunity Expect flexible, but formal agreement	
Addressing resource needs	For entrepreneur	• "One should strive to involve as few people as possible, but to sell as much as possible." • "He connected us and did everyone a favor; we both got a good deal." • "It was attractive since we could do very low quantities, and they did other stuff for us as well."	**For entrepreneur** Use network to access needed competence Use free expert competence Negotiate for preferential conditions Negotiate for extra services Work to retain unpaid extra services Outsource instead of buying and owning Insist on close involvement and control in order to build the know-how and cut down expenditures Work to strengthen in-house expertis	**Bootstrapping Behaviors**
	For stakeholder	• "I said, we are open to continue for as long as it does not hinder more profitable business." • "He always wanted more for less." • "We realized this cooperation is more beneficial for him than for us." • "Even with small budget, one must commit."		
Cooperation outcomes	For stakeholder	• "Because of lack of time and focus, we ended up doing things that are not even needed." • "We almost went bankrupt as a result; we would not have survived without investment." • "When you do something this small, it is very important that you work with the right people."	**For entrepreneur** Realize the time loss and prioritizing challenges Realize the high cost of switching partners Realize taking in investment is inevitable Accept the unfavorable dissolution of the contract Realize some resources are worth paying for	**Bootstrapping's Outcomes**
	For entrepreneur	• "Conflicts about pricing and petty details were not ok for my business co-owner." • "He could never commit to volumes, like other companies do. We had to prioritize other clients." • "The way we worked with this firm is not possible anymore, for any new partner."	**For stakeholder** Lose interest in this and similar partnerships Lose the goodwill and trust Decide to focus on discrete contracting Decide to not compromise in conflict	

Figure 10 Case II data structure

I proceed to systematize my case II data in the exact same fashion as for case I (see the Section 6.2.3.1 above). Within the framework of case II, my analysis focuses on cooperation conditions, addressing resource needs through bootstrapping behaviors, and possible cooperation outcomes, specifically within case II. Here, the bootstrapping exchanges in focus are between the entrepreneur and manufacturing service provider Thorsten Miles. These two exchange parties were the subjects of my empirical inquiry.

To avoid repetition, please refer to Section 6.2.3.1 for presentation of how Figure 10 should be read, similarly to Figure 8. I note that now, within case II, which also lies temporally later in firm's development timeline, more planning – whether conscious or intuitive – and learning outcomes are noticeable in the entrepreneur's bootstrapping behaviors. For instance, Kevin already had a chance to evaluate the costs of switching partners and is determined to hold on to the relational contract with manufacturer for as long as possible. It is only the partner's decision not to extend the contract once its initial term runs out that terminates the relationship.

6.3.3.2 Norms and conditions at the start of the cooperation

One necessary condition that exists at the start of the cooperation is the stakeholders' understanding of the aims associated with achieving the respective milestone and the roles of each participating party. The entrepreneur perceives himself in the position of legitimate recipient of resources at preferential conditions as he (a) searches for easily available ways to finance the work towards achieving a milestone, (b) in doing so, does what worked in the past, namely turns to proven relationships and forms contracts for resources within these, and (c) seeing opportunities for mutual gain, utilizes them as lowest hanging fruits.

The parties met through a personal introduction by the mutually-trusted business contact, which allows generous goodwill at the start of the cooperation. Moreover, the partner factory is at a start-up stage as well and actively looking for new customers, like Kevin. These are the factors that contribute to the entrepreneur perceiving the preferential agreement, with discounts and extra services, as well-warranted. The formal agreement between the parties still exists, but it is generic and rather open to interpretation, indicating pre-existing conditions of trust and flexibility. The resource-providing stakeholder – the manufacturer – ventures into the cooperation given the favorable window of opportunity existing at the start, and relies on recommendation of the trusted business contact. Furthermore, the resource provider has both been an entrepreneur himself and worked with entrepreneurs in the past, so he understands the underlying conditions that lead our entrepreneur to access and manage the resources in a bootstrapping way. Thus, the social matrix is harmonized and understanding of propriety of means for accessing and managing resources is synchronized between the parties, despite the foreseeable disagreements that later arise.

The value of the resource is high and its price is cheap for both parties at the start of the cooperation, given the perfect match of needs and offers at that time point. Perception asymmetry is yet to arise, and rather promptly, as the value of the cooperation grows for the entrepreneur, while it decreases for the manufacturing partner as the window of opportunity narrows. As this happens, the entrepreneur feels unfairly treated, with his expectations not met, as the partner demands for cooperation to move from the flexible relational contract towards more formalized, discrete one.

6.3.3.3 Norms and conditions during the cooperation

The entrepreneur employed a wide range of bootstrapping behaviors to both ease access to external resources and minimize expenditures of resources at hand. Some behaviors, by now, are deeply embedded in the firm's ethos – it is simply how the things have always been – while others are novel and specific to this particular milestone. Indeed, Kevin exuberates optimism and energy, is very well spoken, presentable, and always open to offer a helping hand to others. Kevin's personal and professional networks are strong and reliable. He enters the work towards achieving the current milestone through the door opened by one of his trusted business contacts, and it is presupposed, for the entrepreneur, that accessing resources at preferential conditions is well-granted. Kevin negotiates firmly for better terms and prices, and does not shy away from promising the partner steadily growing sales turnover in the near future. He also interprets the window of opportunity that is present at the start of the cooperation as the manufacturing partner also working to establish their business from the ground up. Some side services, like developing the packaging and printing the marketing materials, is done through the manufacturing partner and at a low cost. Although happy with the costs, Kevin is skeptical about not having the direct contact to providers, that the factory bought in the materials much cheaper and then resold them to UT with an extra profit margin (source: interview with the founder on 190521). This issue as well does, eventually, contribute to growing tension between the parties.

Despite the escalating tensions and conflicts, Kevin is ready and willing to keep the cooperation going, as he realizes the cost of switching provider will be higher than the cost of keeping things as is. Besides, Kevin shares that the situation of not having to invest in buying and storing the material in advance was ideal for UT in the long term (source: interview with the founder on 191108). Thus, there has been a substantial credit offered to the firm by the partner factory.

Kevin practices near, hand-on involvement in the development and manufacturing processes. In fact, one of the reasons to move production closer to home is the possibility of being on site once in a while and exercising more thorough process and quality control. The knowledge and skills acquired during the visits to the factory is another resource that Kevin values highly. He realizes that, in the future, he will be able to save a lot on costs if internal human resources are skilled enough to handle some tasks in-house. He also has a strong argument for keeping the cost of factory services low, reasoning that UT developed most of the things in-house and told the factory exactly what and how to do (source: interview with the founder on 191108).

For the reasons of saving costs and growing knowledge in-house, Kevin ensures support from unpaid interns – current students or recent graduates with a suitable background, willing to offer their skills in exchange for experience and a recommendation. Although well-aware of the fact that his firm is benefiting from a free workforce, Kevin has always seen the situation as a win-win. He even shares that, in some cases, he invested more than he got back, meaning the time and energy he personally spent on training the intern. Nevertheless, Kevin acknowledges that keeping costs that low and still achieving the results they did would not be possible if not for interns.

6.3.3.4 Norms and conditions at the end of the cooperation

Throughout the cooperation, the understanding of stakeholders' roles changes. While at the start both parties are under implicit agreement that both provide the resources to each other at favorable conditions – the entrepreneur receives the manufacturing possibilities extended to extra services, and the stakeholder receives the experience of working together with this kind of market player – later in the cooperation, implicit understanding of each other's roles proves to be insufficient. The window of opportunity is closing for the resource provider, as the manufacturing business grows and gains more resourceful, well-established customers. With this development, the manufacturer expects – and explicitly demands – that the entrepreneur step up and either meet the projected sales volumes or start paying market rate for all the additional services the manufacturer thus far provided pro bono. The balance of understanding the reciprocity and value is thus changing. The manufacturer believes that it is just as beneficial for the entrepreneur to continue this cooperation as it was from the start, while the current agreement becomes less and less attractive for the factory.

Despite the differences, the parties equally consider the learning, knowledge exchange, and the gained experience as the most valuable outcome of the cooperation. For both parties, one of the underlying motives for joining the cooperation was to experience and explore this type of partnership, and both were in rather early stages of their businesses' development. The resource-providing party soon begins to see the value of experience in showing how not to do things – namely, their most important conclusion is that the involvement and compensation agreements have to be much more explicit. Based on his past experience, the resource-providing stakeholder reasons that entrepreneurs should never be trusted on sales turnover predictions, as they tend to overestimate the time to market and the sales volumes (source: interview with manufacturing partner on 200319). Simultaneously, the resource-providing stakeholder has a clear perception of the value that the entrepreneur gets from the cooperation, reasoning that the norms and conditions of cooperation were more beneficial to Kevin than to the manufacturer (source: interview with manufacturing partner on 200319). The entrepreneur does share this perception, and, clearly seeing the advantages, is determined to keep the relationship, despite the draining conflicts (source: interview with the founder on 190521).

Thus, personal outcomes for the stakeholders involved were learning and developing the network. The entrepreneur and the manager of the manufacturing company are still on good terms and enjoy conversations with each other whenever they meet at common trade shows or the like. The entrepreneur believes that no cooperation would be possible in the future, as the completely destroyed relationship with another co-owner of the factory has made it impossible. The resource-providing stakeholder, however, believes that it would be feasible and very much desirable to work with the firm again, but only as long as the conditions regarding fair financial compensation and commitment to specified production volumes can be made.

The entrepreneur experiences that the conflicts with the factory have drained a lot of energy and distracted him from engaging more with sales and marketing activities. Of course, as a result of this cooperation, the firm has not only gained the much improved, solid version of the flagship product, but also the ready prototypes of side products – and all at an affordable financial cost. But still, the entrepreneur believes that this is not something that would not have been achieved without this partner. Rather, the entrepreneur perceives the role of the partner as supportive and definitely positive, but far from unique (source: interview with the founder on 190423). The entrepreneur sees the most important role of the partner in enabling him and his employees to do what they would have otherwise done anyway. For the partner, organizational outcomes of the cooperation are the additional equipment that had to be bought to satisfy the firm's demand, the new connections with materials and packaging suppliers, and the new agreements in place for the upcoming collaborations. As far as the agreement with our entrepreneur goes, it was initially signed for a limited period of two years, and given the factory's experience, there has not been a decision to extend the contract. I present my analysis of this and other outcomes further.

6.3.3.5 Early outcomes: legitimacy and resource pool challenges

The aim of milestone #3 was to find and establish a cooperation with a reliable and low-cost prototyping and manufacturing partner close to home. Bootstrapping's outcomes for the firm's legitimacy, as a result of case II, were:

(1) compromised reputational resources and goodwill, which in the long run limited the pool of resources that could be bootstrapped; and
(2) increased demands on discreteness from the resource-providing party that potentially affected not only our case firm, but also similar resource-constrained start-up firms in the same network. In fact, the resource-providing stakeholder shared that they now do not consider resource-constrained start-ups as potential customers at all.

Bootstrapping behaviors that led to these outcomes were the use of resources acquired and accessed during the process of achieving previous milestones, and the use of the network to access free and low-cost expert competence. By this time, the entrepreneur had some personal, mentorship-like relationships with stakeholders carrying over from past experiences. Moreover, the firm had by this time received some publicity and launched the product on the market. This allowed the entrepreneur to enter the cooperation with pre-existing conditions of trust and goodwill. The window of opportunity was very favorable for both parties at the start of the cooperation, as the resource-providing stakeholder was looking for product-developing young companies as potential customers at the same time as the entrepreneur was looking for a manufacturing partner. At the start, this meant that social matrix and perceptions of mutual roles were harmonized between the parties. The entrepreneur had the previously acquired in-house expertise as leverage in negotiations with a potential partner, while the resource-providing stakeholder appealed to the entrepreneur's previous experience and past achievements to argue for necessity of formalizing the relationship. Thus, the norm of creation and restrain of power was executed at the start through the formal agreement. As the work towards achieving the milestone moved forward, the implementation of planning was added to this execution of norms of power and control, as the manufacturing partner began to demand that the entrepreneur adhere to production volume expectations. As the new, more resourceful customers began to approach the manufacturer, more claims arose in relation to the entrepreneur's role as resource recipient, which was previously perceived as consensual and acceptable. By the end of the cooperation, the formal agreement was executed through explicit reciprocity claims, and, due to asymmetric perception of resource value, the resource-providing stakeholder exercised their power to terminate the contract.

6.3.3.6 Intermediate outcomes: finance scalability and prioritizing challenges

The most pronounced outcomes in cooperation's intermediate stage were:

(1) unavailability of the bootstrapped resource in the long term due to the need to prioritize the activities that bring more sustainable finance;

(2) loss of focus and time that should have otherwise been spent on activities with more sustainable financial return;

(3) the need to switch partners due to conflicts that lack resolution, and the subsequent high cost of switching; and

(4) poor accumulation of knowledge within the company due to frequent turnover of partners.

The bootstrapping behaviors responsible for these outcomes were negotiating for prices, negotiating for extra services, negotiating for close personal involvement in factory processes, and outsourcing instead of buying and owning. The entrepreneur's driving purposes behind these behaviors were to decrease the current ongoing expenses and gain long-term power over the manufacturing processes by means of learning achieved through close personal involvement.

From the start of the cooperation, with a favorable window of opportunity present, the norms of harmonized social matrix and adhering to existing industrial practices, in terms of services that are usually offered together with manufacturing, play a crucial role. Through the close personal involvement, the entrepreneur exercises the norm of restraint of power, aiming to retain the own control and independence. As the work towards achieving the milestone proceeds, the stakeholder claims their expectation interests more pronouncedly and demands reciprocity. To retain the stakeholder's interest in cooperation, the entrepreneur effectuates the partner's implicit consent to contract by means of enhancing discreteness and presentation as well as implementation of planning, whereby compromise is achieved through the promise of sustainable returns for the partner later on. By the end of the cooperation, the asymmetric perception of resource value and appropriateness of resource management means used by the entrepreneur forces the entrepreneur to adjust the means in the short term, compromising on pricing claimed by the partner. Nevertheless, the trust and goodwill diminish as the partner makes restitution claims, leading to a failure to preserve the relationship.

6.3.3.7 Late outcomes: dependency, power, control, and reciprocity challenges

The outcomes visible late in the cooperation in case II are:

(1) high dependency and potential loss of power over the long term due to the resource-provider's reciprocity claims;

(2) stakeholder's claims for discreteness, as they gain resource power over the entrepreneur; and

(3) relying on unpaid staff in building and exercising in-house expertise lowers costs, but increases the firm's long-term dependency on similar unpaid human resources.

Bootstrapping behaviors that the entrepreneur pursues are insisting on retaining the extra services for free or at a low cost, and the subsequent work to increase and strengthen the expertise in-house. By managing the resources in such a way, the entrepreneur aims to reduce both short-term and long-term expenses, while retaining the power and reducing future dependency on external resource providers.

From the start of the cooperation, the loyal partner's attitude towards the entrepreneur's bootstrapping behaviors was enabled by a harmonized social matrix and coherent understanding of roles, in light of a favorable window of opportunity for both parties. The entrepreneur claims legitimate ownership rights and control over the results of the work towards achieving the milestone, and it is accepted by the partner through the implicit consent to dependability and expectations interest. As the cooperation towards achieving the milestone proceeds, the partner questions whether the implicit consent to the contract is perceived by both parties in harmony, as their expectations interest begins to fail. The entrepreneur is forced to grant some power to the partner through implementation of planning for future returns. The entrepreneur's pursuit of independence, however, leads to explicit reciprocity claims by the partner by the end of the cooperation. The resource value is perceived by the parties in asymmetry, and both parties show a lack of flexibility in conflict resolution. The cooperation is dissolved as a result, with no possibility of mending the professional or the personal relationship.

6.3.3.8 Case II analysis results

In line with the analytical protocol earlier developed, I present the following Figure 11, which summarizes the results of empirical work on case II. Here, I use the data structure in Figure 10, with its subsequent descriptive presentation, to understand how the conditions for bootstrapping behaviors may have led to early, intermediate, and late outcomes for the firm and the contractual parties. Figure 11 should be read and understood as follows. At each temporal stage of cooperation, there exist certain conditions preceding bootstrapping behaviors as well as certain states that emerged as a result of bootstrapping behaviors. Bootstrapping behaviors at each temporal stage are likely to be moderated by certain contractual norms, as presented in the figure. By understanding preceding conditions and resulting states, it is possible to define the groups of outcomes that are likely to emerge at the different stages of the cooperation.

	Empirically found conditions	Contractual norms	Bootstrapping behaviors	Empirically found resulting states	Outcomes
Early in cooperation	• Pre-existing trust and goodwill due to belonging to network and 3rd party introduction • Mutually favorable window of opportunity • Effectuation of ownership rights due to secured IPR • Execution of acceptable industry practices due to learning • Acceptance of dependability in light of mutual interest	Harmonization with social matrix Stakeholders' role integrity Contractual solidarity	Use network to access free and low-cost expert competence Use previous experiences to reduce short- and long-term expenses	• Goodwill and reputational resource difficult to leverage • Limited long-term resource pool access • Perception asymmetry in regards to value and expectations • Imposed demands on discreteness, based on past experiences	Legitimacy Resource pool challenges
During cooperation	• Legitimizing claims imposed on the entrepreneur • Negotiating propriety of means • Expertise execution for short- and long-term cost minimization • Expectations interest and reciprocity claims • Entrepreneur proactively works to maintain ownership • Cooperation value diminishes as the window of opportunity narrows • Flexibility and compromise to preserve relationship	Flexibility Implementation of planning Propriety of means Effectuation of consent	Negotiate for prices Negotiate for close personal involvement in factory processes Outsource instead of buying and owning	• Availability of resources unsure and unsustainable • Inability to prioritize activities that create more scalable finance inflow • Loss of time on renegotiating costs and priorities • Poor accumulation of knowledge hinders efficiency	Scalability Prioritizing challenges
Late in cooperation	• Asymmetric perception of value • Lack of compromise for relationship preservation • Conflicts that lack resolution • Restitution claims from resource provider • Dependence on resource provider • Persistent demands on discreteness • Short-term means adjustment • Long-term planning for cost minimization	Reciprocity Creation and restrain of power Linking norms	Negotiate for extra services Insist to retain unpaid extra services Work to strengthen expertise in-house	• Conflicts that lack resolution lead to dissolution of contact • High cost of switching partners and staff turnover • Reciprocity claims create loss of control over cooperation's results and future possibilities	Dependency Power, control, and reciprocity challenges

Figure 11 Case II analysis results

As discussed in the case I analysis, the outcomes at each stage of the cooperation do not fade away, but continue to influence the subsequent conditions for bootstrapping behaviors and the resulting states. In the following cross-case analysis, I develop my study's overarching empirical findings.

6.4 Cross-case analysis

Figure 12 presents two-fold contribution. Firstly, I draw the parallel between the conditions for bootstrapping behaviors and Macneil's ten contractual norms, thus proposing an empirically-developed understanding of the study's first research question. Secondly, based on my understanding of the conditions for bootstrapping and contractual norms within the cooperation at its different stages, I discuss the empirically-found outcomes over time, thus developing an empirical understanding of the study's second research question.

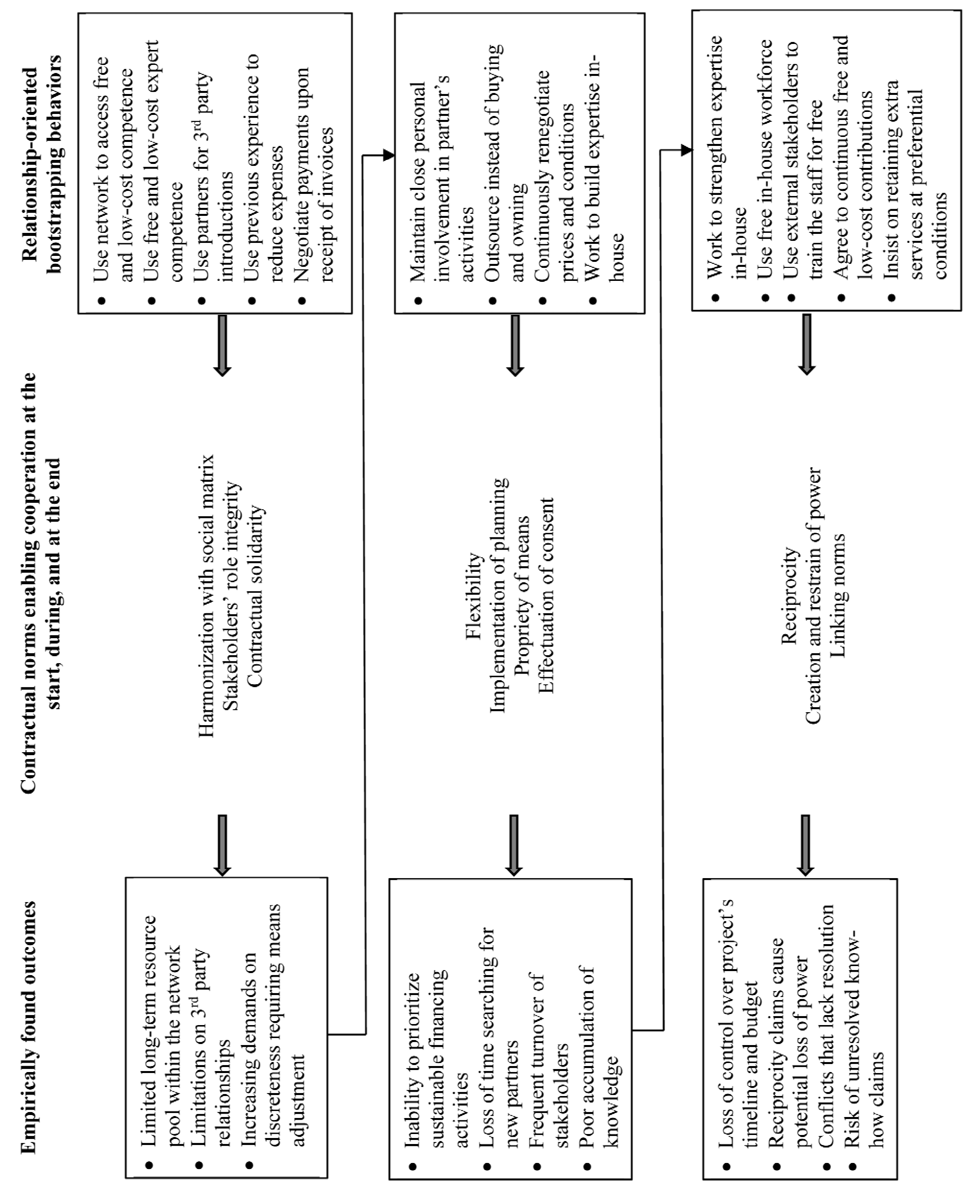

Figure 12 Cross-case findings

The descriptive presentation of Figure 12 and cross-case findings will proceed as follows. I will first elaborate on contractual norms' manifestations at the start, during, and by the end of cooperation between the entrepreneur and resource-providing stakeholder. The list of norms and conditions of bootstrapping exchanges is discovered in my study's empirical data and presented in individual case analyses, as found earlier in Figures 9 and 11. Figure 12 is an illustration of how bootstrapping and relational contracting may possibly intersect and enrich the understanding of bootstrapping exchange. I will then present the empirically found outcomes, and connect my findings to current bootstrapping studies discussing the outcomes.

I should note that my two cases occurred at different times over the firm's development, and they are unveiled with the participation of different resource-providing stakeholders. I discussed the consequent differences in resource needs, bootstrapping behaviors, and outcomes earlier in the analysis of individual cases. Here, in my cross-case analysis and discussion of its findings, I develop the aggregate, conceptual understanding of guarding norms and gradually emerging outcomes. This approach also serves the purpose of analytical generalization, whereby the conceptually developed understanding of studied phenomena makes it possible to build the understanding of other cases where these phenomena are represented (based on generalization discussions in Ragin and Becker, 1992; Flyvbjerg, 2006; Stake, 2010).

The ten common contractual norms were discussed in detail in Chapter 5 of my thesis. Here and below, in the extended presentation of the content of Figure 12, I use the ten contractual norms in Macneil's original terms (1980). For the reader's convenience, I will provide a short summary of each norm in the text. Following the presentation of contractual norms manifested in specific bootstrapping behaviors, I will also descriptively present my cross-case findings in regard to early, intermediate, and late outcomes – conditions continuously produced as a consequence of resource needs being addressed through bootstrapping behaviors[12]. As earlier discussed, I argue that it is not only norms, conditions, and outcomes of certain behaviors that might lead to change from the start to the end of cooperation, but, similarly, bootstrapping behaviors also change and transform over time to manifest one or another norm guarding the bootstrapping exchanges.

6.4.1 Cooperation's start: contractual norms and outcomes

For both of my cases, access to free expert competence is enabled through harmonized social matrix, stakeholders' role integrity, and contractual solidarity. Through awareness and acceptance of "the rules of the game" within the common network, contractual parties achieve harmonization with social matrix – a provision of a common, harmonized understanding of what the rewards and punishments might be

[12] I synthesize this definition based on Ebben and Johnson (2006), Patel et al. (2011), Langley et al. (2013).

within the given social context (Macneil, 1980). Examples from my empirical data are gaining bargaining power in establishing the cooperation by using the network actors as enablers of resource access (case I), and by using the personal network built up through exposure to network in start-up competitions (case II).

Considering the established harmonization with social matrix, the parties act under implicit understanding that the other will behave properly to their roles and adequately to the circumstances (Macneil, 1980), thus effectuating the norm of stakeholders' role integrity. For example, in both of my cases the roles where the entrepreneur is recipient of resources at preferential conditions and the stakeholders are resource providers under such conditions are implicitly accepted by both parties. The expert in case I is happy to share the expertise with entrepreneurs in need, and the manufacturer in case II joins the cooperation knowing from the start that it is more beneficial to the entrepreneur, than to manufacturer's own business.

Harmonization with social matrix due to belonging to the network, as in the above examples, enables trust and goodwill to exist from the start of the cooperation, and, thus, the norm of contractual solidarity is effectuated as well. Contractual solidarity is the norm allowing the parties to accept the condition of being dependable on one another (Macneil, 1980). In both of my cases, contractual parties enter the cooperation at exactly the time where the cooperation is individually perceived as mutually beneficial, and, thus, when the window of opportunity is individually perceived as mutually favorable. Examples from my empirical data are – the expert with much-needed knowledge and expertise has recently made a successful exit from his own start-up and has now time and relevant connections to offer (case I), and the manufacturer is extending their operations to a new line of business just at the time when the entrepreneur looks for a new manufacturing partner close to home (case II).

The potential pitfalls that may be observed early on in the cooperation between the entrepreneur and the resource-providing stakeholder are legitimizing and resource pool access challenges. Any particular entrepreneurial network is a tightly integrated environment where most of the resources available and needed for resource-demanding new firms belong to the common resource pool. Many of today's resource providers within the common resource pool available to entrepreneurs in the network are yesterday's resource recipients, and are happy to extend a helping hand to those following in their footsteps. Professional relationships between resource recipients and resource providers in the network are often also personal, mentorship-like relationships. Resource providers reason – I have been there, done that, and am now happy to return some of the favors I received in my time – as it can be seen in data from both of my cases.

At the start of the cooperation, the entrepreneur most often cannot leverage any past achievements for gaining legitimacy. This can only be done by behaving so to manifest the norms of harmonization with social matrix, contractual solidarity, and stakeholders' role integrity. I find the possibility of maintaining these norms through behaviors is rather short-lived, as the favorable window of opportunity for the resource provider is often significantly narrower than that of the entrepreneur. In both of my cases, the resource providers indicate that their perception of implicit contractual solidarity was conditioned upon the favorable window of opportunity. Examples from my data are – the expert sharing the expectation for the relational contract to turn into a paid consultancy assignment by presenting the price quote at the start of the cooperation (case I), and the manufacturer explicitly communicating that preferential conditions are only possible now, in light of a favorable window of opportunity, and that the entrepreneur will have to commit to production volumes rather soon (case II).

In time, different perspectives of integrity of stakeholders' roles emerge. As the cooperation progresses, resource providers perceive their role as more short-lived – I am happy to offer support for as long as it does not hinder my business. Entrepreneurs as resource recipients, on the other hand, may behave under an implicit assumption – I can be supported by the network for as long as I need the support, or for as long as my firm is considered a start-up. Upon entering the cooperation, there exists a mutual perception of a win-win situation, as it is illustrated in my earlier findings on contractual norms manifestations. However, rather soon into the cooperation, while a strong personal mentorship-like relationship might be developing, the resource providers might grow more cautious in maintaining the professional relationship in a bootstrapping manner, and thus increase demands for discrete-like norms and conditions. For example, in my data – the expert presents the price quote for his services, indicating to the entrepreneur the need to change the nature of the cooperation towards more discrete (case I), and the manufacturer implements the principle of "open book", whereby the entrepreneur can from the start form a perception of his firm's position in competition with other, often better-paid contracts (case II). As the outcomes of one instance of bootstrapping exchange may spill over to the subsequent instances, maintaining the norms of harmonization with social matrix, role integrity, and contractual solidarity comes with gradually increasing cost for the entrepreneur. Legitimacy and resource pool challenges may thus become too costly and difficult to tackle, much before the entrepreneur is ready to face these challenges. Potentially, the early outcomes of legitimacy and resource-pool challenges might also restrict the possibilities for other entrepreneurs to bootstrap within the common network. This finding demonstrates the link between the early outcomes of bootstrapping behaviors, and the behaviors and outcomes of subsequent exchanges as the cooperation matures.

6.4.2 Maturing cooperation: contractual norms and outcomes

For both of my cases, as the cooperation progresses, it becomes increasingly important to exercise the flexibility – or the norm that would make it possible to preserve the relationship established from the start (Macneil, 1980). The parties now observe – consciously or intuitively – that the rules of the game, the state of the favorable window of opportunity, and the acceptance of mutual dependability might be changing. In order to preserve the cooperation, the parties implicitly perceive the need to compromise. Examples from my empirical data are – the entrepreneur pays an unexpected invoice from the expert, perceiving this as a necessary measure in order to continue receiving some of the resources in bootstrapping fashion (case I), and the entrepreneur agrees to prepay the stock of materials that the manufacturer previously covered using their own finances, even though this situation significantly worsens the firm's cashflow position (case II).

Discrete-like norm of implementation of planning is a necessary precondition of relationship preservation as well. Mid-cooperation, the norm of implementation of planning serves as a mechanism for dealing with uncertainty (Macneil, 1980). This norm is manifested through the explicit formulation of future commitments, should the cooperation be maintained long term. Examples from my data are – the entrepreneur offers the expert the chance to formally become the firm's shareholder in the future (case I), and the entrepreneur reconsiders the previous on-demand manufacturing and commits to scheduled production cycles four times a year (case II).

The parties' individual perception of prospective development of the cooperation is now informed by some history of past common exchanges. In other words, the parties have achieved some learning – whether perceiving it or not – about how the other behaves within the cooperation. The parties thus may adjust their behaviors accordingly – whether consciously or intuitively. The harmonized understanding of the propriety of means – or acceptance of each other's behaviors as adequate to the situation (Macneil, 1980) – can now be maintained, despite the demands for increased flexibility and planning. Examples of manifestations of the propriety of means norm are – the entrepreneur shows an increased interest in the expert's experiences with their own entrepreneurial projects, so that the parties could more easily relate to the use of necessary means (case I), and the entrepreneur involves the manufacturer in prototyping the new products, thus engaging the stakeholder in the new start-up project, where means could be mutually perceived as acceptable (case II).

The guarding from the start norms of harmonization with social matrix, role integrity, and solidarity are still in effect. But as the cooperation develops, they have to be manifested in a more discrete-like fashion, for instance, through the norm of effectuation of consent, whereby the parties may explicitly communicate to one another the existence of other alternatives (Macneil, 1980). The possible alternatives that are explicitly communicated by the parties are as follows in my data. In my case I, the alternatives for the resource-provider are to continue the cooperation as a paid consultant, as with other customers, or to terminate the cooperation completely, while the alternatives for the entrepreneur are to continue the work in-house, receiving the knowledge resource from unpaid interns with relevant expertise. In my case II, the explicitly communicated alternative for the resource-provider is to fill up production capacities with orders from large, established companies (specifically named for the entrepreneur), while for the entrepreneur it is to move the manufacturing to a factory overseas that is already offering better pricing for services. For the purpose of relationship preservation, in light of potential intermediate outcomes, the parties effectuate consent by explicitly communicating the long-term orientation of the relationship, and thus mutual reliance on a trusted, long-term partner.

The mid-cooperation challenges can be related to intermediate outcomes of scalability of resource use, and prioritizing challenges in light of emerging alternatives. Acquiring and managing the needed resources in bootstrapping manner unavoidably means the necessity to prioritize building and maintaining relationships with resource providers, which takes up much of the entrepreneur's most important and scarce resource – time. The extent to which the early outcomes of legitimacy and resource pool access challenges could be successfully tackled will have a significant impact on the parties' ability to prioritize the cooperation and to scale the use of resources so as to aid the firm in promptly moving on to lesser reliance on bootstrapping. For the entrepreneur, the ability to prioritize the scalable sources of financing, such as marketing, brand building, and sales, will be impaired for as long as bootstrapping is heavily relied upon. One example of a negative effect of scalability and prioritizing challenges is when the resource-providing stakeholder chooses to terminate the cooperation with my case firm, but retains cooperation with another, similar start-up company that is perceived by the stakeholder as being better formalized and long-term oriented (case I). As a result, my case entrepreneur is left with substantial knowledge transferred by the stakeholder, but limited possibilities of applying this knowledge efficiently, as the stakeholder refused to provide further hands-on support for free. Another example is when the entrepreneur faces an unexpected, dramatic increase in expenditures, as the manufacturer decides to abruptly terminate the possibilities for the entrepreneur to continue to bootstrap due to an alternative business opportunity suddenly emerging for the manufacturer (case II). The intermediate outcomes spill over to the subsequent stage of cooperation, and the associated resource needs and bootstrapping behaviors.

6.4.3 Cooperation's final stage: contractual norms and outcomes

The norm of reciprocity, or the ongoing condition of exchange fairness that presupposes one party's right for return and the other party's implicit obligation to provide such a return (Macneil, 1980), is manifested through behaviors in accordance with the individually-perceived value of the cooperation. As discussed earlier, perceptions may become increasingly asymmetric as the cooperation develops, and thus, to mitigate the potential late outcomes, a more discrete manifestation of reciprocity norm is required. This might be done by maintaining the previous guarding discrete-like norms of implementation of planning and effectuation of consent. In both of my empirical cases, the parties failed to handle perceptions asymmetry in a mutually satisfactory, discrete-like fashion, but instead found themselves dissolving the cooperation.

The question of dependability of the parties on one another, or the necessary sacrifice of other opportunities in favor of the current cooperation, arises again, as it did at previous stages of cooperation, but it is now guarded by different norms. At this late stage of cooperation, dependability is guarded by the norm of creation and restrain of power, whether the parties might have to "choose" – consciously or intuitively – to exercise their power to "decide" in what way, or whether at all, the cooperation should proceed, and by doing so restrain the other party's power to make such a "decision" (Macneil, 1980). The norm of creation and restrain of power is not perceived by the other party in my empirical data. The entrepreneur safeguards their own position by activating the accumulated in-house expertise, and he perceives it not as power creation, but rather as a cost-saving measure. The resource providers may perceive activating the accumulated in-house expertise positively – the entrepreneur is willing and able to apply the skills built up over the cooperation (case I), or negatively – the entrepreneur does not have a long-term vision for this cooperation (case II). The preservation of the relationship between the parties – within and beyond the current cooperation – might be conditioned upon such a perception.

Finally, bootstrapping behaviors promoting the preservation of the cooperation or aiding its termination are manifestations of linking norms – restitution, reliance, and expectations interest. Restitution might be necessary if one party perceives that the other gains an unfair advantage from the cooperation – in my case II, such perception arises on the part of the resource provider mid-cooperation; reliance is needed with regard to promises made to each other should the cooperation be preserved – my case I demonstrates the mutual reliance start-to-mid-cooperation; and expectation interests are what mediate the preservation or termination of the cooperation, whether they are met or failed (Macneil, 1980). In both of my cases, the cooperation was terminated by the resource-providing party, upon failure to fulfill the expectation interests, as both the entrepreneur and the resource providers share in interviews. In case I, though, the personal relationship could be preserved, and a mentorship-like relationship between the entrepreneur and resource-provider still exists due to more pronouncedly manifested reliance during start-to-mid-cooperation.

Dependency, power, control, and reciprocity challenges are the main potential pitfalls that are pronounced by the end of cooperation, and may have a significant long-term impact on the firm. The implicit individual perceptions of the cooperation's costs and rewards become increasingly asymmetric between the entrepreneur and resource provider over time. The extent to which the entrepreneur managed to implement the discrete-like contractual norms throughout the cooperation thus far will inform the potential long-term negative impact of such asymmetric perceptions. Later in the cooperation, when the individual perceptions of value provided and received become more asymmetric, resource providers are likely to impose more straining terms and conditions on the entrepreneur. In such cases, the only possibility for the entrepreneur to still gain some benefit from the relationship is to exercise the linking norm of reliance and refocus from professional to personal, mentorship-like relationships. But even that decision is often largely in the hands of the resource-providing party, as the data on both of my cases demonstrates. As a worst-case scenario, the power and control imbalance in the cooperation may result in ownership disputes and know-how-related conflicts, which may potentially bear unaffordable costs for the entrepreneur.

In line with the process outlook on gradually emerging outcomes, the earlier scalability and prioritizing challenges and ways in which these were addressed influence the long-term possibility of the entrepreneur being able to achieve scalable and sustainable financial in- and outflow, hence prolonging the firm's dependence on bootstrapping. This also consequently binds the entrepreneur to sustain the possibly suboptimal cooperation with one resource provider or another for as long as possible, thus increasing the dependence and power imbalance over the cooperation term, but also, potentially, long after the cooperation.

6.4.4 Empirically found outcomes and current literature

Empirically, in my overarching case and cases-within-a-case, I find that every instance of bootstrapping exchange can be seen as an instance of relational contracting, and, thus, all of the bootstrapping behaviors are conditioned upon entrepreneur-stakeholder relationships. In Chapter 5, I presented my argumentation as to why even bootstrapping instances that do not explicitly involve external stakeholders are implicit relational contracts. Moreover, in my data I found that not all of the bootstrapping behaviors are optimal, or even acceptable, for an entrepreneur who bootstraps extensively over prolonged periods. For instance, my case entrepreneur shares that delaying payments is neither an acceptable industry practice, nor an ethical way to contract for bootstrap resources, as these behaviors are essentially harmful to the relationships with stakeholders. Consequently, the cross-case findings in Figure 12 present only relationship-oriented bootstrapping behaviors. My empirical conclusions represent the particular instances of entrepreneur-stakeholder cooperation, and, thus, the subsequent change in conditions for bootstrapping and outcomes that are likely to occur.

One of my key arguments for need to conceptually develop bootstrapping knowledge was to address the divergent understanding of bootstrapping's outcomes in the existing literature (see Chapters 1 and 2). Based on my study's findings, it is possible to achieve conceptual understanding of outcomes as conditions continuously produced as a consequence of resource needs being addressed through bootstrapping behaviors over time. Below, I will relate my findings to prominent examples of literature discussing bootstrapping's role and implications.

Patel et al. (2011) find that decreasing financial returns in new firms may result in limited scalability and increased costs of reduced legitimacy towards external stakeholders. The authors attribute the limited scalability and reduced legitimacy to overreliance on bootstrapping in the cooperation between the entrepreneur and resource-providing stakeholders, and propose the diversity of stakeholders as a mitigating factor to reduce the negative outcomes. The authors speak of decreasing returns of bootstrapping over time and stakeholder diversification as a way to hamper the decrease in returns. To the extent the outcomes are perceived as gradually emerging – for instance, scalability challenges arising as a result of legitimizing process – my findings confirm the conclusions of Patel et al. (2011). However, it is necessary to note that the authors quantitatively study a large sample of firms and use the economics measures of outcomes – such as a firm's cashflow position, equity distribution, need for direct financial investment, and so on. Such measurements are only marginally applicable to determining the success of new firms, as the latest entrepreneurship research indicates (see Chapters 1 and 2). In practice, a wide diversity of stakeholders willing to provide resources for free or at a low cost is rarely available to entrepreneurs at the early stage of the firm's development. Bootstrapping research has not yet seen empirical studies on bootstrapping's outcomes that would consider this limitation. My study assumes the limited pool of resource-providing stakeholders within the industry network, and considers the case of implicit contractual relationship with one stakeholder at a time in order to achieve the purposes of one defined development milestone. I find that, while the possibilities of diversifying stakeholders might increase with time, this should with more likelihood happen provided that the outcomes at earlier development stages are successfully managed. In practice, the efforts to diversify the stakeholders "too early" can be seen by the entrepreneur as an additional cost, which is to a large degree responsible for arising scalability and prioritizing challenges.

The study by Ebben and Johnson (2006) focused on resources scalability, concluding that bootstrap resources are scattered, sporadically available, and not reliable over time. This is in line with my above argumentation regarding the perceived cost of diversification of bootstrap resource providers. In line with my findings, Ebben and Johnson conclude that bootstrapping techniques preferred and used by entrepreneurs change over the firm's development. However, they omit the point that as bootstrapping behaviors change, so do the outcomes. The authors assume the organizational theory perspective and presumed stakeholders' diversity, and thus the possibility of the entrepreneur being able to make a conscious, calculated choice of techniques, for instance, in the pecking order manner. Leveraging the quantitatively substantial base of involved stakeholders is seen as a possibility for diversifying the risks, improving legitimacy, and accessing traditional financing sooner. In a small firm's reality, my study demonstrates, the natural step to handling legitimacy challenges and achieving sustainably sufficient resources is taking care of existing relationships by adapting the norms and conditions to each particular stage of cooperation, rather than diversifying the stakeholders and adapting bootstrapping behaviors per se.

In contrast to the perceived resource diversity perspective assumed by the above studies, Grichnik et al. (2014) examine the condition of environmental scarcity and the role of human and social resources in overcoming it. The study's findings emphasized the costs of resource acquisition through bootstrapping, associated with a new firm's dependency on human and social resources, and concluded that the relationship between bootstrapping behaviors and new firm growth over time represents an inverted U shape – the longer the entrepreneur relies on such resources, the more this reliance is likely to hamper the firm's growth, although the strong availability of human and social resources is favorable at the start. However, the study does not discuss how the dependency on human and social resources can be managed over time, and how the inverted U curve can continue developing over the coming bootstrapping exchanges. My study demonstrates that relational contracts for bootstrap resources do not result in negative dependency as the final state of exchange, but that dependency challenges can be addressed through execution of contractual norms, resulting in termination of the relationship or continuation of the relationship at renegotiated terms and conditions. The way in which dependency can be addressed at later stages of entrepreneur-stakeholder cooperation is largely informed by how the legitimacy and scalability challenges were addressed earlier in the cooperation. Thus, it is the process of acquiring, managing, and maintaining the social and human capital that my study emphasizes, and not the instrumental cause and effect perspective on behaviors and outcomes. Some later studies (e.g., Rio Rita, 2020) concluded that bootstrapping and dependency on resources have a negative relationship – bootstrapping behaviors allow the firm to grow independently on external capital longer, which may appear as contradicting with earlier studies. When it comes to understanding bootstrapping's role and outcomes, one of the conceptual contributions my study is able to offer is demonstrating that dependency can be managed, through relational contractual norms, to impact the firm – and the subsequent standalone bootstrapping exchanges – in one or the other way.

To summarize, my study's findings are able to nuance the understanding of various possible outcomes of bootstrapping behaviors as they arise over the course of the entrepreneur-stakeholder relationship. Further, the findings demonstrate how the respective outcomes are managed with the aid of relational contracting norms. As seen in my case data (see Figures 8 and 10), the possible implications on a firm's legitimacy, finance scalability, dependency on resources and resource providers can be nuanced to more specific outcomes. For instance, for the entrepreneur these are the realization of the high cost of switching resource-providing partners, realization of the need to refocus the limited time on more sustainable sources of income, such as sales, realization of the need to accept traditional financing to avoid bankruptcy, learning to exercise certain contractual norms in a more discrete or more relational manner. For the resource-providing stakeholder, nuanced outcomes are, for instance, learning to manage upcoming similar partnerships in a more discrete fashion, learning to prioritize some contracts over the other, re-evaluating the benefits of informal personal relationships with entrepreneurs, learning to set the price on resource and time investments. Understanding these outcomes provides insights into building larger implications, including the growth, financial performance, survival, and other categories of outcomes that past research has emphasized.

In the process of developing the nuanced understanding of outcomes, I find, just as previous studies, that legitimacy, scalability, and dependency are critical long-term implications to consider. Additionally, I demonstrate that legitimacy implications are associated with possible limitations on resource pool access, implications for scalability are likely to arise in line with prioritizing challenges for both parties in the cooperation, and whether or not dependency implications will hamper or promote the firm's further development is likely to be dependent on the handling of challenges associated with power, control, and reciprocity within the specific entrepreneur-stakeholder cooperation.

Conditions for bootstrapping behaviors and the possible outcomes thereof are not static states, but rather are temporally evolving, changing, and consciously or intuitively managed by the exchange parties by means of norms of relational contracting. In the following, concluding chapter, I develop the conceptual understanding of the study's two research questions, and propose an analytically generalizable conceptual model for understanding the same or similar phenomena in other situations and contexts. Chapter 7 will discuss the study's conclusions, contributions, limitations, and implications for different audiences.

Chapter 7. Concluding discussion

> *"Continue bootstrapping as long as possible, but know when it's time to seek investors. Postponing fund-raising to the extreme can cripple the company, especially when the window of opportunity is short, as is often the case in start-up companies. Potential investors will recognize and value your bootstrapping resourcefulness in starting your company." (Kauffman Foundation, 2007)*

7.1 Study's conclusions and contributions

7.1.1 Answering the research questions

My study aimed to develop an analytically generalizable, empirical and conceptual understanding of conditions for bootstrapping behaviors, and the possible nuanced outcomes of these behaviors over time. My main contributions are two-fold. Firstly, I present the relational contractual nature of bootstrapping exchanges between the entrepreneur and resource-providing stakeholders, thereby developing the empirical and conceptual understanding of conditions for bootstrapping behaviors. Secondly, I build the empirical and conceptual understanding of outcomes of bootstrapping behaviors over time, thereby offering the existing research insights into how the larger implications on a firm's growth, performance, and survival may be built up from nuanced, fine-grained outcomes within the single exchange instances. My study's two research questions, as first outlined in Chapter 1, were:

1. How do contractual norms act as conditions for bootstrapping behaviors?
2. Based on conditions for bootstrapping behaviors, how do the possible outcomes of these behaviors emerge and develop over time?

Through the step-wise, initially data-driven and later theoretically sensitized inquiry, I found that bootstrapping behaviors are preceded by conditions of exchange, and these behaviors may lead to certain nuanced outcomes of the exchange relationship over time.

The conditions, behaviors, and outcomes may be best understood at the intersection of bootstrapping research and relational contracting theory. Earlier in Chapter 6, I presented my findings, thereby empirically contributing to understanding the research questions. Figure 13 presents the conceptual model for understanding the study's research questions. The model is analytically transferable to studying the same or similar phenomena in a variety of contexts, whether by means of quantitative or qualitative research inquiries. Following the figure, I will descriptively present my conceptual contributions.

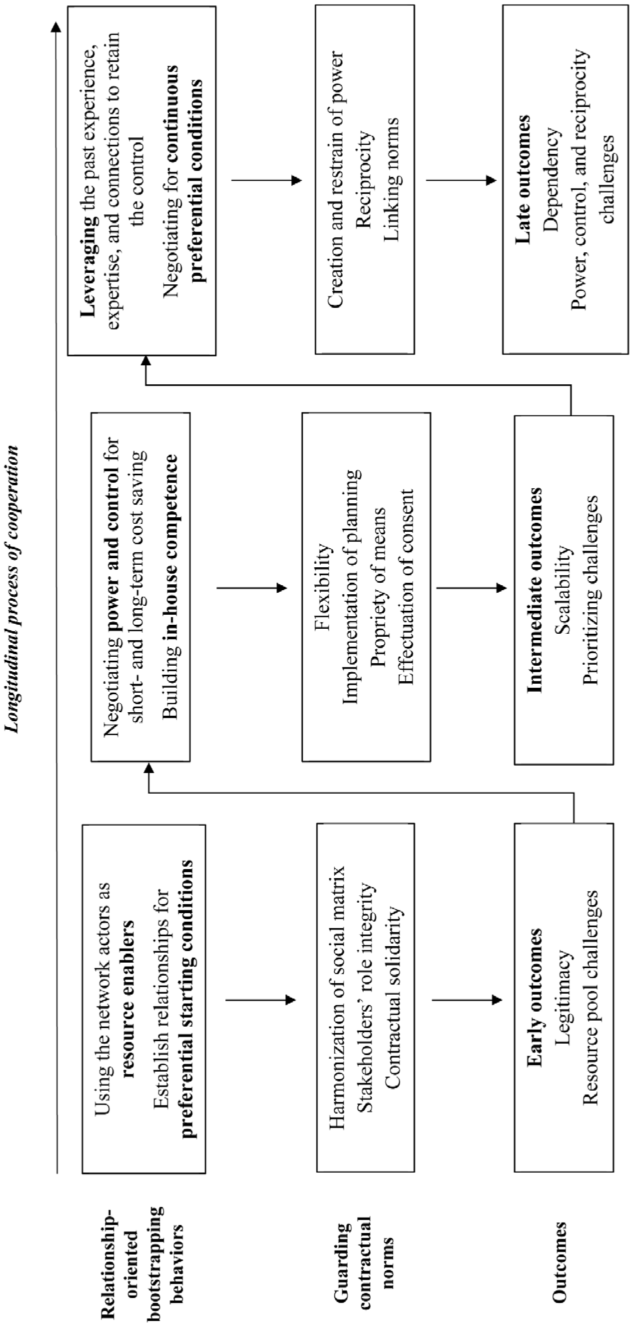

Figure 13 Study's conceptual framework

I emphasize that both Figure 12 and 13 address my study's purpose and research questions. While the former presents the study's empirical findings, the latter presents the conceptual model and serves the purpose of theory building. Essentially, both parts deliver the two core contributions:

1. I develop understanding of conditions for bootstrapping behaviors using the contractual norms, thus answering research question #1.
2. Based on conditions for bootstrapping behaviors, I develop understanding of nuanced, fine-grained outcomes as they emerge and develop over time, thus answering research question #2.

Conditions of resource acquisition and management behaviors require the explicit or implicit presentation of stakeholders' roles, intentions, expectations, consent, solidarity, and so on. In bootstrapping exchanges, norms and conditions for behaviors are seldom explicit. Nevertheless, the roles, intentions, expectations, etc. are individually perceived by the parties as clear and mutually agreeable – or else the exchange relationship would not be possible. The asymmetric perceptions of such roles, intentions, expectations, etc. arise during the cooperation, and, in absence of discrete agreements, implicit contractual norms assist the parties in reconciling asymmetries. Conditions of bootstrapping behaviors at the cooperation's formation and early stages are informed by contractual norms of harmonization with social matrix, stakeholders' role integrity, and contractual solidarity – or purely relational norms. In bootstrapping exchanges at this stage, the entrepreneur relies on relationship-oriented behaviors that assist legitimizing and accessing the common resource pool within the network. As the cooperation matures, bootstrapping behaviors are directed at ensuring resource scalability and overcoming the challenges in prioritizing activities for sustainable resource inflow. The contractual norms ensuring the favorable conditions for bootstrapping behaviors at this stage are flexibility, implementation of planning, propriety of means, and effectuation of consent. These are largely discrete-like norms, in relational contracting theory, and thus the need to formalize the exchange relationship arises, should the pursuit for resource scalability be satisfied. The entrepreneur negotiates, collaborates, outsources, and in other ways works to minimize future costs and expenditures by building in-house expertise. At the late stages of the cooperation, conditions for bootstrapping behaviors are enabled by contractual norms of reciprocity, creation and restrain of power, and linking norms – restitution, reliance, and expectations interests. The more independent the entrepreneur is by the final stage of the cooperation – for instance, through the ability to accumulate and utilize in-house human and social resources – the more power the entrepreneur has to continue or terminate the cooperation on their own terms. Bootstrapping behaviors at this stage are thus directed at addressing dependency, power, control, and reciprocity challenges.

In my analysis leading to a developed conceptual framework, I find that contractual norms in bootstrapping exchanges not only increase or decrease in significance over time, or change in the nature between more relational-like and more discreate-like, but they also inform the emergence and development of nuanced outcomes over time, as well as behaviors towards addressing these outcomes. I define the outcomes as conditions being produced as a consequence of resource needs being addressed through bootstrapping behaviors, and, in this role, some outcomes of past bootstrapping exchanges may serve as conditions for upcoming bootstrapping behaviors that may, in turn, lead to subsequent outcomes. Existing research presented perspectives on long-term implications of bootstrapping – for instance, on a firm's growth, survival, investment readiness, and so on. I demonstrate how such implications may build up from early, intermediate, and late outcomes of single bootstrapping exchanges that, provided there is understanding of interlinkages between conditions, bootstrapping behaviors and outcomes, can be efficiently managed with the aid of contractual norms.

7.1.2 Contributions beyond the research questions

As the study progressed, the possibilities of contributing beyond the original study's purposes emerged. For instance, as demonstrated in Chapter 5, relational contracting theory was applied in legal, financial, and organizational management disciplines, while the study of entrepreneurial behavior through relational contracting prism is novel. I demonstrate the methodological possibility of studying the conditions for individual behaviors through contractual norms, manifested longitudinally. This might broaden the perspective on the theory's application in other fields of research.

Another contribution is the demonstrated approach to literature study, combining the systematic review and bibliometric analysis – for bootstrapping research (Chapter 2) and relational contracting theory (Chapter 5). This review design is uncommon and novel within the respective fields of knowledge. Gabrielsson et al. (2020) point out the role of such a review methodology in knowledge development. Based on this article, I am able to conclude on my study's contribution to understanding the knowledge landscapes. Namely, I contribute to the understanding of knowledge accumulation in prior research in a highly specific fashion. My review is focused on the problematic issues in bootstrapping research, which differentiates it from other, broader reviews and bibliometric analyses. The selected articles are limited to only the topic under study, thus allowing for particular analytical depth and tracing of the historical development of the research theme over time. Similarly, my review of relational contracting literature is focused specifically on the operationalization of contractual norms. Thus, my bibliometric analysis accumulates the perspectives on contractual norms only, and, in this respect, it is different from broader bibliometric studies that include large numbers of studies not specific to the issue in question. I therefore see my approach of combining systematic review with bibliometric analysis as both theoretically and methodologically contributing to upcoming studies.

My longitudinal, cases-within-a-case study design in itself is also methodologically contributing for upcoming entrepreneurship research. This method may be applied for studying entrepreneurial phenomena in-depth, while not relying on particularly large, diverse case samples. Instead, the method presents the possibility of assuming one firm as the macro-context, and insightful instances of studied phenomena as the unit of analysis. Practically, this method can be seen as a focused, in-depth multiple-case study.

7.2 Limitations

7.2.1 Data collection and analysis

My study's design is a case-within-a-case study, where I look at only one case with multiple, but limited cases within. This alone increases the study's vulnerability to selection bias, research-informant subjectivity, and contextually-dependent findings. I worked to smoothen these potential drawbacks through systematic selection, continuous cross-referencing, reflexivity, and triangulation of data from various sources and temporal periods. For my study, I collected rich and varied empirical material that extends beyond the interviews with the entrepreneur and the firm's resource-providing stakeholders. Collected and analyzed materials included documentation on marketing and brand development activities, financial data, applications for grants and prize competitions, reports on received public funding, internal communication documents, and more. It also included many hours of observations of the founder's interactions with various internal and external stakeholders. I paid special attention to establishing a researcher-informant relationship that is mutually interesting and beneficial. At all times, I stayed flexible and open to meeting the preferences and convenience of participating informants – for example, by traveling to meet them in-person, and following up on interviews to make sure that the material is transcribed and presented correctly. I also received invaluable input from my experienced supervisors through frequent and rich feedback throughout my research process. In many instances concerning specific methodologies and analytical steps, I consulted directly with prominent experts in the corresponding fields of knowledge.

One of the research implications that also aims to reconcile the possible limitations of my design is the possibility for future research to apply, test, and validate my literature review results, findings in regards to the intersection of theoretical perspectives, and the developed conceptual framework. In this way, I believe that the potential vulnerability of my study to limitations was further decreased.

7.2.2 Transferability of findings

I have previously argued that the available knowledge on bootstrapping in new firms is fragmented and requires conceptualization. To deliver on the study's ambition to contribute to knowledge development, my proposed conceptual model needs to be applicable for the whole body of bootstrapping research. The transferability – or generalizability – of my study's results therefore requires a special mention (Ragin and Becker, 1992; Flyvbjerg, 2006; Stake, 2010). In my study, by means of longitudinal, data-driven inquiry, I develop not only the empirical understanding of the study's object, but also the conceptual model for understanding the conditions and outcomes of bootstrapping behaviors. Although empirical findings cannot be directly applied to all kinds of firms and entrepreneurs operating in a vast variety of contextual settings, the conceptual findings and Figure 13 can be used for building novel research questions – whether descriptive or analytical.

The phase-wise process of achieving the empirical understanding (Figure 12) and conceptual understanding (Figure 13) can be transferred to upcoming studies as methodological and theoretical framework. I proactively work to demonstrate rigor and transparency in my data collection and analysis, relying on Creswell (1994), Gioia et al. (2003), Charmaz (2005), so that research procedures can be replicated – as is, or with adaptation to other specific research questions and interests. For instance, I provide exhaustive step-by-step presentations of conducting the literature review with bibliometric analysis, and of designing the empirical study as a phase-wise cases-within-a-case inquiry. Specific implications of my study for various audiences are discussed next.

7.3 Implications for various audiences

7.3.1 Implications for research

It is reasonable that development of any new field of research often starts out by studying the phenomena of interest in a quantitative fashion. By doing so, researchers may answer the essential questions of defining the phenomena, placing them in various contexts, and outlining the gray areas in existing knowledge – or research gaps. Over the 30 years of bootstrapping research, empirical studies covered many research gaps.

However, bootstrapping knowledge is dispersed and not yet conceptually developed. The purpose of this study was to take a step in the direction of consolidation and theoretical development of bootstrapping knowledge, and, by doing so, contribute to academic research and teaching practice. My study's implications for research are as follows:

1. My empirical findings and the developed conceptual framework can serve as a starting point for both qualitative and quantitative studies to come.
2. My study promotes interest in theoretical cross-fertilization of bootstrapping with other fields of knowledge. I find that studying the intersection of bootstrapping literature and relational contracting theory benefits both fields, and encourage upcoming research to seek inspiration in fields beyond economics and management.
3. I conduct literature reviews comprising systematic review and bibliometric analysis for both bootstrapping and relational contracting theory. The review conclusions provide both the overview of knowledge landscapes in the respective fields as well as an example of a methodological approach to studying the literature.
4. Finally, my study develops analytically transferable findings and the conceptual framework by using a case-within-a-case design, thus demonstrating a possibility for studying complex phenomena in-depth without relying on particularly large empirical samples.

Through the teaching practices, I see one additional implication of my study in providing the up-and-coming entrepreneurs with practical tools for reflecting on the relationship between resource needs, behaviors to address such needs, and a wider spectrum of nuanced outcomes of bootstrapping unveiling over time.

7.3.2 Implications for practice and policy actors

The firm's milestones and projects developed from the empirical materials are rich with bootstrapping behaviors that extend beyond the typologies of tools and techniques described in earlier bootstrapping studies. My study's findings bring new perspectives on how the various bootstrapping behaviors can be applied, considering norms and conditions at different stages of cooperation with resource-providing stakeholders. I found some of the outcomes that are likely to arise at different stages of cooperation with stakeholders, and, hence, entrepreneurs may benefit from applying the contractual norms and bootstrapping behaviors that could be an aid in managing the outcomes in an optimal way. The contributions that I offer to policy actors and entrepreneurial practices are thus the following:

1. In practice, the optimal way to finance the firm for as long as possible through bootstrapping while minimizing the negative outcomes is to see to it that the behaviors and contractual norms relied on fit the current stage of cooperation with stakeholders, and the firm's development overall.
2. Relying on the study's findings, policy actors may be able to provide more nuanced, tailored support to entrepreneurs at different stages of bootstrapping relationships, and with different stakeholders involved.
3. Practice-oriented audiences may be able to better plan, forecast, and answer questions such as – how may the use of a network in a prolonged, consistently bootstrapping fashion be organized in an optimal way, and whether or not it is reasonable at one or another stage of a firm's development to refrain from bootstrapping exchanges.
4. For policy actors and public organizations working at the periphery of entrepreneurial networks, my study offers the possibility of reflecting on the support offered to other stakeholders in bootstrapping exchanges – the bootstrap resource providers. While entrepreneurs are already offered grants, subsidies and business development services, the bootstrap resource providers could benefit from corresponding coaching programs as well.

7.3.3 Concluding thoughts

This study offers to multiple audiences a nuanced perspective on how bootstrapping behaviors become enabled by conditions and norms of relational contracting, and how these behaviors may lead to various outcomes at different stages of contracting for bootstrap resources, and a firm's development overall. I find that such nuanced outcomes, in turn, may result in larger implications found in previous studies – such as the firms' growth, survival, profitability, investment attractiveness, and so on. Based on multiple sources of evidence gathered from the bootstrapper and bootstrap resource providers, I also illustrate how an entrepreneur interacts with a network of bootstrap financiers at different stages of the firm's development. As the bootstrapping exchanges in their nature are informal and not explicitly regulated, they require other mechanisms of successful short-term and long-term management, compared to discrete business contracts. In my findings, I illustrate such mechanisms. Based on these insights, upcoming research may build novel and interesting research questions (Davis, 1971), while policy actors and practicing entrepreneurs might gain novel perspectives on usefulness and implications of reliance on bootstrap financing at different stages of the entrepreneur-stakeholder cooperation.

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Appendices

Appendix 1. Overview of bootstrapping literature (Chapter 2)

Yr	Author(s)	Publ*	Cit**	Aim	Def of bootstrapping	Method***	Findings
1989	Thorne	HBR	60	Explore “entrepreneurial” financing methods.	Financing from other sources than debts and equity.	Case	Taxonomy of 7 alternative financing techniques.
1992	Bhide	HBR	655	Illustrate how successful start-ups get financed.	Launching ventures with modest personal funds.	Case	Bootstrapping skills are more essential for success than business idea.
1995	Freear, Sohl, Wetzel	FER / Babson Conf	260	Examine the use of non-financial bootstrapping (partnerships, alliances) by software firms.	Highly creative ways of acquiring resources without borrowing or raising equity financing.	Survey	Relationships and alliances are of considerable importance to a firm’s development.
1996	van Auken, Neeley	JESBF	201	Examine the relationship between the use of bootstrap financing and specific characteristics of the firm.	Highly creative ways of acquiring the use of resources without borrowing or equity; financing acquired from sources other than traditional.	Survey	Sole proprietorships use more bootstrap financing than other businesses. Businesses in construction and manufacturing industries used less bootstrap financing than others.
1997	Harrison, Mason	FER / Babson Conf	26	Systematically extend the previous research in the USA to the international arena.	Gaining access to resources that are not owned or controlled by the entrepreneur.	Survey	Larger companies put less significance on bootstrapping. Firms in Northern Ireland utilize fewer bootstrapping techniques compared to Massachusetts firms.
2001	Winborg, Landström	JBV	756	Identify the bootstrapping methods and groups of methods that small business managers use.	Use of methods to meet the need for resources without relying on long-term external financing.	Survey	Identified 32 bootstrapping methods, divided into 6 groups.

	Winborg, Johannisson	RENT Conf	2	Develop a conceptual framework for financial bootstrapping behaviors.	Resource acquisition methods that imply that the financial strain on the business is minimized or completely eliminated.	Concept.	Differentiate two modes of resource acquisition – financial contracting and social contracting; outline their differences.
	van Auken	JSBM	148	Investigate the familiarity of technology firms with alternative forms of capital.	Funding from alternative sources of capital.	Survey	Owners are most familiar with traditional sources of capital, less familiar with alternative capital, and least familiar with government funding. Ability to negotiate investment price increases with maturity.
2003	Carter, Brush, Geene, Gatewood, Hart	VC	470	Investigate what factors associated with use of equity capital in women-led firms.	Use of personal and internally generated funds for business investment, the control of costs and the delay of capital expenditure until such funds are available.	Survey	Social capital does not influence using equity, but increases the use of bootstrapping. Network diversity positively related with use of personal resources; professional advisor relationships negatively related to personal financing.
2004	Mason, Harrison	VC	128	Outline new developments in new firm financing research.	Making do without venture capital.	Concept.	Non-cash relationships are crucial in new firm financing.
	Harrison, Mason, Girling	EDR	238	Identify the impact of firms' size and growth on the use and importance of bootstrapping.	Access to resources not owned or controlled by entrepreneurs; imaginative and parsimonious strategies for gaining control over recourses.	Survey	Differentiating 'consumption entrepreneurs' and 'investment entrepreneurs', that use bootstrapping differently.
2005	Lahm, Little	EIBT Conf	28	Review current bootstrapping research and business practices.	The transformation of human capital into financial capital.	Concept.	Two groups of are identified and discussed – acquisition and control, and efficient use of existing resources. Practical suggestions for bootstrappers.
	Carter, van Auken	EDR	177	Test correlation between likelihood of success and personal investment and retained equity.	A source of financing for all firms, especially important for small firms.	Survey	Perceived risk is positively related to the use of delaying payments, minimizing investment, private owner financing, and sharing resources.

							Perceived ability constraints are negatively related to private financing.
	Ekanem	BAR	67	Investigate the entrepreneurial investment decision-making, and how it depends on previous experiences.	An approach to decision-making that is grounded in past experiences and characterized by informal routines.	Case	Decision-making is only rational within specific context. Knowledge and personal experiences are more important than training.
2006	Brush, Carter, Gatewood, Greene, Hart	VC	165	Understand how women develop financing strategies to show to investors value and potential of business.	Use of personal and internally generated funds, and then control costs and capital expenditures.	Survey	Firms where female entrepreneurs utilize more bootstrapping techniques are more likely to raise venture capital at later stages.
	Ebben, Johnson	JBV	336	Investigate how are bootstrapping methods utilized at different development stages. Compare with predictions of organizational theory.	Finding creative ways to avoid the need for external financing through reducing overall cost of operation, improving cash flow, or using internal resources.	Survey	The use of customer-related bootstrapping increases with firm's age. The use of delaying payments, owner-related, and joint-utilization techniques decreases with firm's age.
	Stephens, Iskandarani	ASEE Conf	0	Examine the academic advancement in understanding of bootstrapping techniques.	Technique used by many entrepreneurs to finance the business in the early startup phase when access to traditional forms of capital such as debt and equity are limited or non-existent.	Concept.	Cultural background plays important role in how much risk entrepreneur is likely to take.
2008	Perry, Yao, Wolff	FER / Babson Conf	2	Examine whether some techniques are better than others to become operational faster.	Variety of techniques that founders use to raise funds from non-traditional business funding sources.	Panel data / PSED	Founders of new ventures should focus on raising cash and obtaining support from outside of the firm.
	Willoughby	IJITM	336	Challenge the assumption of need for traditional capital.	"Third approach" to funding technology ventures through revenue and other non-traditional sources.	Survey	High dependency on bootstrapping has no advantage for research and development. Highly bootstrapping firms are more profitable than others.
	Brush	BH	332	Suggest a set of entrepreneurial skills that leads to a firm's success.	Managing cash creatively, without debt and/or equity financing.	Case	Developing social skills is of crucial importance for start-up resourcing.
2009	Winborg	VC	105	Understand the motives for using bootstrapping, and find the groups of new firms that	Methods of securing financial resources at relatively low or no cost.	Survey	Bootstrapping is a deliberate choice.

				differ in their bootstrapping motives.			3 groups: risk-reducing, capital-constrained, and cost-reducing. Experience of an entrepreneur affects the group allocation.
	Vanacker, Sels	FER / Babson Conf	8	Answer the question how new firms may grow despite difficulties in attracting financial resources.	More or less creative techniques for reducing the need for more external financing.	Survey	Most bootstrapping strategies have no impact on growth. Those strategies that do have impact affect growth positively.
	Ebben	IJEBR	86	Study the relationship between financial conditions and the use of bootstrapping.	Set of methods for obtaining resources that collectively reduce the need for outside financing.	Survey	Bootstrapping is a “last resort”, not a strategic decision, and may cause negative financial effects.
	Frid	FER / Babson Conf	19	Study the relationship between sources of funding and characteristics of the firm and the entrepreneur.	Selecting financing first from sources that minimize the cost of capital.	Panel data / PSED	Pecking order theory predictions are supported: first personal funds are used, then bank financing, then equity.
	Markova, Petkovska-Mircevska	EI	2	Investigate the funding options available for start-up firms.	Securing funding for a start-up in its early stages from internal sources.	Concept.	Understanding of financing options is essential at every stage of development. Entrepreneurs discriminate funding options by cost.
	Basu, Patel	JCI	n/a	Study case of software company and their decision-making regarding funding and expansion.	Using strategies to minimize the amount of outside debt and equity financing needed from banks and investors.	Case	Choosing financing strategy is a question of consequences that may follow with one source of financing or another.
	Smith	IJEIM	31	Study bootstrapping and factors behind using it in high-risk innovative start-ups.	Access to resources not owned or controlled by entrepreneurs; imaginative strategies for gaining control over resources.	Case	Contexts are important for studying entrepreneurial bootstrapping. Social capital is vital.
	Lam	IJEBR	133	Understand how and why informal entrepreneurial financing is made available to entrepreneurs.	Improving the financial position through one’s own effort by actively managing the funding gap.	Case	Entrepreneur takes active role in managing financial needs and resources supply. “Funding gap” is dynamic and manageable, positivistic view of it is challenged.
2010	Grichnik, Singh	FER / Babson Conf	9	Study the effect of strategic orientations and environmental factors on bootstrapping behavior.	A set of operational activities to avoid environmental constraints and as such is perceived as a forced approach due to lack of alternatives.	Survey	Bootstrapping is predetermined by strategy, in line with resource management theories. It is an economic mindset rather than forced reaction.

	Bosse, Arnold	VC	15	Investigate how small firms use trade credit/ trade discounts as a source of bootstrap financing.	Minimizing the need for long-term external financing and securing resources at relatively low cost.	Survey	More uncertainty about short-term cash, less likely to use credit discount; if decision is more costly to reverse, use of trade discount decreases.
	Neeley, van Auken	JDE	79	Examine differences in use of bootstrap financing between female and male owners.	Easier to acquire, less expensive, important source of capital when traditional sources are unavailable.	Survey	Female owners should be more informed about financing options through governmental training.
	Jones, Jayawarna	VC	149	Understand how social networks influence the acquisition of resources and business performance.	A way of compensating for lack of resources.	Survey	Entrepreneurs use relationship brokerage to bootstrap; bootstrapping leads to better performance of start-ups.
	Yilmazer, Schrank	JFEI	34	Understand the role of owner resources in financing a new firm through bootstrapping and intermingling.	Acquiring finances creatively without resorting to banks or other sources external to the business; diminishing or eliminating the need for financing by reducing the cost of operations and carefully managing the cash flow of the business.	Concept.	Intermingling and bootstrapping research intersect. Six testable hypotheses on use of own financing suggested for future research.
2011	Tomory	IJMC	9	Study bootstrapping in explorative, open fashion.	A range of creative ways to acquire resources without relying on borrowing or raising equity.	Case	No higher education or previous experience, but persistence and heavy personal investment are key to success.
	Yazdanfar	IJBG	2	Understand what are the bootstrapping patterns of in SMEs in the Östersund region of Sweden.	Managing the finance of a business with little or no external funding, using internal and / or informal resources.	Survey	Personal and social resources are used the most; minimizing costs techniques are second most popular; subsidy bootstrapping is the third.
	Vanacker, Manigart, Meuleman, Sels	ERD	90	Investigate bootstrapping's consequences for venture development.	Use of resourceful and innovative methods to minimize the amount of outside debt and equity financing needed from banks and investors.	Survey	Cash-constrained start-ups benefit from bootstrapping, while companies without cash constraints might be affected negatively.
	Patel, Fiet, Sohl	ISBJ	45	Understand whether bootstrapping can help reduce dependence, and how it affects the firm's performance.	A buffering tactic for new ventures, reducing dependencies that may threaten a venture's survival.	Survey	Use of bootstrapping delays acquisition of other financing, preserves the initial proportion of equity with founders, and

							leads to increased survival and growth.
	Landström	RENT Conf	n/a	Challenge “big money” assumption and connect effectuation and resource management.	Internally generated funds; method to avoid and reduce the need for external finance.	Concept.	New firms don’t need a lot of capital, and venture capital is not a solution. Effectuation, bricolage and bootstrapping are applicable to understand resourcing in new firm, while financial theory is not.
	Salimath, Jones	JBM	21	Relate bootstrapping to Taylorian scientific management’s view on organizational efficiency	Two forms: creating ways to acquire access to necessary financial capital through informal and alternative methods; minimizing or eliminating the actual need for financing by securing resources at minimal or no cost.	Concept.	Identified conceptual similarities between bootstrapping, bricolage, and scientific management. Bootstrapping promotes lean and efficient organization.
	Perry, Chandler, Yao, Wolff	NEJE	13	Compare externally- and internally-oriented financing techniques in respect of likelihood for the firm to become operational.	Variety of techniques that business founders use to raise financing from untraditional sources and simultaneously limit business expenses.	Panel data / PSED	Internally-oriented bootstrapping is not related to substantial cash growth. Externally-oriented bootstrapping is a predictor of positive cash flow after one–two years.
	Jayawarna, Jones, Macpherson	ERD	n/a	Study how socially deprived entrepreneurs manage the resource scarcity.	Financing methods other than the traditional debt and equity from financial institutions and investors.	Survey	Given support and network access, disadvantaged areas can contribute to development of the region.
2012	Schinck, Sarkar	CEFAGE Working Paper	15	Examine how bootstrapping relates to characteristics of owner and business in the context of Portugal.	Use of resources to start and grow a venture at the lowest possible or even at no cost.	Survey	Women bootstrap more than men. No relation between education and bootstrapping. Small firms use less bootstrapping than large ones. Firms aiming to internationalize use bootstrapping more.
	Turturea, Verheul, Bruining	FER / Babson Conf	n/a	Investigate the relationship between bootstrapping and a firm’s performance.	Source of financing for entrepreneurs who are unable or reluctant to acquire external sources of capital.	Case	Bootstrapping decreases as the firm reaches breakeven. 3 types of bootstrapping strategies: long-term, milestone, and adaptive.

	Ruthenford, Coombes, Mazzei	FER / Babson Conf	11	Longitudinally examine relationship between bootstrapping and a firm's performance and survival.	Creative actions by entrepreneurs while financing and operating their new ventures.	Panel data / KFS	Bootstrapping is positively related to profitability, and generally negatively related to survival and growth. Entrepreneur's goal for the firm matters.
	Politis, Winborg, Lindholm-Dahlstrand	ISBJ	98	Study the resource logics of students starting up close to university compared to those starting up outside of the university context.	An individual's set of ideas for how to secure and use resources; how individuals pursue opportunities without regard to resources they currently control.	Survey	Supports institutional theory in that the context to large extent shapes the behavior. Individuals working in same environment loose distinctive features.
	Neeley, van Auken	JDE	37	Examine the relationship between use of bootstrapping and access to short- and long-term debt capital.	Financing alternatives for small firms confronted with the lack of access to traditional sources of capital.	Survey	Bootstrapping training for small firm owners is needed. Access to debt financing increases use of bootstrapping.
	Atherton	IJEBR	100	Investigate the dynamics of new venture financing across 20 business start-ups.	Funding other than that acquired from personal savings or external debt and equity.	Case	Suggested seven factors across three groups that influence start-up financing values and structures.
2013	Holland, Herrmann	JIACS	n/a	Investigate the challenges of an entrepreneurial start-up.	Techniques to scrape together much needed resources when financing falls through.	Case	In vulnerable and crisis situations, bootstrapping might be the only option.
	Geho, Frakes	EE	50	Understand whether increasing the availability of financing for small businesses promotes borrowing during uncertain economic times.	An alternative to conventional financing.	Survey	Short-term actions by the government in times of recession are counterproductive. Pessimism about the state of economy plays a big role in entrepreneurs' resource acquisition decisions.
	Jonsson, Lindbergh	ETP	111	Understand how entrepreneurs use their social capital when acquiring resources through external debt and equity.	Methods used for meeting needs in resources, without relying on external finance, equity, and debts.	Case	Building relationship with bank early can help lower information asymmetry in the future.
2014	Afolabi, Odebunmi, Ayo-Oyebiyi	GBERJ	14	Examine bootstrapping techniques by small businesses in Nigeria.	A second-best strategy that becomes particularly important when access to external finance is made difficult.	Survey	Bootstrapping is not common among small businesses in Nigeria. Training programs to teach bootstrapping are necessary.

	Malmström	VC	55	Understand how and why entrepreneurs orient themselves into resource mobilization.	The innovative resources activities; the search for creative solutions to overcome obstacles encountered in resource mobilization.	Survey	Showed 3 bootstrapping paths. Hybrid of various bootstrapping techniques may be problematic, because of different underlying logics.
	Fatoki	MJSS	44	Investigate bootstrapping methods used by immigrant entrepreneurs in South Africa.	Finding creative ways to avoid the need for external finance through creativity, ingenuity, thriftiness and cost-cutting.	Survey	Identified five bootstrapping methods used by immigrants. Suggested how to improve financing possibilities.
	Grichnik, Brinckmann, Singh, Manigart	JBV	166	Study whether bootstrapping depends on the background of the founders and understand how relevant individual, social and human capital are.	Innovative resource management activity in the early stage of firm development, directed at avoiding market-based resource transactions.	Survey	Entrepreneurs with a greater level of human capital employ more bootstrapping. Perceived hostile environment correlates with bootstrapping behavior. No impact of previous experience.
	Fitzsimons, Hogan	RENT Conf	n/a	Improve definition of bootstrapping; examine role of bootstrapping; identify motives behind using bootstrapping.	Set of techniques used to minimize the need for cash by securing resources at little or no cost and applying strategies to acquire resources without using bank or outside equity.	Mixed	Definition of bootstrapping needs to include illegal methods and black economy. Key motive to use bootstrapping is to manage without external finance.
2015	Winborg	E&I	30	Examine whether bootstrapping helps to overcome the liability of newness.	Finding ways of securing resources on favorable terms.	Survey	Negative relationship between bootstrapping and external liability of newness. No relationship with internal liability of newness.
	Miao, Ruthenford, Pollack	FER / Babson Conf	20	Systematize the antecedents and consequences of bootstrapping through analysis of findings from 22 prior studies.	Pursuing highly creative ways of acquiring the use of resources without borrowing money or raising equity financing from traditional sources.	Concept.	Firm age, human and social capital are positively associated with bootstrapping, owner's age negatively. Bootstrapping is positive to performance and negative to profitability.
	Fitzsimons, Hogan	RENT Conf	n/a	Investigate the nature and motives for engaging in bootstrapping, using pecking order theory as reference frame.	Techniques used to minimize the need for cash at little or no cost and applying strategies to acquire	Mixed	Bootstrapping and formal financing are not substituting, but rather supplement each other, contrary to the pecking order theory.

					resources without using bank or outside equity.		
	Winborg	RENT Conf	n/a	Apply insights from research in bootstrapping for studying resources in corporate entrepreneurship.	Finding ways of securing resources on favorable terms.	Concept.	Illustrated the benefits for corporate entrepreneurs / intrapreneurs to bootstrap.
	Mac an Bhaird, Lynn	VC	21	Investigate resourcing of software companies that have adopted cloud computing.	Acquiring resources through social relationships at minimum costs; minimizing the amount of external traditional capital required.	Case	The primary bootstrapping techniques are foregoing wages and grant funding. Social networks are crucial in technology businesses.
	Jayawarna, Jones, Marlow	SJM	45	Understand to what extent gender characteristics influence the choice of resource strategies.	Informal access to resources that may or may not be owned or controlled by an entrepreneur.	Survey	There are differences in bootstrapping behaviors of men and women; suggested explanations for difference.
2017	Rutherford, Pollack, Mazzei, Sanchez-Ruiz	GOM	20	Review bootstrapping literature from the perspective of constructs and theoretical lenses used; propose signaling theory as theoretical perspective.	A method for securing start-up resources without reliance on external financing.	Concept.	Bootstrapping is a construct, and not a theory. Bootstrapping is a form of capital structure that can be explored via signaling theory.
2019	Rita	JEB	2	Explore the creative alternative strategies done by batik SMEs to reduce the dependence on external capital.	Overcoming the constraints of resource needs through creative or unconventional funding strategies.	Mixed	In order to implement the bootstrapping financing strategy, SMEs needs the existence of other resources in the firms, and other stakeholders.
	Smith, Sardeshmukh, Syed	JSBS	4	To test whether “new resource skill” previously tested with practicing entrepreneurs generalizes to aspiring and potential entrepreneurs.	“A new resource skill” that defines entrepreneurship is how one gains access to resources one does not necessarily own or control.	Survey	Bootstrapping behavior is a result of a combination of proactive personality and entrepreneurial self-efficacy (a key cognitive antecedent of entrepreneurial intentions and behavior).
2020	Kurian	SAJBMC	n/a	One practical example to disprove the myth that new businesses require large amounts of investment capital.	Commencing an enterprise with limited or no capital or no involvement of outside investors.	Case	Bootstrapping is best suitable for businesses where there the product is unique, competition is insignificant, and conglomerates are absent.

* AJMC = Asian Journal of Management Cases

ASEE = American Society for Engineering Education

BAR = The British Accounting Review

BH = Business Horizons

CEFAGE = Centre for Advanced Studies in Management and Economics

EE = Entrepreneurial Executive

EI = Economic Interferences

E&I = Entrepreneurship and Innovation

EIBT = Emerging Issues in Business and Technology

ERD = Entrepreneurship and Regional Development

FER = Frontiers of Entrepreneurship Research

GBERJ = Global Business and Economics Research Journal

GOM = Group & Organization Management

HBR = Harvard Business Review

IJBG = International Journal of Business and Globalization

IJEBR = International Journal of Entrepreneurial Behavior & Research

IJEIM = International Journal of Entrepreneurship and Innovation Management

IJITM = International Journal of Innovation and Technology Management

IJMC = International Journal of Management Cases

ISBJ = International Small Business Journal

JBM = Journal of Business and Management

JBV = Journal of Business Venturing

JCI = Journal of Critical Incidents

JDE = Journal of Developmental Entrepreneurship

JEB = Journal of Economics and Business

JFEI = Journal of Family Economic Issues

JESBF = Journal of Entrepreneurship and Small Business Finance

JIACS = Journal of the International Academy for Case Studies

JSBM = Journal of Small Business Management

JSBS = Journal of Small Business Strategy

MJSS = Mediterranean Journal of Social Sciences

NEJE = New England Journal of Entrepreneurship

RENT = Research in Entrepreneurship and Small Business Conference by European Institute for Advanced Studies in Management

SAJBMC = South Asian Journal of Business and Management Cases

SJM = Scandinavian Journal of Management

VC = Venture Capital

** Google Scholar, Scopus

*** PSED = Panel Study of Entrepreneurial Dynamics

KFS = Kauffman Firm Survey

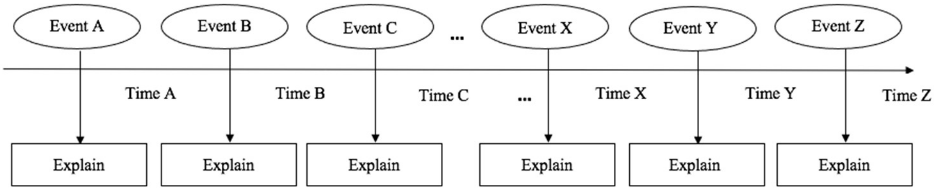
Appendix 2. List of bootstrapping review articles by clusters (Chapter 2)

Bibl cluster	Author(s)	Article (year / title)
Management perspectives ("blue")	Harrison and Mason	1997 Entrepreneurial growth strategies and venture performance in the…
	Harrison et al.	2004 Financial bootstrapping and venture development in the software industry
	Harrison and Baldock	2015 Financing SME growth in the UK: meeting the challenges after the global…
	Jonsson and Lindbergh	2013 The development of social capital and financing of entrepreneurial firms…
	Malmström	2014 Typologies of bootstrap financing behavior in small ventures
	Miao et al.	2017 An exploratory meta-analysis of the nomological network
	Patel et al.	2011 Mitigating limited scalability of bootstrapping through strategic alliances…
	Politis et al.	2012 Exploring the resource logic of student entrepreneurs
	Vanacker et al.	2011 A longitudinal study on the relationship between financial bootstrapping…
	Winborg	2009 Use of financial bootstrapping in new businesses: a question of last resort?
	Winborg	2015a The potential of bootstrapping research for understanding the resources
	Winborg	2015b The role of financial bootstrapping in handling the liability of newness…
Finance focus ("green")	Atherton	2012 Cases of start-up financing: an analysis of new venture capitalization…
	Bhide	1992 Bootstrap finance: the art of start-ups
	Bosse and Arnold	2010 Trade credit: a real option for bootstrapping small firms
	Ekanem	2005 Bootstrapping the investment decision-making process in small firms
	Freear et al.	1995 Who bankrolls software entrepreneurs
	Frid	2009 Acquiring financial resources to form new ventures: pecking order theory…
	Geho and Frakes	2013 Financing for small business in a sluggish economy versus conflicting...
	Landström	2011 Resource management in new ventures: challenging the 'big money'…
	Mac an Bhaird and Lynn	2015 Seeding the cloud: financial bootstrapping in the computer software sector
	Markova and Petkovska	2009 Financing options for entrepreneurial ventures
	Neeley and van Auken	2010 Differences between female and male entrepreneurs' use of bootstrap…
	Neeley and van Auken	2012 An examination of small firm bootstrap financing and use of debt
	Thorne	1989 Alternative financing for entrepreneurial ventures
	Tomory	2011 Bootstrap financing: four case studies of technology companies
	van Auken	1989 Acquisition of capital by small business
	van Auken and Neeley	1996 Evidence of bootstrap financing among small start-up firms
	van Auken	2001 Financing small technology-based companies: the relationship between…
	Willoughby	2008 How do entrepreneurial technology firms really get financed, and what…
	Winborg and Landström	2001 Financial bootstrapping in small businesses: examining small business…
Network perspectives	Brush et al.	2006 The use of bootstrapping by women entrepreneurs in positioning for growth
	Brush	2008 Pioneering strategies for entrepreneurial success

(“red”)	Carter et al.	2003 Women entrepreneurs who break through to equity financing…
	Carter and van Auken	2005 Bootstrap financing and owners’ perceptions of their business constraints…
	Ebben and Johnson	2006 Bootstrapping in small firms: an empirical analysis of change over time
	Ebben	2009 Bootstrapping and the financial condition of small firms
	Grichnik et al.	2014 Beyond environmental scarcity: human and social capital as driving…
	Jayawarna et al.	2011 New business creation and regional development: enhancing resource…
	Jayawarna et al.	2015 The influence of gender upon social networks and bootstrapping behaviors
	Jones and Jayawarna	2010 Resourcing new businesses: social networks, bootstrapping and firm…
	Lam	2009 Funding gap, what funding gap? Financial bootstrapping…
	Smith	2009 Financial bootstrapping and social capital: how technology-based…
	Yilmazer and Schrank	2010 The use of owner resources in small and family businesses: literature…
Diverse empirical studies (“yellow”)	Afolabi et al.	2014 Bootstrap financing techniques among small enterprises in Osogbo…
	Fatoki	2014 The financial bootstrapping methods employed by new micro enterprises…
	Holland and Hermann	2013 Dog eat dog world: challenges of an entrepreneurial start-up
	Mason and Harrison	2004 Editorial. New issues in venture capital: an introduction to the special issue
	Stephens and Iskandarani	2006 Study of entrepreneurial bootstrapping techniques
	Yazdanfar	2011 The patterns of financial bootstrapping behavior: empirical evidence…
	Rutherford et al.	2017 Bootstrapping: reviewing the literature, clarifying the construct…

Appendix 3. Phase 1 interview guide (Chapter 3)

1. Please go through the firm's development, starting from the birth of the idea, outlining any significant events



2. Please tell me more about each of these events – who was involved, what resources were needed, how were they acquired, why in this and not in other way? What happened next? Please explain.

3. Now, I would like to ask you about specific experiences within or outside of significant events you pointed out. Please feel free to place them on the timeline and discuss them as you like:

- Have you acquired anything you needed for the business at no cost / at low cost / at preferential conditions? Why and how – please tell me more.
- Please tell me how any individuals involved with the firm were compensated for their work? What about founders and internal staff? External individuals involved? Did the compensation change throughout the time? Why yes / no, and in what way?
- Please tell me about promoting your product – How is the marketing done? Has the way it is done changed over time? In what way and why?
- The premises you use – offices, production sites, warehouse, any other physical premise you use – where and what are they? How and why did they change over time? What do they cost, how did the costs change, and why?
- Did you receive any grants / subsidies / prizes? How did it happen? Any grants / subsidies / prizes you planned to receive, but did not? Why were these received / not received? How do you feel about these experiences?
- What equipment do you use? Do you borrow or buy, or acquire in other ways? How do you reason for one or another way? How did this change over time? Why?
- Do you share with other firms / organizations / individuals / other actors any physical or other kinds of resources? Who are these individuals? Why / why not do you share? How is it working out for you? And for them, if you would say? Has this changed over time? How and why?
- The founders, employees, other internal staff, external stakeholders – How are their participation and roles changing over time? To what extent are they dedicated to the firm – in hours per week, precent of employment, other ways? How did this change over time? Please explain.
- Have you used / do you use external consultants and advisors, paid or unpaid? Tell me what kind of, and for what kinds of services? Why?
- Please tell me about payment terms, conditions, procedures you use – both when you make and when you receive payments? Do you negotiate? Did this change over time? How and why?

Appendix 4. Observations protocol (Chapter 3)

Date: ____________________________

Time: ____________________________

Length of activity: __________________ minutes

Site: ____

Participants: ____

Type of activity: ____

Purpose of activity: ____

<table>
<tr><th>Descriptive notes</th><th>Reflective notes</th></tr>
<tr><td>Physical setting, visual layout</td><td rowspan="2">Questions to self, observations of nonverbal interactions, behavior, my interpretations</td></tr>
<tr><td>Description of activity

Description of participants

Description of any other individuals engaged in activity

Sequence of activity over time

Interactions

Unplanned events, interruptions

Participants' comments expressed in quotes</td></tr>
<tr><td colspan="2">My observations of what seems to be occurring, audio-recorded and transcribed</td></tr>
</table>

Appendix 5. Documents study protocol (Chapter 3)

Documents accessed	Object of analysis
Study phase 1	
Firm's internal planning software, 2017	Projects' progress and challenges faced.
Public financial data, 2013–2016	Invoices sent and received; financial results.
Applications and reports on grants and subsidies, 2013–2015	Purposes with grants and amounts applied for; whether the applications were accepted or rejected; whether the purposes were fulfilled.
Outputs from internal brainstorming sessions and planning workshops, 2017–2018	Timelines of firm's retrospective and prospective development; brainstorming outputs in form of lists of focus activities.
Study phase 2	
Report on brand building process and challenges, 2017	Documented strategic shift to brand as a value-building asset; resources and stakeholders involved in strategic shift.
Annual financial reports, 2013–2019	Audited financial records versus set goals as per planning documents; development of financial indicators over time.
Press-releases, 2013–2019	Core business proposition; progress towards development milestones.
Investment prospects, 2015–2017	Presentation of financial projections versus implementation as per audited records.
Individual and corporate customer registries, 2014–2020	The firm's various external stakeholders.
Prospective planning documentation, 2015–2020	The planned activities, projects, milestones, deviations from plans.

Appendix 6. Phase 2 interview guide (Chapter 3)

- When did *the case* begin and end? Please walk me through *the case* A-to-Z.
- In what way, when, and why did the parties meet?
- What motivated the parties to work together towards meeting *the case* objectives?
- What were the goals and expected results of cooperation?
- How were the terms and conditions of cooperation formulated, communicated, and followed up?
- For the purpose of *the case* execution; what specific resources were required by the entrepreneur and provided by stakeholder?
- In what way, practically, did either party address the need for resources?
- What alternatives for resources required and provided were considered by either party?
- Please describe the practical execution of *the case* at the start, during, and at the end of cooperation – the roles of the parties, the number, the length, and the nature of interactions, how disputes were handled, if any.
- What other internal and external actors were involved in the case; what were their roles and relationship with either party?
- Please describe any personal and/or professional experience of cooperating on similar tasks with other stakeholders involved. In what ways this current cooperation is different or similar, how and why?
- What was the relationship between the parties – right after the cooperation, and right now, as some time has passed? If the parties remail in contact with one another, what is the frequency and the nature of interactions?
- Did the professional cooperation reoccur on any later occasion? If so, to what extent it was managed in similar or dissimilar way? Please explain.
- If *the case* were to start over, would the parties do anything differently? How and why?
- How do the parties evaluate the cooperation within the case? What professional and personal outcomes of *the case* do they see?

Appendix 7. The case firm today (Chapter 4)

Urban Technologies is a successful start-up firm that proudly represents the local entrepreneurial network. UT's founder is a highly appreciated speaker in educational programs and public events. The local support organizations proactively offer participation in business development programs, free of charge or at a low cost. Students and young professionals are happy to join the firm for an unpaid, time-limited internship. Within just a few years, the firm has developed from a project of the founder's personal interest into a strong, competitive market player. The firm now delivers not merely a product, but a brand with a strong inbound attraction for customers and other market actors, and this success was achieved with rather little in terms of measurable, quantifiable resources. In addition, the founder managed to remain a majority shareholder, even after raising equity capital twice. The early-stage resource providers interviewed for my study share the opinion that the firm is successful, regardless of how smooth or challenging their cooperation was at the time.

By the founder's own admission, resource acquisition and management through extensive bootstrapping did not come without a cost. It remains important for the entrepreneur to manage resources frugally in order to meet the ambition of sustainable organic growth, independently from external resource providers. However, the experience of previous bootstrapping exchanges leaves the founder with limited choices of bootstrap resources and resource providers that can sustainably support the firm in further development. Preserving the accumulated goodwill and trust requires the founder's diligent attention at all times. Even now, when operational resources' in- and outflows are in sufficient balance to support the firm's activities, sustaining the relationships with external and internal informal stakeholders challenges the firm's possibilities for organic growth at the desired tempo.

The founder admits that participation in this study brought an appreciated perspective on the firm's longitudinal development. As the introductory quote to my thesis suggests, over the course of the study, the entrepreneur realized that many decisions in regard to the firm's subsequent milestones and projects were based on presumed resource scarcity and the perception of reliance exclusively on the particular resource-providing stakeholders. The entrepreneur reflects that the problems and goals were often reformulated based on the possibility of accessing the resources through the established network in a bootstrapping manner, thus limiting the perceived alternatives for how resources could be accessed and managed in other ways. This realization played an important role in the firm refocusing on organic growth, with less reliance on bootstrap resource providers and more dedicated focus on building the brand and accelerating sales, bearing long-term implications for the firm.

Appendix 8. Overview of relational contracting literature (Chapter 5)

Bibl cluster (Fig 7)	Study	Field of research	Unit of analysis	Methodology	Operationalization of norms
"Blue" (performance of inter-firm exchanges over time)	Fink et al 2008a	Industrial marketing	Customer-supplier relational exchange.	Survey-based cross-sectional inquiry, n=372 firms.	Seven normative dimensions synthesized by Kaufmann and Dant (1992)*.
	Fink et al 2008b	Industrial marketing	Customer-supplier relational exchange (moderated by performance and uncertainty).	Survey-based cross-sectional inquiry, n=372 firms in chosen industry (same data as above).	Seven normative dimensions moderated by performance over time and uncertainty.
	Fink et al 2011	Industrial marketing	Customer-supplier relational exchanges and their outcomes on efficiency and pricing.	Survey-based cross-sectional inquiry, n=372 firms in chosen industry (same data as above).	Seven normative dimensions moderated by customer size and pricing and efficiency over time.
	Möhring & Finch 2015	Industrial marketing	Business-to-business contracts.	Comparative qualitative case study of three projects in same industry.	"Purely relational norms" – reciprocity, role integrity and flexibility; "purely contractual norms" – planning and consent.
	Grandori & Furlotti 2019	Innovation management, strategy	Contracts for innovation (or highly uncertain contracts).	Quantitative analysis of panel data, n=440 innovation projects.	Own categories across the scale "contractual governance-relational governance".
"Green" (behavioral uncertainty and opportunism, conflict resolution)	Ferguson & Paulin 2005	Service management, Transaction Cost Economics	Business-to-business contracts in banking.	In-depth interviews with dyads business client-account manager, n=160.	11-scale based on relational norms: harmonization of conflict (2 items), solidarity (4 items), flexibility (2 items), information sharing (2 items).
	Vandaele et al 2007	Strategy, Transaction Cost Economics	Buyer-seller exchanges in outsourcing.	Secondary data available in 23 empirical studies.	Contractual governance vs. relational governance moderated by assets specificity and environmental and behavioral uncertainty.
	Gyau et al 2011	Economics, Behavioral Economics	Buyer-supplier relationships / price negotiations.	Interviews with large local farmers, n=209.	Own synthesized 6 relational norms and outcomes on price satisfaction.

	Paulin & Ferguson 2010	Relationship Marketing, Transaction Cost Economics	Relational norms.	Review of 50 empirical studies that operationalized relational norms.	Relational norms – information exchange, flexibility, and solidarity – moderated by environmental and behavioral uncertainty.
	Lai et al 2012	Transaction Cost Economics	Buyer-supplier relationships / logistics contracts.	Survey questionnaire of n=119 firms in logistics industry in China.	Relational norms – information exchange, flexibility, and solidarity – moderated by opportunism and trust.
	Zhou et al 2015	Industrial Marketing, Strategy	Manufacturer-distributor relationships / contracts.	Questionnaire to n=149 manufacturers in China, plus 15 on-site interviews with managers.	Relational norms – cooperation, trust and commitment – moderated by collaborative activities – joint planning and joint problem solving.
	Huo et al 2016	Industrial Economics, Transaction Cost Economics	Third-party logistics outsourcing relationships / contracts.	Mail-in survey to n=247 firms in different industries in China.	Relational norms – information exchange, flexibility, solidarity – moderated by formal contracts and opportunism.
	Eckerd & Eckerd 2017	Public Management; Transaction Cost Economics	Supply chain relationships conflicts in public sector vs. private sector.	Web-based survey to members of professional association, n=182 respondents.	Synthesized criteria of relationship quality post-conflict, moderated by formal and informal conflict management.
	Benoit et al 2019	Organizationa l management	Salesperson-sales manager relationships.	Survey of n=402 b2b sales people.	Procedural justice, distributive justice, informational justice, interpersonal justice in relational behaviors.
"Red" (variations in forms of governance)	Paulin et al 1997	Service management, Financial management	Self-assessed strength of relationships by corporate banking clients and bank account managers.	N=122 interviews within 61 matched dyads of account managers and business clients of three major banks.	Role integrity, communication, flexibility, and solidarity (from Macneil, 1983) moderated by self-developed effectiveness variables.
	Maxwell 1999	Sociology	Attitudes to various norms of social exchange.	Pilot test of attitude scale on 55 individual consumers.	Decentralized norms, hegemonic norms, cooperative norms.
	Blois & Ivens 2006	Business, Marketing	The actual scales previously used to measure relationality of B2B exchanges.	Experiments (on 70 and 67 students respectively) using scales	Kaufmann and Stern (1988) and Kaufmann and Dant (1992)* scales.

				discriminating the discrete and relational exchanges.	
	Blois & Ivens 2007	Business, Marketing	The existing operationalization s of relational norms in B2B exchanges.	A nearly identical study to the previous one.	Kaufmann and Stern (1988) and Kaufmann and Dant (1992)* scales.
	Tuusjärvi & Möller 2009	Business, Strategy, Marketing	The concept of norms in inter-company cooperation.	A qualitative longitudinal study of a single case of an SME and its partners.	Discrete and relational norms (Macneil), plus own developed “norms of moderated autonomy”.
	Ott & Ivens 2009	Industrial Marketing	The concept of norms in marketing relationships.	Conceptual review of definitions and conceptualization s of norms in various research fields.	Behaviors of “economic man” (discrete, focus on sanctions) vs. “social man” (relational, focus on expectations).
	Valta 2013	Business, Marketing	The quality of consumer-brand relationships in B2C marketing.	Questionnaire to n=510 young consumers of popular brands in clothing, toothpaste and soft drinks category.	Norms “particularly important in context”: solidarity, reciprocity, flexibility, information exchange.
	Marcos & Prior 2017	Business, Strategy	Declining buyer-supplier relationships.	Longitudinal (3y) organizational ethnography on 10 suppliers (gr1) and 7 customers (gr2).	Inter-firm norms: harmonization of social matrix; plus, inter-personal norms: role integrity, preservation of relation.
	Elommal et al 2019	Business, Marketing	Satisfaction with relationship in B2C context.	N=164 respondents for scales development, and n=295 respondents for testing the customer satisfaction.	“Psychometric properties of exchange scales”, based on discrete – reciprocity, linking norms, power, and relational norms – role integrity, solidarity, flexibility, content.
	Lindvert et al 2019	Business	Microfinance relationships for female entrepreneurs in Tanzania.	Qualitative analysis based on long interviews with 10 female entrepreneurs.	Maintaining relationships through role integrity, linking norms, harmonization with social matrix.
“Yellow” (inter-firm exchanges and outcomes)	Harrison 2004	Business Law, Transaction Cost Economics	Terminated relationships due to breach of an implied contract.	Single-case study based on William Baird and Marks and Spencer terminated relationship.	“Implied contract” facilitated by role integrity, harmonization of conflict, solidarity, mutuality, planning, and flexibility.
	Raskolnikov 2008	Legal, tax planning	Tax planning process.	Conceptual legal paper	Self-deduced social norms

				incorporating explicit legal and implicit social rules.	relevant to tax planning, and associated risks.
	Beheshti 2016	Business law	Compensations for price reductions and damages in international trade contracts.	Comparative quantitative investigation of costs of both remedies.	Four norms: certainty, performance interest, efficiency, and relational theory of contract.

* These dimensions are (1) Relational Focus, (2) Restraint on Power Use, (3) Solidarity, (4) Role Integrity, (5) Mutuality, (6) Flexibility, and (7) Conflict Resolution.

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131. Yaqian Wang (2014): *Inside the Box – Cultures of innovation in a mature industry.*

130. Paul Pierce (2013): *Using Alliances to Increase ICT Capabilities.*

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128. Lena Hohenschwert (2013): *Marketing B2B Sales Interactions Valuable – A social and symbolic perspective.*

127. Pia Nylinder (2012): *Budgetary Control in Public Health Care – A study about perceptions of budgetary control among clinical directors.*

126. Liliya Altshuler (2012): *Competitive Capabilities of a Technology Born Global.*

125. Timurs Umans (2012): *The Bottom Line of Cultural Diversity at the Top – The top management team's cultural diversity and its influence on organizational outcomes.*

124. Håkan Jankensgård (2011): *Essays on Corporate Risk Management.*

123. Susanne Lundholm (2011): *Meta-managing – A study on how superiors and subordinates manage their relationship in everyday work.*

122. Katarzyna Cieślak (2011): *The Work of the Accounting & Controlling Department and its Drivers: Understanding the concept of a business partner.*

121. Ulf Elg and Karin Jonnergård (editors): *Att Träda in i en Profession: Om hur kvinnor och män etablerar sig inom revisionsbranschen och akademin.*

120. Jonas Fjertorp (2010): *Investeringar i Kommunal Infrastruktur – Förutsättningar för en målfokuserad investeringsverksamhet.*

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Financial Bootstrapping as Relational Contract

Linking resource needs, bootstrapping behaviors, and outcomes of bootstrapping exchanges

Literally, a bootstrap is a leather strap on the back of a boot that serves as an aid when pulling the entire boot on. Metaphorically, pulling the resources together by the aid of own bootstraps is what entrepreneurs inevitably do. Building and nurturing the relationships is an imperative of successfully funding a start-up firm. The network is a crucial provider of essential resources, while the access to traditional capital market is hindered by liabilities of age and scale. What resourcing through relationships might cost to the entrepreneur and the firm – is a different question. A question one cannot answer with confidence, unless one tries the strength of relationships on their own skin. Because the experiences of others make little difference, and it is the individual path of trial and error that matters.

My thesis is about what entrepreneurs actually do when it comes to financing their firms – small, young, risky, and generally unattractive to the traditional capital market. It is also about what resource needs actually are, and how an entrepreneur can separate the needs from wants and apply reason to the own choices in relation to resources that can be obtained for free versus others that might be worth paying market price for. It is also about potential costs and benefits of frugal resource management. I work to understand, interlink, and conceptually ground the resource needs, conditions for bootstrapping behaviors, and the possible outcomes thereof. This is a multi-phase, case-within-a-case study in which I develop the conceptual model for understanding bootstrapping exchanges as a set of relational contracts.

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