



TECHNISCHE UNIVERSITÄT MÜNCHEN

Lehrstuhl für Betriebswirtschaftslehre – Entrepreneurship

**Success factors for new venture teams:
The consequences of trust within entrepreneurial teams**

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Vollständiger Abdruck der von der Fakultät für Wirtschaftswissenschaften der Technischen Universität München zur Erlangung des akademischen Grades eines Doktors der Wirtschaftswissenschaften (Dr. rer. pol.) genehmigten Dissertation.

Vorsitzender: Univ.-Prof. Dr. Renzo Akkerman

Prüfer der Dissertation:

1. Univ.-Prof. Dr. Dr. Holger Patzelt
2. Univ.-Prof. Dr. Dr. Ann-Kristin Achleitner

Die Dissertation wurde am 02.09.2013 bei der Technischen Universität München eingereicht und durch die Fakultät für Wirtschaftswissenschaften am 15.03.2014 angenommen.

Acknowledgements

Not only for creating a new venture, but also for writing a PhD thesis there are often many people involved who contribute to success. I would therefore like to sincerely thank all those who contributed to the success of my PhD thesis.

First of all, I would like to express my deepest gratitude to Prof. Dr. Dr. Holger Patzelt whom I am forever indebted for his most valuable guidance, advice, for interesting and inspiring discussions on both a professional and a personal level. Thank you for providing the best encouragement and surroundings a PhD student could think of. Moreover, I would like to especially thank Prof. Dr. Nicola Breugst for being a continuous source of support, scientific insights and guidance, as well as encouragement throughout the whole course of the research study, and for reviewing this book. I doubt very much that my work would be as rich without the help of my scientific advisors!

I also want to express my deepest gratitude to my fantastic fellow PhD students and BEST team members Anna Roth and Philipp Rathgeber. This large research study would not have been possible without your huge efforts, invaluable contributions and the endless fun we had! I am especially grateful to more than 160 entrepreneurs: without their openness and interesting insights into their team lives, this dissertation would certainly not have been possible. Thank you also to my colleagues from the Technische Universität München for the great working atmosphere and support, to Matthias Ballweg and Daniel Schmelzer for the support of our research team during the second interview and the team workshops, as well as to our office management team Madeleine Kutschbach and Carmen Lieske.

Moreover, I would like to thank Dr. Helmut Schönenberger and the entire team at UnternehmerTUM for giving me the opportunity to establish and develop the Knowledge

Groups department at UnternehmerTUM within the scope of an exciting 50% position besides my PhD. This provided an important balance for me as it enriched my academic work with practical insights from the entrepreneurial world.

Finally, my deepest and most sincere gratitude belongs to my family, my wonderful wife Karin and my children Luis and Mathilda, who supported my work and accepted long working hours, and to my parents Maria and Josef for their unconditional love and continuous support. Last but not least, I would like to thank my employer McKinsey & Company for providing me the opportunity to pursue this PhD during a leave of absence.

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List of Abbreviations

BEST study	Building Entrepreneurial Success Teams study
CEO	Chief Executive Officer
cf.	confer (compare)
CI	Confidence Interval
e.g.	exempli gratia (for example)
et al.	Et alii (and others)
FTE	Full-time equivalent
ICC	Intraclass Coefficient
i.e.	id est (that is)
<i>ns</i>	not significant
OLS	Ordinary Least Squares
SD	Standard Deviation
SE	Standard Error
TMT	Top Management Team
VIF	Variance Inflation Factor
vs.	Versus

Abstract

In spite of an abundance of empirical research on the entrepreneurial team's characteristics, processes, and consequences, less is known on the nature of entrepreneurial team interactions and their implications for new ventures. Investigating the role of trust within entrepreneurial teams will shed light on this aspect. Extant research in non-entrepreneurial contexts has shown that trust affects team interactions that in turn affect team outcomes, which are also relevant for new venture performance. However, the specific entrepreneurial context warrants separate research on trust within teams, as there are important structural differences when compared to teams working in other contexts. To address this research gap, I propose and investigate two conceptual models that may help clarify the role of trust within entrepreneurial teams and explain *how* and *when* trust affects team interactions and outcomes.

Drawing on quantitative data from 112 founders representing 60 different entrepreneurial teams, both the cognitive and the affective dimension of trust within teams emerge as important antecedents for team performance and decision quality, where the cognitive dimension exhibits stronger effects. These relationships are mediated by team interaction processes, and the mediation mechanisms are contingent on the presence of individual team members' learning goal orientation and positive affect. My results also suggest differences in mediation mechanisms and the effects of contingent factors on these mechanisms for the two trust dimensions' consequences on entrepreneurial team outcomes. My findings have important implications for the entrepreneurship and trust literature, as they increase the understanding of the nature of interactions within entrepreneurial teams, and they feature important differences with respect to the different dimensions of trust.

Keywords: entrepreneurial team; intrateam trust; team processes; team performance; decision quality; goal orientation; affect; emotions; multiple mediation; moderated mediation

Zusammenfassung

Trotz der Fülle an empirischer Forschung zu Charakteristika und Teamprozessen in Gründerteams sowie deren Implikationen ist die Natur von Teaminteraktionen und deren Bedeutung für junge Unternehmen noch weitgehend unklar. Die Erforschung der Rolle von Vertrauen innerhalb Gründerteams könnte diesen Aspekt stärker beleuchten. Außerhalb des Gründungskontexts wurden bereits Einflüsse von Vertrauen auf Teaminteraktionen untersucht, die sich ihrerseits auf bestimmte Teamergebnisse auswirken. Der spezielle Kontext erfordert hierbei jedoch eine separate Forschung, da es strukturelle Unterschiede im Vergleich zu Teams aus anderen Kontexten gibt. Hierzu entwickle und untersuche ich zwei Modelle, welche die Rolle von Vertrauen in Gründerteams beleuchten und aufzeigen könnten, *wie* und *wann* Vertrauen Teaminteraktionen und –ergebnisse beeinflusst.

Basierend auf quantitativen Daten von 112 Gründern aus 60 verschiedenen Gründerteams erweisen sich sowohl die kognitive als auch die affektive Vertrauensdimension als wichtige Einflussfaktoren für Leistung und Entscheidungsqualität in Gründerteams, wobei die kognitive Dimension stärkere Effekte zeigt. Diese Beziehungen werden durch Teaminteraktionen vermittelt, wobei diese Mechanismen von der Ausprägung der Lernzielorientierung und des positiven Affekts einzelner Teammitglieder abhängen. Die Ergebnisse legen nahe, dass sich sowohl die Mechanismen selbst als auch die Einflüsse der vorgenannten Ausprägungen darauf für beide Vertrauensdimensionen unterscheiden. Meine Erkenntnisse haben wichtige Implikationen für die Entrepreneurship- und Vertrauensliteratur, da sie das Verständnis der Natur von Interaktionen innerhalb Gründerteams verbessern und wichtige Unterschiede bezüglich der verschiedenen Vertrauensdimensionen aufzeigen.

Schlagworte: Gründerteam; Teamvertrauen; Teamprozesse; Teamleistung; Entscheidungsqualität; Zielorientierung; Affekt; Emotionen; multiple und moderierte Mediation

1 Introduction

“In the world today there is plenty of technology, plenty of entrepreneurs, plenty of money, plenty of entry capital. What’s in short supply is great teams. Your biggest challenge will be building a great team” (John Doerr, Partner, Kleiner Perkins Caufield & Byers).

1.1 Why entrepreneurial teams are the heart of many new ventures

Entrepreneurs are an important driver of economic growth (Carree & Thurik, 2010) and a contributor to the welfare of our society, for example by creating new jobs (Fölster, 2000) or developing innovative products (Pollack, Rutherford, & Nagy, 2012). Entrepreneurs create value by discovering and exploiting opportunities in order to generate future goods and services (Shane & Venkataraman, 2000). However, establishing a new venture is associated with high risks of failure: Timmons and Spinelli (1994) estimate failure rates for new ventures at 40% in the first year and 90% over the first 10 years. Although there is no consensus among research scholars concerning actual failure rates for new ventures, starting a new business is generally considered a risky activity which is characterized by high uncertainty regarding the market and other external environment (McKelvie, Haynie, & Gustavsson, 2011; McMullen & Shepherd, 2006; Shepherd, Douglas, & Shanley, 2000). Moreover, new ventures are confronted with a “liability of newness”, as roles and working relationships are not yet established (Stinchcombe, 1965). This creates additional uncertainty for entrepreneurs (Blatt, 2009).

At the same time, those entrepreneurs who succeed can achieve a great fortune and gain the respect of society, as the examples of Bill Gates, Steve Jobs or, more recently, Mark

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Zuckerberg demonstrate. One can argue that these entrepreneurs have contributed to social welfare by developing innovative products and services that are used almost every day and anywhere in the world. Indeed, examples of successful entrepreneurs have fueled the view of traditional entrepreneurship literature: “One of the great myths of entrepreneurship has been the notion of the entrepreneur as a lone hero, battling against the storms of economic, government, social, and other environmental forces before anchoring in the harbour of success” (Cooney, 2005, p. 226). As a consequence, entrepreneurship research has emphasized the individual entrepreneur for many years (Baum, Frese, Baron, & Katz, 2007). For instance, research has investigated how individual entrepreneurs make decisions concerning the exploitation of business opportunities (Choi & Shepherd, 2004), what determines the entrepreneur’s self-efficacy (Kickul, Gundry, Barbosa, & Whitcanack, 2009), or the influence of uncertainty on the individual’s willingness to engage in entrepreneurial action (McKelvie et al., 2011).

Despite the abundance and popularity of legends of lonely heroes in entrepreneurship, in reality establishing a new venture is often a team effort (Gartner, Shaver, Gatewood, & Katz, 1994; Lim, Busenitz, & Chidambaram, 2013; Schjoedt, Monsen, Pearson, Barnett, & Chrisman, 2013; West, 2007). For example, although Steve Jobs was certainly the charismatic, visionary hero of Apple Computers, Steve Wozniack actually invented the first Apple PC models, and Mike Markkula contributed with his business experience and access to investors (Scully & Byrne, 1994). Indeed, in most of the cases these “lonely heroes” are part of an entrepreneurial team or became successful because they built entrepreneurial teams around them (Cooney, 2005). Consequently, Cachon (1990) concluded that the lone entrepreneur is a mythological being, and suggested that most entrepreneurial organizations required entrepreneurial teams to function effectively. Hence, with the beginning of the 1990s scholars have concluded that entrepreneurship research needs to take into account that “the

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entrepreneur in entrepreneurship is more likely to be plural,” and that “the locus of entrepreneurial activity often resides not in one person, but in many” (Gartner et al., 1994, p. 6).

Founding as a team may be superior to single entrepreneurs because it can create benefits such as pooling resources, distributing risk and anxiety among team members, increasing the team’s capabilities, and offsetting individual deficiencies (Cooney, 2005). This is particularly relevant for the establishment of successful new ventures, which often requires a large amount of information, skills and capabilities (Chandler & Hanks, 1994; Chandler & Lyon, 2009; Ensley, Carland, & Carland, 2000; Timmons & Spinelli, 1994) and involves continuous decision making based on judgments and experience of the founders (Brush, Greene, & Hart, 2001; Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006). Indeed, existing empirical research supports that a *team* of founders can provide synergetic gains that enhance the potential of new ventures (Colombo & Grilli, 2005; Eisenhardt & Schoonhoven, 1990; Ucbasaran, Lockett, Wright, & Westhead, 2003; West, 2007). As a result, scholars suggest that team-based ventures are more successful to the extent that they achieve higher growth rates and that they are more likely to survive when compared to ventures founded by single entrepreneurs (Lechler, 2001).

However, the aforementioned benefits may be reflected in new venture success only if entrepreneurial teams jointly manage to utilize their resources and diverse skill sets to produce sound and workable strategies, at the same time fostering commitment and satisfaction among their members (Ensley, Pearson, & Amason, 2002). Hence, entrepreneurial teams may be a critical success factor for the new venture’s performance (Maschke & Knyphausen-Aufseß, 2012). It is therefore not astonishing that venture capitalists consistently emphasize the entrepreneurial team’s quality as an important investment criterion (cf. Franke, Gruber, Harhoff, & Henkel, 2008; Kirsch, Goldfarb, & Gera,

2009; Maschke & Knyphausen-Aufseß, 2012), and for team-based new ventures it is appropriate to summarize that “entrepreneurial teams are at the heart of any new venture” (Cooper & Daily, 1997, p. 146).

1.2 What are entrepreneurial teams and how do they establish new ventures?

While entrepreneurial teams increasingly became the focus of empirical research in recent years, it still remains a challenge to determine what exactly constitutes an entrepreneurial team (cf. Cooney, 2005). One of the most frequently employed definitions refers to Kamm et al. (1990) and defines entrepreneurial teams as “two or more individuals who jointly establish a business in which they have an equity (financial) interest. These individuals are present during the pre-start-up phase of the firm” (p. 7). A more general definition is introduced by Harper (2008), who defines an entrepreneurial team as “a group of entrepreneurs with a common goal which can only be achieved by appropriate combinations of individual entrepreneurial actions” (p. 617). Another definition of entrepreneurial teams by Roure and Maidique (1986) required founders to “play a key role in the development of the firm” (p. 298). In the present thesis, I follow the suggestions by Kamm et al. (1990) and require an entrepreneurial team to comprise at least two individuals jointly establishing a new venture in which they have an equity interest. In addition to that, I follow Shaver (1994) and require the individuals to be part of the core team to exercise direct strategic influence on the development of the startup and to share decision-making roles.

There are two major stages for the establishment of team-based new ventures, which are outlined by Kamm and Nurick (1993): the idea stage and the implementation stage. The idea stage describes how entrepreneurial teams come into existence. Entrepreneurial teams may either be formed upon recognizing an opportunity or the formation may be triggered by

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an event, which causes the team to seek and to pursue opportunities (cf. Cruz, Howorth, & Hamilton, 2013; Wright & Vanaelst, 2009). I refer to Clarysse and Moray (2004) and Forbes et al. (2006) for details on team formation. The present work focuses more on the implementation stage, in which decisions will be made that are crucial for the establishment and development of a new ventures.

In the implementation stage, the entrepreneurial team decides on where and how resources needed for the creation of the new venture (such as material, energy, information, personnel) will be sourced from. If it has been determined that partners are needed in order to start the new firm, the subsequent decisions will include how to identify and select the best partners and how to convince them to engage in the new venture (Kamm & Nurick, 1993). As resources within entrepreneurial teams are typically scarce (Foo, Kam Wong, & Ong, 2005; Kotha & George, 2012; Ucbasaran et al., 2003), gathering and processing the right information and making the right decisions can be crucial for the performance of new ventures (Chandler & Lyon, 2009; West, 2007). For that reason, I consider individuals to be part of the entrepreneurial team only when they share a decision-making role, thereby exercising influence on the development of the new venture. After securing the resources, the next decisions comprise how to maintain and to develop the team. Thereby, team maintenance does not exclude changes, i.e. additions and exits of team members to and from the entrepreneurial team. During the team development phase, successful teams address decision-making authority issues in the team “by consciously defining and agreeing upon each member's role not only on the team but also in the emerging organization” (Kamm & Nurick, 1993, p. 23). If the different sets of decisions described before turn out to be in favor of the new venture, it will finally be implemented (Kamm & Nurick, 1993).

Entrepreneurial teams generally make the decisions pointed out above under conditions of high uncertainty, as there is often no previous knowledge available that would

serve to decide on the right course of action (Blatt, 2009; Ensley, Pearce, & Hmieleski, 2006; McMullen & Shepherd, 2006; Shepherd et al., 2000). Hence, making the right decisions under such an environment may be a crucial success factor in establishing a new venture. Likewise, it may be equally important to form an entrepreneurial team that demonstrates consistently high performance in their daily work, because “High-performing TMTs should lead to high-performing ventures” (Ensley et al., 2002, p. 368). If it is crucial for new venture success to make good decisions and demonstrate high performance along the venture creation journey, as argued above, it is pivotal to understand what the “key factors” are that make entrepreneurial teams successful.

1.3 What makes entrepreneurial teams successful?

In his article “towards a theory of entrepreneurial teams”, Harper (2008) rises the question whether there is “such a thing as a ‘team agent’ over and above the actions of its members”, or whether everything is “reducible to the actions of individual entrepreneurs” (p. 613). Current research on team entrepreneurship may be divided among investigating two major questions: what are the entrepreneurial teams' characteristics (i.e., the team's composition), and how do they make use of it (i.e., the team's processes)? A summary of the two corresponding research streams is provided in the following.

When investigating the entrepreneurial teams' characteristics and their implications, research has focused on team composition such as team size, heterogeneity, age, gender, functional background, and education. For example, research has shown that larger teams achieve higher sales and employee growth than smaller teams (Cooper, Gimeno-Gascon, & Woo, 1994; Eisenhardt & Schoonhoven, 1990), and education is positively associated to receiving outside financing (Colombo & Grilli, 2005) and employee growth (Cooper et al.,

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1994). Research findings on the consequences of the entrepreneurial team's heterogeneity are two-fold. On the one hand, entrepreneurial teams with heterogeneous functional backgrounds are associated with low turnover (Ucbasaran et al., 2003), and they are more successful in attracting investors because functional heterogeneity ensures that the team has the capabilities required in order to manage the new venture (Beckman, Burton, & O'Reilly, 2007). Moreover, heterogeneous teams with respect to education, functional and industry expertise, and business skills are positively associated with net cash flow and sales growth of their ventures (Ensley & Hmieleski, 2005). Hmieleski and Ensley (2007) found new ventures of heterogeneous entrepreneurial teams to grow fastest in revenues and employees when led by directive leaders in dynamic industry environments or empowering leaders in stable industry environments. Finally, Steffens, Terjesen, and Davidsson (2012) found that heterogeneous teams (in terms of age and startup experience) lead to higher new venture performance in the long-term (i.e., becoming operational and profitable in 75 months). On the other hand, heterogeneity was found to be negatively related to sales growth, profitability and market performance when new ventures are simultaneously new and different (Amason, Shrader, & Tompson, 2006).

The second stream of research concentrates on the entrepreneurial team's processes, and several important research findings have contributed to our understanding of their consequences already. For instance, Chowdhury (2005a) found a positive effect of team process variables such as team-level cognitive comprehensiveness (which refers to the team's capability for complex and innovative decision-making, see Maschke & Knyphausen-Aufseß, 2012), and team commitment on entrepreneurial team effectiveness, which is in turn believed to have a positive impact on sales growth (Maschke & Knyphausen-Aufseß, 2012). The entrepreneurial team's cohesion is positively associated with sales growth (Ensley et al., 2002), and the entrepreneurial team's collective cognition (i.e., the collective perspective at

the team level with respect to important critical decisions of the new venture, see West, 2007) is positively associated with new venture performance (as assessed by managers of the companies, West, 2007). Moreover, relationship conflict (a perception of interpersonal incompatibility, including tension, annoyance, and animosity among team members, see Jehn, 1995) is associated with higher team turnover (Vanaelst et al., 2006) and decreased cohesion of the entrepreneurial team (Chowdhury, 2005a), while task conflict (a perception of disagreement among team members concerning decision content, involving different viewpoints, ideas and opinions, see Jehn, 1995) promotes a shared view of the venture's strategy (Ensley & Pearce, 2001), but relates negatively to the entrepreneurial team's effectiveness (Foo, 2011b). Despite existing empirical findings, present research is still far from providing a complete picture of what makes entrepreneurial teams successful: as Blatt (2009) points out, "we know little about what distinguishes successful entrepreneurial teams from their more ordinary peers" (p. 533).

1.4 Why research on trust within entrepreneurial teams is relevant

The concept of trust is in many ways the connective tissue of society – governing everything from our personal relationships to our common use of currency. Most, if not all, of the decisions we make every day rely on one form or another of trust (Cookson, 2010).

As pointed out in the previous section, important research has been carried out on the entrepreneurial team's observable characteristics and processes, and implications on new venture outcomes. However, less is known on the underlying *nature* of entrepreneurial team interactions and their implications for new ventures (Schjoedt et al., 2013). To this ends, Blatt (2009) theorizes that team relational capital will affect team interactions in important matters.

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As one of three forms of relational capital (in addition to identification and obligations), trust (referring to “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another”, Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395) may therefore shed further light on the nature of interactions of entrepreneurial team members and may have implications for new ventures. My dissertation addresses this important aspect and focuses on the consequences of trust within entrepreneurial teams. The focus is thus on *personal trust*, which relates to the personal knowledge of and relationship to individual persons (other forms of trust such as institutional trust refer to trust in overall political, legal or economic frameworks and their informal rules, or collective trust, which originates from the characteristics of an organization or a community, see also Hohmann, Malieva, 2005; Welter, 2012). Hence, for the remainder of this thesis I refer to *personal trust* when using the word trust.

Trust is necessary only in risky situations (Mayer, Davis, & Schoorman, 1995). Thus, scholars argue that trust plays an important role in entrepreneurial settings because it helps individuals to overcome the risk and uncertainty associated with collaborative relationships in an entrepreneurial endeavor (Scarbrough, Swan, Amaeshi, & Briggs, 2013; Welter, 2012), for example by suppressing the risk of opportunistic behavior and remediating information asymmetries (Larson, 1992; Shane & Cable, 2002; Uzzi, 1996). Most research around trust in entrepreneurship focuses on network ties and social capital and therefore assesses the role of trust indirectly (Welter, 2012). The author summarizes that trust helps building network relations (e.g., Anderson, Park, & Jack, 2007) which are important for opportunity recognition (Jack & Anderson, 2002), securing resources and establishing business relations (Greve, 1995), and ultimately leads to new venture success especially in early stage new ventures (e.g., Brüderl and Preisendörfer, 1998). Moreover, trust can help addressing the liability of newness faced by new ventures (Stinchcombe, 1965): Aldrich and Fiol (1994)

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propose that networks of trust help founders establish legitimacy. Finally, recent empirical research found that trust can help entrepreneurs develop long-term relationships with investors, thus achieving favorable assessments and securing financing (Bammens & Collewaert, 2012; Maxwell & Lévesque, 2011; Scarbrough et al., 2013).

Empirical research on the consequences of trust *within* entrepreneurial teams is scarce (a study carried out by Talaulicar, Grundei, and Werder, 2005, who investigated the consequences of a hierarchical CEO model with regards to decision speed and decision comprehensiveness of a new venture TMT and found a moderating role of trust on these relationships, may provide an exception). This is astonishing, given the importance of trust in other social settings of entrepreneurs, as pointed out above, and given the vast amount of empirical research on the role of trust in teams in non-entrepreneurial contexts such as work teams in organizations, sports teams or short-term work groups (Jong & Elfring, 2010; Langfred, 2004; Mach, Dolan, & Tzafrir, 2010; Porter & Lilly, 1996; Schaubroeck, Lam, & Peng, 2011; Simons & Peterson, 2000). However, research on the effects of trust on team outcomes in these contexts has produced inconsistent findings regarding the effects of trust on team outcomes. For example, while some studies (e.g., Jong & Elfring, 2010; Porter & Lilly, 1996; Schaubroeck et al., 2011) reported a positive relationship between trust and team performance, Aubert and Kelsey (2003) could not find a significant relationship, and Langfred (2004) even demonstrated a negative relationship. Langfred argues that a high level of trust decreases team performance as team members become reluctant to monitor each other, while Jong and Elfring (2010) point out that this finding may be based on the short temporal nature of the teams in Langfred's study. This example demonstrates that the consequences of trust may depend on the specific context (Welter, 2012), and the findings from the vast amount of empirical research on trust for TMTs in corporate organizations may

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not be generalizable to entrepreneurial teams. As argued in the following, there are several important structural differences between entrepreneurial teams and TMTs from large organizations that necessitate separate research of trust in an entrepreneurial context.

First, new venture teams work under conditions of high novelty (i.e., lack of familiarity, see Blatt, 2009), which is not the case for corporate TMTs (Shepherd et al., 2000). In these conditions, trust may be particularly important to counter potential negative effects of novelty and thus facilitate new venture success. Second, startups often lack stable organizational structures that could facilitate the development of trust (Blatt, 2009) and govern how entrepreneurial teams work together, and they continuously make decisions in highly uncertain environments (Shepherd et al., 2000). In such a context, intrateam trust (i.e., the “shared generalized perceptions of trust that team members have in their fellow teammates”, Jong & Elfring, 2010, p. 536) may function as a substitute for non-existing stable structures and as a reducer of uncertainty (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012) and may thus play a particularly important role for entrepreneurial team interactions and outcomes. Third, the small size of most startup companies may result in trust producing different effects when compared to large organizations (Baron, Frese & Baum, 2007). For instance, trust within the entrepreneurial teams may play a prominent role for the development of the new venture as the latter is largely driven by the entrepreneurial team itself (Savage, 1979). Fourth, while TMTs of large companies may have a lower team-orientation because their members are often more individual achievement-oriented and they often did not know each other before joining the company, this is less likely to be the case in new ventures who are often founded by a team with strong social relations (Talaucar et al., 2005). The authors speculate that trust may have different consequences in this case, such as a higher effectiveness of the previously mentioned CEO model in new ventures. Finally,

entrepreneurs' specific personality characteristics such as high self-efficacy or their high-achievement orientation make them susceptible to exercise more trust than is actually warranted, in contrast to non-entrepreneurs (Goel & Karri, 2006). The authors contend that this "over-trust" phenomenon may lead entrepreneurs to subconsciously assume or even ignore risks. This may result in different consequences of trust in an entrepreneurial context.

Based on the arguments stated above, it is not astonishing that several authors have called for more empirical research on trust in an entrepreneurial context. For example, Goel and Karri (2006) suggest researching the consequences of the aforementioned over-trust. Moreover, Welter and Smallbone (2006) contend that "Trust building is an under researched topic" (p. 471), and Baron et al. (2007) propose that research designed to determine whether trust results from different sources and produces different effects in new ventures than in large corporations "might well yield important new insights into the nature and effects" of trust (p. 368). Blatt (2009), in addition, contends that in an entrepreneurial context it is more important to understand relational capital than to understand human capital such as education and experience (see p. 546).

1.5 Research questions

In order to gain a more complete understanding of the role of trust within entrepreneurial teams, it will not be sufficient to investigate only its effect on team outcomes. Ultimately, trust is a psychological state (Rousseau et al., 1998), and it may not be evident *why* this psychological state should affect team outcomes, i.e., what explains the relationship between trust and important team outcomes. In order to fully understand and eventually take advantage of the benefits of intrateam trust, it is therefore crucial to understand its *mechanisms* and investigate *how* trust within teams can affect team outcomes such as team

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performance or the team's decision quality (see also Dirks, 1999; Dirks & Ferrin, 2001; Jong & Elfring, 2010). To this ends, Klotz, Hmielski, Bradley, & Busenitz (in press) propose an input-mediators-outcome (IMO) framework (which "seeks to understand group performance and other team-level outcomes (O) as the consequence of the inputs (I) and mediators (M) that determine them", p. 4) and call for research on interaction processes entrepreneurial teams in order to gain a better understanding of how these processes affect team outcomes.

In the present thesis, I hypothesize that there may be team interactions which represent the mechanisms explaining how trust affects certain outcomes of entrepreneurial teams. Moreover, these mechanisms may depend on individual team members' factors. For example, individuals' goal preferences in achievement situations or individuals' subjective emotional feelings along the venture creation journey may affect the consequences of trust in entrepreneurial teams. For the remainder of this thesis, I will refer to these specific factors of individual team members as "individual level factors". To the best of my knowledge, the mechanisms of trust under these individual level factors have not yet been researched empirically. Following Klotz et al. (in press), I establish a conditional indirect effects model in order to investigate the effects of these factors on mediating mechanisms. The present work aims to address both the need for research on trust in entrepreneurial contexts as well as the aforementioned lack of understanding of the mechanisms of trust and the impact of individual level factors on these mechanisms. The most recent calls for research on these topics are summarized in Figure 1.

As scholars have argued that there are distinctive dimensions of trust (McAllister, 1995), namely cognition-based trust (which is grounded in "performance-relevant cognitions such as competence, responsibility, reliability, and dependability", see Schaubroeck et al., 2011, p. 864) and affect-based trust (the trust component referring to "emotional bonds between individuals", based on which "people make emotional investments in trust relation-

Trust	<ul style="list-style-type: none">Blatt (2009): "[...] in the context of entrepreneurship [...] understanding relational capital may be more relevant than understanding human capital [such as education and experience]" (p. 546)Baron et al. (2007): "[...] it seems that both of these aspects [trust and organizational citizenship behavior], [...] produce different effects, in startup organizations than in large ones. Research designed to determine whether this is indeed the case might well yield important new insights" (p. 368)
Entrepreneurial team processes	<ul style="list-style-type: none">Klotz et al. (in press): "[...] no prior work has specifically addressed NVT action processes. In general, then, future work should seek to gain a more balanced understanding of how each of these types of team processes influences NVT performance." (p. 16).Schjoedt et al. (2013): "Nonetheless, relative to their importance, there are still considerable gaps in our knowledge about the dynamics of new venture and family business teams [...] the nature of the interactions of team members, what the implications are [...] have only begun to be investigated
Contingent factors	<ul style="list-style-type: none">Klotz et al. (in press): "Entrepreneurship researchers have only recently begun investigating mediators of NVT inputs and outcomes using primary data [...] we therefore know quite little about <i>how</i> and <i>when</i> NVTs influence the performance of start-ups." (p. 4)Klotz et al. (in press): "[...] future research should develop and examine conditional indirect effect models" (p. 24)

Figure 1: Summary of research calls

Source: Own illustration

ships", see McAllister, 1995, p. 26), I distinguish between these two trust dimensions when investigating the consequences of trust within entrepreneurial teams in the present thesis. Thus, I account for extant empirical evidence for distinctive effects of the two trust dimensions (e.g., Chua, Ingram, & Morris, 2008; Colquitt et al., 2012; Levin & Cross, 2004; Schaubroeck et al., 2011; Webber, 2008), which will be detailed in the next chapter. In response to the recent calls in literature that are summarized in Figure 1, and motivated by the practical relevance to understand drivers of team outcomes that may also affect new venture success (see Maschke & Knyphausen-Aufseß, 2012), I set myself the research aim of making significant contributions on the following research questions within this dissertation:

1. What are the effects of trust on certain team outcomes in entrepreneurial teams?

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2. *How* does trust affect certain team outcomes, i.e. what are the *mechanisms* of trust within entrepreneurial teams?
3. What are the *differences* for the two trust dimensions, i.e. cognition-based trust and affect-based trust, with regards to the consequences of trust in entrepreneurial teams?
4. Which *individual level factors* affect the mechanisms of trust within entrepreneurial teams?

In order to address these research questions, the Entrepreneurship Research Institute (ERI) at the Technische Universität München initiated and carried out a large research project with entrepreneurial teams called BEST (**B**uilding **E**ntrepreneurial **S**uccess **T**eams). Within the scope of this study, we acquired more than 60 Startups in the Greater Munich area, and we interviewed and surveyed more than 160 entrepreneurs, with both in-person interviews and online questionnaires, in order to yield a comprehensive understanding of the aforementioned questions. Following the suggestions of Ucbasaran et al. (2003) and Ucbasaran, Westhead and Wright (2008), in order to gain a better understanding of entrepreneurial team dynamics the entrepreneurial *team* was the main unit of analysis in our study (we also collected data on an individual and venture level, as well as on the environment, in order to obtain a more extensive picture).

1.6 Contributions to current literature

For the reasons pointed out before, separate research is needed to investigate the role of trust within entrepreneurial teams. However, research on trust within entrepreneurial settings has so far often focused on the relevance of social networks outside the

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entrepreneurial team, thereby assessing the role of trust indirectly (Welter, 2012; Welter & Smallbone, 2006), and more recently on the role of trust between entrepreneurs and investors (Bammens & Collewaert, 2012; Maxwell & Lévesque, 2011; Scarbrough et al., 2013). Empirical research on trust within entrepreneurial teams is scarce. An exception may be provided by a study carried out by Talaulicar et al. (2005) on the consequences of a hierarchical CEO model with regards to decision speed and decision comprehensiveness of a new venture TMT. The authors found that trust moderates these relationships such that high levels of trust between the new venture TMT members reduce the negative consequences of the CEO model for decision comprehensiveness. At high levels of trust, the CEO model is positively related to decision speed of the founding team. In other empirical studies, researchers deemed trust important for building team commitment, which increases team effectiveness (Chowdhury, 2005a), and for preventing entrepreneurial teams from process losses in performing complex tasks, thus promoting venture performance (Ensley et al., 2002). However, Chowdhury (2005a) and Ensley et al. (2002) did not investigate the consequences of trust directly but rather used it in their discussions of the effects of team commitment on team effectiveness, and team cohesion on new venture performance.

The findings of the present research shed further light on the consequences of trust within entrepreneurial teams and contribute to extant entrepreneurship literature in several important ways. First, the present study increases our understanding of the role of intrateam trust in an entrepreneurial context. My findings suggest that intrateam trust may play a crucial role as an important antecedent of several team outcomes such as the entrepreneurial team's performance or decision quality. This is an important finding, as team outcomes are believed to be associated with new venture success (e.g., Watson, Ponthieu, & Critelli, 1995; West, 2007; Ensley et al., 2002). Hence, trust may be a critical success factor for new ventures.

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Second, to the best of my knowledge the present research is the first empirical research to provide insights on the *mechanisms* of trust within entrepreneurial teams. I identified specific team interaction processes, namely information sharing (which relates to team members efforts to exchange information related to their venture and keep each other up to date, see Bunderson & Sutcliffe, 2002) and workload sharing (specifying effective workload allocations to allow team members to work independently from each other and make equal contributions to the overall work of the team, see Campion, Medsker, & Higgs, 1993) that may help explain *how* trust within entrepreneurial teams transfers into superior team outcomes. This implies that the benefits of trust become visible in concrete day-to-day team interactions and serves as a starting point for practitioners to improve team outcomes.

Third, the results exhibit differences regarding the strength of the effect of cognition-based trust and affect-based trust on both team outcomes investigated in this study. Cognition-based trust exhibited a stronger positive association with both team performance and decision quality than affect-based trust. Given that previous research has shown contrasting findings with respect to the relationship of both trust dimensions on team performance (Webber, 2008), this may be attributable to the specific entrepreneurial context. My findings suggest the cognitive dimension to be more important for the entrepreneurial team's performance and decision quality when compared to the affective dimension. Moreover, the results exhibited a full mediation of the relationship between affect-based trust and team performance via information sharing and workload sharing, as well as a full mediation of the relationship between affect-based trust and decision quality via information sharing. In contrast, there was only a partial mediation when cognition-based trust was investigated as the independent variable. This adds another distinctive feature of the effects of both trust dimensions in entrepreneurial teams, as it suggests that there may be another

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mediating effect for the relationships between cognition-based and the two team outcomes which is not captured by the aforementioned team interaction processes.

Fourth, my research suggests that the aforementioned consequences depend on individual team members' level of positive affect (referring to subjective feelings of pleasure, cf. Ashforth, 1995; Barrett, Mesquita, Ochsner, & Gross, 2007) and learning goal orientation (an individual goal preference in achievement situations, emphasizing the development of skill, knowledge and competence, see Leggett, 1988). As emotions play an important role for the venture creation journey (Baron, 2008; Cook, 1997; Schindehutte, Morris, & Allen, 2006), and as the creation of a new venture represents a special achievement situation typically requiring continuous innovativeness and change from entrepreneurs (Bammens & Collewaert, 2012; Thorgren & Wincent, 2011; Zahra et al., 2006), I investigated potential effects of these individual level factors on the mechanisms of trust within entrepreneurial teams. The results exhibited differences for the two trust dimensions: the mediation mechanisms of cognition-based trust on decision quality via information sharing seem to be contingent on positive affect, while the mediation mechanisms of affect-based trust on decision quality via information sharing seem to be contingent on learning goal orientation. This sheds even further light on the distinctive features of the two trust dimensions. In addition to that, these findings stress the role of positive affect and learning goal orientation as important moderators of the consequences of trust within entrepreneurial teams.

The results of the present study are also relevant in a non-entrepreneurial context and make important contributions to the literature on trust and organizational psychology. First, the results contribute clarity on the context-dependent effects of intrateam trust. As emphasized before, research findings on the effects of trust on team outcomes have been inconclusive (e.g., Jong & Elfring, 2010; Aubert & Kelsey, 2003; Langfred, 2004). Scholars

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have argued that the trust phenomenon is context-dependent (e.g., Welter, 2012). My findings suggest that for autonomous teams with a long-term orientation operating in a highly uncertain environment, intrateam trust can be beneficial for team outcomes.

Second, the present study adds to the understanding *how* intrateam trust exactly unfolds its benefits. Jong and Elfring (2010) already identified team *behavioral aspects* such as team monitoring (which is referred to as the process of observing actions of teammates so that corrective support can be provided to them, see Jong & Elfring, 2010; Marks, Mathieu, & Zaccaro, 2001) and team effort (referred to as the degree to which team members dedicate their resources to the execution of team-related work, cf. Yeo & Neal, 2004) that transfer the benefits of trust into higher performance of the team. The present study empirically explores team *interaction* processes such as information sharing and workload sharing and finds that these two interaction process may also transfer the benefits of intrateam trust into better team performance outcomes. While the relationship between information sharing and decision quality has been established empirically (see e.g. Wittenbaum, Hollingshead, & Botero, 2004), my data suggest that trust may trigger this relationship.

Third, the study further extends the understanding of the distinction between cognition-based and affect-based trust (e.g., Chua et al., 2008; Colquitt et al., 2012; Levin & Cross, 2004; Schaubroeck et al., 2011; Webber, 2008) by finding different mediation mechanisms that seem to be contingent on different individual level factors, as pointed out before. This underscores the importance of distinguishing between the two trust dimensions when investigating the consequences of trust within teams. Moreover, the results point out that the strength of the impact of the two trust dimensions may depend on the specific context, as the findings stand in contradiction to previous research (Webber, 2008).

Finally, to the best of my knowledge this study is the first empirical research that investigates the consequences of intrateam trust contingent on individual level factors of team members. The results suggest that these consequences depend on the level of positive affect and learning goal orientation of individual team members. This implies that a complete understanding of the trust phenomenon does not only require to investigate *how* trust relates to different team outcomes (Dirks & Ferrin, 2001; Jong & Elfring, 2010), but also *when* this is the case. Individual level factors may need to be taken into account in order to yield a better understanding of the trust phenomenon.

1.7 Structure of this thesis

The structure of the thesis proceeds as follows: in Chapter 2, I will develop two conceptual models that help answering my research questions. The Mechanisms of Trust Model represents a multiple mediation model where two team interaction processes, i.e. information sharing and workload sharing, transmit intrateam trust into entrepreneurial team performance. The Conditional Effects of Trust Model represents a moderated mediation model in which information sharing mediates the relationship between intrateam trust and the entrepreneurial team's decision quality, where the mediating mechanisms depend on the individual team member's level of positive affect and learning goal orientation. Both models differentiate between two trust dimensions: cognition-based trust and affect-based trust. I will develop the theoretical hypotheses based on literature from the fields of entrepreneurship, organizational behavior, and management.

Chapter 3 describes the sample, as well as the sampling process, the research design and the research methodology in detail. In this study, we focused on startup teams from the greater Munich area. We employed an empirical design comprising both quantitative and

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qualitative research methods and multiple levels (individual, team, venture and environment). In total, we sent out four large surveys and 26 “team barometers” over a time span of 6 months, and we conducted two in-person interviews with each of the founders. The two models are tested based on cross-sectional data gathered from the second large survey including 112 founders, representing 60 different startup teams, with additional information drawn from the initial large survey. Moreover, I have drawn on the interview data to illustrate my hypotheses and findings. I will use hierarchical regression analyses to test the models, and employ bootstrapping analyses for estimations of the indirect effects.

In Chapter 4, I will present the results of my study. The results suggest that the effect from cognition-based trust on both the entrepreneurial team's performance and decision quality is stronger than the effect from affect-based trust on these team outcomes. The data also show a complete mediation of the relationship between affect-based trust and team performance via information sharing and workload sharing, whereas the effect of cognition-based trust on team performance is mediated only partially. Similarly, the research results exhibit a complete mediation of the relationship between affect-based trust and the entrepreneurial team's decision quality via information sharing, whereas the effect of cognition-based trust on decision quality is mediated only partially. The results also show that the mediation mechanisms of affect-based trust are moderated by learning goal orientation, whereas the mediation mechanisms of cognition-based trust are moderated by positive affect.

Chapter 5 discusses the results and the contributions of my findings to the literature, as already summarized in the previous section. Furthermore, I will discuss limitations and practical implications of the study and provide suggestions for future research. The thesis ends with potential avenues for future research in chapter 6.

2 Theoretical foundations and development of hypotheses

Trust [...] tends to be somewhat like a combination of the weather and motherhood; it is widely talked about, and it is widely assumed to be good for organizations. When it comes to specifying just what it means in an organizational context, however, vagueness creeps in (Porter, Lawler, & Hackman, 1975, p. 497).

Extant entrepreneurship literature suggests that new venture performance depends on certain team outcomes and team processes, such as the entrepreneurial team's effectiveness (Watson et al., 1995), or the entrepreneurial team's collective cognition in decision making (West, 2007). For instance, West (2007) demonstrated that two structural characteristics of collective cognition, namely differentiation (the "extent to which each strategic construct is construed as different from every other strategic construct", p. 85) and integration (the "degree to which top managers think in a similar fashion about a set of strategy constructs", p. 85), are strongly related to new venture performance. For this reason, understanding the determinants of outcomes and processes in entrepreneurial teams is crucial for research in entrepreneurship. To this ends, numerous findings regarding the positive effect of trust on different team outcomes in non-entrepreneurial contexts (e.g., Dirks & Ferrin, 2001; Jong & Elfring, 2010; Schaubroeck et al., 2011) suggest that trust may be promising to investigate.

In her theory on how relational capital is built in entrepreneurial teams, Blatt (2009) proposes that trust is one of three forms of relational capital (in addition to identification and obligations) that can drive the entrepreneurial team's performance. She further suggests that especially team-based novelty (i.e., team members are not sufficiently familiar with each other due to their short track record of collaboration or due to heterogeneous demographic characteristics, see p. 538) can undermine trust within the entrepreneurial team. As argued in

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the introduction, trust may play a central role in an entrepreneurial context. This view was also broadly supported during our interviews with entrepreneurs within the BEST research study. When asked about the most important aspects and secrets of success when it comes to collaboration within the entrepreneurial team, trust was mentioned on a regular basis. Answers to these questions included¹:

- “Sincereness and trust in each other is very important to me. Things need to be accomplished in a certain quality. It is important that one can count on each other.” (37-093-110523)
- “Trust in each other! This is the basis for a general relationship and a business relationship. To trust, that we are agreeing on the relevant topics, so that nobody goes it alone.” (43-108-110607)
- “I think it is just like in a relationship. My colleague and I are like an old, married couple. The company is like a child. We discuss everything until the end, we talk about everything, we can trust each other. [...] I don't know whether this would be a secret of success, but [...] I believe that it is a good thing.” (04_12_20110429)
- “The trust basis increased [...] Before, we could rely on each other, but that does not mean that there is this sense of trust [...] If one needs to collaborate over a longer timeframe, there needs to be a long-term trust basis.” (42-106-110517)
- “[...] I think the most important aspect in doing business together is 100% trust in your business partner. This is much more important than one or two professional qualifications.” (60-153-110615)

¹ All interviewee quotes throughout this thesis are anonymized in order to ensure confidentiality, as promised to the participants.

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This is just a small selection of interviewee statements on trust, but it underscores its importance for entrepreneurial teams. However, as argued before research has so far not sufficiently investigated the role of trust within entrepreneurial teams empirically. An earlier mentioned empirical study investigating moderating effects of trust within an entrepreneurial team that was carried out by Talaulicar et al. (2005) provides an exception. Yet, research on *how* and under which *conditions* trust unfolds in entrepreneurial teams was not the focus of this study. The present thesis aims to address this research gap, and develops and empirically investigates theoretical models that help explain the effects of trust in entrepreneurial teams on team outcomes.

To this ends, I draw on the literature on trust (e.g., Blatt, 2009; Dirks & Ferrin, 2001; Jong & Elfring, 2010; McAllister, 1995; Schaubroeck et al., 2011; Rousseau et al., 1998, Welter, 2012), team processes (e.g., Bunderson & Sutcliffe, 2002; Campion et al., 1993; Mesmer-Magnus & DeChurch, 2009), team performance (e.g., Schaubroeck et al., 2011; Shaw et al., 2010), team decision quality (e.g., Amason, 1996; Carmeli, Tishler, & Edmondson, 2012; Talaulicar et al., 2005; West, 2007), learning goal orientation (e.g., Bunderson & Sutcliffe, 2003; Dweck, 1986; Matzler & Mueller, 2011), and affect (e.g., Breugst, Domurath, Patzelt, & Klaukien, 2012a; Cardon, Foo, Shepherd, & Wiklund, 2012; Fredrickson, 2001; Fredrickson & Branigan, 2003). I also use data from our interviews during the BEST research study in order to inform and to enrich the development of the theory and hypotheses. For this purpose, I insert selected quotes to illustrate or elaborate specific points. I offer two models that help explain the impact of trust on the outcomes of entrepreneurial teams: a multiple mediation model (the “Mechanisms of Trust Model”) and a moderated mediation model (the “Conditional Effects of Trust Model”). For the first model I focus on *how* intrateam trust is transferred into team outcomes. I concentrate on the mediating roles of

information sharing and workload sharing, two team processes that may be influenced by intrateam trust and may, in turn, affect the entrepreneurial team's performance.

For the second model I also take into account *under which individual level factors* intrateam trust transfers into superior team outcomes. I examine the impact of trust on team decision quality with information sharing as a mediator, additionally taking into account different levels of individual team members' positive affect and learning goal orientation. Positive affect and learning goal orientation served as moderators that determine the strength of the indirect effect of trust on decision quality via information sharing. Before developing the hypotheses, I start with a literature overview of the general concept of trust and its separation into a cognitive and an affective dimension.

2.1 The two dimensions of trust: affect-based and cognition-based trust

Despite a large amount of research on trust there has been little agreement on a concise and generally accepted definition (Jong & Elfring, 2010; Kramer, 1999; Welter, 2012). However, there appear to be several common factors across the different definitions in the literature. These include the description of trust as being the extent to which team members are willing to be vulnerable to each other's actions, and the extent to which they have positive expectations about each other (Costa, Roe, & Taillieu, 2001; Mayer et al., 1995; Rousseau et al., 1998). The definition of trust as the willingness to be vulnerable to another's actions was proposed by Mayer et al. (1995) and is one of the most cited definitions (e.g., Carmeli et al., 2012; Jong & Elfring, 2010; Langfred, 2007). Other scholars emphasized the positive expectations about others in their interpretation of trust (e.g., Lewicki & Bunker, 1996). This goes beyond the willingness to accept vulnerability and additionally takes into

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account considerations regarding the situation as well as risks associated with acting on such positive expectations (Costa et al., 2001; Lewicki & Bunker, 1996).

In the present thesis, I follow a general definition of trust provided by Rousseau et al. (1998), which combines both aforementioned elements and refers trust to “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (p. 395). I focus on intrateam trust, which means that this trust definition refers to other members of the entrepreneurial team, as outlined before. This definition also reflects statements made by the entrepreneurial team members in our interviews. E.g., asking participants to generally describe their collaboration within the team, one interviewee responded:

I can blindly rely on everybody [...] We have a cooperative relationship [...] What really excites me, is the trustworthiness, and the trust. With respect to everybody whom I am working with I can really say that if I ask somebody to do something, or vice versa, we know it will be done. (3_159_110616)

This statement clearly demonstrates that the interviewee accepts the risk of being vulnerable to others by “blindly relying on everybody” and has positive expectations about his or her fellow team members’ behaviors or intentions, knowing that things will be done.

Beneficial consequences of trust within teams have been found in a vast amount of research in non-entrepreneurial contexts (e.g., Dirks & Ferrin, 2001; Jong & Elfring, 2010; Schaubroeck et al., 2011). Based on the following line of argumentation, I expect the benefits of trust in entrepreneurial teams to be particularly high. Trust enables team members to engage in "undertaking of a risky course of action on the confident expectation that all persons involved in the action will act competently and dutifully" (Lewis & Weigert, 1985, p. 971), see also Colquitt et al. (2007). Founding a new venture carries substantial amount of

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risk by nature, and the entrepreneurial team often faces novel situations where they cannot rely on knowledge from previous experiences in order to make decisions and take action (Blatt, 2009; Shepherd et al., 2000). Trust can help entrepreneurs overcome the risk and uncertainty associated with collaborative relationships in an entrepreneurial endeavor (Scarborough et al., 2013; Welter, 2012). Hence, one can assume that trust may be particularly helpful in an entrepreneurial context, as it may facilitate undertaking the unavoidable risky courses of action.

Extant research reveals distinctive dimensions of trust that may lead to different consequences and should therefore be taken into account within my research. In a study with managers and professionals in organizations, McAllister (1995) found that trustworthiness of peers can be measured along two dimensions: affect-based trust and cognition-based trust. Affect-based trust describes the “emotional bonds between individuals”, based on which “people make emotional investments in trust relationships, express genuine care and concern for the welfare of partners, believe in the intrinsic virtue of such relationships, and believe that these sentiments are reciprocated” (p. 26). Whereas affect-based trust emphasizes this emotional component related to empathy and rapport, “cognition-based trust refers to trust that is based on performance-relevant cognitions such as competence, responsibility, reliability, and dependability” (Schaubroeck et al., 2011, p. 864). In his research, McAllister (1995) found distinctive antecedents and effects for the two dimensions of trust. For example, despite affect-based trust in peers was positively associated with need-based monitoring of peers (which arises when individual team members feel responsible for the needs of others and have the desire to respond to those needs, see Clark, Mills, & Corcoran, 1989) and assistance-oriented citizenship behavior (i.e., assisting other team members even when not directly requested or part of someone’s work role), cognition-based trust was negatively associated with these variables (McAllister, 1995). As he states, “although cognition- and

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affect-based trust may be causally connected, each form of trust functions in a unique manner and has a distinct pattern of association to antecedent and consequent variables” (p. 51).

Other empirical research building on McAllister’s distinction also found strong support for these two facets of trust. For example, Schaubroeck et al. (2011) emphasized the importance of distinguishing between the affective and cognitive dimensions of trust in their research on the mediating effects of trust on the relationship between leader behavior influences and team performance. They found that the two trust dimensions are associated with different psychological processes: while team potency (which is the team’s generalized belief in their own capabilities, cf. Gully, Incalcaterra, Joshi, & Beauien, 2002) mediates the relationship between cognition-based trust (in the leader) and team performance, it is team psychological safety (i.e., team members consider their team as being safe for interpersonal risk taking, cf. Edmondson, 1999) that mediates the relationship between affect-based trust (in the leader) and team performance.

In addition to that, Chua et al. (2008) provide a striking description of the distinction between cognition-based trust and affect-based trust as being “trust from the head versus trust from the heart” (p. 436). In their research with 101 managers, the authors examined the relationships of the two trust dimensions with relational content and structure in the managers’ professional networks. While cognition-based and affect-based trust both were positively connected to career guidance ties (a complex form of social exchange such as mentoring) , the authors found an interesting difference: cognition-based trust was positively related to economic resource ties (e.g., managers seeking economic resources in their networks to start business initiatives). In contrast, affect-based trust was negatively related to economic resource ties. The authors conclude that economic relations of a manager to one of his network members can undermine affect-based trust.

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Finally, in a study with 156 employees from hospital networks in the southeastern United States, Colquitt et al. (2012) found affect-based trust to be a significant predictor of normative commitment (reflecting “a sense of obligation to one’s employer” Meyer & Allen, 1997, cited in Colquitt et al., 2012, p. 2), whereas cognition-based trust was not, and cognition-based trust was significantly negatively related to uncertainty, which was not the case for affect-based trust.

The distinction between an affective and a cognitive dimension was also reflected in our interviewees’ statements when they talked about trust. When asked for a general description of the collaboration within the entrepreneurial team, one interviewee replied: “Good. Professional. Trust-based, as we already know each other for a longer period of time. Therefore, we discuss topics and we can rely on each other that the tasks will be accomplished” (45-114-110517). This statement focuses on performance-relevant cognitions as it deals with reliability (Schaubroeck et al., 2011). In contrast, the next example clearly emphasizes the affective component of trust:

We really communicate a lot. We don't only talk about professional topics, we also ask each other about someone's feelings, and why he may be in a bad mood. There is more than just a professional level. This is a very important secret of success, and it includes trust in each other. (37-095-110523)

Based on these observations and the aforementioned research findings, I follow McAllister (1995) and others (Chua et al., 2008; Fryxell, Dooley, & Vryza, 2002; Levin & Cross, 2004; Schaubroeck et al., 2011; Webber, 2008) by distinguishing between these two principal forms of trust. That is, when developing hypotheses for the consequences of trust in the following sections, it is imperative to specify what dimension of trust it is.

2.2 Development of hypotheses for the Mechanisms of Trust Model

In the following sections, I will develop all hypotheses underlying the Mechanisms of Trust Model, starting with the direct effect of the two trust dimensions on the entrepreneurial team's performance.

2.2.1 The effect of cognition-based and affect-based trust on entrepreneurial team performance.

The entrepreneurial team's performance is believed to be closely connected to venture performance (Ensley et al., 2002; Watson et al., 1995) and is therefore a critical factor for the success of the new venture. As Ensley et al. (2002) put it, "the performance of the top management team is key to success. [...] High performing TMTs should lead to high-performing ventures" (p. 368). This is not surprising, as the human resources of new ventures are generally concentrated in the founding team (Hanks, 1993), and the resource-based view of organizational performance (cf. Crook, Ketchen, Combs, & Todd, 2008) suggests that organizational performance is determined significantly by the organization's resources and capabilities (Kazanjian & Rao, 1999). For that reason, it is valuable to investigate the determinants of the entrepreneurial team's performance in more detail.

Numerous empirical studies suggest that higher levels of trust lead to better team outcomes such as the performance of the team (Curşeu & Schruijer, 2010; Dirks & Ferrin, 2001; Jong & Elfring, 2010). For instance, in their study on the interplay between trust and conflict with 174 teams, Curşeu and Schruijer (2010) measured a direct positive and significant relationship between trust and team performance. Following the definition of Shaw et al. (2010), in the present work I define team performance as "the extent to which teams meet established quality, quantity and flexibility objectives" (p. 1). In the following, I argue that intrateam trust may be an important determinant of entrepreneurial team

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performance, as it may compensate for non-existent stable structures, promote interpersonal cooperation and unfold its benefits in teams having a long-term orientation, as is the case for entrepreneurial teams.

First of all, entrepreneurs often act in a risky and uncertain environment (Hayton & Cholakova, 2012; Knight, 2006; McMullen & Shepherd, 2006) and new ventures typically face a lack of stable organizational structure that could help team members to perform in their roles effectively (Shepherd et al., 2000). Moreover, entrepreneurial teams continuously make decisions under intense time pressure, highly uncertain and complex environments and uncertain internal structures of the venture (Baron, 2008; Blatt, 2009; Haynie & Shepherd, 2009). These decisions, in turn, affect performance outcomes (Shepherd et al., 2000). In such an environment, trust can reduce feelings of uncertainty in a team, because in trusting relationships team members establish clear expectations about each other's behaviors and attitudes with respect to the relationship (Sorrentino, Holmes, Hanna, & Sharp, 1995). Trust may reduce the complexity that individual team members face "by minimizing certain dangers (e.g., exploitation, breach) while highlighting possibilities for action that would otherwise have been impractical" (Colquitt et al., 2012, p. 5). One may hypothesize that under high levels of perceived uncertainty, it is crucial for entrepreneurial teams to accept common goals, beliefs, or visions (Waldman & Yammarino, 1999), and intrateam trust may be essential for the team's performance because it allows the team to work towards its goals as a unit (Bennis & Nanus, 2007; Dirks, 2000). Hence, intrateam trust may act as a substitute for non-existent stable structures, and it may be important in order to achieve a superior team performance.

Second, trust promotes interpersonal cooperation (e.g., Jong & Elfring, 2010) and may facilitate team interaction processes such as sharing relevant knowledge and information and effectively allocating resources by sharing the team's workload in entrepreneurial teams.

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These team interaction processes are important to achieve a superior team performance particularly in entrepreneurial teams, where each team member typically controls different types of knowledge and information (Ensley, Pearson & Pearce, 2003) and where resources are typically scarce (Foo et al., 2005; Kotha & George, 2012; Ucbasaran et al., 2003). Taken together, high levels of trust should lead to superior team processes and hence to higher team performance (Jones & George, 1998). In the absence of trust, however, one would expect team members to interact less frequently with each other, and to avoid taking risky courses of action as they cannot be sure that fellow team members will act competently and dutifully when taking these actions (Lewis & Weigert, 1985). However, taking risks is unavoidable when establishing a new venture (McKelvie et al., 2011; McMullen & Shepherd, 2006; Shepherd et al., 2000), and avoiding interactions with other team members can inhibit team performance (Jong & Elfring, 2010).

As a third point, entrepreneurial teams have a long-term orientation with open-ended tenure (Lechler, 2001), which provides a condition for intrateam trust to unfold its benefits. The negative effects of trust based on a reduced team monitoring as identified in an empirical research study by Langfred (2004) may be more prominent in teams that work together for a limited time span only, which was a major characteristic of this study's sample. In contrast to that, Jong and Elfring (2010) could demonstrate that trust has a positive effect on team performance, which is mediated by higher levels of team monitoring in long-term, "ongoing" teams. The authors argue that considering team monitoring as a control mechanism, as suggested in Langfred's study, may not describe how members of long-term teams monitor at high levels of trust, which rather results in a form of team monitoring that encourages team members to help out each other (Jong & Elfring, 2010; McAllister, 1995). Moreover, in another study with 112 long-term teams from three different social care institutions in the

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Netherlands, Costa (2003) found that trust between team members was positively related with perceived task performance of the team.

Distinguishing between the two dimensions of trust, research has also shown that both cognition-based trust and affect-based trust have positive effects on team performance. For example, in the previously mentioned study by McAllister (1995) with 194 managers and professionals, the authors showed that both cognition-based trust and affect-based trust were positively related to performance measures (in this case, the supervisor's assessment of the peer's performance, and the supervisor's assessment of the manager's performance). Furthermore, in a study with 191 financial services teams in Hong Kong and the U.S., Schaubroeck et al. (2011) revealed a positive and significant impact of both cognition-based trust and affect-based trust (in the leader) on the team's performance (assessed by the team supervisor). The authors argue that team members who perceive that the team is "pursuing meaningful, shared objectives through clear processes that have been outlined by the leader" (p. 864) would develop high cognition-based trust in his leader. This should help team members believing in their capabilities and strategies, which increases their motivation, resulting in a higher team performance. In addition to that, the authors suggest that affect-based trust in the leader creates a psychologically safe team environment. This can "improve team members' engagement at work because it means that members believe they can participate openly and actively without fear of suffering adverse personal consequences" (p. 864), which also promotes team performance.

In a longitudinal study with 78 student teams investigating the relationship between intrateam trust and team performance, Webber (2008) found differential effects of cognition-based and affect-based trust within the team on team performance. While there was a significant positive effect of affect-based trust on team performance, this was not the case for the relationship between cognition-based trust and team performance. This astonishing result

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would suggest that cognition-based trust may not be an important antecedent of team performance. The contradictory finding may be attributable to the short-term nature of the teams investigated in the author's sample. For the following two reasons, I hypothesize that in entrepreneurial teams, the cognitive dimension of trust has a stronger association with team performance than the affective dimension.

First, in a previously mentioned study, Colquitt et al. (2012) found that the cognitive dimension of trust increases job performance based on its function as an uncertainty reducer, which was not the case for the affective dimension. This function may be particularly important in entrepreneurial teams that need to perform under high levels of uncertainty and complexity (e.g., Blatt, 2009; Haynie & Shepherd, 2009; Shepherd et al., 2000). Reducing uncertainty may be even more relevant for the entrepreneurial team's performance than a sense of obligation to fellow team members, which results from the affective dimension of trust (see Colquitt et al., 2012).

Second, believing in other team members' capabilities and strategies (which is associated with the cognitive trust dimension and which increases performance by increasing the team members' motivation, see Schaubroeck, 2011) may also be of particular importance for entrepreneurial teams. These teams are typically characterized by scarce resources such as time (Foo et al., 2005), financial capital (Kotha & George, 2012) or human capital (Ucbasaran et al., 2003), and strategies and capabilities of the entrepreneurial team members may hence be especially crucial to make the best possible use out of these scarce resources and achieve a superior team performance. The cognitive dimension of trust may thus be even more relevant for the performance of entrepreneurial teams than a psychologically safe environment which results from affect-based trust (Schaubroeck et al., 2011). Based on the line of argumentation and the research findings outlined before I postulate the following hypotheses:

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Hypothesis 1a. There is a positive relationship between cognition-based trust and the performance of the entrepreneurial team.

Hypothesis 1b. There is a positive relationship between affect-based trust and the performance of the entrepreneurial team.

Hypothesis 1c. Cognition-based trust has a stronger effect on the performance of the entrepreneurial team when compared to affect-based trust.

2.2.2 The effect of affect-based and cognition-based trust on entrepreneurial team processes

Interpersonal cooperation and teamwork are highly important for the effectiveness of self-managed teams (Cohen, 1996), which also include entrepreneurial teams (Blatt, 2009). Hence, entrepreneurial teams should be concerned about the determinants of cooperative behaviors. Existing research has shown that trust can lead to cooperative behavior (Jong & Elfring, 2010; Mayer et al., 1995; McAllister, 1995). In this section, I will describe the impact of trust on team processes. I will follow Mark et al.'s definition of team processes as being the team "members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals" (Marks et al., 2001, p. 357). Based on this definition, team processes may be considered as the means by which members of the team work interdependently to utilize various resources, such as knowledge and information, experiences, and also time, in order to yield meaningful outcomes such as team satisfaction and team performance (Marks et al., 2001).

The authors divide team processes into *transition processes*, by which team members reflect on past performance and plan for future action, *action processes*, which describe activities that directly relate to goal achievement, and *interpersonal processes*, by which teams manage interpersonal relationships. In the present thesis, I will focus on *action*

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processes, as these are believed to be most predictive of team performance (Marks et al., 2001). Moreover, Klotz et al. (in press) point out that there is no prior work specifically addressing action processes in entrepreneurial teams, and that future research should seek to gain an understanding of how these team processes influence the performance of entrepreneurial teams (p. 16). To this ends, information sharing and workload sharing may be action processes that can impact the performance of entrepreneurial teams in particular, because these processes can help allocating scarce resources effectively, as I will argue in more detail later.

Team processes need to be distinguished from emergent states, the latter ones being “cognitive, motivational, and affective *states* of teams, as opposed to the nature of their member interaction” (Marks et al., 2001, p. 357). The authors also point out that emergent states are rather products of team experiences, which include team processes, and that they are becoming new input factors to subsequent team processes and team outcomes (p. 357). Typical examples of an emergent state would be cohesion, respect or cohesiveness (Jehn, Greer, Levine, & Szulanski, 2008; Marks et al., 2001).

The importance of trust for team processes also became evident during our interviews, e.g., with one participant reporting “...it was fatal because we did not yet know each other. A trust base needs to be developed, and one needs to understand how one can work together” (05_14_20110505). Extant literature suggests that trust plays a crucial role for team processes. For instance, Tsai and Ghoshal (1998) found a positive effect of trust on resource exchange between units, Langfred (2004) found a negative effect of trust on team monitoring in self-managing, short-term teams, and Jong and Elfring (2010) found positive effects of trust on team effort. As argued in the following, trust may affect team *interaction* processes such as information sharing and workload sharing in entrepreneurial teams.

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Information sharing relates to “conscious and deliberate attempts on the part of team members to exchange work-related information, keep one another apprised of activities, and inform one another of key developments” (Bunderson & Sutcliffe, 2002, p. 881). By making “conscious and deliberate attempts”, team members take the initiative to do something, in this case to share information. This definition therefore clearly emphasizes the pro-active nature of information sharing. Scholars argue that trust promotes free exchange of knowledge and information in teams (Jones & George, 1998). As Talaulicar et al. (2005) point out, “soliciting and providing information will be more likely in TMTs characterized by higher levels of trust” (p. 525). This may be due to the fact that possessing information is a source of power (Fama & Jensen, 1983), and individuals who lack trust in their fellow team members will not accept vulnerability with respect to their position of power by giving away information. Moreover, these individuals will avoid sharing knowledge and information because they cannot be sure how the other team members will use this information (Burke, Sims, Lazzara, & Salas, 2007).

Under the presence of a high level of trust, however, team members can be certain that knowledge and information will be used for the benefit of the whole team (Jones & George, 1998). Indeed, in a study with managers from an international electronics company, Zand (1972) showed that teams with high levels of trust are more likely to share information and ideas when compared to teams with low levels of trust. In a different context, investigating 344 supplier-automaker exchange relationships in the U.S., Japan, and Korea, Dyer and Chu (2003) found that higher levels of trust of a supplier in a buyer lead to superior information sharing among the respective transactors. Statements from our interviews also suggest that trust plays a crucial role in information sharing. When asked about the key success factors in their team interaction, one participant replied, “In an entrepreneurial team

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[...] trust needs to be in place [as well as] open communication, because the topics need to be brought to the table” (29-072-110609).

Although the aforementioned studies do not distinguish between cognition-based trust and affect-based trust, I postulate that both dimensions of trust will be relevant for the exchange of information within a team. I argue that based on cognition-based trust, the trust component coming from the “head” (Chua et al., 2008), it will be a rational decision whether one would share information with other team members or not. An individual exhibiting trust in fellow team members’ competencies may more likely share information with them if he or she expects that other team members can help to reach the individual’s goals by acting on the shared information in a productive manner (Bunderson & Sutcliffe, 2002). A high degree of cognition-based trust thus enhances information sharing within an entrepreneurial team. For example, if one team member believes that his or her fellow team member is an expert in the field of finance, he or she will be more willing to share his or her information about financial ratios of competitor firms because he or she can be sure that the fellow member can make use of this information for his or her field of expertise. Moreover, cognition-based trust in fellow team members also means to believe in their capabilities. This may increase the motivation to engage in information sharing, as the trustor has a high expectancy that this will result in higher team performance (Schaubroeck et al., 2011). In contrast to that, if there is a lack of cognition-based trust, one would not expect a benefit for the team’s performance by sharing information with the corresponding team members.

Affect-based trust may promote information sharing for the following two reasons. First, affect-based trust establishes an environment that allows team members to openly share information among each other without having to fear negative personal consequences (Schaubroeck, 2011). Hence, teams will be superior in information sharing if team members

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feel safe to disseminate information. Second, as argued by Zahra et al. (2006), affect-based trust "enhances frequent interactions [...], thereby improving facilitation of effective and rapid knowledge sharing" (p. 545). The authors argue that people become more motivated in sustaining their social interactions. This leads to more frequent interactions and hence to more effective and rapid information sharing. The line of argumentation given above leads to the following hypotheses:

Hypothesis 2a. There is a positive relationship between cognition-based trust and information sharing in an entrepreneurial team.

Hypothesis 2b. There is a positive relationship between affect-based trust and information sharing in an entrepreneurial team.

Focusing on sharing the workload within an entrepreneurial team, I suggest that there is an association with both trust dimensions that is similar to the case of information sharing. Workload sharing specifies an effective and fair allocation of the workload to the team members, so that each team member can perform their work independently from each other and the team members make equal contributions to the overall work of the team (Campion et al., 1993). Workload sharing requires team members to give away some of their workload and, as a consequence, the control of the corresponding outcomes. New ventures typically do not have an organizational setting such as a supervisor that would regulate the distribution of workload within the entrepreneurial team (Shepherd et al., 2000). Instead, "the entrepreneurial team *is* the organization. The team must therefore cultivate its ability to function as an organization" (Blatt, 2009, p. 545). Due to the lack of such a regulating function, workload sharing will occur more or less voluntarily in entrepreneurial teams. At the same time, workload sharing may be particularly relevant for entrepreneurial teams, as for example due to scarce time resources (Foo et al., 2005) a continued rebalancing of the individual team members' workload across the team may be especially critical. It became

also apparent during our interviews that workload sharing is an important team process in entrepreneurial teams, and that trust is often seen as a central precondition for workload sharing. Interviewee statements included:

- “... Who takes over which tasks? [...] We determine this, and I can trustfully rely on them that the tasks will be accomplished. There is no need for further control, and if someone just can't handle it, no problem to say: ‘Would you take this one? I just can't handle it at the moment’” (45-114-110517)
- “The most important thing is trust in each other. So that everybody can work independently, and I can say: 'Come on, you decide, it'll be ok’” (50-126-110621)
- “... if you have good people who you can trust, than it [distribution of workload] works out automatically, and if you don't have good people or if you are convinced that you are the only one who can do it, [...] then there will be no positive development” (24-060-110510)

In the following, I argue that under such conditions, an effective workload sharing requires both cognition-based and affect-based trust.

I expect cognition-based trust to promote workload sharing for the following two reasons. First, delegating someone's workload, and with it the control of the output of the corresponding tasks involved, requires the trustor to accept the risks associated with these outputs. In this situation, trust in the other team members' competencies, which are necessary in order to accomplish the tasks in an efficient manner, may reduce the subjective risks. On the other hand, at low levels of cognition-based trust “team members will want to limit risk by reducing dependence on potentially unreliable people” (Langfred, 2007, p. 889).

Second, in a single case study with a high-tech company, Kohtamäki, Kekäle and Viitala (2004) found that "the trust in the members' abilities and competencies made the tight division of work possible, which many of the interviewees emphasized as one of the success

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factors of the process in their view" (p. 81). The authors argue that the competence belief in this case meant that the trustee needs to respond to the trustor's expectations that arise from the competence belief of the trustor in order to justify the trust provided by the trustor. Hence, the trustee will perform his or her part of workload in order to justify the trustor's competence belief, which may result in a superior workload sharing within the team. I therefore expect a high level of cognition-based trust to be required for team members to voluntarily share work with others.

For the following reasons, workload sharing may also require affect-based trust in order to be carried out effectively. First, affect-based trust may foster workload sharing, as a high level of affect-based trust within a team results in assisting each other even when not directly requested or part of someone's work role (McAllister, 1995). As a consequence, team members may seek opportunities to provide assistance to their fellow team members and to make reasonable efforts to take over some of the workload whenever the workload distribution is not in balance.

Second, when affect-based trust within the team is high, an active help seeking behavior on behalf of individual team members may result in more efficient workload sharing, especially in situations where individual team members feel that they carry too much workload. This is because other team members may respond to this help seeking behavior by taking over some of the workload and thus better balance the workload among the team members. Current literature describes potential constraints against help seeking: team members may avoid seeking help because they do not want to be indebted to other team members, they do not want to depend upon one another too much, or they may fear that fellow team members would think that they are incapable for the job (Jones & George, 1998). To this ends, affect-based trust may help overcoming these constraints. At high levels of affect-based trust within the team, individual team members can expect their fellow team

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members to provide assistance without expecting immediate rewards (McAllister, 1995), and they do not feel indebted towards others (Jones & George, 1998). Moreover, these individuals can be sure that their sentiments will be reciprocated (McAllister, 1995) when seeking for help, rather than fearing that team members would associate this help seeking with incapability. Therefore, they may feel more confident in seeking help from other team members than at low levels of affect-based trust.

Third, affect-based trust in other team members is associated with need-based monitoring (McAllister, 1995), and the desire to respond to these needs (Clark et al., 1989) should facilitate in sharing the workload more effectively. Communal relationships (i.e., team members do not only feel obliged to help their fellow team members, but also do so by choice and feel a sense of responsibility for doing so, which leads to increased cooperation, cf. Clark & Mills, 1979; Clark, Ouellette, Powell, & Milberg, 1987; Jones & George, 1998) promote teamwork (Jones & George, 1998), and affect-based trust may support in developing these communal relationships because it may induce team members to deliberately help and feel responsible for each other. This may materialize in an increased level of workload sharing. Based on the experiences from our interviews and the line of argumentation above, I propose the following hypotheses:

Hypothesis 3a. There is a positive relationship between cognition-based trust and workload sharing in an entrepreneurial team.

Hypothesis 3b. There is a positive relationship between affect-based trust and workload sharing in an entrepreneurial team.

2.2.3 The effect of entrepreneurial team processes on entrepreneurial team performance

Due to resources such as time (Foo et al., 2005), financial capital (Kotha & George, 2012) or human capital (Ucbasaran et al., 2003) being especially scarce in entrepreneurial teams, team processes that transfer these resources into outcomes may play a critical role

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when it comes to the entrepreneurial team's performance. Additionally, in entrepreneurial teams information may be distributed unequally among the team members, as team members often have heterogeneous functional backgrounds (Ucbasaran et al., 2003). Hence, the ability and willingness to share pertinent information is critical for superior team outcomes (Bunderson & Sutcliffe, 2002).

Mesmer-Magnus and DeChurch (2009) conducted a meta-analysis of 72 independent studies (4,795 total groups), which demonstrated the importance of information sharing to several team outcomes, including team performance. They conceptualized information sharing in two categories, namely "uniqueness" and "openness" of information sharing, and hypothesized that both categories will positively predict team performance. Uniqueness is referred to "the extent to which teams are utilizing members' distinctive knowledge sets for the team's benefit" (p. 536), whereas openness comprises the "aspects of information exchange more broadly, encompassing team communication related to goals, progress, coordination, and the like, independent of the initial distribution pattern of information among team members" (p. 535). In the previous section, I have already introduced the working definition of information sharing as being "conscious and deliberate attempts on the part of team members to exchange work-related information, keep one another apprised of activities, and inform one another of key developments" (Bunderson & Sutcliffe, 2002, p. 881). This definition refers to the "openness" category of the conceptualization (see Mesmer-Magnus & DeChurch, 2009).

In their meta-analysis, Mesmer-Magnus and DeChurch (2009) investigated different performance criteria and separated between objective and subjective performance measures. According to the authors, while both performance measures are important for empirical research, subjective measures better represent the full domain of team performance. The meta-analysis for the relationships between both categorizations of information sharing and

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subjective team performance comprised 157 groups for the openness category and 129 groups for the uniqueness category and showed significant positive relationships. In the context of entrepreneurial teams, a greater openness in information sharing may also enhance team performance as it may better leverage the entrepreneurial team's human capital and it may help to better integrate outside expertise, as argued in the following.

First, due to scarcity of human capital in entrepreneurial teams (Ucbasaran et al., 2003), which is associated with expertise, experience, education and reputation (see Becker, 1983, c1975), entrepreneurial teams need to make the best possible use of their human capital in order to meet quality objectives of their work and hence achieve higher team performance. As argued before, information may be distributed unequally among the different team members. In such conditions, open information sharing “could indirectly enhance performance [...] by enhancing [...] the opportunity for unique information to be shared” (Mesmer-Magnus & DeChurch, 2009, p. 536) and therefore help sharing expertise and experience and ultimately integrating human capital effectively.

Second, expertise coming from outside the entrepreneurial team is often crucial for the development and the success of the new venture (e.g., Clarysse, Knockaert, & Lockett, 2007; Zarutskie, 2010). Therefore, the new venture may benefit by enhancing “its external scanning activity and develop internal communication processes which promote the expression of alternatives and new opportunities” (West, 2007, p. 96), which may in turn help meeting established flexibility objectives. Information sharing may facilitate developing respective internal communication processes, which may lead to higher team performance. Based on these arguments, and based on the empirical results regarding the effects of information sharing pointed out before, I postulate that there is a positive relationship of information sharing to the entrepreneurial team's performance. Thus, I am proposing the following hypothesis:

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Hypothesis 4a. Information sharing positively affects the performance of the entrepreneurial team.

Campion et al. (1993) found that workload sharing was strongly connected to different team outcomes such as productivity and manager judgments of the team's effectiveness. In his article on dynamics and resourcing of teamwork, Willcoxson (2006) points out that team members who are typically high achievers are imposed a burden from carrying the workload for "free riders" in order to compensate for the lower contribution of those team members who are less able or less committed (p. 802). Workload sharing should prevent social loafing or free-riding (Albanese, 1985) and thus may enhance team outcomes such as the team's performance. That is, if team members consciously share their workload among the team and thus assign responsibilities to the different work pieces, there is barely a chance for a single team member to be reluctant to contribute his or her fair share of work, which may increase team performance.

Empirical research on the consequences of workload sharing with respect to team performance is scarce. In a study with 51 work teams from different organizations, Barrick, Stewart, Neubert and Mount (1998) investigated workload sharing as an indicator of social cohesion (together with other team process variables) and found a significant positive relationship with team performance. Moreover, in two separate studies with work teams from a financial services organization, Campion et al. determined a positive association of workload sharing with performance appraisals of the work teams' employees (Campion et al., 1993; Campion, Papper, & Medsker, 1996). In addition to that, research on the consequences of workload sharing in laboratory settings suggest that team performance decreases in large teams, which may reflect social loafing (Latané, Williams, & Harkins, 1979).

The relationship between workload sharing and team performance has – to the best of my knowledge – not yet been investigated empirically in an entrepreneurial context.

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Especially in such a context, where resources are typically scarce (Foo et al., 2005; Kotha & George, 2012; Ucbasaran et al., 2003) and the environment is hardly predictable (Blatt, 2009; Ensley et al., 2006), workload sharing may have a positive impact on team performance because it may be particularly important to continuously rebalance workload in order to better allocate the team's resources and to better meet the team's objectives. Indeed, in his article analyzing factors that affect entrepreneurial team processes, Chan (2009) proposes that under conditions of high uncertainty, workload sharing should have an increased impact on team performance. In addition to that, workload sharing means allocating the workload to different team members, which is likely to contain a conscious allocation of resources within an entrepreneurial team by the team members themselves. This may also lead to a better team performance. The arguments above suggest the following hypothesis:

Hypothesis 4b. Workload sharing positively affects the performance of the entrepreneurial team.

In summary, I suggest that both team processes, i.e. information sharing and workload sharing, may play an important role for the performance of the entrepreneurial team because the team members' information and knowledge, as well as the time to handle the workload are two of the scarce resources in new ventures (Foo et al., 2005; Ucbasaran et al., 2003). Previous research recorded the existence and intensity of working processes in entrepreneurial teams already (cf. Mueller, Volery, & Siemens, 2012). However, to the best of my knowledge the role of information sharing and workload sharing in the trust performance relationship in entrepreneurial teams has not yet been investigated yet. This will be explored for the first time in the present thesis.

2.2.4 *The mediating effect of entrepreneurial team processes on the trust performance relationship*

In the present research study, I investigate *how* trust influences team processes, which in turn affect the performance of the entrepreneurial team. This should help answering one of the research questions set out in the introduction, i.e. what are the *mechanisms* of trust within entrepreneurial teams.

In a review article on the role of trust in organizational settings, Dirks and Ferrin (2001) propose a main effect of trust on performance outcomes that is “built on the idea that, because trust is a positive psychological state, [...] one will be more likely to engage in a variety of desirable actions (e.g., cooperation)” (p. 461). This actually suggests that there may be mediators at work (the desirable actions) that convert the positive psychological state into superior performance of the team.

Indeed, in their study with 73 tax consulting teams in the Netherlands, Jong and Elfring (2010) proposed three team behavioral aspects that may mediate the positive relationship between intrateam trust and team performance, namely team reflexivity, team monitoring, and team effort. The authors found that two out of these three aspects, namely team monitoring and team effort, have shown a significant mediating effect. While Jong and Elfring (2010) focused on behavioral aspects in their research, the present study investigates team *interaction* processes, more specifically information sharing and workload sharing, which may also explain the mechanisms *how* intrateam trust transfers into superior team performance.

Although not empirically investigated in their study, a description of the mediating role of information sharing in the relationship between trust (in the team’s leader) and team performance is provided by Schaubroeck et al. (2011): “When individuals’ trust in the leader rises [...], they can then be open in sharing information with other team members in a way

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that promotes team performance” (p. 865). The mediating effect of information sharing in the trust performance relationship has, to the best of my knowledge, not yet been researched empirically.

Nevertheless, empirical studies have shown that information sharing plays a mediating role in different relationships. For instance, in a study with 44 business unit management teams from a Fortune 100 consumer products company, Bunderson and Sutcliffe (2002) showed that information sharing within a team mediates the relationship between two distinct forms of functional diversity, namely intrapersonal functional diversity and dominant function diversity, and the performance of the team. More specifically, they found that information sharing fully mediates the positive relationship between the intrapersonal functional diversity of the team and team performance. Here, intrapersonal functional diversity refers to the functional breadth of the team members, ranging from “narrow functional specialists with experience in a limited range of functions” to “broad generalists whose work experiences span a range of functional domains” (p. 880).

The authors also showed that information sharing partially mediates the negative relationship between the dominant function diversity of the team (the “extent to which team members differ in the functional areas within which they have spent the greater part of their careers” (p. 878) and team performance. They argue that an increasing dominant function diversity also increases problems with communication because team members may likely view colleagues in other functions in stereotyped and biased ways. As a consequence, information sharing decreases which in turn decreases team performance. The authors suggest that information sharing mediates this relationship only partially. They propose that, besides a restricted exchange of information, there is another mechanism which is also detrimental to team performance: dominant function diversity may increase conflict, which

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makes it more difficult for the teams to reach consensus, slows down competitive response and thus decreases team performance.

Another study from Bunderson & Boumgarden (2010) showed that information sharing mediates the positive relationship between structure (i.e., team members are divided into roles and role relations) and learning in teams. In this case, learning in teams refers to learning orientation, which means the implicit pursuit of shared goals within the team. According to the authors, the mediation effect of information sharing on the relationship between structure and learning can be explained by structure “creating a safe and predictable team environment in which information is more freely shared” (p. 612).

In both studies, certain team conditions (such as functional diversity and structure) materialize in different levels of information sharing, which in turn affects certain team outcomes (such as team performance and learning orientation). Based on the following reasons, I argue that both dimensions of intrateam trust may provide team conditions that affect team performance via information sharing in entrepreneurial teams.

First, cognition-based trust helps team members believing in other team members' competencies and may thus enhance information sharing because it increases the expectance that these team members help to reach someone's goals by acting on the shared information in a productive manner (Bunderson & Sutcliffe, 2002). As argued before, information sharing may increase the entrepreneurial team's performance as it helps to better integrate the team's human capital and to better leverage outside expertise (Clarysse et al., 2007; Mesmer-Magnus & DeChurch, 2009; Ucbasaran et al., 2003; West, 2007; Zarutskie, 2010). Information sharing may thus represent a desirable action (cf. Dirks & Ferrin, 2001) that transfers high levels of cognition-based trust into superior performance of the entrepreneurial team.

Second, affect-based trust creates a psychologically safe team environment in which team members feel that they can openly share information in a way that promotes the team's

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performance (Schaubroeck et al., 2011). Based on this line of argumentation I suggest the following mediation hypotheses:

Hypothesis 5a. Information sharing within the entrepreneurial team mediates the positive relationship between cognition-based trust within the team and the team's performance.

Hypothesis 5b. Information sharing within the entrepreneurial team mediates the positive relationship between affect-based trust within the team and the team's performance.

The mediating effects of workload sharing may explain another part of the relationship between both cognition-based and affect-based trust and the entrepreneurial team's performance (Barrick et al., 1998; Campion et al., 1993; Campion et al., 1996). Based on the following arguments, I propose that similarly to information sharing, workload sharing transfers the positive effects of both cognition-based and affect-based trust into superior performance of entrepreneurial teams.

First, the positive relationship of cognition-based trust and team performance may be mediated by workload sharing as cognition-based trust reduces the risk individuals perceive of being dependent on potentially unreliable fellow team members when giving away someone's workload (Langfred, 2007). Believing in fellow team members' competencies and capabilities may hence facilitate individual team members giving away some of their workload and thus more effectively balance the workload across the team, as argued before. Continuously rebalancing workload is especially important for team performance in an entrepreneurial context, with hardly predictable and quickly changing environments (Blatt, 2009; Ensley et al., 2006; Talaulicar et al., 2005) and scarce time resources (Foo et al., 2005).

Second, affect-based trust implies a high presence of assistance-oriented citizenship behavior in the team (McAllister, 1995), leading individuals to proactively seek opportunities to provide assistance to their fellow team members to take over some of the workload

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whenever the workload distribution is not in balance. Moreover, affect-based trust creates a team environment in which team members feel safe to ask other team members for help (Jones & George, 1998). Both aspects may positively affect workload sharing, which in turn may increase the entrepreneurial team's performance for the reasons just mentioned. Based on these arguments, I arrive at the following hypotheses:

Hypothesis 5c. Workload sharing within the entrepreneurial team mediates the positive relationship between cognition-based trust within the team and the team's performance.

Hypothesis 5d. Workload sharing within the entrepreneurial team mediates the positive relationship between affect-based trust within the team and the team's performance.

To summarize, the Mechanisms of Trust Model proposes that both dimensions of trust positively affect the entrepreneurial team's performance, and that these relationships are mediated by information sharing and workload sharing. Figure 2 depicts the conceptual model for the Mechanisms of Trust Model.

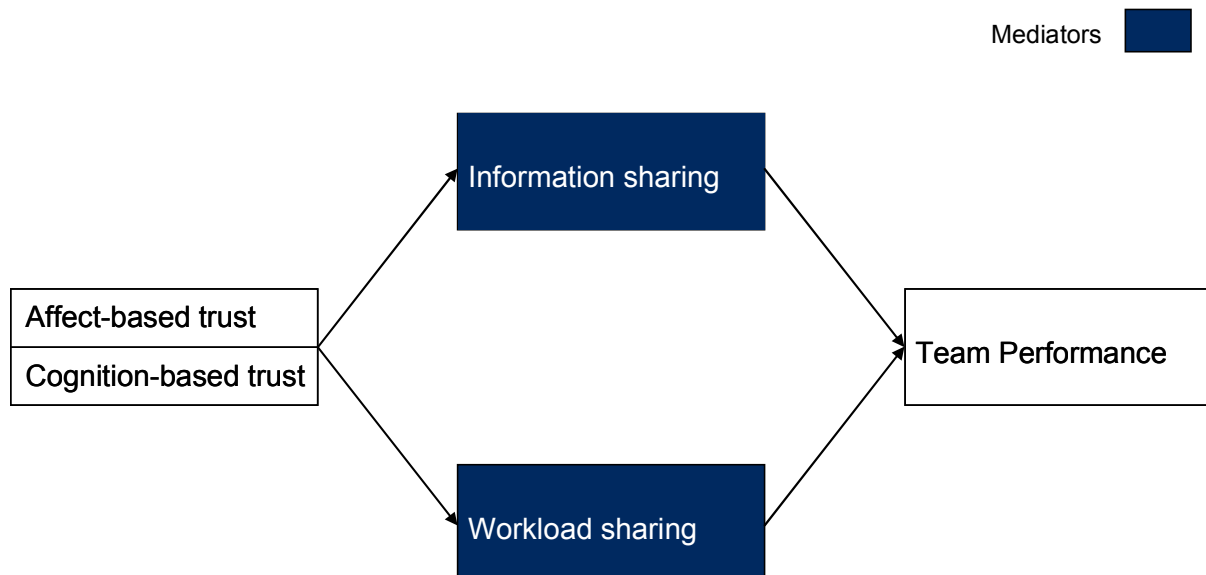


Figure 2: Conceptual model for the Mechanisms of Trust

Source: Own illustration

2.3 Development of hypotheses for the Conditional Effects of Trust Model

In the subsequent sections, I develop the hypothesis for the second model, the Conditional Effects of Trust Model. There will be no extra section for the effect of affect-based and cognition-based trust on information sharing, as the corresponding hypothesis 2a und 2b have already been developed in section 2.2.2.

2.3.1 The effect of cognition-based and affect-based trust on the decision quality of entrepreneurial teams

Top management teams of nearly every organization make strategic decisions. These decisions are often crucial for organizational performance (Amason, 1996). For example, decisions affect the allocation of the organization's resources (Kunc & Morecroft, 2010), or the pursuance of internationalization (Holt, 2012). Therefore, it is crucial for organizations to achieve a high quality of these decisions. This is also true in the context of new ventures: as resources are especially scarce in entrepreneurial teams (Ensley et al., 2003; Foo et al., 2005), an effective allocation provides a significant source of competitiveness for new ventures. Scholars even argue that "each resource choice has significant implications for survival and growth" of new ventures (Brush et al., 2001, p. 64). Moreover, new ventures have to make decisions on *when* to enter an industry (Lévesque, Minniti, & Shepherd, 2009), and like any established organization new ventures also have to make decisions on interorganizational alliances (Talaucar et al., 2005).

This suggests that new ventures continuously need to make decisions of high quality if they want to succeed. In addition to that, scholars found that new ventures are often required to change their strategy in order to reach continued growth and success (Moore, 1999). Important decisions in new ventures do not only include strategic decisions such as whether to follow new entrepreneurial opportunities or to stay with the existing direction.

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There will also be “other important critical decision domains in new ventures, [such as] alliance partner selection, venture capital firm or underwriter selection, and manufacturing decisions” (West, 2007, p. 79).

In the present research, I follow Amason (1996) in the definition of decision quality representing the quality level of decisions as it is perceived by the individual person. Due to the importance of decision quality for superior organizational performance (Amason, 1996), it is not astonishing that scholars have already extensively investigated the antecedents of decision outcomes (Dooley & Fryxell, 1999; Olson, Parayitam, & Yongjian, 2007; Talaulicar et al., 2005).

Extant research has identified two important antecedents of decision quality: the cognitive capabilities of the decision making team, and the interaction processes that transform the cognitive capabilities to decisions (Amason, 1996; Zacharakis & Shepherd, 2001; Olson et al., 2007). With respect to the first antecedent, an upper echelons perspective proposes that the collective capacity of the top management team is reflected in decision quality (Olson et al., 2007). The upper echelon theory suggests that specific characteristics of the TMT have a significant impact on organizational outcomes such as strategic choices and performance levels (Hambrick & Mason, 1984; Patzelt, Knyphausen-Aufseß, & Fischer, 2009). Scholars using this theory employ TMT characteristics such as tenure, functional background, or education level to investigate their consequences on decisions (Eisenhardt & Schoonhoven, 1990; Hambrick & D'Aveni, 1992). They have argued that the team's demographic heterogeneity points to the available cognitive diversity with respect to distinctive problem insights and viewpoints of the team members (Martins, 1996; Northcraft & Neale, 1999; Wiersema & Bantel, 1992). This diversity provides a range of capabilities that serve as a basis for the teams when making complex decisions (Bantel & Jackson, 1989).

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The second antecedent emphasizes the decision making *process* itself: the diverse knowledge of team members needs to be brought to the surface and discussed within the team in order to achieve superior decision outcomes (Schweiger, Sandberg, & Rechner, 1989; Schwenk, 1989). Researchers have investigated important team processes like cognitive conflicts (Amason, 1996), open debate (Simons, Pelled, & Smith, 1999) or learning from failure (Carmeli et al., 2012) that can enhance decision quality. The before-mentioned studies all focus on TMTs in non-entrepreneurial contexts. However, one can assume that both the cognitive capabilities and the interaction processes of entrepreneurial teams may be important antecedents of decision quality in an entrepreneurial context as well, as decisions in new ventures are also often made by a team: “in many new ventures, the key decisions affecting the venture’s ability to embrace present opportunity and to persist over time are made by a team, not by an individual” (West, 2007, p. 78).

Therefore, besides investigating which team processes can enhance decision quality, it would be of interest to understand the antecedents that impact these team processes. To this ends, trust may play an important role for superior decision outcomes, for example by facilitating certain team processes that can lead to better decision outcomes. Indeed, the role of trust for important decision outcomes has been investigated in several studies already. For instance, in a study with 77 Israeli TMTs carried out by Carmeli et al. (2012), the authors found that trust within the TMT has a positive impact on the TMT’s decision quality, and that this relationship is mediated by the TMT’s learning from experiences of failure. The authors propose that “when there is trust within the TMT, its members are more fully engaged in learning from failures and can make better strategic decisions” (p. 35).

In another study with 70 TMTs, Simons and Peterson (2000) found that intrateam trust moderates the relationship between task conflict and relationship conflict such that for teams with high levels of trust, the relationship will be weaker as compared to teams with low

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levels of trust. This finding is important as task conflict is generally associated with higher decision quality, while relationship conflict is believed to be detrimental to decision quality (see Amason, 1996). Hence, intrateam trust is an important precondition for teams that helps to realize the benefits of task conflict while avoiding the detrimental effects of relationship conflict with respect to decision quality (Simons & Peterson, 2000). In a new venture context, scholars also have carried out research on the consequences of trust on decision outcomes: in a study with German technology-based start-ups, Talaulicar et al. (2005) investigated the impact of a CEO model for TMTs on the comprehensiveness of a strategic decision under different levels of trust among the TMT members. They found that a high level of trust within the TMT reduces the negative consequences of a CEO model for the comprehensiveness of strategic decision making, and positively affects the speed of strategic decision making.

Due to the following reasons, I assume that the relationship between intrateam trust and decision quality plays an important role in a new venture context. First, new ventures often operate in high-velocity environments (Talaulicar et al., 2005), which poses additional burdens on the decision making process. As conditions in high-velocity environments often change quickly, there is often not enough time to generate a comprehensive information basis for decisions, and entrepreneurial teams are therefore making decisions under great uncertainty and intense time pressure (Baron, 2008; Ensley et al., 2006; McKelvie et al., 2011; McMullen & Shepherd, 2006). In such a context, the consequences of a high level of trust may be especially beneficial for decision outcomes: as Welter and Smallbone (2006) point out, intrateam trust can facilitate decision making in situations where individual team members have limited information capabilities.

Second, entrepreneurial team members may have distinctive perspectives and cognitions regarding their new venture (West, 2007), which they bring in as a decision basis and which should help making decisions of superior quality (Olson et al., 2007). To this ends,

trust can help bring these different perspectives and cognitions together (Schaubroeck et al., 2011) and thus provide more diverse cognitive breadth in order to make decisions of high quality.

In addition to that, our interviewees also highlighted this relationship during the interviews within the BEST research study. They connected trust to the quality of their decisions in the team on several occasions. Some examples are provided in the following:

- When asked about the most important aspects of team collaboration for the participants, one participant stated that “in a founding team, [...] decisions need to be good. You need to have the same goal. Trust needs to be in place, and open communication, because the topics need to be brought to the table” (29-072-110609)
- To the same question, another interviewee replied: “There is absolutely a basis of trust. We never take things personally. My colleague always says that we need to find a solution [...] Everybody has to be happy with the solution, it needs to be acceptable for everybody.” (49-124-110525)
- When asked about the most important aspects of team collaboration for the participants, one response stated that “one can trust another [...] and if there are four top managers who make the decisions, one needs to come to decisions that would not harm the whole team.” (64-164-110706)

These examples underscore the importance of trust for decision outcomes in entrepreneurial teams. In the following, I argue that both principal dimensions of trust, namely cognition-based trust and affect-based trust, positively affect the entrepreneurial team’s decision quality.

First, as outlined above founders need to bring in their individual perspectives and cognitions as a decision basis in order to achieve a high quality of their decisions (Olson et al., 2007; West, 2007). Cognition-based trust may help individual team members to share

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these perspectives and cognitions: if individuals exhibit trust in their fellow team members' competencies, they expect that these team members will help them to reach the individual's goals by reacting to the shared perspectives and cognitions in a productive manner (Bunderson & Sutcliffe, 2002). This should result in a higher comprehensiveness of the decision-making basis, which should promote decision quality (Olson et al., 2007). For instance, in a study with TMTs from 85 U.S. hospitals, Olson et al. (2007) found that a higher level of cognition-based trust increases the benefits of cognitive diversity with respect to task conflict, where the latter one is beneficial for decision outcomes such as decision quality, decision understanding and decision commitment.

Second, affect-based trust may promote decision quality by securing continued positive affective relationships among team members. As Amason (1996) points out, TMTs need to secure these positive affective relationships with each other over time because this allows them to work together effectively in order to produce high quality decisions (p. 123). She argues that the antecedents of decision quality, namely diversity and interaction, may prevent the maintenance of affect. However, positive affective relationships may be more likely in teams when there are strong emotional bonds between team members, and when team members believe in the intrinsic virtue of such relationships – in other words, when there is a high level of affect-based trust. This aspect may be particularly important for new ventures, which often need to make decisions in high-velocity environments (Talaucar et al., 2005). As argued before, in such environments individual informational capabilities may be limited, and affect-based trust involving goodwill may facilitate decision making with limited individual information capabilities (Welter & Smallbone, 2006).

When comparing the strength of the effects of both trust dimensions on the entrepreneurial team's decision quality, I hypothesize that cognition-based trust is more important than affect-based trust when it comes to decisions that affect the future of the new

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venture for the following two reasons. First, cognition-based trust helps bringing together individual perspectives and cognitions as a decision basis (Bunderson & Sutcliffe, 2002) and increasing the benefits of cognitive diversity on task conflict to increase decision quality (Olson et al., 2007; West, 2007). This is particularly crucial for entrepreneurial teams, where human resources of new ventures are generally concentrated (Hanks, 1993), and it may be more relevant than goodwill for facilitating decision making with limited informational capabilities, which is related to affect-based trust (Welter & Smallbone, 2006).

Second, empirical evidence from a non-entrepreneurial context also supports a superior role of cognition-based trust over affect-based trust in decision making: in a study with TMTs from 109 hospitals investigating the moderating role of cognition-based and affect-based trust in the relationship between conflict and decision quality, Parayitam and Dooley (2009) found that cognition-based trust was more important than affect-based trust. The authors argue that for complex and sensitive strategic decisions that have organization-wide implications, the trust in the team members' competence more likely affects decision quality when compared to trust stemming from personal relationships. Based on the argumentation given above, as well as the experiences from our interviews, I postulate the following hypotheses:

Hypothesis 6a. There is a positive relationship between cognition-based trust and the entrepreneurial team's decision quality.

Hypothesis 6b. There is a positive relationship between affect-based trust and the entrepreneurial team's decision quality.

Hypothesis 6c. Cognition-based trust has a stronger effect on the entrepreneurial team's decision quality when compared to affect-based trust.

2.3.2 The effect of information sharing on entrepreneurial team decision quality

Interaction processes are important antecedents of decision outcomes. For example, the quality of decisions depends materially on the process that the team employs (Steiner,

1972). Superior decisions in new ventures require a comprehensive basis of options (Amason, 1996), and these decisions are achieved through thorough consideration (Talaular et al., 2005). It is therefore of crucial interest to investigate the impact of the corresponding team processes on decision quality. In the present study, I argue that information sharing may be a team interaction process that affects decision quality in new ventures.

Information sharing has already been described in section 2.2.2 as “conscious and deliberate attempts on the part of team members to exchange work-related information, keep one another apprised of activities, and inform one another of key developments” (Bunderson & Sutcliffe, 2002, p. 881). Information sharing is therefore a team interaction process that brings together different knowledge and perspectives of the different team members and transforms their cognitive capacity into decision outcomes. This team process is likely important for the quality of decisions due to several reasons. First, the exchange of information increases the knowledge basis of relevant aspects for decisions. Olson et al. (2007) point out that „as executives exchange ideas, they gain a broader understanding of the risks, uncertainties, and necessary steps to ensure a quality decision” (p. 204). The increase of relevant information for every single team member on a certain decision should therefore allow making better informed decisions, in turn leading to a higher decision quality.

Second, according to the Collective Information Sampling (CIS) model (Stasser & Titus, 1987), the more team members have access to an item of information before discussion of a decision topic, the more likely it is that the item will emerge in the discussion. Vice versa, when team members have information unknown to their fellow team members, it is unlikely that this unique information will be shared in a team discussion when it comes to decision making (Mesmer-Magnus & DeChurch, 2009). As pointed out before, the authors argue that open information sharing may provide the opportunity for unique information to be

shared among the team members. This may increase the probability that this information will be considered for decision making. Especially in entrepreneurial teams, where team members often have information unknown to other team members due to their heterogeneous backgrounds (Ucbasaran et al., 2003), making accessible unshared information for the whole team is crucial for high quality decisions (Shepherd, Patzelt, & Breugst, 2010).

Third, information sharing may be particularly relevant for the entrepreneurial teams' decision quality, as these teams often make decisions in complex and uncertain environments (Haynie & Shepherd, 2009; Baron, 2008). In such an environment, “inadequate knowledge or assessment can lead to poor decisions” (Jehn, 1995, p. 260). The variety and amount of information needed to make decisions generally must increase with complexity (Ashby, 1976; Galbraith, 1973), as it should match the complexity of an environment: “These diverse perspectives will generate a wide range of issues, present members with a broader view of the tasks at hand, and provide a better chance to match the complexity of the external environment with the diverse talent of these executives” (Olson et al., 2007, p. 204). Bringing together diverse knowledge enhances the quality of decisions in such a context. The important role of information sharing for the decision making process in entrepreneurial teams was also reflected in several responses from our interviewees during the BEST research study. It became apparent that many teams try to keep each other up-to-date when making decisions. For example, when asked about how they make decisions in their teams, typical responses of interviewees included

- “[...] Person A and I are constantly exchanging ideas [...] but nevertheless we keep the rest of the team [...] ‘up-to-date’. [...] When there are important decisions to be made, then Person B's input is very valuable and important for us, so that each

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decision will be made by the three of us.” (I2_57_146_120109; the team is composed of three founders, where person A and B are members of the founding team)

- “[...] in case we have a topic on which somebody thinks that we need a decision, we have an unexpressed four-eyes principle, which everybody adheres to. That means that this person would go to one of the other three team members in order to exchange opinions. This way, there is a second authority in order to provide a second perspective.” (I2_18_045_111212)
- “[...] For all the important decisions, we share our viewpoints, and then we make the decision.” (29_072_110609)

The relationship between information sharing and decision quality has been well established empirically in a non-entrepreneurial context (e.g., Wittenbaum et al., 2004). Based on the line of argumentation made above, and based on the experiences from our interviews, I propose that this also holds true for entrepreneurial teams. I therefore arrive at the following hypothesis:

Hypothesis 7. Information sharing positively affects the entrepreneurial team’s decision quality.

2.3.3 *The moderating effect of positive affect on the relationship between trust and information sharing*

The venture creation journey is accompanied with affective ups and downs (Cook, 1997), and entrepreneurs are regularly characterized as passionate, emotional and enthusiastic (e.g., Breugst et al., 2012a; Cardon, Zietsma, Saporito, Matherne, & Davis, 2005). Therefore, entrepreneurship has been considered as an emotional journey in the literature (cf. Baron, 2008). Speculating about the factors of the entrepreneurial context that make entrepreneurship such an emotional process, Cardon et al. (2012) summarize several potential

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answers: it may be the extreme experience that entrepreneurship involves (Schindehutte et al., 2006), the close bond between the entrepreneur and the organization (Cardon et al., 2005), or the extreme levels of uncertainty and personal risk involved in the entrepreneurial journey (Baron, 2008).

As current literature does not yet provide a consistent definition of the terms affect and emotion, I clarify the usage of these terms in the present thesis. I follow Hatfield et al. (1994) and others (Ashforth, 1995; Barrett et al., 2007; Barsade, 2002; Barsade & Gibson, 1998; Cardon et al., 2012), and use the term emotion interchangeably with the term affect: "... we conceive both as semantically similar terms for the general constellation of individuals' feeling responses" (Barsade & Gibson, 1998, p. 82). Both terms encompass the general phenomenon of subjective feelings of pleasure and displeasure (Ashforth, 1995; Barrett et al., 2007). The general phenomenon of subjective feelings ranges from dispositional tendencies, to moods, to acute emotions (Barsade & Gibson, 1998, p. 82). While acute emotions are rather intense and relatively short-term responses to specific environmental stimuli, moods are less intense, more diffuse, not reactions to specific stimuli, but rather evoked by relatively insignificant events (p. 82). Dispositional affect refers to "a person's stable underlying affective personality that leads to a fairly consistent affective perspective" and "does not necessarily have a specific target, but is a tendency toward experiencing a certain level of positive and negative moods" (p. 83). In the following, I use the label *affect* to encompass these different types of subjective feelings.

Affect has already been researched empirically and theoretically in a vast amount of studies before. As Baron (2008) points out, research has found that affect influences decision making (e.g., Isen, 2001; Isen & Labroo, 2003), judgments and evaluations (e.g., performance appraisals Cropanzano & Wright, 1999), job satisfaction (e.g., O'Neill, Stanley,

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& O'Reilly, 2011), and performance of many cognitive tasks (e.g., Staw & Barsade, 1993). Empirical results have also shown that affect influences important behavioral aspects of team members such as engagement in citizenship behavior (e.g., George & Brief, 1996; Podsakoff & MacKenzie, 1997) and cooperation among team members at work (e.g., Baron, 2008; Beersma et al., 2003).

In entrepreneurial research, affect has been increasingly taken into account especially during the last few years (for a review on this, see Cardon et al., 2012). For instance, in a study with 124 employees of new ventures, Breugst et al. (2012a) found that the employees' perceptions of the founder's entrepreneurial passion influences their affective commitment to entrepreneurial ventures, and that positive affect at work mediated this relationship. In two studies with entrepreneurs, Foo (2011a) found that affect influences risk perceptions and risk preferences. More specifically, in the first study entrepreneurs scored lower on risk perception for a venture scenario when induced with emotions that are associated with outcome certainty and control (such as anger and happiness) than for participants induced with emotions that are associated with outcome uncertainty and lack of control (such as fear and hope). In the second study, the author found that entrepreneurs' trait anger and trait happiness are associated with a preference for more uncertain options.

In another study, Foo, Uy and Baron (2009) showed that negative affect predicts the entrepreneurs' effort to perform immediately required tasks. The authors argue that negative affect indicates inadequate progress towards goals, which makes increased efforts necessary in order to reduce this discrepancy. They also found positive affect to predict venture effort that goes beyond the immediate requirements, and that this relationship is mediated by future temporal focus ("the extent to which individuals allocate their attention to the future", p. 1087). The authors argue that despite positive affect is signaling that everything is going well

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at the moment, it would still promote further proactive behaviors toward tasks that go beyond the immediate requirements (the future temporal focus), which in turn drives proactive efforts.

Moreover, there has also been research on the effects of affect on team processes: in a study with 175 student work teams, van Knippenberg, Kooij-de Bode, & van Ginkel (2010) showed that at low levels of negative affect, team members' negative mood leads to more team information elaboration (i.e., exchanging, discussing and integrating distributed information; team elaboration was measured via behavioral observations of team discussions in this study) than positive mood, which is not the case at high levels of negative affect (positive and negative mood were induced letting people imagine happy or sad events).

However, to the best of my knowledge, it has not yet been investigated whether affect has an impact on the relationship between intrateam trust and team processes such as information sharing, and if so, what the impact would be under different levels of affect. In a previous section, I already argued that both cognition-based and affect-based trust may be important antecedents for information sharing. In addition to that, there may be factors that intensify or reduce these relationships. As stated in the introduction, one research question of the present thesis is to investigate individual level factors that may affect the mechanisms of trust in entrepreneurial teams. In the following, I argue that positive affect may play an important role as a moderator for the relationship between the two trust dimensions and information sharing. More specifically, I focus on the question whether the entrepreneurial team members' positive affect can compensate for a lack of trust with respect to information sharing. I concentrate on positive affect only, as research has shown that entrepreneurs experience fewer negative emotions when compared to employees for example, because entrepreneurs can better regulate negative emotions beyond experiencing positive emotions

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by using coping tools more effectively than employees (e.g., Patzelt & Shepherd, 2011). I expect that at high levels of positive affect the effect of trust on information sharing will be weaker due to the following reasons.

First, it has been argued that positive affect fuels proactive behavior, which refers to anticipatory actions that individuals take to benefit both themselves or their organizations (Grant & Ashford, 2008). Indeed, in a previously mentioned study, Foo et al. (2009) already demonstrated that positive affect influences venture effort beyond the immediate requirements, which drives proactive efforts (Frese, Kring, Soose, & Zempel, 1996; Smith & Hitt, 2005). As it may certainly benefit the venture in the future to make work-related information available to someone's colleagues, information sharing clearly corresponds to such a proactive effort. This may also occur at low levels of intrateam trust, such that a high level of positive affect should promote information sharing even when intrateam trust is low.

Second, as positive affect increases the scope of attention (Fredrickson & Branigan, 2003) and signals that the environment is safe (Fredrickson, 2001), team members may engage in information sharing even when they actually lack affect-based trust in their fellow team members. As noted above, affect-based trust creates a psychologically safe team environment in which team members feel that they can openly share information (Schaubroeck et al., 2011). I argue that alternatively, positive affect signaling that the present environment is safe may be sufficient to engage members of the entrepreneurial team in information sharing, even if affect-based trust is low.

Third, researchers frequently make the argument that affect influences cognition (Cardon et al., 2012). Baron (2008) argues that in highly uncertain and unpredictable environments such as entrepreneurship, affect most likely exhibits powerful effects on the entrepreneurs' cognitions and behaviors. He states that "affect can readily tip the balance

toward specific actions or decisions – effects it might not produce in environments that are more certain and predictable” (p. 329). Based on this argument, information sharing may be such a specific action, and positive affect could exert an effect on entrepreneurial team members' cognitions such that they share information among themselves even if cognition-based trust is not high enough to function as an uncertainty reducer (Colquitt et al., 2012) and thus to promote information sharing.

In contrast, when positive affect is lower, and this important ingredient fuelling proactive behaviors is missing, the positive association of trust and information sharing plays a more crucial role. Affect-based trust creating a psychologically safe environment to share information (Schaubroeck et al., 2011) and cognition-based trust as an uncertainty reducer (Colquitt et al., 2012) may then be especially important for entrepreneurial teams to share information. The moderation effects just described suggest a compensatory effect of positive affect on the relationship between both trust dimensions and information sharing. Consequently, I propose the following hypotheses:

Hypothesis 8a. Positive affect moderates the positive relationship of cognition-based trust and information sharing in entrepreneurial teams. Specifically, the positive relationship between cognition-based trust and information sharing is higher at low levels of positive affect than at high levels of positive affect.

Hypothesis 8b. Positive affect moderates the positive relationship of affect-based trust and information sharing in entrepreneurial teams. Specifically, the positive relationship between affect-based trust and information sharing is higher at low levels of positive affect than at high levels of positive affect.

2.3.4 *The moderating effect of learning goal orientation on the relationship between trust and information sharing*

Establishing a new venture typically requires continuous adaptations and improvements of various topics, such as adaptations to the initial business model (Andries & Debackere, 2006), adaptations of business concepts to customer needs (Bhave, 1994), and

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improvements of products (Wolff & Pett, 2006). As entrepreneurial teams acquire additional knowledge, skills and competences during their venture creation journey they change and adapt specific elements of their venture in order to succeed (Chandler & Lyon, 2009).

In such a context, the entrepreneurial team's goal orientation may play an important role in new venture creation. The definition of goal orientation is based on the work of Dweck and colleagues (Dweck, 1986; Elliott & Dweck, 1988; Leggett, 1988), proposing that individuals have different goal preferences in achievement situations. Entrepreneurship represents a special achievement situation, as continuous innovativeness and change are typically required from entrepreneurs (Bammens & Collewaert, 2012; Thorgren & Wincent, 2011; Zahra et al., 2006). Dweck identified two major classes of goal orientations: learning goal orientation (LGO), which emphasizes the development of skill, knowledge and competence, and performance goal orientation, in which individuals seek to gain favorable assessments of their competence (Leggett, 1988). As Bunderson and Sutcliffe (2003) argue, learning goal orientation leads to more task-focused, adaptive and mastery-oriented behaviors and outcomes (i.e., individuals seek to develop competence required for the task, see Harackiewicz, Barron, Carter, Letho, & Elliot, 1997), whereas performance goal orientation is unrelated to these variables. However, as I will argue below the entrepreneurial context requires especially adaptive and mastery-oriented behavior. Hence, I will focus on learning goal orientation in the following. It has to be noted that learning goal orientation does not tell anything about whether someone would succeed at learning, but only whether someone is focused on learning (Bunderson & Sutcliffe, 2003).

Several studies have already investigated the consequences of learning goal orientation in non-entrepreneurial contexts. For instance, in a study with business unit management teams, Bunderson and Sutcliffe (2003) found evidence that a team's learning orientation, which was referred to as "a team's climate of proactive learning" (p. 552), can

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promote adaptive behaviors that stimulate performance up to a certain point. After this point, a stronger learning orientation can indeed compromise performance. The authors found a rather complex effect of learning goal orientation, as “too much emphasis on learning can detract from performance just as too little emphasis on learning can detract from performance” (p. 554). They suggest that an overemphasis on learning may be too time-consuming and thus may detract from performance.

In a longitudinal field study with salespeople, VandeWalle, Brown, Cron, and Slocum (1999) found that learning goal orientation had a positive relationship with sales performance, and that this relationship was mediated by goal setting, effort, and planning. The authors argue that individuals with learning goal orientation view challenging tasks as opportunities for growth and development, and they will pursue adaptive responses in challenging situations by persisting, escalating effort, and engaging in solution-oriented self instruction, which in turn increases performance.

Moreover, in a study with 125 undergraduate students, Bell and Kozlowski (2002) found that learning goal orientation is positively related to individuals’ self-efficacy, performance, and knowledge (measured by basic and strategic knowledge tests). The authors reason that the results provide support for the adaptive nature of learning goal orientation. In addition to that, in a study with 25 R&D teams comprising 198 employees, Hirst, van Knippenberg, and Zhou (2009) investigated the consequences of learning goal orientation with respect to employee creativity. The authors found that an individual employee’s learning goal orientation is positively related to his or her creativity and conclude that “these results show that a preference for challenging activities and learning may enhance creative problem solving as well as translating problem solutions into innovations” (p. 289).

Empirical research of the role of learning goal orientation in an entrepreneurial context is scarce. In a study with 158 college students, Culbertson, Smith, and Leiva (2011)

showed that learning goal orientation predicts entrepreneurial career anchors (which are based on the individual's motivations that relate to "a need for change, personal freedom, challenge, developing one's own projects, and taking risk to obtain personal prominence" (p. 115), see also (Kuratko, Hornsby, & Naffziger, 1997; Matlay, 2005; Schein, 1993) when coupled with high self-efficacy, but not with low self-efficacy. I expect especially learning goal orientation to play a crucial role for entrepreneurial team members for the following reasons. First, as team members are confronted with different requirements with regards to skills and abilities in different stages of the new venture creation process (Kickul et al., 2009), mastery-oriented behaviors may be necessary in order to acquire the required skills and abilities.

Second, as argued before, establishing a new venture requires continuous adaptations and change of different aspects of the new venture entrepreneurs (Bammens & Collewaert, 2012; Thorgren & Wincent, 2011; Zahra et al., 2006). Learning goal orientation may thus be especially important in an entrepreneurial setting, as mastery-oriented and adaptive behaviors may be a superior response pattern to these requirements.

Third, one of the core functions of entrepreneurship is the exploitation of innovation (e.g., Schumpeter, 1966). To this end, creative problem solving and the transfer of problem solutions into innovations, which are associated with learning goal orientation (Knippenberg & Zhou, 2009), may be beneficial for entrepreneurial teams to implement this core function. Moreover, when we asked our interviewees about their motivation to work for a new venture, learning goal orientation emerged as a prominent aspect. Among the most frequently stated answers was the possibility to learn about a great bandwidth of topics:

- "The variety [...] of course we have topics that we focus on, but they are so broad that I have a great bandwidth [...] there are always different fields and one deals with so many interesting people" (04-011-110429)

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- “About my job, I especially like [...] that it covers various topics. I am not only doing development, but I am also some kind of a trainer for employees, which is certainly an interesting role. I do also have contact to customers and I have the possibility to immediately get customer feedback on what we are doing” (41-103-110518)
- “I like to face challenges and to master these challenges [...] It is very important to me that the task, [...] the challenge is motivating” (05_14_20110505)

These statements also support the expectation of Culbertson et al. (2011) that “individuals with a predominant LGO would be likely to endorse entrepreneurial goals because of the challenge and complexity associated with such endeavors” (p. 117). In the following, I argue that learning goal orientation plays a moderating role in the relationship between the two trust dimensions and information sharing in entrepreneurial teams.

First, extant research suggests that learning goal orientation influences team processes and team behaviors (see also Bunderson & Sutcliffe, 2003). For instance, in a study with 124 employees of an internationally operating engineering company, Matzler and Mueller (2011) found a significant positive relationship between individuals’ learning goal orientation and knowledge sharing behavior within the team, the latter one being measured as the intensity by which employees shared knowledge within their work teams or divisions. The authors argue that “an individual’s learning orientation has a positive impact on knowledge sharing because the motivation to develop one’s own skills to face challenging situations requires learning for which knowledge sharing is the prerequisite” (p. 318). A similar argument can be made for the relationship between learning goal orientation and information sharing in entrepreneurial teams: team members exhibiting high levels of learning goal orientation will share information because they want to increase their competence or master something new (Dweck, 1986). I hypothesize that the motivation to develop skills and competences needed in order to master upcoming challenges during the venture creation process engages

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individuals in team processes such as information sharing that support them in achieving their learning goals. Hence, team members may engage in information sharing based on this motivation even at low levels of intrateam trust.

Second, the response pattern associated with learning goal oriented individuals may push these individuals towards sharing information with their team members. These individuals may respond to challenges arising in the creation of a new venture with “extensive solution-oriented self-instruction” (Dweck & Leggett, 1988, p. 258), which may involve gathering information from their fellow team members as part of this self-instruction. This response pattern may be strong enough to offset a potential lack of intrateam trust.

In contrast, when team members exhibit low levels of learning goal orientation, information sharing may much more depend on the level of cognition-based and affect-based trust within the entrepreneurial team, resulting in a more pronounced positive relationship between both trust dimensions and information sharing. Thus, similarly to the role of positive affect described in the preceding section, I hypothesize that learning goal orientation will exhibit a compensatory effect and moderate the relationship between intrateam trust and information sharing. The respective hypotheses are therefore:

Hypothesis 9a. Learning goal orientation moderates the positive direct effect of cognition-based trust on information sharing in entrepreneurial teams. Specifically, the positive relationship between cognition-based trust and information sharing is higher at low levels of learning goal orientation than at high levels of learning goal orientation.

Hypothesis 9b. Learning goal orientation moderates the positive direct effect of affect-based trust on information sharing in entrepreneurial teams. Specifically, the positive relationship between affect-based trust and information sharing is higher at low levels of learning goal orientation than at high levels of learning goal orientation.

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2.3.5 The mediating effect of information sharing on the relationship between trust and decision quality and the moderating roles of positive affect and learning goal orientation

As argued before, intrateam trust may promote decision quality because it enhances the team members' conscious and deliberate attempts to share work-related information among them – information that is needed in order to obtain a comprehensive basis for making decisions of superior quality. The model proposed in this thesis is designed to investigate the mediating role of information sharing in the relationship between the two dimensions of trust, namely cognition-based trust and affect-based trust, and decision quality. Indeed, the role of information sharing as a mediator between trust and decision outcomes has been suggested by scholars in different contexts. For example, in a previously mentioned study from Talaulicar et al. (2005) on the moderating effect of trust on the consequences of a CEO model with respect to decision outcomes, the authors argue that higher levels of intrateam trust would result in a greater likelihood of TMT members providing the necessary information, which in turn leads to beneficial decision outcomes. In an empirical research study, Hackman (1990) found that betrayal and incompetence (which one can assume to be a condition of absence of trust) within TMTs decreased information sharing among team members, which eroded the effectiveness of the team's strategic decision-making.

These examples emphasize the mediating role of information sharing for the relationship between trust and decision quality. In this regard, McEvily, Perrone and Zaheer (2003) note that trust can make decision making more efficient because it simplifies information acquisition and interpretation. In previous sections I argued that information sharing may positively affect the decision quality of entrepreneurial teams, and hypotheses H2a and H2b propose a positive relationship between both dimensions of intrateam trust and information sharing. Based on these hypotheses and the argumentation above, one may

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conclude that both cognition-based trust and affect-based trust within the entrepreneurial team can influence the decision quality by increasing proactive information sharing. I therefore propose the following mediation hypotheses:

Hypothesis 10a. Information sharing mediates the positive relationship between cognition-based trust and decision quality within entrepreneurial teams.

Hypothesis 10b. Information sharing mediates the positive relationship between affect-based trust and decision quality within entrepreneurial teams.

Assuming that positive affect moderates the relationship between both dimensions of trust and information sharing, as argued in a previous section, it is also likely that positive affect will conditionally influence the strength of the indirect relationship between intrateam trust and decision quality, thus demonstrating a pattern of moderated mediation between the respective variables. As I predict a strong relationship for both dimensions of intrateam trust and information sharing when positive affect is low, and a weak relationship between the trust dimensions and information sharing when positive affect is high, I propose the following hypotheses:

Hypothesis 11a. Positive affect moderates the mediating effect of information sharing on the positive relationship between cognition-based trust within the team and the entrepreneurial team's decision quality. Specifically, the mediating effects of information sharing are stronger at low levels of positive affect than at high levels of positive affect.

Hypothesis 11b. Positive affect moderates the mediating effect of information sharing on the positive relationship between affect-based trust within the team and the entrepreneurial team's decision quality. Specifically, the mediating effects of information sharing are stronger at low levels of positive affect than at high levels of positive affect.

Likewise, I argued that learning goal orientation moderates the relationship between the two trust dimensions and information sharing. Hence, I also propose that learning goal orientation will influence the strength of the indirect relationship between intrateam trust and decision quality. As I hypothesize a strong relationship for the two dimensions of trust and information sharing when learning goal orientation is low, and a weak relationship between

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the trust dimensions and information sharing when learning goal orientation is high, I propose the following hypotheses:

Hypothesis 11c. Learning goal orientation moderates the mediating effect of information sharing on the positive relationship between cognition-based trust within the team and the entrepreneurial team's decision quality. Specifically, the mediating effects of information sharing are stronger at low levels of learning goal orientation than at high levels of learning goal orientation.

Hypothesis 11d. Learning goal orientation moderates the mediating effect of information sharing on the positive relationship between affect-based trust within the team and the entrepreneurial team's decision quality. Specifically, the mediating effects of information sharing are stronger at low levels of learning goal orientation than at high levels of learning goal orientation.

To summarize, the Conditional Effects of Trust Model suggests that the positive effects from both trust dimensions on decision quality are mediated via information sharing, and that these mediating mechanisms will be strongest at low levels of positive affect and at low levels of learning goal orientation. The conceptual model is depicted in Figure 3. In the next chapter, I describe how I empirically tested the hypotheses developed in this chapter.

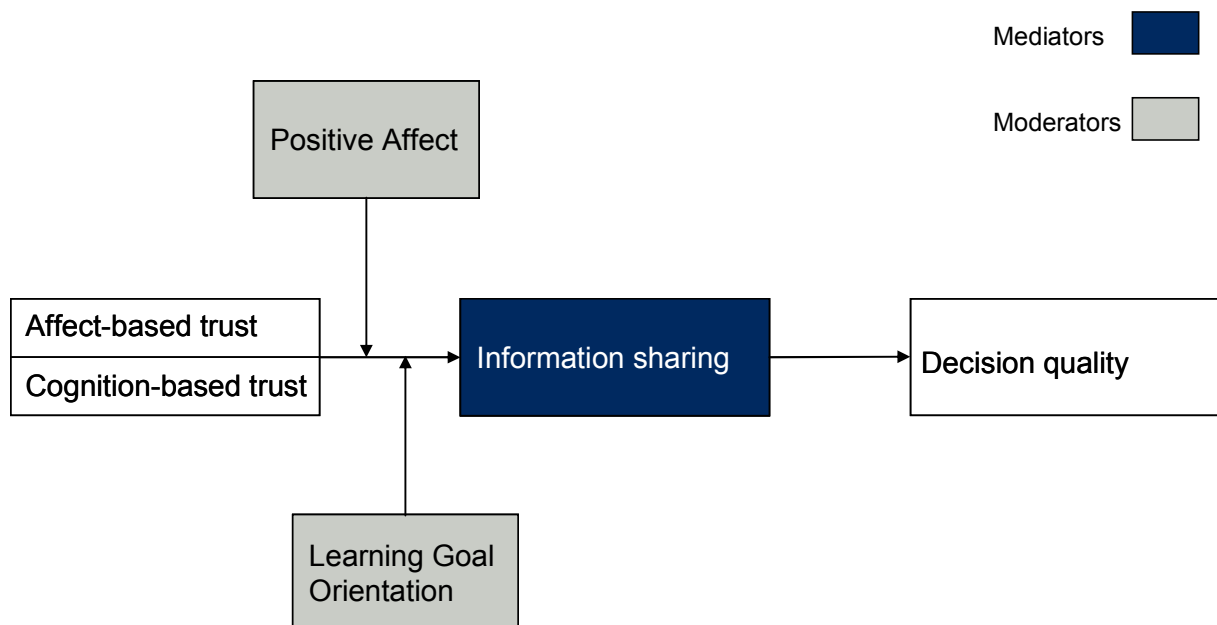


Figure 3: Conceptual model for the Conditional Effects of Trust

Source: Own illustration

3 Research setting and methodology

This chapter provides an overview of the research setting and the methodology employed in order to empirically test the hypotheses developed in the previous chapter. In section 3.1 I provide an overview of the BEST study's research design. Section 3.2 includes an explanation of our approach to recruit the participating teams and provides detailed descriptions of the research sample. Sections 3.3 – 3.5 cover the design of the quantitative questionnaires, the interview guides and the operative implementation of the BEST study. In section 3.6, I give details on dropouts over the entire course of the study. Finally, in section 3.7 I introduce the scales and measures used to empirically test the two models, and in section 3.8 I describe the methodology used for data analysis.

3.1 Research design and overall timeline of the BEST study

As outlined in the introduction already, there have been some empirical studies on entrepreneurial teams of early stage in which the founders were still involved in running the firm. However, many of these studies concentrate on either a qualitative (e.g., Forbes et al., 2006) or quantitative (e.g., Chowdhury, 2005a; Ensley et al., 2002; West, 2007) approach, mostly focusing on cross-sectional observations. In a review of empirical entrepreneurship studies published in nine different journals between 1989 and 1999 Chandler and Lyon (2001) pointed out that only 7% out of 416 studies were non-retrospective longitudinal studies. The authors also found that only 11% were multi-level or cross-level studies, and less than 0.5% employed both a longitudinal and multi-level approach (see also Lichtenstein, Dooley, & Lumpkin, 2006). Already in the early days of entrepreneurship research, Low and MacMillan (1988) have pointed out that “the challenge for entrepreneurship research is to increase the incorporation of multiple levels of analysis into future research designs” (p. 152).

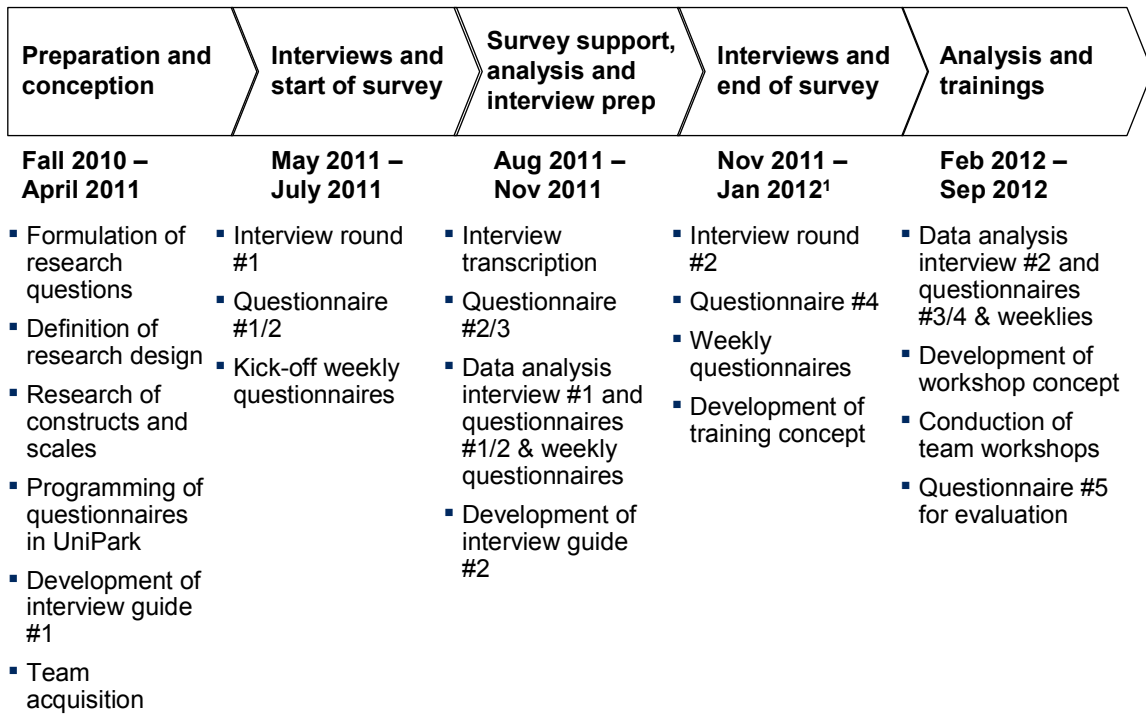
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More recently, Cooney (2005) concluded that “The dominance by many researchers employing short-term quantitatively based works has put the focus on medians and averages, frequently at the expense of longitudinal studies on individuals or teams” (p. 227).

In the present study – the BEST research study – we established a unique dataset on entrepreneurial teams by integrating multiple levels of analysis (i.e., individual, team, and venture level, as well as the ventures’ environment) and multiple methods (i.e., quantitative and qualitative approaches), following the suggestions of the aforementioned authors. Our overarching goal was to gain a more comprehensive understanding of entrepreneurial teams. The BEST research study was carried out at the Entrepreneurship Research Institute (ERI) of the Technische Universität München (TUM) under the leadership of Prof. Dr. Dr. Holger Patzelt and Prof. Dr. Nicola Breugst. The detailed design of the study and the implementation was put into practice by Anna Roth, Philipp Rathgeber and myself, Florian Bernlochner. More specifically, we conducted a longitudinal study over the period from May 2011 until September 2012, starting with 64 startup teams.

We collected both qualitative and quantitative data during this study: at the beginning of the study, we interviewed 154 founders in one-on-one semi-structured interviews of approximately one hour in length. Upon completion of the first interview, the quantitative part of the study started. In equal time intervals of two months, we sent out altogether four detailed web-based questionnaires, with a total of 199 (initial), 145 (intermediary 1), 163 (intermediary 2) and 147 (final) items for the respective questionnaires. Each of the four large questionnaires contained different questions on a broad range of topics, while many constructs were included in multiple questionnaires. We aimed for a comprehensive investigation of entrepreneurial teams and thus employed a broad spectrum of different constructs. In between, we also sent out 26 weekly “team barometers” to each participant.

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¹ The last cohort of questionnaire #4 were sent out in Jan 2012

Figure 4: Overall timeline of BEST study

Source: Own illustration

The “team barometers” were short questionnaires with 19 items in total that always covered the same set of questions. The quantitative sequence ended after approximately six months. Subsequently, we conducted 114 final one-on-one interviews of roughly one hour in length, which concluded the non-intervention part of the study. In addition to the final interviews, we conducted 10 follow-up interviews with startup teams who decided to discontinue working together.

Altogether, we conducted 278 interviews in total, gathering over 224 hours of audio material and more than 3000 pages in transcribed writings. Three months after the second interview, we carried out trainings based on our observations during the study, as promised in the acquisition phase (details follow below). The trainings were approximately 4-5 hours in length and covered topics such as conflicts in teams, team processes, or team experiences. Six weeks after these trainings, we sent out another questionnaire to evaluate the effects of the

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trainings on the participating teams with respect to the covered topics. An overall timeline of the BEST research study is shown in Figure 4.

In summary, we established a unique dataset and collected a comparatively large amount of data during the BEST research study. Generally, one can classify existing empirical entrepreneurship studies into studies that are based on standardized panel studies and individual research studies. Among the most well-known panel studies with an entrepreneurship focus are the Global Entrepreneurship Monitor (GEM) and the Panel Studies of Entrepreneurial Dynamics (PSED). The GEM is “possibly the world’s largest cross-national collaborative social science research project, in terms of methodology and in terms of scholarly impact” (Amoros, Bosma, & Levie, 2011, p. 4). The GEM project collects cross-sectional data from both entrepreneurs and non-entrepreneurs on entrepreneurial activity and attitudes of individuals in different countries in order to gain an “understanding about the influence of entrepreneurship on economic growth, and to assist in the identification of factors that encourage and/or hinder this activity” (Xavier, Kelley, Kew, Herrington, & Vorderwülbecke, 2013, p. 6). Hence, its research focus is very different from the focus of the present thesis, and recent examples for studies based on the GEM dataset include (Anokhin & Wincent, 2011; Autio & Acs, 2010; Levie & Autio, 2011).

The PSED studies provide longitudinal data suitable to investigate topics such as the nature of the entrepreneurial process. Currently more than 90 peer-reviewed publications are based on this dataset² (e.g., Brannon, Wiklund, & Haynie, 2013; Davis & Shaver, 2012; Yang & Aldrich, 2012). However, the PSED studies still suffer from the limited breadth and depth of concepts that can be measured in these studies (Gartner & Shaver, 2012).

Individual empirical entrepreneurship studies comprise both qualitative and quantitative studies. Compared to other qualitative studies, our sample size is relatively large

² See <http://www.psed.isr.umich.edu/psed/documentation>

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(for example, Iacobucci and Rosa 2010 interviewed 14 new ventures, Vanaelst et al. 2006 interviewed 10 new ventures, and Forbes et al. 2006 focused on 3 new ventures). Moreover, combining a qualitative and a quantitative approach is rather an exception (e.g., Leung, Foo, & Chaturvedi, 2013; Vanaelst et al., 2006), as are individual longitudinal entrepreneurship studies (e.g., Chandler, Honig, & Wiklund, 2005; Forbes et al., 2006; West, 2007). Hence, the BEST research study provides a unique longitudinal dataset, as we employed a multi-level design and collected both qualitative and quantitative data.

The present thesis focuses on the two models developed in the theory chapter that should help investigate the research questions regarding the effects of trust on team outcomes and *how* and *under which conditions* the two dimensions of intrateam trust affect outcomes in entrepreneurial teams. These questions are addressed based on cross-sectional data from the second large questionnaire, which was sent out two months after inception of the study, and which was the first questionnaire to include both team processes (i.e., information sharing and workload sharing), team outcome variables (i.e., team performance and decision quality), and trust simultaneously. I included the relevant scales in the second questionnaire in order to allow participants to get familiar with the questions asked in the questionnaires and to learn how to interpret them (cf. Das, Toepoel, & Soest, 2007). Additionally, I used demographic data collected in the initial questionnaire for control variables, as well as learning and performance goal orientation, as I will explain later. A cross-sectional analysis is the appropriate method for the empirical test of the two models due to the following two reasons. First, I tried to establish new and rather complex models of the consequences of trust in entrepreneurial teams that occur *immediately*, at the same time taking into account different individual level factors. This requires empirical data that is collected at one point in time. However, as elaborated in the discussion chapter, in order to investigate *dynamic* aspects of these models, a longitudinal investigation will be necessary in future research.

Second, using a cross-sectional approach is consistent with the approach employed in the empirical studies which are most relevant for the development of the hypotheses in the present thesis (cf. Bunderson & Sutcliffe, 2002, 2003; Jong & Elfring, 2010; Olson et al., 2007; Schaubroeck et al., 2011). This also holds true for studies researching team outcomes in entrepreneurial teams (Ensley et al., 2002; Talaulicar et al., 2005), while there may be exceptions (with West 2007 being an example, who investigated performance *improvements* as a dependent variable and therefore collected data from two different points in time). However, as the models in the present thesis focus on static levels of team outcomes rather than on changes to previous levels, a longitudinal approach is not needed in this case.

3.2 Recruiting process and sample description

3.2.1 Recruiting process

Selection criteria. We focused on entrepreneurial teams as participants to be included in our research sample, as we expected certain effects such as the consequences of intrateam trust to be more pronounced when compared to non-entrepreneurial settings (Baum et al., 2007), and individual level factors such as dispositional traits or affect may exert greater influence on these effects. Following Zott and Huy (2007), we also set a geographical focus for our research sample in order to reduce sample variation due to environmental factors such as business climate or available resources. Due to the need for physical presence during the interviews, we solely contacted entrepreneurial teams from the greater Munich area. Before approaching potential participants, we developed clearly specified criteria for participation in our study on a venture level and on a participant level. With respect to the venture level criteria, we followed Kamm et al. (1990)'s definition of an entrepreneurial team, requiring "two or more individuals who jointly establish a business in which they have an equity (financial) interest" (p. 7).

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The intention of the BEST study was to investigate entrepreneurial teams that are in the early phases of their ventures, where there are typically little or no organizational structures in place that could support in achieving certain team outcomes such as team performance (Shepherd et al., 2000). Hence, we set an upper limit for the firm age to approximately six years by the time of the beginning of the study. There is no consensus among researchers as to what represents a new venture (Reynolds & Miller, 1992; Vesper, 1990). However, it has been argued that the first six years will determine whether the new venture will succeed or fail (e.g., Amason et al., 2006), and we therefore chose this limit when selecting the startups (see also Lechler, 2001, who set an upper limit of six years as well for his study of social interaction in entrepreneurial teams). As certain team effects we were measuring are likely to require a significant period of collaboration within the team (Porter, Webb, & Gogus, 2010), we specified a minimum time of 6 months that the teams should have worked together before the beginning of our study (see also Eisenhardt and Schoonhoven 1990, who required a minimum of 6 months for founding executives working together before the company was founded in order to be included in their sample).

Since we were focusing on team level issues and not venture-related variables, we did not require the startup to be legally founded by the time of the starting point of our study, but there needed to be a clear objective for founding the company within the following six months in order to ensure that the participants have a clear intention to pursue a startup career. We did not exclude any startups based on their industry focus from the study, as we did not expect that this would have a significant impact on the variables measured. For the analysis of the data, however, I controlled for industries. Finally, in order to identify and locate these young teams, we focused only on startups that were located at an incubator or a founding center.

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For the participant level, we also built on Gartner et al. (1994) and required the individuals to be part of the core team to exercise direct strategic influence on the development of the startup and to share decision-making roles (p. 6). Moreover, they should have equity ownership in the startup (Kamm et al., 1990). In line with the approach taken by Vanaelst et al. (2006), entrepreneurial team members were identified before the beginning of the study by asking a member of each startup to name the team members fulfilling the aforementioned participant level selection criteria. With regards to these indications, there were no inconsistencies across the different team members of the startups.

Participation incentives. To our knowledge, the BEST study is among the most intensive studies with entrepreneurial teams in terms of participant involvement that has been carried out so far, including two one-on-one interviews with each single participant, four large questionnaires of approximately 30 minutes each to complete, and 26 short questionnaires of three minutes each. A research study with this intensity demands lots of time resources from its participants, which are typically scarce in startups (Ensley et al., 2003). As we expected the number of startups to be limited in the greater Munich area and as we assumed that gaining the commitment of entrepreneurial teams to such a time intense study will be hard, we developed a number of incentives that should help increase the chances of getting the teams to participate in the BEST study. To this ends, I asked the interviewees with whom I conducted pre-interviews (as will be detailed later), and who were members of startup teams comparable to our target sample, about incentives that would motivate them to participate in the study. Each of the four different founders emphasized that their motivation would be linked to the opportunity to take valuable insights away from their participation, which may help develop themselves as a team, and two founders expressed high interest in collaboration opportunities with the ERI. The first finding also indicates that the research questions addressed by the BEST study are of high relevance to practitioners.

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Hence, the first incentive for participating teams included feedback based on the study results, and an extended training after the end of the study in order to improve on team processes that the participants identified as critical for themselves. Furthermore, we offered the possibility to carry out project studies jointly with the ERI. These small projects are designed to support startups in dealing with current entrepreneurial challenges they are facing, such as developing a new marketing approach for their products or services. Finally, we offered the participating startups to include their company logos on our internet platform in order to gain visibility to students as a potential employer. To this ends, we reserved a web page, www.best-studie.de, where we linked the logos of the participating companies, allowing the startups to present themselves and also to see who else was taking part in the BEST study.

Acquisition tools. For the sake of an effective communication of the incentives described above, we designed a brochure (see Figure 5) that presented the goals of the study, the benefits for the participating teams, and an illustrative feedback outcome from the study. The brochure also highlighted the required time investment for participants and it provided a short introduction of the BEST team that carried out the research project. It helped us to establish a professional perception of our study among potential participants. Moreover, we created a telephone guide, including FAQ (see Appendix), for cold calls that was especially helpful to convey the key messages and standardized information to potential participants.

Acquisition process. Our initial goal was to acquire at least 50 startups for the BEST study. We exclusively approached startups that were located in incubators or entrepreneurship centers, as these startups were easy to identify. Initially, we contacted the responsible managers of these centers and asked them to distribute our brochure and to recommend the BEST study to startup teams who fulfill our selection criteria in order to motivate them to take part in our study. However, it turned out that no single startup acted upon these recom-

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„In der heutigen Welt gibt es ausreichend Technologien, ausreichend Unternehmer, ausreichend Geld und Risikokapital. Was fehlt, sind wirklich gute Teams. Ihre größte Herausforderung wird der Aufbau eines großartigen Teams sein.“ (John Doerr, Venture Capitalist)

KONTAKTIEREN SIE UNS GERNE MIT FRAGEN ODER RÜCKMELDUNGEN.
Wir freuen uns darauf, Sie ein Stück auf Ihrem spannenden unternehmerischen Weg begleiten zu dürfen!

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Lehrstuhl für BWL – Entrepreneurship
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80333 München
team@best-studie.de
www.best-studie.de

Sind Sie Teil eines Unternehmerteams, das sich gerade im Gründungsprozess befindet oder für die Entwicklung eines jungen Unternehmens verantwortlich ist? Dann laden wir Sie herzlich ein, an einem interdisziplinären Projekt über die Erfolgsfaktoren junger Unternehmerteams teilzunehmen – und auf diese Weise auch mehr über Ihre Zusammenarbeit als Team zu erfahren und Ihre Teaminteraktionen zu verbessern. Der Lehrstuhl für Entrepreneurship der TU München hat die BEST Studie ins Leben gerufen, um die Entwicklung unternehmerischer Teams zu fördern und ihre Erfolgsaussichten zu erhöhen. Denn unter Theoretikern wie Praktikern im Bereich Entrepreneurship ist unbestritten: Der zentrale Baustein für ein junges Unternehmen ist das Gründerteam. Gerade beim Aufbau des Unternehmens kommt es entscheidend darauf an, mögliche Fallstricke hinsichtlich der Teaminteraktion zu kennen sowie Stärken auszubauen, Fehler zu reduzieren und Abläufe in der Zusammenarbeit zu verbessern. Unser Projekt wird von Mai bis Dezember 2011 durchgeführt. Sie werden während dieser Zeit von unserem Team aus Wissenschaftlern mit mehrjähriger Trainings- und Beratungserfahrung betreut – Ihr individueller Aufwand beträgt dabei höchstens 1 Stunde im Monat.

Fakultät für Wirtschaftswissenschaften
Lehrstuhl für BWL - Entrepreneurship
Prof. Dr. Dr. Holger Patzelt

TUM
Technische Universität München

Figure 5: Frontpage of the brochure to introduce BEST study

Source: BEST research team

mendations. Hence, we decided to contact the startups directly via telephone. We created a list with contact details of altogether 289 companies sourced from the five largest incubators (Münchner Technologiezentrum, Innovations- und Gründerzentrum Biotech Martinsried, b-neun Media & Technology Center, gate Garching Technology and Entrepreneurship Center, Existenzgründerzentrum Ingolstadt) and the five largest entrepreneurship centers (UnternehmerTUM, Strascheg Center for Entrepreneurship, LMU Entrepreneurship Center, MUC-Center, Friendsfactory) in the greater Munich area. Subsequently, we called the contact persons directly via telephone.

As we quickly realized that pure “cold calling” will not result in the desired response rates, we changed our strategy to more time consuming, but also much more successful onsite visits. Hence, we called the startups only for the purpose to schedule an onsite meeting and

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introduce the study in person. At their site, we expressed our interest in what the startups are working on, introduced ourselves and the BEST research project to them and extensively explained the benefits of their participation. In addition to that, we visited several networking events of the different startup incubators and entrepreneurship centers in order to present the BEST study to a large number of startups. Moreover, there was an overlap of the acquisition phase and the first interview round for several startups. As we immediately received positive feedback upon our first interviews, we also referred potential participants to participants who have already taken the first interview. This probably contributed to our success in team acquisition even further.

Acquisition funnel. Out of the 289 companies contacted, we finally managed to commit 64 teams to start with the BEST study. The initial sample therefore consisted of 161 entrepreneurs working in 64 startup teams. The other 225 companies from our initial list did not participate for various reasons:

- 37 companies reported solo entrepreneur startups, which is consistent with the notion that most new ventures are founded by teams (Kamm et al., 1990)
- 19 companies were subsidiaries of larger companies or distribution offices and therefore did not qualify as a new venture
- 38 companies were older than 6 years, violating our precondition of being a startup in the early phase. However, we included 4 companies that were founded more than 6 years ago, as they indicated prior to the study that they were still in the startup phase at this time

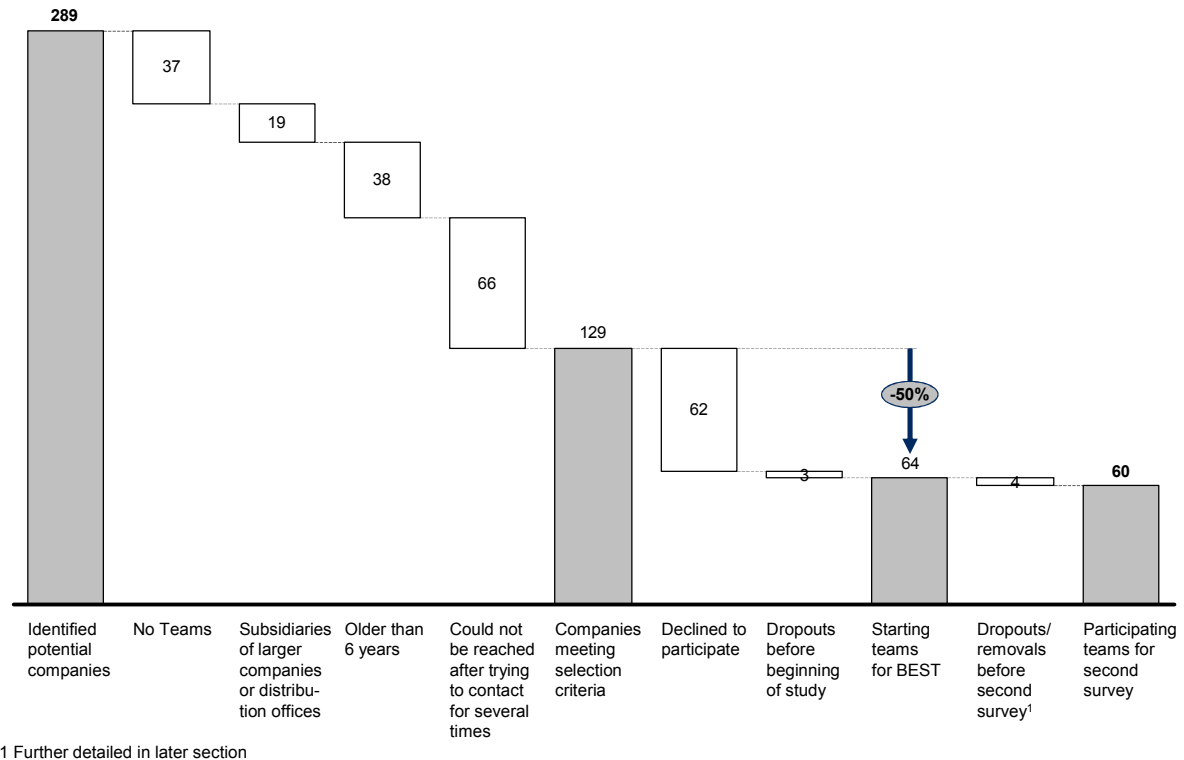


Figure 6: Team acquisition funnel, response rates and reasons for screen outs

Source: Own illustration

- 66 companies did not respond after trying to contact them for three times. Here, it needs to be added that the information on the websites of incubators and entrepreneurship centers are quickly outdated, as the turnover of startups is typically very high due to termination or relocation. For example, Dun & Bradstreet, which is considered the most exhaustive database of new ventures that are founded in the US (Kalleberg, Marsden, Aldrich, & Cassell, 1990), indicates that 20% of the companies they followed relocate each year
- 62 companies met the criteria for being considered as an entrepreneurial team, but declined to participate in the study, mostly due to time constraints
- 67 companies qualified as an entrepreneurial teams and accepted to participate
- Out of those companies, 3 dropped out before the study actually began

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The “acquisition funnel” is summarized in Figure 6. As can be seen, out of 129 companies that met our selection criteria, we won 64 for our study, resulting in an effective response rate of 50%. This value is significantly higher when compared to other empirical entrepreneurship studies. For example, in a review of mail surveys published in *Entrepreneurship Theory and Practice* and *Journal of Small Business Management* over the period between 1998 and 2004, Bartholomew and Smith (2006) found an average response rate of 27%. Hence, it seems that our high effort during the recruiting phase has paid off.

3.2.2 Description of the initial sample

During the study, we collected data on the individual, team, venture and environment levels. Demographic data were collected on age, gender, educational background, firm size, firm age, size of the entrepreneurial team, and prior startup experience on the entrepreneurial team. In the following, I will describe the initial sample on both the venture level and the individual participant’s level. As mentioned before, we recruited the 64 teams from different incubators and entrepreneurship centers. We acquired 18 out of 64 startups via *UnternehmerTUM GmbH*, 11 startups from *GATE Garching*, ten startups from the *Münchner-Unternehmer-Center (M.U.C.)*, and eight startups from the *Münchner Technologiezentrum (MTZ)*. The remaining 17 startups came from further incubators and entrepreneurship centers. A detailed breakdown can be seen in Figure 7 in the left pie chart.

With respect to the startups’ age, more than half of the startups were less than three years old by the time the BEST study started. We also had seven startup teams (11%) that were not yet legally founded, but the corresponding teams were working full-time on the startup project. Six out of these seven startups were legally founded over the course of the BEST study, whereof two were legally founded before the second questionnaire was sent out. One team decided to discontinue their startup project by March 2012 before a legal foundation. On average, the startup companies that have already been founded were approxi-

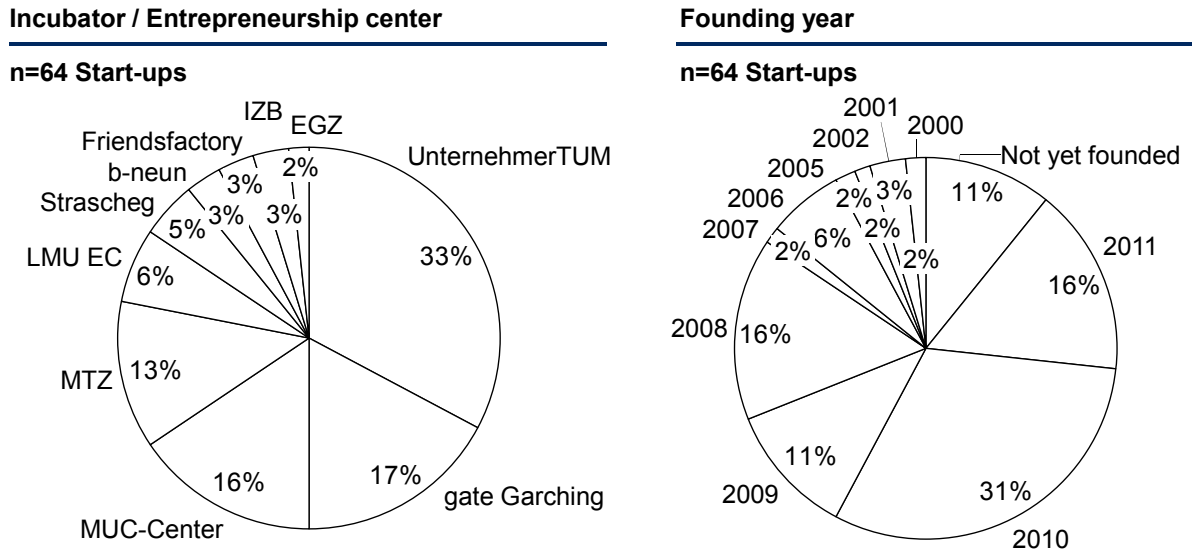


Figure 7: Incubator/ entrepreneurship center and founding year of startups

Source: Own illustration

mately 2.3 years old ($SD = 2.6$ years) at the inception of the study. The detailed distribution by age of the company is shown in the right pie chart of Figure 7. Compared to other research studies on entrepreneurial teams, this sample is relatively young. E.g., Lechler (2001) reported an average of 3.5 years, West (2007) had a median sample age of 3.3 years at the beginning of his study, and Forbes et al. (2006) interviewed three companies between two and five years of age in their study on new team member addition. This is in line with our goal to investigate startups in the very early stages of their venture.

The typical team size in our sample was 2-3 entrepreneurs: 38 teams (59%) consisted of two founding members, and another 20 (31%) teams were three members in size. Only five teams (8%) had four members, and we had one team (2%) with five members, as summarized in the left pie chart in Figure 8. The average size of the founding team, with 161 participants among 64 teams, was therefore 2.5 ($SD = 0.7$). This size seems to be typical of new ventures at this age (cf. Chowdhury 2005b, who reported an average entrepreneurial team size of 2.2 in his study, Lechler 2001 with a median of 2 and an average of three foun-

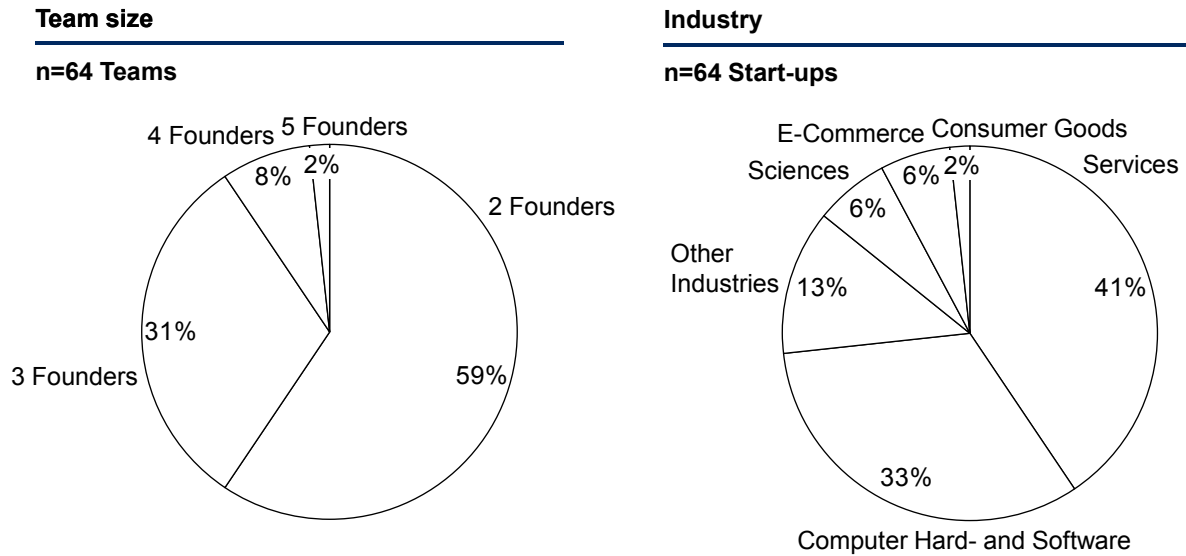


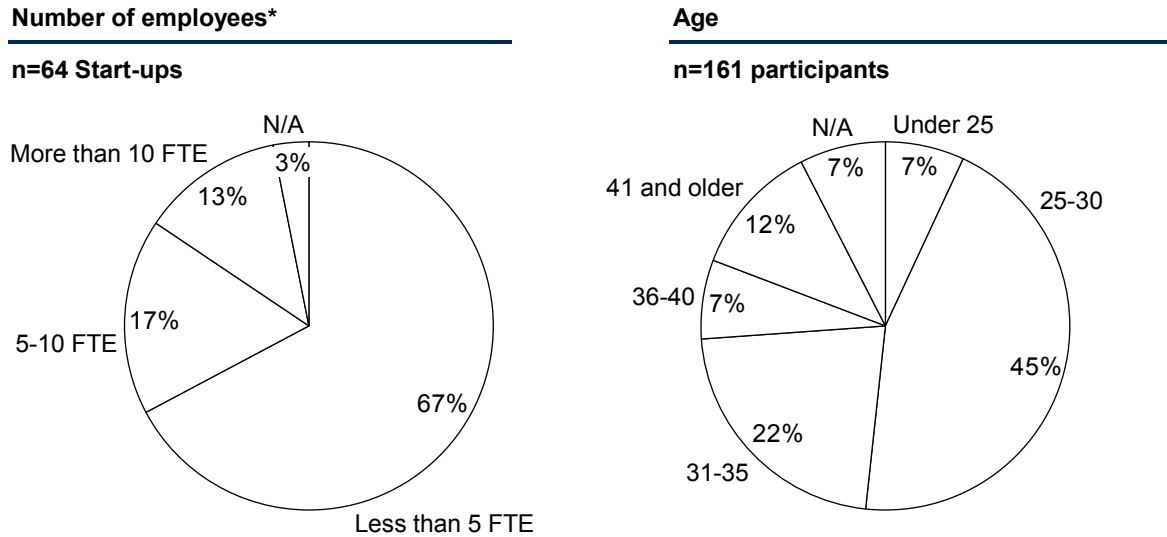
Figure 8: Team size and industry backgrounds of the BEST startups

Source: Own illustration

ders per team, or Ucbasaran et al. 2003 with an average of 2.5 founders present at the founding stages of the team-only startups in their study).

As we did not set an industry focus for the BEST study, there were a variety of industries in which the participating startups operated. The major share, i.e. more than 70%, was covered by two industries only. 26 (41%) companies were in the services sector, and another 21 (33%) worked in computer hard- and software industry. Moreover, we recruited four startups from material science, natural science, and life science (6%), as well as four e-commerce startups (6%). One startup (2%) worked in the consumer goods sector, and the remaining 8 ventures (13%) indicated that they operated in “other industries”. Further inspections revealed that these firms’ industries are often difficult to classify or that these firms operate in different industries. The right pie chart in Figure 8 gives an overview of the distribution of the ventures’ industries.

The size of the companies in terms of full-time equivalents (FTEs), including the entrepreneurial team members, ranged from 2-83 FTEs. The average firm size was 6.2 FTEs (SD = 11.0) with a median of three FTEs. The pie chart to the left of Figure 9 shows the dis-



* Including the founding team; FTE=Full-Time Equivalents

Figure 9: Firm size and distribution of participants' age of the BEST startups

Source: Own illustration

tribution of firm size by FTEs across the sample. Almost two thirds of all companies had less than five FTEs by the time the initial questionnaire was sent out. A firm size of more than ten FTEs for startups at this age seems to be an exception. Firm size is often represented by sales figures in empirical research studies (cf. Chandler et al., 2005; Hmieleski & Baron, 2009). However, the startups in the present sample are operating in different industries, which may make it difficult to use sales figures as an indicator of firm size across the entire sample. Moreover, appropriate financial records are often not available for smaller enterprises (Wall et al., 2004). For example, in our sample only 44 out of 64 startups reported that they were already generating revenues. I will thus use number of FTEs as an indicator when controlling for firm size (details will follow below). We also collected data on prior startup experience: in two thirds of all new ventures (67%), there was at least one member of the entrepreneurial team who gained startup experience prior to the current venture, and in 15 ventures (23%) two or more members had founded a start-up before starting the recent venture.

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On a participant level, more than 92% of the participants (148 entrepreneurs) were male. This is consistent with the notion that men have stronger entrepreneurial intentions than women (Díaz-García & Jiménez-Moreno, 2010; Gupta, Turban, Wasti, & Sikdar, 2009; Shinnar, Giacomini, & Janssen, 2012) and can also be observed in other studies on entrepreneurial teams. For example, in their study on new venture TMTs, Ensley et al. (2002) had an approximative 90% share for males in their sample. The mean age of our study participants was 32.5 years (SD = 8.6 years), where approximately half of the participants (52%) were less than 30 years old. 47 entrepreneurs (29%) were between 31 and 40 years old, and 19 (12%) were 41 years or older. 12 entrepreneurs (7%) did not provide any details. Figure 9, right pie chart, shows a breakdown by different age bandwidths.

We also collected information on the educational background of our participants. 56% hold either a master's degree or a diploma as the highest educational degree, and 11% holds a PhD. 9% each indicated high school or bachelor's degree as their highest level of education. Moreover, 4 % have completed an apprenticeship, and another 5% indicated degrees not listed in the questionnaire. 7% did not provide any details. With respect to their academic background, half of the participants (51%) had a business background (either business sciences or industrial engineering), and 14% had a technical background (mathematics, informatics, natural sciences or technology). 7% mentioned social sciences, law, teaching or medicine as their academic background, and 21% indicated other backgrounds not listed in the questionnaire. Again, 7% did not provide any information. Details for both level of education and academic background are also shown in the two pie charts in Figure 10. Finally, we had four (2%) non-German speaking participants completing the questionnaires in English.

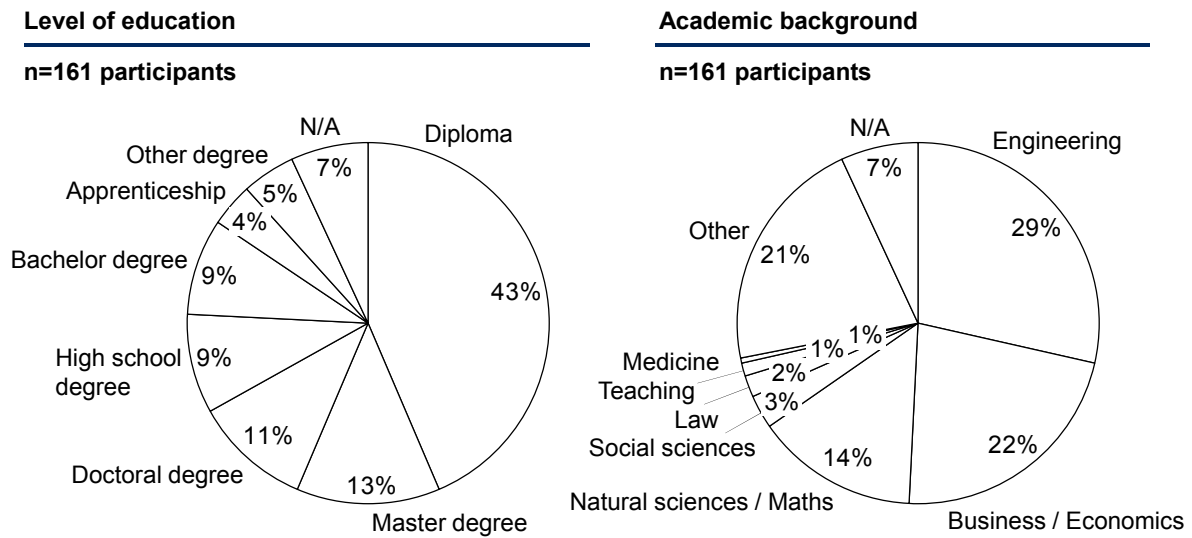


Figure 10: Level of education and academic background of the BEST participants

Source: Own illustration

3.2.3 Research sample specifically used in this thesis

In order to test the two models developed in the theory chapter, I focused on cross-sectional data from the second questionnaire, which we sent out approximately two months after the inception of the BEST study. The only exceptions were “learning goal orientation” and “performance goal orientation”, as well as demographic data such as gender, participant’s age, team age, firm size and industry background, which I used as control variables and which were all measured in the initial questionnaire. While it is clear that demographic variables do not change over time, according to Dweck (1989)’s motivational theory, learning goal orientation and performance goal orientation are relatively stable dispositional traits (see also Button, Mathieu, & Zajac, 1996) and thus can be assumed to remain stable over time as well. Hence, there should be no issues with these constructs being measured two months before the other constructs were measured.

114 participants completed the second questionnaire. Out of these, I had to remove two participants who had not completed the initial questionnaire, therefore lacking data on the control variables stated above, as well as data on learning goal orientation and

performance goal orientation. This results in a sample size of $n = 112$ participants representing 60 different startup teams. Similarly to the initial total sample, 90% (101) of the participants were male. The average age of the participants was approximately 31.9 years ($SD = 8.1$), the average firm size was 5.7 FTEs ($SD = 11.3$), and the teams have worked together for 2.0 years on average ($SD = 2.1$)³ by the time the first questionnaire was taken. The basic characteristics of this sample are hence similar to the characteristics of the initial sample. I do not expect the non-respondents to introduce any selection bias to the sample used in the present thesis. After all, we know each individual participant in person, and we did not discover any patterns that would differ for respondents and non-respondents.

3.3 Implementation of the quantitative part of the BEST study

The quantitative part of the BEST study comprised four detailed and 26 short weekly online questionnaires. The data collection period lasted six months for each participant, starting in May 2011 and ending in January 2012. As teams gradually joined the study, and as we sent out the first questionnaire only after the first interview was conducted, we had nine different cohorts of teams for the questionnaire sequence. The first cohort started in May 2011 and finished in November 2011 and the last cohort started in July 2012 and finished in January 2012.

The large questionnaires comprised both constructs that were measured repeatedly, as well as constructs that were measured only once. We included constructs that we assumed to change over time, such as team performance (cf. Cheng, Chua, Morris, & Lee, 2012) or conflict within the team (cf. Jehn & Mannix, 2001) in multiple questionnaires, while constructs that we assumed to be stable over a six months period (such as team demographics

³ Here, average firm size and team age (i.e., the time the startup team has been working together in its current composition) are calculated by taking the mean average across 60 startup teams. The descriptive statistics in the results chapter exhibit slightly different mean average values as the average was taken across 112 individuals for the individual level analyses.

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or environmental constructs) were measured only once. We sent out the large questionnaires in equidistant time intervals, with the second questionnaire being released 9 weeks after the first questionnaire. This time lag was chosen by convenience reasons, as “theory rarely specifies the exact length of the causal lag” (Kenny, 1975, p. 894). The constructs that were covered in the online questionnaires were selected based on a comprehensive literature review. We first decided to cover constructs at different levels, i.e. individual, team, venture, and environmental level. The constructs for each of these levels were then selected based on criteria given below. The goal was to identify the most relevant constructs for a research project on startup teams from social and organizational psychology literature, management science literature, and entrepreneurship literature. Our selection criteria were:

- Cronbach’s alpha of constructs should be greater than 0.7 (for further details see chapter 3.7)
- Constructs should be published in top-journals (such as *Academy of Management Journal*, *Organization Science*, or *Journal of Applied Psychology*)
- Constructs should be cited frequently and there should be no substantial negative reviews on the constructs
- Preferably, we chose constructs with a small number of items, in order to keep required effort low for the participants

Figure 11 provides an overview of the scales finally selected for our quantitative surveys.

For each online questionnaire, we used a similar structure, starting with language selection (German vs. English) and a short introduction with estimated completion time, details of the handling process, and a definition of the team to be considered when answering the questions (respondents should focus on the entrepreneurial team only, not including “regular” employees). A page with clear instructions followed (e.g., respondents should answer undisturbed by anyone else, there are no right or wrong answers). We also provided a

Level of analysis	Scales for quantitative surveys	
Individual	<ul style="list-style-type: none"> ▪ Entrepreneurial self-efficacy (Kickul et al., 2009) ▪ Job satisfaction (Brayfield & Rothe, 1951) ▪ Perceived stress (Parker & DeCotiis, 1983) ▪ Qualitative workload (Xie & Schaubroeck, 2000) ▪ Quantitative workload (Caplan, 1975) 	<ul style="list-style-type: none"> ▪ Cognitive adaptability (Hayne & Shepherd, 2009) ▪ Goal orientation (Button et al., 1996) ▪ Affect (Watson & Clark, 1999) ▪ Work-life-balance (Valcour, 2007)
Team	<ul style="list-style-type: none"> ▪ Trust (McAllister, 1995) ▪ Conflicts (Jehn, 2001) ▪ Transactive memory system (Lewis, 2003) ▪ Team learning behavior (Edmondson, 1999) ▪ Role ambiguity (Rizzo, 1970) ▪ Team identification (Mael, 1970) ▪ Information sharing (Bunderson & Boumgarden, 2010) ▪ Workload sharing (Campion et al. 1993) 	<ul style="list-style-type: none"> ▪ Team composition, team participation (Campion et al., 1993) ▪ Team potency (Guzzo, 1993) ▪ Team performance (Shaw et al., 2010) ▪ Decision quality (Amason, 1996) ▪ Team effectiveness (Schaubroeck et al., 2007) ▪ Team effort (Jong & Elfring, 2010) ▪ Team satisfaction (Jehn, 2010)
Venture	<ul style="list-style-type: none"> ▪ Perceived performance (Higashide, 2002) ▪ Sales growth (Chandler, 1992) 	
Environment	<ul style="list-style-type: none"> ▪ Environmental dynamism, environmental hostility (Green, Covin, & Slevin, 2008) ▪ Environmental heterogeneity (Miller & Friesen, 1982) 	

Figure 11: Overview of scales selected for quantitative surveys

Source: Own illustration

progress tracker so that respondents could estimate the remaining time they would need for the rest of the questionnaire. Respondents also had the chance to interrupt the questionnaire and continue at a later point in time. The items asked were clustered into different topic areas, which were highlighted in the headings of the questionnaire. The initial and second questionnaires used for collecting the data that are relevant for the present thesis can be found in the appendix. At the end of the online questionnaire, we thanked participants for their engagement and provided them with contact details, should there be any further questions.

3.4 Implementation of the qualitative part of the BEST study

3.4.1 Interview preparations

As mentioned before, we conducted two one-on-one semi-structured interviews with each of the participants. With the interviews, we expected to enrich our data with additional

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unfiltered information that cannot be collected from a static questionnaire (cf. Edmondson & McManus, 2007), such as background information on team processes or team outcomes that were reported in the online questionnaires. As we did not know in advance which findings to expect, following Edmondson and McManus (2007) we focused on asking open-ended questions in both interviews. The goal of the first interview was to gain an overarching perspective of the start-up company and its business focus, as well as the entrepreneurial team's setup and history, its everyday work characteristics and the most important team interactions. Moreover, this interview should also establish mutual trust between the interviewer and the interviewee.

In the second interview, we deepened the understanding of key areas identified in the first interview round, such as decision-making, conflict handling, and learning in entrepreneurial teams. For both interviews, we developed interview guides following suggestions of Rubin and Rubin (2012) in order to standardize the interviews to the best possible extent and to concentrate on listening actively to the interviewee. We included questions and potential follow-up questions, the latter ones being asked in order to achieve a broader and deeper understanding of the topics under discussion in case the answers to the original questions contained insufficient information (Rubin & Rubin, 2012). The questions were divided into three categories: category A questions had to be asked exactly the way as stated in the interview guidelines. Category B questions only needed to be asked in detail to one interviewee in each startup team. Finally, category C questions were additional questions that were left out in case of time constraints.

During each interview round, we continuously improved the interview guidelines based on our experiences from the first interviews. The interviews were recorded on tape and transcribed in writing after the interviews. Each BEST project team member had to ensure the quality of the transcription. In order to make the interviewees speak openly and freely about

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their team internal issues, we promised to treat any information provided during the interviews completely confidential, especially with respect to other members of the entrepreneurial team. In some cases, we even signed non-disclosure agreements for the startup teams. The transcripts serve as the scientific foundation for qualitative analysis and interpretations. I draw on the transcripts to enrich arguments with descriptive qualitative statements when appropriate.

3.4.2 Pre-interviews

In order to identify the most interesting and most relevant topics for the first interview round, I conducted pre-interviews with four different founders during the research design phase, asking open-ended questions such as *How did the relationships between the different members in your team develop, and how did this change over time? From your point of view, which were the most important reasons for the development you just described? What works well, what works less well in your team? What does “success” mean for you in a startup context, and what needs to happen in order for you to conclude that “today was a good day for the company”?* Based on the answers to these questions, we discussed and agreed on the focus topics to be covered in the first interview.

3.4.3 First interview

The first interview was conducted between May and July 2011 by Anna Roth, Philipp Rathgeber and Florian Bernlochner. Altogether, we carried out 151 one-on-one interviews with participants from 62 different teams, thereof 130 in person interviews at the startup company's site, and 21 via telephone or internet-video-conference due to the interviewees' physical absence. The interviews typically lasted 50-60 minutes. The interview guideline contained 25 open questions and was divided into six content blocks.

The first block comprised a short personal introduction of the interviewer, the research team and the ERI, as well as an explanation of the study setup, the time involvement

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of the participant during the subsequent six months and the structure of the first interview. This served to establish a personal relationship with the interviewees and created transparency on the overall study. For the explanation of the interview structure and time involvement over the course of the study, we created two powerpoint slides that can be found in the appendix.

The second block provided a broad understanding of the company and the team history and setup, involving questions such as *What does your company do? How did you get to know each other as a team? What is the function of the different team members within the company?*

The third block helped to get a sense of the interviewee's personal view on the startup and his satisfaction with his job, comprising questions such as *How would you describe a "successful day" for your startup? What do you like about your job? How would you describe your personal vision for the company?*

In the fourth block we asked the participants to describe the team interaction and the different roles within the entrepreneurial team in order to get familiar with the perceived team collaboration from different angles. Questions included, for example, *How would you describe your team interaction in general? What are the things that are really important to you when working together as a team? Do you give each other feedback, and if yes, how does this happen?*

The fifth block contained questions around learning as a team and the interviewee's counterfactual thinking (i.e., reflecting about "what might have been", see Kray et al., 2010), such as *If you would start all over again – what would you do differently? What would you keep as is? What are your most important learnings from working in a startup?*

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At the end of the interview, we wrapped up by thanking the interviewee for her/his time and explained the next steps to safeguard commitment for the subsequently starting online questionnaire sequence.

3.4.4 Second interview

The second interview was conducted upon completion of the final questionnaire, between November 2011 and February 2012. We conducted 115 interviews with participants from 51 different teams, thereof 93 in person and 22 via telephone or internet-video-conference. The difference in numbers compared to the first interview round was due to dropouts, which will be explained in detail in a later section. The interviews in the second round were carried out by Anna Roth, Philipp Rathgeber and Florian Bernlochner, with additional support by two further researchers from our research institute, namely Matthias Ballweg and Daniel Schmelzer. The guideline finally contained 28 open-ended questions on the following six content blocks.

After thanking the participants for their participation in the BEST study and briefly explaining the structure of the second interview, we asked the participants to recapitulate the major successes and challenges over the past six months, and to describe the current “spirit” within the entrepreneurial team. This provided insights on recent developments within the startup, on team issues and the current state of the team.

In the second block, we got a detailed understanding on *how* the team makes decisions with respect to e.g. the decision-making process, quality and speed of the decisions, and the respective roles of the different team members, by asking questions such as *Could you describe a major decision that your team has made recently? How satisfied were you with the outcome? With the process?*

The third block focused on team conflicts, especially intensity and different types of conflicts, conflict resolution, and the different team members’ roles connected to conflicts.

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Exemplary questions asked the interviewees to describe the most extensive conflict episode within the team, and to explain how the different team members behaved during this conflict and why they behaved like this. For questions around decision-making process and team conflicts, we asked the interviewees to recall the most important decision made within the past six months, and respectively, the most extensive team conflict, before responding to our questions. This technique forced the interviewees to report discrete events, “the perception and recall of which are less vulnerable to distortion”, such as interviewees providing answers that are consistent with prevalent lay theories (Podsakoff & Organ, 1986, p. 534).

In order to strengthen our understanding on how entrepreneurial teams learn and what emphasis is put on team learning, in the fourth block we asked the interviewees to reflect how they identify development needs and what actions they already took in order to improve as a team.

In the fifth block, we tested the appreciation of each other within the entrepreneurial team by asking *Let us assume that as of tomorrow, team member XY would no longer be in your team. What are the implications?* This revealed information on how the interviewee perceives the importance of his/her team colleagues (both with respect to their personality as well as their role in the company).

At the end of the interview, we asked the interviewees about things they are most looking forward to in the upcoming months in order to finish with a positive question. We also explained the next steps, including the training timeline and once again thanked for their participation in the BEST study.

3.5 Administration and management of the study, and motivation of participants

Over the course of the entire BEST study, we had to manage and administrate the questionnaires and interviews, and we had to keep the participants motivated in order to

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minimize dropouts due to lack of commitment. After finishing team acquisition, we distributed the participating start-up teams equally among the three BEST team researchers. This provided a clearly specified contact person for the participating teams and generated a clear responsibility for each of the startup teams within the BEST team. Each BEST team member was responsible for the management of his or her teams. This included:

- Scheduling and conducting of the interviews at the participants' site
- Ensuring the quality of the interview transcripts
- Answering questions regarding the project (questionnaires, interviews, workshop)
- Following up when questionnaires were not answered in time
- Linking the company logo on TUM webpage
- Providing support in project studies (this was rather focused on support for the business students who carried out the project studies in collaboration with the startup teams)

In addition to that, one BEST team member was responsible for the administration of Unipark, which we used as our online questionnaire management system, and one BEST team member was responsible for the management of all qualitative data, that is all interview transcripts from the two interview rounds.

For the administration of the startup teams, we used an Excel spreadsheet, which we jointly managed within the BEST team. The spreadsheet contained details on all startups which we contacted, including associated incubator or entrepreneurship center, location, contact information, demographic details on the startup, acquisition status and acquisition responsibility. This allowed us a precise tracking of the acquisition funnel and an overview of confirmation status and number of participants during the acquisition phase. In addition to that, we used this sheet to assign clear responsibilities among the BEST team members. We also created a sheet containing the list of all confirmed startup teams in order to track the

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participating startups on a team level, including team name and team identifier number for the BEST study, the responsible BEST team member for the startup, the start date of the project, status of linking the company logo, to webpage, and status of participation in the feedback workshop. Finally, we compiled another sheet at the individual participant's level in order to track status and export the data into the Unipark participant management system. The sheet contained the full names of the participants, email address, team name and team number, participant identifier, dropout status, interview scheduling details for both rounds, and status of transcription.

As a large sample size is desirable for detecting effects with smaller effect sizes (Combs, 2010, Fritz & MacKinnon, 2007) and as dropouts and missing data points over the course of a longitudinal study represent challenges for data analysis (Enders, 2011), we aimed for a high participants' commitment over the course of the whole study. To ensure this commitment, we first made the teams aware of the importance of the project. For example, we emphasized the participants' important contribution to scientific research. To this ends, Prof. Dr. Dr. Patzelt sent out an email at around mid-time of the online questionnaire panel, which outlined the scientific significance and the uniqueness of the BEST study. Beyond the participants' scientific contribution, we also emphasized the participants' contribution to helping other startup teams in dealing with their team-related issues, based on the insights of this study.

Second, during the first interview round already, teams considered questions of the project as personally relevant and interesting. To illustrate this point, we occasionally received feedback after the first interview, stating that the interview questions were going far beyond the surface, and that they tackled the most important topics of the team's collaboration. Third, the outlook to receive feedback based on our observations within the scope of an extended training after the end of the study was probably a factor that motivated

the teams to provide us with even more insights on their intrateam life. Finally, we conveyed a professional attitude over the course of the entire study. We maintained a professional website (www.best-studie.de), and a project specific email-address (team@best-studie.de). We answered questions and emails always immediately, and by linking their logos on our webpage we presumably created a sense of “being part” of the project among the participants.

3.6 Dropout statistics, response rates and panel attrition over the course of the study

3.6.1 Dropouts over the course of the study

Over the course of the questionnaire sequence, 33 participants dropped out of the study for various reasons: Two teams (altogether eight participants) committed to the initial and first intermediate questionnaires only by the start of the study. These teams did not take any other questionnaires, and they were not interviewed either. Two teams (in total five participants) rejected right after the start of the study for unknown reasons. Three teams (in total eight participants) showed a lack of engagement for the BEST study, and finally declined to participate any further due to time constraints. One team (five participants) terminated their venture because of team issues. One team (three participants) achieved a successful exit: the startup called “Netzathleten” was sold to RTL for around EUR 20 million⁴. Four participants dropped out due to team turnover at four different startups. The dropouts over time and the respective reasons are summarized in Figure 12.

3.6.2 “Large” questionnaire response rates

In the following, I will comment on the response rates for the “large” questionnaires first. I report response rates corrected for any dropouts that occurred during the study, which I will explain in detail shortly. The response rates in the present thesis were calculated based

⁴ For further details on this deal, visit <http://www.handelsblatt.com/unternehmen/it-medien/onlinevermarkter-rtl-werbetochter-uebernimmt-netzathleten/4480484.html>

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on the number of participants who completed the questionnaire, divided by the number of participants who were asked to participate and fulfilled our selection criteria. As pointed out before, we had 129 startup teams fulfilling our criteria, whereof 64 teams participated in the BEST study. As we did not collect any information on entrepreneurial team size from the 67 non-participating startup teams, I estimate the number of eligible participants by applying the average entrepreneurial team size of 2.5 to the non-participating startup teams as well, resulting in a total figure of 323 potential participants who were asked to participate in our study. Over the course of the study, we incurred dropouts due to various reasons, as outlined before. Based on these statistics, I corrected the response rates for dropouts that would decrease the number of eligible participants because these participants are not part of an entrepreneurial team anymore. Thus, I only corrected for dropouts due to team turnover, venture termination and successful exit, but not for dropouts due to lack of engagement, rejections right after study or commitment to initial and first intermediate questionnaire only:

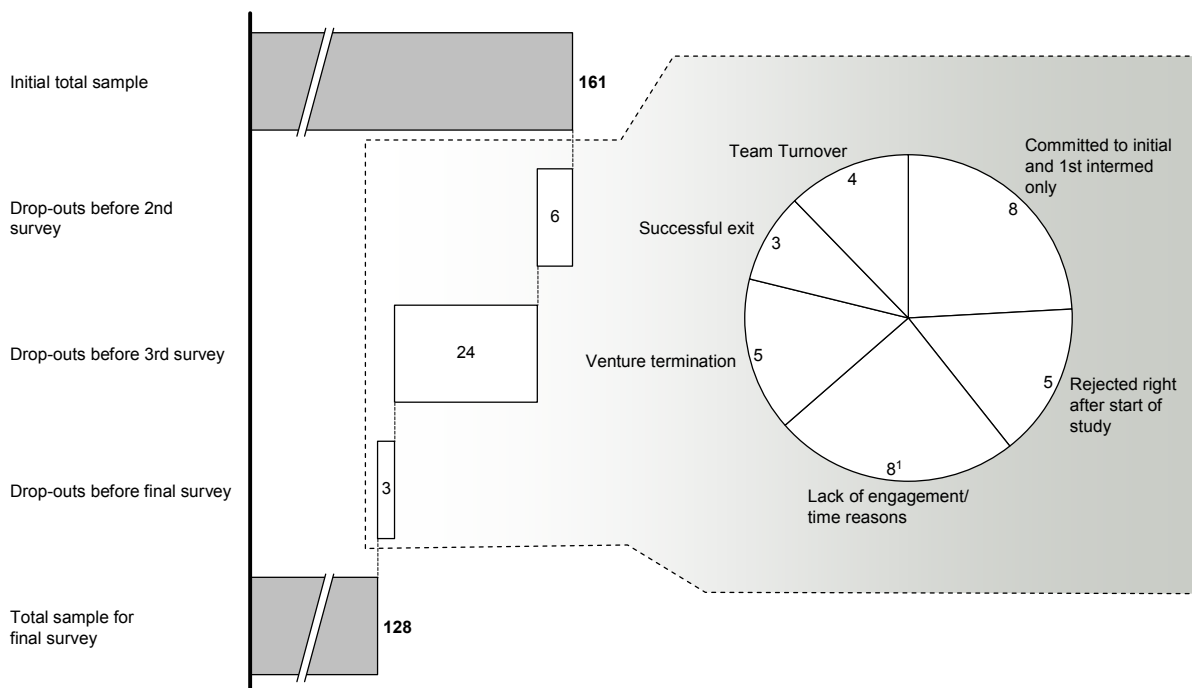


Figure 12: Dropout statistics over the course of the study and reasons for dropouts

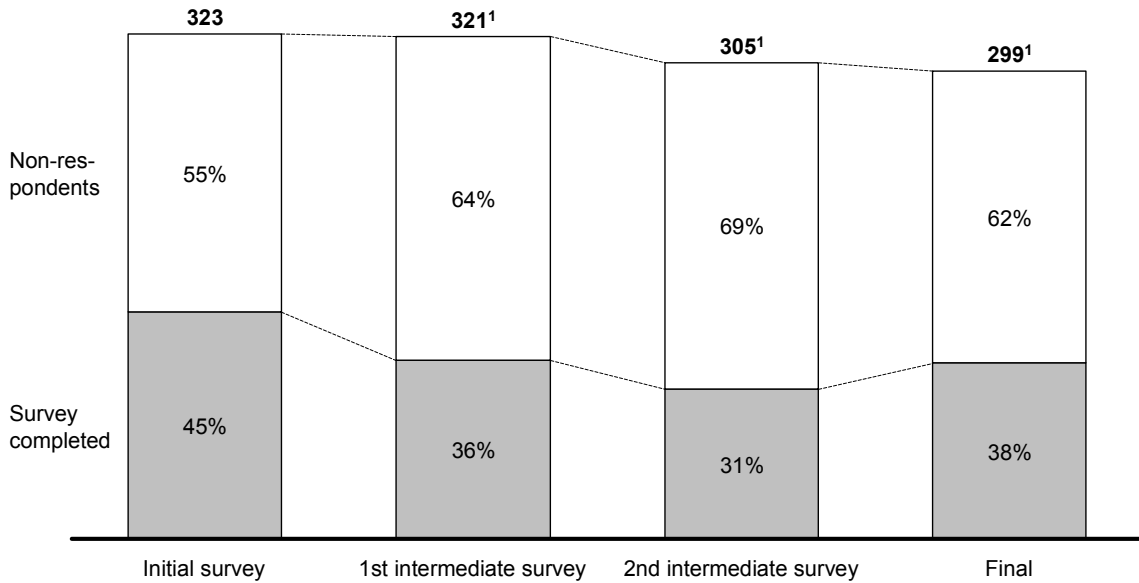
Source: Own illustration.

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participants from the latter three are still part of an entrepreneurial team. Moreover, in correcting for these dropouts I make the assumption that the 67 non-participating teams show the same dropout characteristics as the 64 participating teams. Hence, I scale the dropout numbers in the response rate calculation by 129/64.

Dropouts accounted for correction in the 64 participating teams were: 1 dropout before the first intermediate questionnaire due to team turnover, five dropouts due to venture termination, three dropouts due to successful exit before the second intermediate questionnaire and three dropouts due to team turnover before the final questionnaire. The response rates for the 4 questionnaires, corrected for dropouts and adjusted for 323 initial potential participants, are shown in Figure 13. Initially, 146 participants completed the initial questionnaire, resulting in a response rate of 45%, which is an exceptionally high rate for a questionnaire (compared to other entrepreneurship studies, e.g., 38% of entrepreneurs participating in a seminar in McGee et al., 2009, 21% in Chandler & Lyon, 2009, or 25% in Hmieleski & Baron, 2009).

Among the reasons for the high response rates are presumably that we were able to establish good rapport with the participants during the first interview, giving us the chance to engage them into the study. Additionally, we made high efforts to create commitment on the participant's side for the questionnaires, as mentioned before. The response rates dropped to 36% for the second, and 31% for the third questionnaire. The decreasing participation rates might be explained with the same reasons that resulted in this high response rate for the first questionnaire: we did not have such an intense personal contact with the teams around mid-time of the study, by the time the second and third questionnaires were sent out. For the final questionnaire, the response rate increased to 38% again. This was probably due to the fact that we scheduled the final interview at that time and reminded the participants that this interview could not be conducted until the final questionnaire had been completed.



¹ Totals already excluding dropouts, scaled with 323 initial potential participants

Figure 13: Participation rates for large questionnaires, scaled with 323 initial participants (details see text)

Source: Own illustration

3.6.3 Panel attrition in weekly questionnaires

For the weekly questionnaires, the initial response rates were around 37% of the potential initial 323 participants. Over the course of the study, this value steadily decreased, until it finally bottomed out at 24%, see Figure 14. Again, the response rates were corrected for dropouts that would decrease the number of eligible participants because these participants are not part of an entrepreneurial team anymore. This steady decline might be explained by the fact that the participants became tired to fill out 26 weekly questionnaires in a row, even if these questionnaires did not require a lot of time (2-3 minutes per questionnaire). This decline in participation, panel attrition, is very likely in longitudinal studies. For example, in a study with 4,783 heads of households who were asked to keep weekly diaries for 12 months and to hand in these diaries on a monthly basis, Lee, Hu and Toh (2004) reported a monthly attrition rate of 3.9% for months 2 to 6. For the present sample, this value would imply that the participation rate decreases from 37% at the

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beginning of the study to $37\%/1.039^6 = 29\%$ (corrected for dropouts, see below), which is close to the actual value of 24% towards the end of the study, see Figure 14.

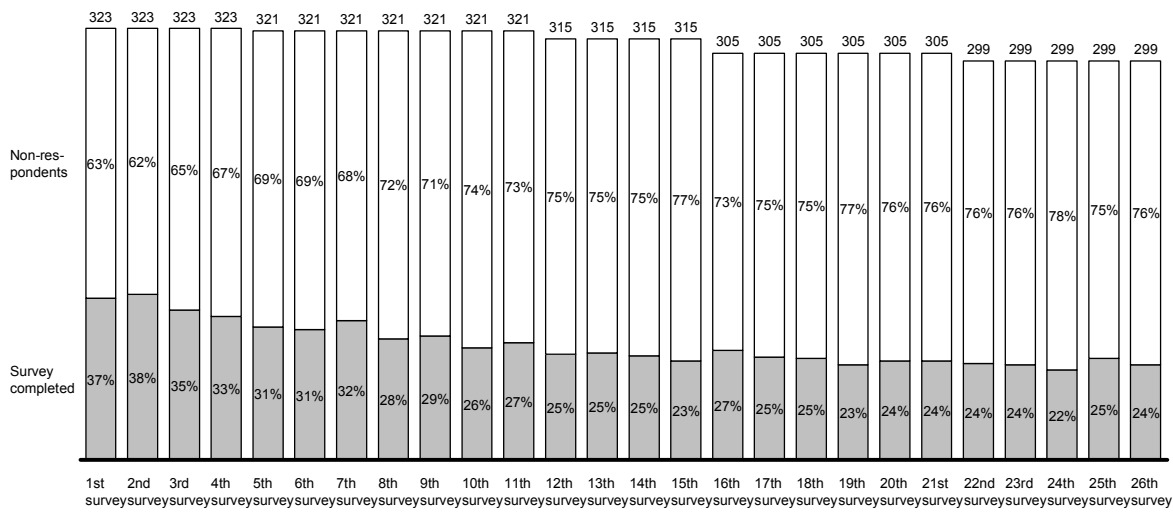


Figure 14: Overview of weekly questionnaire response rates

Source: Own illustration

3.7 Measures employed in this thesis

For all multi-item scales used in this thesis, we asked entrepreneurs to “indicate how much you agree with each of the following statements” and rate themselves on a Likert-type scale ranging from “not at all” (1) to “completely agree” (7). The only exception was the “PANAS” scale, where we asked the participants to what extent they felt like a specified emotion or feeling, and we built on the original scale ranging from “not at all” (1) to “completely agree” (5), (see Watson, Clark, & Tellegen, 1988). As the questionnaire was taken predominantly with German-speaking startups teams, following recommendations of Brislin (1970) we used a back-and-forth translation approach for translating questionnaires across different languages. A German native speaker who is fluent in English translated the original scales into German, and an English native speaker who is fluent in German translated them back into English (see also Breugst, Patzelt, Shepherd, & Aguinis, 2012b). A

subsequent comparison of the original and the back-translated versions of the scales did not exhibit any substantial differences. The participants' values were then computed based on the means of the items of the respective scales. To assess the reliability of each measurement scale, we calculated internal consistency reliabilities (the Cronbach's coefficient alpha). All Cronbach's alphas used in this thesis were above 0.70, which means that all reliabilities were high enough to be considered for further analyses (see Nunnally, 1978). In the following, I provide details on the scales for both of the tested models.

Intrateam Trust. For affect-based trust and cognition-based trust we used the scale developed by McAllister (1995) and adapted it to intrateam settings by adjusting the referent to "my team members". This adaptation to the specific context is consistent with common practice of other researchers (cf. Chua et al., 2008; Dirks, 2000; Mach et al., 2010). Affect-based trust comprises five items, namely:

- We have a sharing relationship and can all freely share our ideas, feelings, and hopes
- I can talk freely to my team members about difficulties I am having at work and know that they will want to listen
- We would all feel a sense of loss if one of us had to leave the team and we could no longer work together
- If I shared my problems with my team, I know they would respond constructively and caringly
- I could say that we have all made considerable emotional investments in our working relationship

Cronbach's alpha for affect-based trust in this sample was 0.83. The cognition-based trust scale comprises six items, in detail:

- Our team approaches the work with professionalism and dedication

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- Given our team members' track record, I see no reason to doubt their competences and preparation for the work
- I can rely on my team members not to make my job more difficult by careless work
- Most people, even those who aren't close friends of my team members, trust and respect them as coworkers
- Other persons who interact with my team members at work consider them to be trustworthy
- If people knew more about my team members and their backgrounds, they would be more concerned and monitor their performance more closely (reverse coded)

The last item is reverse coded, hence we recoded the scale before performing any computations. The cognition-based trust scale exhibited a Cronbach's alpha of 0.78 in this study.

Information sharing. We measured information sharing using exactly the four items used by Bunderson and Boumgarden (2010). The items are based on the original 3-item scale from Bunderson and Sutcliffe (2002), with minor adaptations and one additional item (the second item of the following scale):

- Information is freely shared among members of this team
- When a member of this team gets information that affects the team, they are quick to share it
- Members of this team work hard to keep one another up to date on their activities
- All members of this team are kept 'in the loop' about key issues affecting the team

Cronbach's alpha for this four-item scale was 0.87.

Workload sharing. In order to measure workload sharing, we used the original three items scale developed by Campion et al. (1993). The items contained the following statements:

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- Everyone on my team does their fair share of the work
- No one in my team depends on other team members to do the work for them
- Nearly all the members on my team contribute equally to the work

Cronbach's alpha for this three-item scale was 0.77.

Team performance. For both team outcome variables, i.e. team performance and decision quality, we used self-perceptions of subjective measures due to the following reasons. First, entrepreneurial teams are self-managed teams lacking a supervisor who could rate their team outcomes. Second, startups often lack appropriate records that would serve as a basis for objective measures (Dess & Robinson, JR., 1984; Wall et al., 2004). Third, the validity of objective measures may be strongly dependent on the context of the new venture (Geringer & Herbert, 1991), which will make it difficult to compare different startups from such a wide variety of industries, as is the case with our sample. In general, there is a correlation between subjective and objective performance measures (Baer & Frese, 2003; Dess & Robinson, JR., 1984; Geringer & Herbert, 1991). In the present study, we measured team performance with a four-item scale as suggested by Shaw et al. (2010). The scale was adapted from the original team performance scale developed by Sparrowe, Liden, Wayne and Kraimer (2001). We asked the participants to indicate how they would rate the team with respect to the following aspects (1 = very poor; 7 = outstanding):

- Quality of work
- Getting work done efficiently
- Flexibility in dealing with unexpected changes
- Overall performance

Cronbach's alpha for the four-item performance scale was 0.72.

Team decision quality. In order to measure decision quality, we followed the approach taken by Amason (1996) and used a perceptual measure of relative decision quality.

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As pointed out before, objective measures of team outcome variables may be strongly dependent on the new venture's context. To this ends, Amason argues that a decision can be good in one context but may produce poor results if the context changes. Therefore, the best way to gauge the quality of decisions is to ask those who have observed the decisions' effects and who understand the contexts of the decisions in order to judge on several dimensions how the decision turned out (p. 134). In our questionnaires, we asked the participants to indicate how they would rate the following aspects (1 = poor; 7 = excellent):

- The overall quality of the team decisions made
- The quality of the team decisions relative to their original intent
- The quality of the team decisions given their effect on venture performance

These three items produced a reliability coefficient of 0.88.

Learning goal orientation. Learning goal orientation was assessed with an 8-item scale developed by Button et al. (1996). Participants were asked to indicate how much they would agree with the following statements, and responses were based on a 7-point scale that ranged from (1) "not at all" to (7) "completely". The items included

- The opportunity to do challenging work is important to me
- When I fail to complete a difficult task, I plan to try harder the next time I work on it
- I prefer to work on tasks that force me to learn new things
- The opportunity to learn new things is important to me
- I do my best when I'm working on a fairly difficult task
- I try hard to improve on my past performance
- The opportunity to extend the range of my abilities is important to me
- When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work

The 8 items produced a reliability coefficient of 0.83.

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Positive affect. Positive affect was measured using the general dimension scales of the extended version of the Positive and Negative Affect Schedule (PANAS, see Watson & Clark, 1999). The 10-item version asked the participants to indicate to what extent they have felt this way using the following scale to record their answers: 1= very slightly or not at all; 2= a little; 3 = moderately; 4 = quite a bit; 5 = extremely. The 10 items comprised the following feelings and emotions: “interested”, “excited”, “strong”, “enthusiastic”, “proud”, “alert”, “inspired”, “determined”, “attentive”, “active”. As emphasized in the PANAS-X manual, the temporal instructions may vary from “right now” to “during the past year” (Watson & Clark, 1999). We used “during the past 6 weeks” as temporal instructions in order to make sure that there is no overlap between the different large questionnaires so that only the time between two subsequent large questionnaires was considered for the responses. This is consistent with other empirical studies using different versions of PANAS with similar time instructions (e.g., “in the past weeks” in a study using PANAS for children PANAS-C, see Ebesutani et al., 2011). The 10 items produced a reliability coefficient of 0.83.

Control variables. As empirical research has found that older people and female tend to trust more (Dohmen, Falk, Huffman, & Sunde, 2008), I controlled for participants’ *age* and *gender* effects on the assessments of intrateam trust, team processes and team outcomes (e.g., Lange et al., 2010; Soll & Klayman, 2004). I coded gender 0 for males and 1 for females.

Existing research on team behavior and performance has established that *team size* may have important implications for team dynamics and outcomes (Duffy, Shaw, & Stark, 2000; Goodman, Ravlin, & Argote, 1986). Hence, it was necessary to control for team size in the present research study, as for example in larger teams, sharing information with all team members may be more difficult (see also Bunderson & Sutcliffe, 2002). In addition to that, team size has been used as a proxy for resources such as human capital available to new ventures (Wezel, Cattani, & Pennings, 2006). Team size was operationalized as the number

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of entrepreneurs in a team. As described before, we gathered information on team size when we recruited the startups, as we asked team members to indicate who else would be part of the entrepreneurial team.

As larger firms with more employees have more resources to draw on and also may indicate more stable organizational structures (Kickul et al., 2009), I included *firm size* as a covariate in order to control for any impact of these factors on team outcomes. Firm size was assessed as the number of full-time employees (FTEs) in the company. To this ends, we had the participants indicating how many FTEs were working in their company, including the founding team members. I used the indicated figure for those startups where all team members entered the same figure. When responses were obviously wrong (which was the case for 9 startup teams because at least one of the members did not include the founding team into the number of FTEs), I used the information from the remaining team members. Finally, when there was no agreement among the team members, and the indicated figures were not obviously wrong for the aforementioned reason, I averaged over the responses of the individual team members. This was the case for 27 out of 64 startup teams. In order to check interrater agreement for the 27 teams, following James (1982) I calculated the intraclass correlation coefficient ICC(1), where I adjusted for varying number of respondents using a formula provided by Bliese and Halverson (1998). The calculation yielded a value of .98, indicating that 98% of the variance of the individual responses can be attributed to team membership (Bliese & Halverson, 1998). This value is much higher than the median value of .12 obtained by James (1982) in a review of ICC(1) estimates comprising different published studies. In addition, the result of the F-test was significant ($F(26, 28) = 124.1, p < .01$), thus justifying data aggregation by averaging over the responses (Klein & Kozlowski, 2000).

As *team age* may in some cases affect team processes and outcomes (Ancona & Caldwell, 1992; Katz, 1982), I controlled for potential effects that may be attributable to this

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variable, which was measured as the time since the startup team in its current setup/composition (if applicable even before the foundation of the venture) has been working together. Data on team age were collected in the initial questionnaire from the individual participants and subsequently aggregated on a team level by taking the average. Following the aforementioned procedure, I calculated ICC(1) adjusted for the number of respondents, which yielded .55, again clearly exceeding the median value of .12 in the review from James (1982). The F-test was also significant ($F(54, 78) = 3.9, p < .01$), and data aggregation by averaging over the individual responses was justified in this case as well (Klein & Kozlowski, 2000).

I also controlled for *industry* effects because different industries exhibit different characteristics such as the competitive landscape or the industry's turbulence, which may influence assessments of team outcomes (cf. Beckman et al., 2007; Brannon et al., 2013; Chandler & Lyon, 2009; Jong & Elfring, 2010). We asked the participants to determine the industry their venture would operate in and provided them with the following categories to choose from: sciences (life, materials and physical), services (professional and others), computer hard- and software, consumer products, e-commerce, and other. Participants made inconsistent indications in 27 teams. In these cases, the research assistant who was the contact person for the respective teams conducted a final assessment of the industry affiliation by taking into account information provided by the companies' websites. To control for industry, I defined a dummy variable for each industry and included 5 dummy variables in the analyses, using "other industries" as the baseline category (see also Chandler & Lyon, 2009).

Depending on which dimension of trust was employed as the independent variable, I controlled for the corresponding other dimension. Moreover, as pointed out in the theory chapter, the Conditional Effects of Trust Model proposes mediation effects of information sharing on the relationship between intrateam trust and decision quality, which may be

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moderated by both positive affect and learning goal orientation. In order to control for potential interdependencies between positive and negative affect (e.g., Patzelt & Shepherd, 2011; Baron, 1976), I included negative affect as a control variable for the Conditional Effects of Trust Model. In addition to that, performance goal orientation was included as another control variable in order to ensure that moderating effects measured in this study do not stem from interactive effects of the two types of goal orientations (e.g., Eison, Pollio, & Milton, 1986). I therefore describe how we measured these two variables. Performance goal orientation was measured with an 8-item scale developed by Button et al. (1996), and participants were asked to indicate how much they would agree with the following statements, with responses being based on a 7-point scale that ranged from (1) “not at all” to (7) “completely”. The items included

- I prefer to do things that I can do well rather than things that I do poorly
- I’m happiest at work when I perform tasks on which I know that I won’t make any errors
- The things I enjoy the most are the things I do the best
- The opinions others have about how well I can do certain things are important to me
- I feel smart when I do something without making any mistakes
- I like to be fairly confident that I can successfully perform a task before I attempt it
- I like to work on tasks that I have done well on in the past
- I feel smart when I can do something better than most other people

Cronbach’s alpha for the performance orientation scale was 0.82.

Negative affect was also measured using PANAS (see Watson & Clark, 1999) in the same fashion as positive affect was measured. The 10-item for negative affect comprised: “distressed”, “upset”, “guilty”, “scared”, “hostile”, “irritable”, “ashamed”, “nervous”, “jittery”, “afraid”. These 10 items produced a reliability coefficient of 0.90.

3.8 Data analyses

In order to test the hypotheses of both models, I used ordinary least squares (OLS) regression analyses. All regression analyses in this thesis were performed with SPSS 20. In addition, for bootstrapping analyses I used different SPSS macros that were programmed by Preacher and Hayes (Preacher & Hayes, 2008; Hayes, 2012). With respect to the multiple mediation model, I used the macro described in Preacher and Hayes (2008) in order to confirm the OLS regression results with bootstrapping analyses due to several advantages that are associated with this method, as detailed below. Regarding the moderated mediation model, I tested the moderation and the mediation hypotheses separately using OLS regressions. Subsequently, I used the respective SPSS macro (Hayes, 2012) to analyze the entire model and test the moderated mediation hypotheses, again using the bootstrapping approach. Therefore, I describe the approaches taken for analyzing mediation, moderation and moderated mediation in the following three sections.

3.8.1 Mediation analyses

To analyze the role of the two team processes, I used Baron and Kenny's causal steps approach (Judd & Kenny, 1981; Baron & Kenny, 1986), which is still the most commonly used method for testing mediation (Preacher & Hayes, 2008). During this procedure, three separate regression equations are estimated. The corresponding regressions are depicted in Figure 15. The first step of the causal steps approach tests whether there is a significant relationship between the proposed mediator and the independent variable (i.e., path **a**). The second step tests for the existence of a direct effect **c** and thus requires the regression of the dependent variable (DV) on the independent variable (IV) and the controls. According to Baron and Kenny (1986), a potential mediation requires this total effect to be significant (p. 1176). In the final step of the causal steps approach, the DV is regressed on both the mediator variables, the IV and the controls. Mediation is present if the relationship between DV and

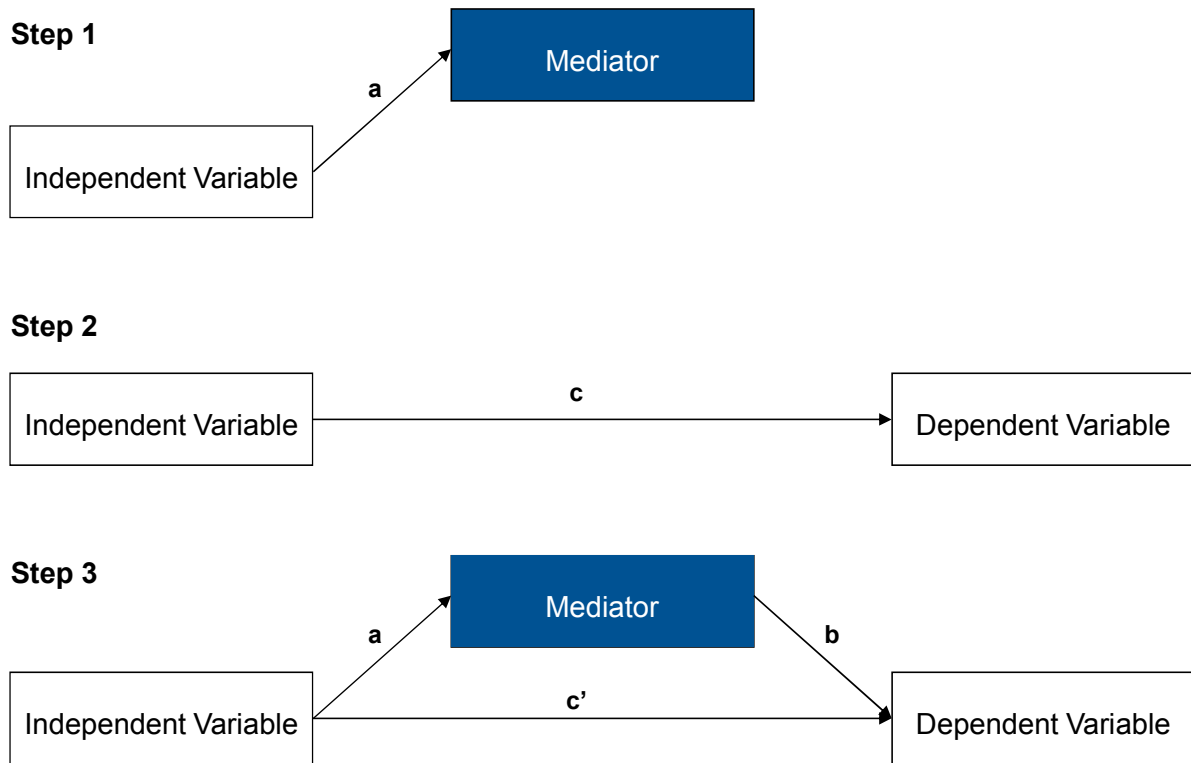


Figure 15: Causal steps approach

Source: Own illustration

the mediator variable is significant, and if the effect of IV on DV decreases substantially from the total effect (i.e., c' is substantially smaller than c in Figure 15).

It has to be noted that the causal steps approach has several limitations in its application. First of all, the causal steps approach using OLS implicitly assumes that the error terms across the regression equations for step 1 and step 3 in Figure 15 are uncorrelated, although the nature of the data used in management research may often violate this assumption (cf. DeVaro, 2011; Shaver, 2005). Correlation of error terms across these regression equations may result from the existence of measurement errors (for example, due to data for both the mediator and the DV collected from the same respondent, as is the case in the present study) and missing variables, which may systematically affect both the mediator and the DV (Shaver, 2005). Correlated errors can result in biased and inconsistent coefficient estimates, and conclusions drawn from the causal steps approach may potentially be incorrect

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(Shaver, 2005). Both DeVaro and Shaver suggest addressing this problem by replacing the mediator variable in step 3 with an instrument variable that is correlated with the mediator but not with the error term of the regression equation for step 3 (and hence predicts the DV only indirectly). However, I could not find a suitable instrument for neither the Mechanisms of Trust Model nor the Conditional Effects of Trust Model that would fulfill this requirement.

I hence follow DeVaro (2011) and assume the correlation of the error terms to be zero for mediation analyses in the present thesis. I argue that this assumption is justified due to the following two reasons. First, although I acknowledge that the measurement method, i.e. collecting data for both the mediator and the DV from the same source, may actually inflate the size of the measured relationships, this happens rather infrequently in practice (Wagner & Crampton, 1993). Following other empirical research (Chandler & Lyon, 2009; Foo et al., 2009; Matzler & Mueller, 2011; Watson, Stewart, JR., & BarNir, 2003), in order to assess the presence of common method bias resulting from this approach I conducted a Harman's single factor test as a post hoc approach (Podsakoff & Organ, 1986). In this test, all items are processed in an exploratory factor analysis. The test assumes that common method variance is present if "either (a) a single factor will emerge from the factor analysis, or (b) one 'general' factor will account for the majority of the covariance in the independent and criterion variables" (p. 536). As can be seen in section 5.4, the tests suggest that common method bias was not an issue in our study. Second, based on theory I could not think of any missing variables that systematically affect the DVs and the mediators used in the two models under investigation.

Another limitation of the causal steps approach stems from its inability to provide a statistical test of the indirect effect of IV on DV through the mediator. It does not provide a joint test of the three paths **a**, **b**, and **c**, nor point estimates of the size of the indirect effect **a*b** on the relationship between IV and DV or standard errors to construct confidence

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intervals (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2008). Moreover, it is difficult to apply the causal steps approach to models incorporating multiple mediators, as is the case for the proposed Mechanisms of Trust Model, and to evaluate each of the effects separately (MacKinnon, 2000; West & Aiken, 1997). Finally, several authors have argued that c does not need to be significant in order for mediation to occur (Collins, Graham, & Flaherty, 1998; Judd & Kenny, 2010; Krull & Lockwood, 2000; MacKinnon, 1994, 2000; Shrout & Bolger, 2002). For example, it may be the case that one variable acts as a mediator, and the second variable acts as a suppressor, so that in effect, the two indirect effects cancel out each other (cf. Krull & Lockwood, 2000). Nevertheless, both models investigated in the present thesis propose that the direct path c will be significantly positive, and the Mechanisms of Trust Model proposes that both mediators, namely information sharing and workload sharing, act in the same direction. Hence, this limitation should not be an issue in the context of the present study.

Other approaches test the mediation hypotheses by focusing on the product term $a*b$, which equates with the difference between the total and the direct effect: $c - c' = a*b$ (cf. Preacher & Hayes, 2008). For example, the Sobel test (Sobel, 1982, 1986) tests the significance of the mediation effect by calculating the ratio of $a*b$ to its estimated standard error. This ratio is then compared to the standard normal distribution (see also Preacher & Hayes, 2008). However, normal distributions of the indirect effect should only be assumed in large samples (MacKinnon et al., 2002; Preacher & Hayes, 2004), which is not the case in the present study. Hence, I followed a different approach called “bootstrapping”, which does not rely on the assumption of normal distribution of the indirect effect. As I also used bootstrapping analyses to test the moderated mediation model, I will first explain moderation analyses before going into the details of the bootstrapping approach.

3.8.2 Moderation analyses

Before testing the moderated mediation model as a whole with the SPSS macro from Hayes, I tested the moderation hypotheses with regards to the relationships between cognition-based and affect-based trust and information sharing separately by examining the following regression equation:

$$Y = a + \beta_X X_s + \beta_M M_s + \beta_{XM} X_s \cdot M_s + e \quad (1)$$

where β_{XM} is the standardized coefficient of the interaction term $X_s \cdot M_s$, X the IV and M the moderator, while Y represents the DV, which was information sharing in the case of the present study. The error term is denoted by e . Before conducting the regression analyses, I standardized the variables in order to obtain readily interpretable coefficients and reduce problems associated with multicollinearity (see Aiken, West, & Reno, 1991; Frazier, Tix, & Barron, 2004). Standardizing (i.e., z-scoring) transforms the variables into new variables with means of zero and standard deviation of one. Standardized variables in the formula above are denoted with the subscript s . The interaction terms are computed by multiplying the standardized variables (see Frazier et al., 2004). I used hierarchical regression analysis to examine the equation above. This approach permits the control variables, main effects, and interaction effects to be entered stepwise into the equation. This way, the variance of the DV that is explained by the main effects (and the interaction effects in the subsequent step) *beyond* the variance explained by the control variables (and the main effects in the subsequent step) can be obtained, and the interaction effects are tested in the presence of the control variables and the main effects (see also Green, Covin, & Slevin, 2008). In order to interpret the coefficients of the equation above, one may write equation (1) above as

$$Y = a + (\beta_X + \beta_{XM} M_s) \cdot X_s + \beta_M M_s + e \quad (2)$$

This equation shows that in case β_X and β_{XM} have the same sign, at high levels of the moderator M the effect of X on Y should be more pronounced (likewise, if the IV and the

interaction term have opposite signs, high levels of the moderator M should suppress the effect of X on Y). β_{XM} quantifies by how much the increase/decrease in Y resulting from a one-unit increase/decrease in X changes under the condition that M changes by one unit (Hayes, 2012). All independent, dependent and moderator variables used in this study are continuous variables. In order to depict the results of the moderation analyses, in the next chapter I will follow the recommendations of Cohen (2003) and plot interaction effects using regression slopes for low (-1 SD) and high (+1 SD) levels of the moderator around its mean. Figure 16 conceptually shows two relationships between X and Y resulting from two different levels of the moderator (1 SD above and, respectively, 1 SD below the mean value).

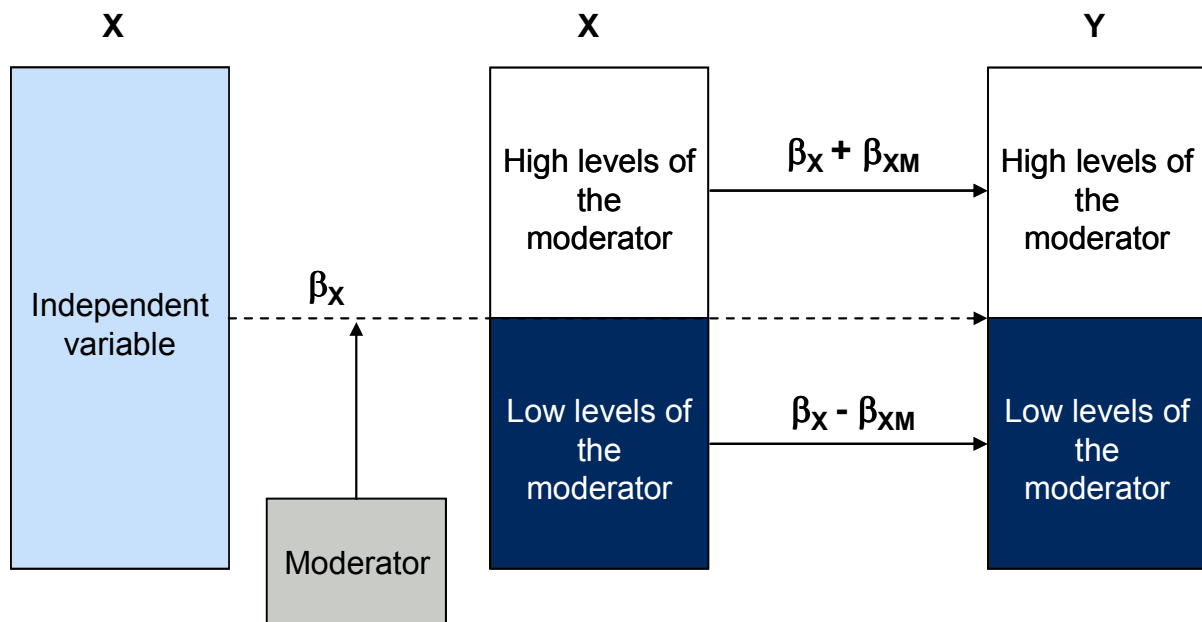


Figure 16: Relationship between X and Y at high and low levels of the moderator

Source: Own illustration

3.8.3 Multiple mediation and moderated mediation analyses with bootstrapping

Due to the limitations of the causal steps approach outlined before, I complemented this approach with bootstrapping analyses of both the multiple mediation and the moderated mediation models (Hayes, 2012; Preacher & Hayes, 2008). As I will explain in detail below, the bootstrapping approach does not rely on a normal distribution of the indirect effects and

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can be applied on studies with small sample sizes. For instance, as Breugst et al. (2012a) note, empirical studies employing this bootstrapping procedure have drawn on sample sizes of 60 (Cole, Walter, & Bruch, 2008), 124 (Johnson & Lord, 2010), and 91 (study 4 by Sullivan, Landau, & Rothschild, 2010). This is consistent with our study, with a sample size of 112. Moreover, as pointed out before it is difficult to apply the causal steps approach to models incorporating multiple mediators, as is the case for the proposed Mechanisms of Trust Model in the present thesis (MacKinnon, 2000; West & Aiken, 1997). In a multiple mediation model, it is important to enter both mediators simultaneously into the regression equations for several reasons as outlined in Preacher and Hayes (2008) and summarized in the following.

First, the test of the total indirect effect of the IV on the DV due to several mediators is similar to a regression analysis with multiple predictors, aiming to determine the existence of an overall effect. In case a significant effect is found, it can be concluded that the set of the two variables, information sharing and workload sharing, mediates the effect of IV on DV. Second, the extent to which specific variables under investigation mediate the effect of IV on DV can be determined, simultaneously accounting for the presence of further mediators in the model. Third, including multiple putative mediators (either as IVs or as mediators) in a mediation model decreases the probability of parameter bias that occurs due to omitted variables. Finally, including the two mediators into the model simultaneously allows determining the relative magnitudes of the specific indirect effects that can be attributed to the different mediators. Bootstrapping is best suited for investigating the effects that can be attributed to every single mediator (Preacher & Hayes, 2008). The following summary of the bootstrapping method is based on Preacher and Hayes (2008).

The bootstrapping method repeatedly samples data from the data set and estimates the indirect effect of the mediators in each re-sampled data set. More concretely, a subsample of

size n is generated from the original sample, and the value for the specific individual and total indirect effects $a*b$ is calculated based on this subsample. The subsample of size n is thereby constructed by sampling with replacement n times from the original dataset. I repeated this process 10,000 times to yield 10,000 estimates of the total and specific indirect effects of the mediators (Preacher and Hayes recommend at least 1,000 estimates) on the relationship between each trust dimension and team performance (in the case of the Mechanisms of Trust Model) and, respectively, decision quality (in the case of the Conditional Effects of Trust Model). The distribution of these estimates approximates the sampling distribution of the total and specific indirect paths $a*b$ empirically. The standard deviation of these estimates corresponds to the estimate of the corresponding standard error. Subsequently, the bootstrap confidence intervals for the specific indirect effect through each mediator are derived by sorting all 10,000 values for the estimates of the indirect path from low to high.

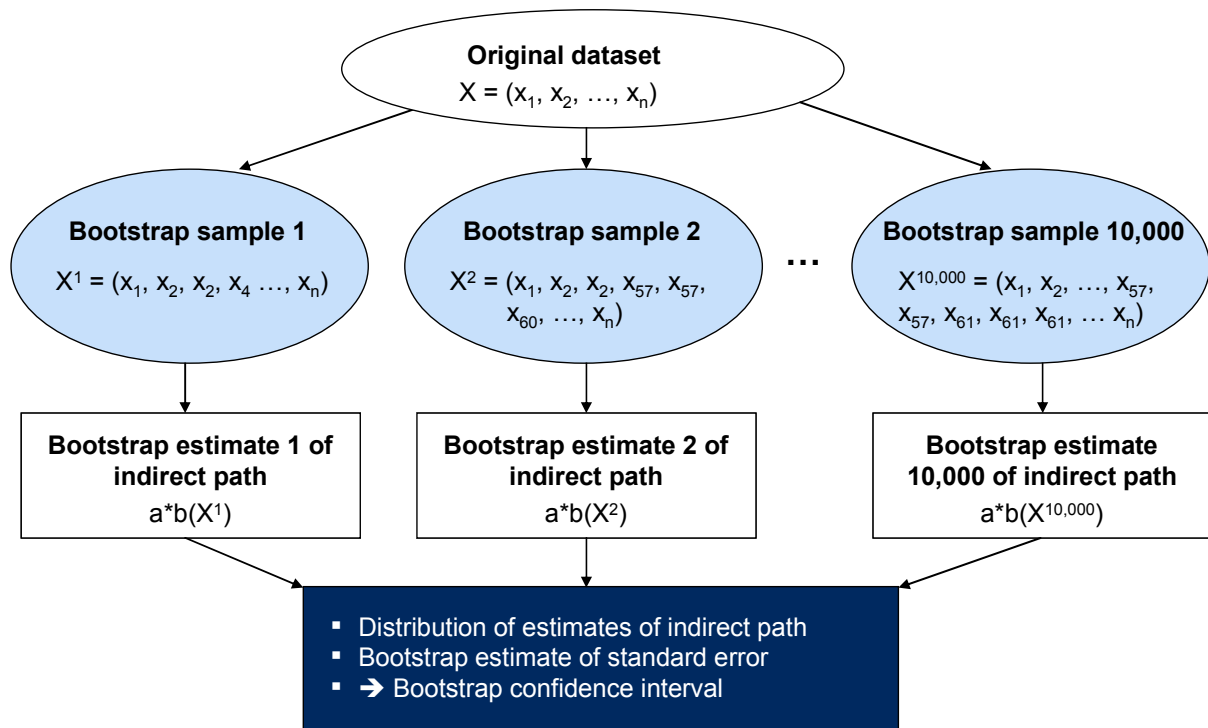


Figure 17: Schematic bootstrapping process for estimating the standard error of $a*b$

Source: Own illustration

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The schematic process for bootstrap sampling and estimation of the indirect paths is depicted in Figure 17. I used a 95% confidence interval in our study, which means that the lower and upper 2.5% of the estimated values for the indirect path mark the lower and upper limits for the 95% bootstrap confidence intervals for the population indirect effect. The resulting percentile bootstrap confidence intervals can be asymmetrical since they result from empirical estimations of the resampled distribution of the indirect effect, rather than on the assumption of a normal distribution of the sample. Hence, the bootstrapping method does not assume the sampling distribution for the total and the indirect effect to be normally distributed, in contrast to other approaches like the delta method (see Preacher & Hayes, 2008; the delta method approximates a probability distribution for the indirect effects using Taylor approximation under the assumption of normal distribution of the indirect effects, see MacKinnon et al., 2002; Preacher, Rucker, & Hayes, 2007). I adjusted the percentile values of the confidence intervals with a bias-corrected bootstrapping procedure (see Preacher & Hayes, 2008).

In order to carry out the analyses, I used two macros developed by Preacher and Hayes (one macro called “INDIRECT”, see Preacher & Hayes, 2008 for the multiple mediation model, and another macro called “PROCESS”, see Hayes, 2012 for the moderated mediation model) for the bootstrapping analyses in SPSS. These macros serve to test the entire models, including multiple mediators and moderators simultaneously, and to test the indirect effects of information sharing and workload sharing using the bootstrapping method. Both macros are programmed for SPSS and SAS and are freely available⁵. Total and specific indirect effects can be measured using bootstrapping confidence intervals (percentile, bias corrected, and bias corrected and accelerated) at any confidence level. In addition to that, in multiple mediator models all possible pairwise contrasts of indirect effects can be carried out.

⁵ See also <http://www.afhayes.com/>

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The macros also allow for statistical control of multiple covariates which are not proposed to mediate the total effect (Preacher & Hayes, 2008). I used PROCESS in order to test the moderated mediation hypotheses of the Conditional Effects of Trust Model, because it integrates moderation and mediation analyses within one tool. Individual paths can be estimated in moderated mediation models as moderated by up to two variables additively.

4 Results

In the following two sections, I present the results of both the Mechanisms of Trust Model and the Conditional Effects of Trust Model. The Mechanisms of Trust Model proposes a positive effect of both cognition-based trust and affect-based trust on the entrepreneurial team's performance which is mediated by information sharing and workload sharing. The Conditional Effects of Trust Model suggests that the two trust dimensions have a positive effect on the entrepreneurial team's decision quality, which is mediated by information sharing, whereby the mediation effects depend on individual level factors such as learning goal orientation and positive affect.

4.1 Results for the multiple mediation analysis

Table 1 shows the means, standard deviations and correlations of all the variables for the Mechanisms of Trust Model. Cognition-based trust ($r = .62, p < .01$) and affect-based trust ($r = .52, p < .01$) were both positively correlated to team performance. Both trust dimensions were also significantly positively correlated to information sharing ($r = .54, p < .01$ for cognition-based and $r = .62, p < .01$ for affect-based trust, respectively), and the same holds true for the correlations of cognition-based trust ($r = .48, p < .01$) and affect-based trust ($r = .44, p < .01$) to workload sharing. Finally, both team processes, i.e. information sharing ($r = .60, p < .01$) and workload sharing ($r = .50, p < .01$), were positively correlated to the performance of the entrepreneurial team. This set of significant positive correlations between the two dimensions of trust and the two team processes and team performance, as well as the significant positive correlations between the two team processes and team performance, is consistent with the underlying research model.

Table 1: Descriptive statistics, correlations, and scale reliabilities^a

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Gender	0.10	0.30	n.a.														
2 Participant's Age	31.85	8.11	0.11	n.a.													
3 Team Age	1.94	1.90	0.05	0.28**	n.a.												
4 Firm Size (FTE)	6.17	11.44	-0.09	0.09	0.15	n.a.											
5 Ent. Team Size	2.71	0.82	-0.10	-0.31**	-0.31**	-0.07	n.a.										
6 Industry dummy 1	0.04	0.19	0.10	-0.08	-0.04	-0.03	-0.05	n.a.									
7 Industry dummy 2	0.43	0.50	0.08	0.13	0.13	0.12	-0.02	-0.17	n.a.								
8 Industry dummy 3	0.34	0.48	-0.05	0.01	-0.06	-0.14	-0.02	-0.14	-0.62**	n.a.							
9 Industry dummy 4	0.02	0.13	-0.04	-0.06	-0.11	-0.05	-0.12	-0.03	-0.12	-0.10	n.a.						
10 Industry dummy 5	0.05	0.23	-0.08	-0.08	-0.09	-0.07	-0.11	-0.05	-0.21*	-0.17	-0.03	n.a.					
11 Cognition-based trust	5.82	0.84	-0.12	0.05	0.08	0.01	0.01	-0.02	0.16	-0.13	0.02	-0.13	(0.78)				
12 Affect-based trust	5.89	0.90	0.05	0.01	0.00	0.04	-0.01	0.02	0.15	-0.07	-0.07	-0.11	0.60**	(0.83)			
13 Information sharing	6.27	0.78	-0.06	-0.10	-0.06	-0.06	0.10	-0.08	0.07	-0.05	0.04	-0.02	0.54**	0.62**	(0.87)		
14 Workload sharing	5.45	1.18	-0.08	0.25*	0.16	0.11	-0.02	0.05	0.03	0.08	-0.17	-0.14	0.48**	0.44**	0.33**	(0.77)	
15 Team performance	5.78	0.68	0.07	-0.05	0.02	0.12	0.01	0.08	0.01	-0.04	-0.01	-0.16	0.62**	0.52**	0.60**	0.50**	(0.72)

* p < 0.05

** p < 0.01

Two-tailed tests

a n = 112 (participants); if applicable, reliabilities (Cronbach's alphas) are shown in the diagonal axis.

SD: standard deviation; M: means.

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However, the strong correlations among the two mediating team process variables ($r = .33, p < .01$), as well as among the two trust variables ($r = .60, p < .01$), may raise possible concerns about multicollinearity in models including both team process and/or both trust variables. I therefore inspected the variance inflation factors (VIFs) for all models in the regression analyses. The highest VIF was 2.15 (for affect-based trust). This value is clearly below the critical value of 10 (cf. Hair et al., 2006), indicating that multicollinearity was not a major problem for the models when testing the mediation hypotheses. I used ordinary least squares (OLS) regression analyses to test the mediation hypotheses. To analyze the mediating role of the two team processes, I used Baron and Kenny's causal steps approach (Baron & Kenny, 1986; Judd & Kenny, 1981). Complementing this approach, I also conducted a bootstrapping analysis for the reasons pointed out in the previous chapter.

The causal steps approach involves the estimation of three separate regression equations. The first step of mediation analysis starts with regressing information sharing and workload sharing on the control variables and the independent variable, i.e. cognition-based trust and affect-based trust, respectively. As I controlled for affect-based trust when investigating cognition-based trust, and vice versa, there was only one regression equation to evaluate for both independent variables. I first tested the baseline models that included only the control variables. The baseline models were not significant, with $F(10, 101) = 0.37, ns$ and an adjusted R^2 of $-.06$ in the case of information sharing (model 1 in Table 2) and $F(10, 101) = 1.59, ns$ and an adjusted R^2 of $.05$ (model 3 in Table 2) in the case of workload sharing. After introducing the two trust variables into the regression equations, both models became significant (models 2 and 4 in Table 2): $F(12, 99) = 7.31, p < .001$ and adjusted $R^2 = .41$, with an increase in R^2 of $.44, p < .001$ over the baseline model in the case of information sharing, and $F(12, 99) = 5.12, p < .001$, adjusted $R^2 = .31$, with an increase in R^2 of $.25, p < .001$ over the baseline model in the case of workload sharing. The results in Table 2 also

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Table 2: Results of the standardized regression analysis for the mediated effects of cognition-based and affect-based trust on team performance

Independent Variables	Team processes				Team performance		
	Information sharing		Workload sharing		Model 5	Model 6	Model 7
	Model 1	Model 2	Model 3	Model 4			
Gender	-0.05	-0.02	-0.12	-0.08	0.06	0.14	0.16*
Participant's Age	-0.08	-0.08	0.24*	0.23**	-0.07	-0.08	-0.11
Team Age	-0.02	-0.02	0.09	0.08	-0.01	-0.03	-0.05
Firm Size (FTE)	-0.06	-0.06	0.08	0.09	0.11	0.14	0.14*
Team Size	0.06	0.07	0.06	0.07	-0.04	-0.03	-0.07
Industry Dummy 1	-0.08	-0.09	0.10	0.10	0.02	0.02	0.03
Industry Dummy 2	0.06	0.00	0.03	-0.01	-0.14	-0.18	-0.17
Industry Dummy 3	-0.03	0.01	0.09	0.15	-0.15	-0.06	-0.11
Industry Dummy 4	0.04	0.07	-0.13	-0.11	-0.04	-0.03	-0.03
Industry Dummy 5	-0.03	0.06	-0.08	-0.01	-0.21	-0.11	-0.13
Cognition-based trust		0.26**		0.33**		0.53***	0.35***
Affect-based trust		0.48***		0.24*		0.20*	-0.04
Information sharing							0.37***
Workload sharing							0.25**
Adjusted R ²	-0.06	0.41	0.05	0.31	-0.03	0.42	0.54
ΔR ²		0.44***		0.25***		0.42***	0.12***
F	0.37	7.31***	1.59	5.12***	0.65	7.55***	10.25***
df	10, 101	12, 99	10, 101	12, 99	10, 101	12, 99	14, 97

Notes: Standardized regression coefficients are shown. n = 112 (participants)

* p < 0.05
 ** p < 0.01
 *** p < 0.001

Two-tailed tests

show that cognition-based trust has a significant and positive relationship with both information sharing ($\beta = .26, p < .01$) and workload sharing ($\beta = .33, p < .01$). The same holds true for affect-based trust, being significantly positively related to information sharing ($\beta = .48, p < .001$) and workload sharing ($\beta = .24, p < .05$). These findings provide support for the hypotheses H2a and H2b and H3a and H3b, stating that both trust dimensions are significantly positively related to both information sharing and workload sharing.

The second step of the causal steps approach consists of the regression of the dependent variable, which represents team performance, on the independent variable, i.e. cognition-based or affect-based trust in our model, and the control variables. Again, the baseline model (including the control variables only) was not significant ($F(10, 101) = 0.65, ns$, adjusted $R^2 = -.03$, see model 5 in Table 2). Model 6 reveals that both cognition-based trust ($\beta = .53, p < .001$), and affect-based trust ($\beta = .20, p < .05$) were significantly and

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positively related to team performance, and the model was significant: $F(12, 99) = 7.55, p < .001$, adjusted $R^2 = .42$. The increase in R^2 over the baseline model was $.42, p < .001$. These results suggest that there is a significant total effect of both dimensions of trust on team performance and provide support for the previously stated hypotheses H1a and H1b. Moreover, the relationship of cognition-based trust and team performance was stronger than the relationship of affect-based trust and team performance, which provides support for hypothesis H1c.

Continuing with step 3 of the causal steps approach, I regressed team performance on both team processes, the independent variable and the control variables. The overall model (model 7 in Table 2) was significant ($F(14, 97) = 10.25, p < .001$, adjusted $R^2 = .54$). The addition of the two team process mediators added significant explanatory power to the model, explaining an additional 12% of the variance in team performance ($p < .001$). Both relationships between information sharing and team performance ($\beta = .37, p < .001$), and, respectively, workload sharing and team performance ($\beta = .25, p < .01$), were positive and significant, consistent with hypotheses H4a and H4b. The results from model 7 also show that the total effect, i.e. the significant and positive relationship between affect-based trust and team performance, becomes non-significant when information sharing and workload sharing are entered into the equation ($\beta = -.04, ns$). This indicates that information sharing and workload sharing *fully* mediated the relationship between affect-based trust and team performance.

Interestingly, the results for cognition-based trust are different: the previously found positive and significant relationship between cognition-based trust and team performance ($\beta = .53, p < .001$) remained significant after entering both team processes into the equation, but the coefficient decreased significantly ($\beta = .35, p < .001$). In order to test the significance of the decrease of the direct effect of cognition-based trust on team performance when the two

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team processes are entered into the regression equation, I complemented the causal steps approach with a Sobel test. Since small samples rarely meet the assumptions of normal distribution underlying the Sobel test (Preacher & Hayes, 2004, MacKinnon et al., 2002), I used bootstrapping to produce a distribution based on the data, following procedures outlined by Preacher and Hayes (2004). The results confirm the significance of the indirect effects of information sharing ($z = 2.24, p < .05$) and workload sharing ($z = 2.17, p < .05$), which is equivalent to a significant decrease of the direct effect (e.g., Muller, Judd, & Yzerbyt, 2005). The findings indicate that information sharing and workload sharing have a mediating effect on the trust performance relationship. However, there was only a partial mediation when investigating cognition-based trust as the independent variable. Figure 18 summarizes the regression results of the Mechanisms of Trust Model for both trust dimensions and exhibits the standardized path coefficients. The figure shows that the relationship between cognition-

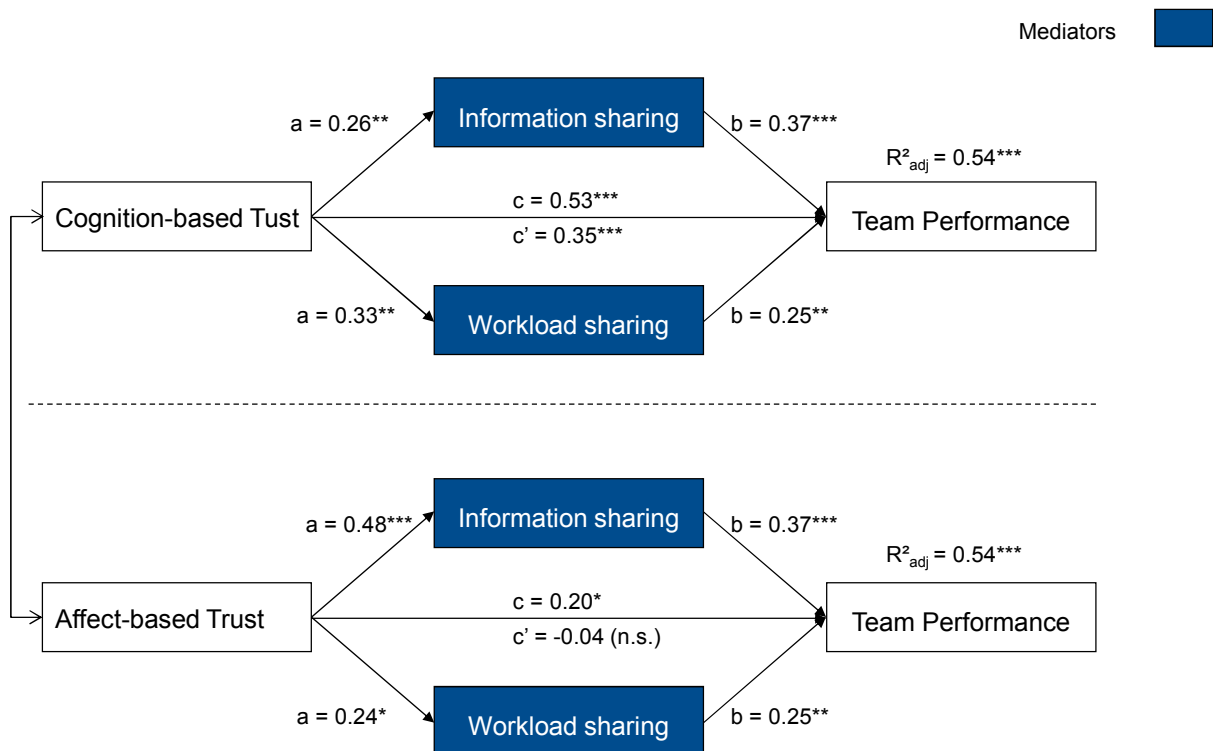


Figure 18: Standardized regression coefficients for the multiple mediation model for cognition- and affect-based trust.

Source: Own illustration

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based trust and team performance is stronger than the relationship between affect-based trust and team performance. Moreover, the total effect of cognition-based trust is partly mediated by the two team processes, whereas there is a full mediation for the effect of affect-based trust. Hence, it seems that there is a difference between the two dimensions of trust concerning *how* they are related to team performance.

As pointed out in detail in the previous chapter, I complemented the causal steps approach with the bootstrapping method. I tested the significance of the indirect effects with a bias-corrected bootstrapping procedure (i.e., an adjustment of the percentile values of the confidence intervals that result from the sorted distribution of bootstrap estimates, see Preacher and Hayes 2008) with 10,000 bootstrap samples (Preacher and Hayes recommend at least 1,000 samples), using a macro developed by for SPSS by Preacher and Hayes. I ran one analysis for each trust dimension, including both mediators simultaneously into the model. Further, I entered the control variables – gender, participant’s age, team age, firm size, team size, industry background and the complementary trust dimension – as covariates. Table 3 (for cognition-based as the independent variable) and Table 4 (for affect-based as the independent variable) display the indirect effects, their standard errors, and the 95% bias corrected confidence intervals⁶. Here, the column “point estimate” represents the mean of the indirect effect estimates calculated across all bootstrap samples, and “SE” is the standard deviation of the bootstrap estimates of the indirect effect.

Table 3 shows that the indirect effect of cognition-based trust on team performance via information sharing was positive and significant (indirect effect = .07, 95% CI = .03 – .17), as was the indirect effect of cognition-based trust on team performance via workload

⁶ When looking at the results presented in these tables, it becomes apparent that the confidence intervals are asymmetrical. For example, the point estimate for information sharing in Table 3, being .07, is closer to the lower bound of the 95% confidence interval (which is .03) than to the upper bound (being .17). This is because percentile bootstrap confidence intervals result from empirical estimations of the resampled distribution of the indirect effect, rather than on the assumption of a normal distribution of the sample.

Table 3: Indirect effects of cognition-based trust (via information sharing and workload sharing) on team performance

	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Information sharing	.07**	.03	.03	.17
Workload sharing	.07*	.04	.01	.15
Information sharing vs Workload sharing	.00	.05	-.07	.13
TOTAL	.14**	.05	.06	.26

Notes: n= 112, CI = Confidence Interval; Control variables: gender, age, team age, firm size, team size, industry background, affect-based trust.

Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

$R^2_{adj} = .54$, $F(14,97) = 10.33$, $p < .001$

** $p < .01$; * $p < .05$

Table 4: Indirect effects of affect-based trust (via information sharing and workload sharing) on team performance

	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Information sharing	.13**	.04	.06	.25
Workload sharing	.04*	.03	.00	.12
Information sharing vs Workload sharing	.09	.05	-.00	.21
TOTAL	.18**	.05	.09	.31

Notes: n= 112, CI = Confidence Interval; Control variables: gender, age, team age, firm size, team size, industry background, cognition-based trust.

Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

$R^2_{adj} = .54$, $F(14,97) = 10.33$, $p < .001$

** $p < .01$; * $p < .05$

sharing (indirect effect = .07, 95% CI = .01 – .15). This confirms the mediation hypotheses H5a and H5c, predicting that the two team processes would mediate the positive relationship between cognition-based trust and team performance. Likewise, Table 4 shows that this is also true for affect-based trust as the independent variable: the indirect effect of affect-based trust on team performance via information sharing was positive and significant (indirect effect = .13, 95% CI = .06 – .25), and so was the indirect effect of affect-based trust on team performance via workload sharing (indirect effect = .04, 95% CI = .00⁷ – .12). Therefore,

⁷ The lower limit of the confidence interval was 0.0039. Thus, 0 was not included in the confidence interval.

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H5b and H5d are also confirmed by these results. This means that the mediating effects of both information sharing and workload sharing were significant for both trust performance relationships. The total indirect effect⁸ was also significant and positive for cognition-based trust (indirect effect = .14, 95% CI = .06 – .26) and affect-based trust (indirect effect = .18, 95% CI = .09 – .31). This result is consistent with the findings from the causal steps approach. Examining the pair-wise contrasts of the indirect effects (information sharing vs workload sharing in the respective tables), the results show that the two indirect effects cannot be distinguished in terms of magnitude (Preacher & Hayes, 2008), because for both cognition-based trust and affect-based trust, the zero is contained on the 95% confidence intervals, running from -.07 to .13 in the case of cognition-based trust, and -.00⁹ to .21 in the case of affect-based trust. That means, based on these results and on a 5% level of significance, one cannot conclude that the strength of the two mediation effects are different from each other.

To summarize, the multiple mediation analysis revealed two major findings: first, the total effect of cognition-based trust on team performance was stronger than the total effect of affect-based trust on team performance. Second, there was a full mediation of the relationship between affect-based trust and team performance via information sharing and workload sharing, while the relationship between cognition-based trust and team performance was mediated only partially.

⁸ The total indirect effect for a model including two mediators is the sum of the specific indirect effects (cf. Preacher and Hayes (2008), p. 882).

⁹ The lower limit of the confidence interval was -0.001. Thus, 0 was included in the confidence interval.

4.2 Results for the Conditional Effects of Trust Model

Table 5 provides the means, standard deviations and correlations for all the variables used in the Conditional Effects of Trust Model. Cognition-based trust ($r = .48, p < .01$) and affect-based trust ($r = .45, p < .01$) were both positively and significantly correlated to team decision quality. As reported in Table 1 the correlations for the two trust dimensions to information sharing were $r = .54 (p < .01)$ and $r = .62 (p < .01)$ for cognition-based trust and affect-based trust, respectively. Moreover, information sharing was significantly positively correlated to team decision quality ($r = .51, p < .01$), as required for a mediation effect. Concerning the moderators, Table 5 shows that positive affect was positively correlated to both cognition-based ($r = .29, p < .01$) and affect-based ($r = .39, p < .01$) trust, and that learning goal orientation was also positively correlated to both of the trust dimensions ($r = .34, p < .01$ and $r = .29, p < .01$ for cognition-based and affect-based trust, respectively). Moreover, there was a significant positive correlation between positive affect and learning goal orientation ($r = .29, p < .01$). In order to make sure that there are no multicollinearity problems in this model, I inspected the VIFs in the regression analyses. To test the hypotheses I used a moderated mediation analysis. In addition to testing mediation effects analogously to the Mechanisms of Trust Model, the interaction effects of the moderators need to be included in the regression of the mediator variable on the independent variables.

First, I investigated the moderating effects of both positive affect and learning goal orientation on the relationship between both trust dimensions and information sharing. Second, I conducted an ordinary least squares regression using a causal steps approach, similar to the analysis of the Mechanisms of Trust Model. Finally, I conducted a moderated mediation analysis integrating all variables simultaneously into one model. To analyze this complex model, the “Process” tool developed by Hayes (2012) is best suitable as it allows the simultaneous inclusion of several moderating and mediating variables. Using this tool, I also

Table 5: Descriptive statistics, correlations, and scale reliabilities^a

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Gender	0.10	0.30	n.a.																	
2 Participant's Age	31.85	8.11	0.11	n.a.																
3 Team Age	1.94	1.90	0.05	0.28**	n.a.															
4 Firm Size (FTE)	6.17	11.44	-0.09	0.09	0.15	n.a.														
5 Ent. Team Size	2.71	0.82	-0.10	-0.31**	-0.31**	-0.07	n.a.													
6 Industry dummy 1	0.04	0.19	0.10	-0.08	-0.04	-0.03	-0.05	n.a.												
7 Industry dummy 2	0.43	0.50	0.08	0.13	0.13	0.12	-0.02	-0.17	n.a.											
8 Industry dummy 3	0.34	0.48	-0.05	0.01	-0.06	-0.14	-0.02	-0.14	-0.62**	n.a.										
9 Industry dummy 4	0.02	0.13	-0.04	-0.06	-0.11	-0.05	-0.12	-0.03	-0.12	-0.10	n.a.									
10 Industry dummy 5	0.05	0.23	-0.08	-0.08	-0.09	-0.07	-0.11	-0.05	-0.21*	-0.17	-0.03	n.a.								
11 Negative Affect	1.75	0.69	-0.05	-0.15	0.09	-0.16	-0.04	-0.12	0.08	-0.07	-0.03	0.09	(0.90)							
12 Performance Goal Orientation	4.59	1.04	-0.11	0.21*	0.04	0.05	-0.19*	-0.15	0.14	-0.04	-0.09	0.03	0.10	(0.82)						
13 Cognition-based trust	5.82	0.84	-0.12	0.05	0.08	0.01	0.01	-0.02	0.16	-0.13	0.02	-0.13	-0.03	0.08	(0.78)					
14 Affect-based trust	5.89	0.90	0.05	0.01	0.00	0.04	-0.01	0.02	0.15	-0.07	-0.07	-0.11	-0.08	0.24*	0.60**	(0.83)				
15 Learning Goal Orientation	6.08	0.67	-0.11	-0.06	-0.06	-0.09	0.05	0.00	0.14	-0.13	0.02	-0.13	-0.11	-0.01	0.34**	0.29**	(0.83)			
16 Positive Affect	4.02	0.52	0.23*	-0.03	-0.08	0.06	-0.01	0.10	0.00	-0.03	-0.02	-0.11	-0.39**	-0.09	0.29**	0.39**	0.29**	(0.83)		
17 Information sharing	6.27	0.78	-0.06	-0.10	-0.06	-0.06	0.10	-0.08	0.07	-0.05	0.04	-0.02	-0.04	0.10	0.54**	0.62**	0.26**	0.40**	(0.87)	
18 Decision quality	5.69	0.76	0.12	0.03	0.02	0.09	0.01	0.02	0.11	-0.07	0.00	-0.18	-0.15	0.02	0.48**	0.45**	0.25**	0.46**	0.51**	(0.88)

* p < 0.05

** p < 0.01

Two-tailed tests

a n = 112 (participants); if applicable, reliabilities (Cronbach's alphas) are shown in the diagonal axis.

SD: standard deviation; M: means.

conducted a bootstrapping analysis to investigate the significance of the indirect effect while releasing the assumption of normally distributed variables. Indeed, a Shapiro-Wilk test of the distribution of the indirect effect revealed that the test statistics of all indirect paths in the present thesis were below .01, which means that the indirect effect is not normally distributed on a 1%-level of significance (see Shapiro, 1964).

4.2.1 Results for the moderation hypotheses tests

Before testing the moderation hypotheses, I inspected the VIFs for the moderators and the two trust variables for models 2, 3a and 3b in Table 6. The highest VIF was 2.11 for affect-based trust, suggesting that multicollinearity was not a significant problem when testing the moderation hypotheses.

In a first step to test the moderation hypotheses, I entered the control variables into the regression equation to establish the baseline model. The control variables were the same as in the Mechanisms of Trust Model, additionally including negative affect and performance goal orientation. Next, I included the main effect variables in the model, and afterwards I created the interaction terms by multiplying the proposed moderators (positive affect and learning goal orientation) with the two trust dimensions, and examined their regression weights for significance. Before computing the interaction terms, the variables were standardized in order to obtain readily interpretable coefficients, following the suggestion from Frazier et al. (2004). The regression results are presented in Table 6. The baseline model (model 1 in Table 6) involved the regression of information sharing on the control variables. This model is not significant: $F(12, 99) = 0.50, ns$ and an adjusted R^2 of $-.06$. The main effects model (additionally including the two trust variables and both moderators, see model 2 in Table 6) was significant: $F(16, 95) = 6.02, p < .001$ and adjusted $R^2 = .42$. Both cognition-based trust ($\beta = .23, p < .05$) and affect-based trust ($\beta = .42, p < .001$) had a significant and positive relationship with information sharing, in accordance with hypotheses H2a and H2b. With res-

Table 6: Hierarchical regression analysis predicting information sharing

	Model 1	Model 2	Model 3a	Model 3b
<i>Control Variables</i>				
Gender	-0.03	-0.07	-0.12	-0.05
Participant's Age	-0.12	-0.06	-0.03	-0.06
Team Age	0.00	0.00	0.05	-0.01
Firm Size (FTE)	-0.08	-0.07	-0.08	-0.07
Team Size	0.07	0.09	0.13	0.08
Industry Dummy 1	-0.08	-0.08	-0.06	-0.09
Industry Dummy 2	0.05	0.03	0.02	0.08
Industry Dummy 3	-0.04	0.04	0.05	0.05
Industry Dummy 4	0.05	0.08	0.10	0.09
Industry Dummy 5	-0.02	0.08	0.09	0.14
Negative Affect	-0.10	0.05	0.01	-0.00
Performance Goal Orientation	0.14	0.01	0.03	-0.01
<i>Main effects</i>				
Cognition-based trust		0.23*	0.24*	0.24*
Affect-based trust		0.42***	0.41***	0.40***
Positive Affect		0.23*	0.26**	0.20*
Learning Goal Orientation		-0.01	-0.02	0.00
<i>Interactions</i>				
Cognition-based trust X Positive Affect			-0.25**	
Cognition-based trust X Learning Goal Orientation			0.08	
Affect-based trust X Positive Affect				-0.04
Affect-based trust X Learning Goal Orientation				-0.21**
Adjusted R ²	-0.06	0.42	0.47	0.46
ΔR^2		0.45***	0.06**	0.05*
F	0.50	6.02***	6.53***	6.29***
df	12, 99	16, 95	18, 93	18, 93

Notes: Standardized regression coefficients are shown. n = 112 (participants)

* p < 0.05

** p < 0.01

*** p < 0.001

Two-tailed tests

pect to the moderator variables, positive affect had a significant main effect on information sharing ($\beta = .23$, $p < .05$). The main effects model explained an additional 45% of the variance in information sharing ($p < .001$) over the baseline model.

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The full model additionally included the interaction effects: the two product terms of cognition-based trust and each of the moderators when cognition-based trust was investigated as the independent variable (with affect-based trust as additional control variable, see model 3a in Table 6), and vice versa, the two product terms of affect-based trust and each of the moderators when affect-based trust was investigated as the independent variable (with cognition-based trust as additional control variable, see model 3b in Table 6). Both models were significant, with $F(18, 93) = 6.53, p < .001$ and adjusted $R^2 = .47$ for the moderation of the relationship between cognition-based and information sharing. The inclusion of the two interaction terms explained an additional 6% ($p < .01$) over the main effects model. Similarly, the full model for the moderation of the relationship between affect-based trust and information sharing was significant, with $F(18, 93) = 6.29, p < .001$ and adjusted $R^2 = .46$. The inclusion of the two interactions in model 3b explained an additional 5% ($p < .05$) of the variance in information sharing as compared to the model without the interactions (model 2).

The full model results show that the moderation effect of learning goal orientation on the positive relationship between cognition-based trust and information sharing was not significant ($\beta = .08, ns$). Therefore, hypothesis H9a, which predicts that the positive association between cognition-based trust and information sharing will be higher at low levels of learning goal orientation, was not supported in this study. However, the standardized coefficient for the interaction term of cognition-based trust and positive affect was significantly negative ($\beta = -.25, p < .01$), which provides support for hypothesis H8a, stating that lower levels of positive affect would lead to a stronger relationship between cognition-based trust and information sharing.

Following the recommendations of Cohen (2003), I plotted the interactions using regression slopes for low (-1 standard deviation) and high (+1 standard deviation) levels of

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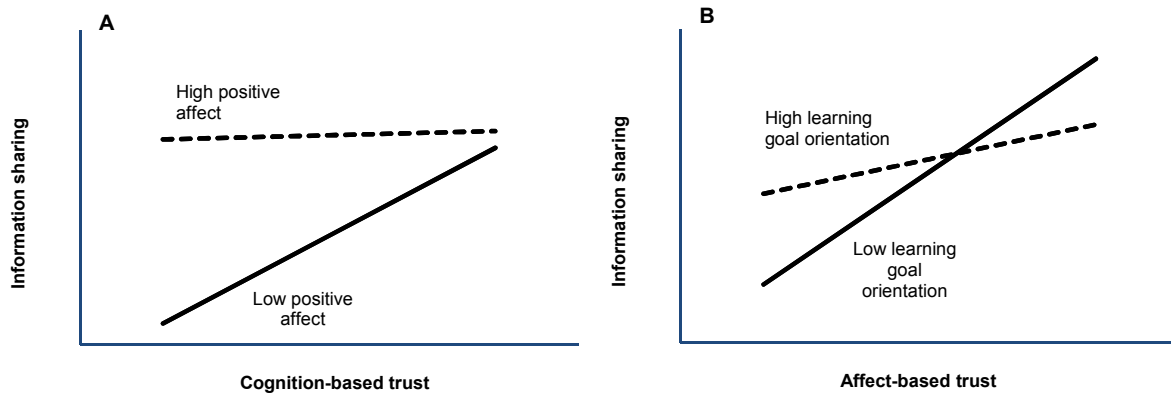


Figure 19: Moderating effect of positive affect on the relationship between cognition-based trust and information sharing (A), and moderating effect of LGO on the relationship between affect-based trust and information sharing (B).

the moderator around its mean. Figure 19A plots the relationship between cognition-based trust and information sharing for low and high levels of positive affect. Whereas at low levels of positive affect, the graph shows a steep relationship between cognition-based trust and information sharing, this relationship seems to be essentially flat at high levels of positive affect.

Model 3b in Table 6 shows the moderation effects of positive affect and learning goal orientation on the relationship between affect-based trust and information sharing. The moderation effect of positive affect was not significant in this model ($\beta = -.04, ns$). Therefore, hypothesis H8b, predicting that lower levels of positive affect would be associated with a stronger positive relationship between affect-based trust and information sharing, was not supported in this study. In contrast, the moderation effect of learning goal orientation was significant ($\beta = -.21, p < 0.01$), confirming hypothesis H9b that lower levels of learning goal orientation would result in a stronger positive association of affect-based trust and information sharing. This finding is shown in Figure 19B, depicting the relationship between affect-based trust and information sharing contingent on learning goal orientation: at low levels of learning goal orientation, the graph shows a steeper positive relationship between

affect-based trust and information sharing than at high levels of learning goal orientation. Further, while for lower levels of affect-based trust (left part of Figure 19B) information sharing is higher when the level of learning goal orientation is high than when it is low, for higher levels of affect-based trust (right part of Figure 19B) information sharing is lower for high levels of learning goal orientation. I will discuss this effect in the next chapter.

4.2.2 Results for the mediation hypotheses tests

I first inspected the VIF values for all tested models in this section to check for potential multicollinearity problems when investigating the models. The highest VIF was 2.82 (for cognition-based trust x positive affect), which is still clearly below the critical value of 10 (see Hair et al., 2006), thus indicating that multicollinearity was not a major problem when testing the mediation hypotheses.

After focusing on the moderation effects of positive affect and learning goal orientation on the relationships between the two trust dimensions and the mediator variable, I analyzed the mediation effects of information sharing for the relationship between the two trust dimensions and team decision quality. Similarly to the multiple mediation model, I used the causal steps approach for the mediation analysis. The first step of the causal steps approach involves the regression of the mediator (i.e., information sharing) on the control variables and the two trust variables. Both cognition-based trust ($\beta = .26, p < .01$) and affect-based trust ($\beta = .48, p < .001$) exhibited a significant positive relationship with decision quality (see model 2 in Table 7), and the overall model was significant: $F(14, 97) = 6.17, p < .001$.

I continued with the second step, testing the main effect hypotheses H6a and H6b, which propose that cognition-based trust and affect-based trust are significantly positively related to the dependent variable representing team decision quality. To this ends, I regressed

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Table 7: Hierarchical regression analysis predicting information sharing and decision quality

Independent variables	Information sharing		Decision quality				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6a	Model 6b
<i>Control Variables</i>							
Gender	-0.03	-0.02	0.11	0.15	0.16	0.08	0.18*
Participant's Age	-0.12	-0.08	-0.03	-0.02	0.01	0.04	0.00
Team Age	0.00	-0.02	-0.01	-0.03	-0.03	0.02	-0.04
Firm Size (FTE)	-0.08	-0.06	0.05	0.07	0.09	0.08	0.08
Team Size	0.07	0.07	-0.02	-0.02	-0.04	0.01	-0.04
Industry Dummy 1	-0.08	-0.09	-0.04	-0.04	-0.01	0.01	-0.02
Industry Dummy 2	0.05	-0.00	-0.02	-0.05	-0.05	-0.02	-0.00
Industry Dummy 3	-0.04	0.01	-0.12	-0.06	-0.07	-0.03	-0.04
Industry Dummy 4	0.05	0.07	-0.02	-0.01	-0.04	0.00	-0.03
Industry Dummy 5	-0.02	0.07	-0.19	-0.11	-0.14	-0.09	-0.08
Negative affect	-0.10	-0.03	-0.15	-0.10	-0.09	-0.05	-0.12
Performance Goal Orientation	0.14	-0.01	0.04	-0.04	-0.04	-0.00	-0.05
<i>Main effects</i>							
Cognition-based trust		0.26**		0.36**	0.27*	0.26*	0.26*
Affect-based trust		0.48***		0.22*	0.05	0.05	0.10
<i>Mediator</i>							
Information Sharing					0.34**	0.23	0.27*
<i>Moderators and interactions</i>							
Positive affect						0.24*	
Cognition-based trust X Positive Affect						-0.17	
Information Sharing X Positive Affect						0.03	
Learning Goal Orientation							0.07
Affect-based trust X Learning Goal Orientation							-0.23
Information Sharing X Learning Goal Orientation							0.08
Adjusted R ²	-0.06	0.39	-0.03	0.23	0.30	0.33	0.32
ΔR ²		0.41***		0.25***	0.06**	0.05	0.03
F	0.50	6.17***	0.72	3.40***	4.13***	4.03***	3.84***
df	12, 99	14, 97	12, 99	14, 97	15, 96	18, 93	18, 93
Notes: Standardized regression coefficients are shown. n = 112 (participants)							
* p < 0.05							
** p < 0.01							
*** p < 0.001							
Two-tailed tests							

team decision quality on the control variables in order to establish the baseline model (model 3 in Table 7), which was not significant: $F(12, 99) = 0.72$, *ns* and adjusted $R^2 = -.03$. Afterwards, I included the two trust variables in order to test the main effects, following the same logic as described before, with one trust variable representing the independent variable, and the other trust variable an additional control variable. The main effects model (model 4 in Table 7) was significant, with $F(14, 97) = 3.40$, $p < .001$, and adjusted $R^2 = .23$. The increase in R^2 over the baseline model was $.25$, $p < .001$, and both cognition-based trust ($\beta = .36$, $p <$

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.01) and affect-based trust ($\beta = .22, p < .05$) were significantly positively related to decision quality, as can be seen in model 4, with cognition-based trust showing a stronger effect on decision quality when compared to affect-based trust. These findings provide support for hypotheses H6a, H6b and H6c, proposing that there is a positive effect of both dimensions of trust on the entrepreneurial team's decision quality, and that the effect of cognition-based trust is stronger than the effect of affect-based trust.

The final step of the causal steps approach involves the regression of decision quality on both the mediator and the independent variable, as well as the control variables. The results are reported in model 5. The comparison of model 5 with the main effects model in Table 7 indicates that the addition of information sharing explained additional variance in decision quality ($\Delta R^2 = .06, p < .01$). The mediation model was significant, with $F(15, 96) = 4.13, p < .001$, and adjusted $R^2 = .30$. The coefficient of information sharing was positive and significant ($\beta = .34, p < .01$), in accordance with hypothesis H7, predicting that information sharing shows a significant and positive relationship to the entrepreneurial team's decision quality.

Similarly to the Mechanisms of Trust Model, the results from model 5 also show that the total effect, i.e. the significant and positive relationship between affect-based trust and team decision quality, became non-significant when information sharing was entered into the equation ($\beta = .05, ns$). This indicates that information sharing *fully* mediates the relationship between affect-based trust and team performance. For cognition-based trust, the previously found positive and significant relationship between cognition-based trust and team decision quality ($\beta = .36, p < .01$) remained significant after information sharing was entered into the equation, but the coefficient decreased significantly ($\beta = .27, p < .05$). I tested the significance of the decrease of the effect of cognition-based trust on decision quality upon

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inclusion of information sharing into the regression equation by conducting a Sobel test. To this ends, I used bootstrapping to produce a distribution based on the data, following procedures outlined by Preacher and Hayes (2004). The results confirm the significance of the indirect effects of information sharing ($z = 1.99, p < .05$), which is equivalent to a significant decrease of the direct effect (see Muller et al., 2005). These findings indicate that information sharing has a partial mediation effect and confirm the mediation hypothesis H10a and H10b.

After establishing the mediation effects of information sharing on the relationship between both trust dimensions and decision quality, I continued with the OLS analyses and extended the causal steps approach to a moderated causal steps approach by entering the interaction terms into the regression equation (e.g., Baron & Kenny, 1986; Muller et al., 2005). When investigating cognition-based trust as the independent variable, I focused on the moderating effects of positive affect, as learning goal orientation did not exhibit a significant moderation effect in the relationship between cognition-based trust and decision quality, as pointed out in the previous section (cf. rejection of H9a). I regressed team decision quality on the independent variable, the control variables, the mediator, the moderator and the interaction term. In addition, I created an additional interaction term by computing the product of information sharing and the moderator (i.e., positive affect), and included it in the regression equation. The results are presented in model 6a of Table 7: neither the interaction of cognition-based trust and positive affect ($\beta = -.17, ns$) nor the interaction of information sharing and positive affect ($\beta = .03, ns$) were significant.

Similarly, when focusing on affect-based trust as the independent variable and learning goal orientation as the moderator, neither the interaction of affect-based trust and learning goal orientation ($\beta = -.23, ns$) nor the interaction of information sharing and learning

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goal orientation ($\beta = .08$, *ns*) were significant (see model 6b). These findings imply that the respective moderators in the Conditional Effects of Trust Model only moderate the a path, suggesting that the mediation effects of information sharing on the relationship between intrateam trust and decision quality depend on the level of the moderators (cf. Hayes, 2012; Muller et al., 2005; Preacher et al., 2007). Both models were significant (model 6a: $F(18, 93) = 4.03$, $p < .001$, adjusted $R^2 = .33$; model 6b: $F(18, 93) = 3.84$, $p < .001$, adjusted $R^2 = .32$), but neither model explained significant additional variance in decision quality. This suggests that positive affect does not moderate the direct effect of cognition-based trust on decision quality, nor does learning goal orientation moderate the direct effect of affect-based trust on decision quality.

4.2.3 Results for the moderated mediation hypotheses tests

The results presented in the previous section have shown that the mediation effects of information sharing on the relationship between intrateam trust and the entrepreneurial team's decision quality may be conditional on the level of positive affect (when cognition-based trust is investigated as the independent variable) and, respectively, learning goal orientation (when affect-based trust is investigated as the independent variable). However, the moderated causal steps approach does not directly estimate the extent to which the moderators influence these indirect effects (Edwards & Lambert, 2007). Moreover, with regards to the mediation effects the causal steps approach suffers from the weaknesses that were already described in the previous chapter. In order to overcome these shortcomings, I carried out moderated mediation analyses using the bootstrapping approach (Preacher et al., 2007; Preacher & Hayes, 2008). To this ends, Hayes (2012) has developed a tool that is capable of performing moderated mediation analysis, simultaneously estimating the indirect effects at different levels of the moderator using bootstrapping.

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As shown in the moderation analysis, for each trust dimension only one moderator proved to be significant. Therefore, for simplicity I used the model with only one moderator for the moderated mediation analysis¹⁰. For the moderated mediation analysis with cognition-based trust as the independent variable, I entered positive affect as the moderator, and affect-based trust as a control variable. The bootstrapping results of the mediation effects of information sharing on the relationship between cognition-based trust and team decision quality contingent on positive affect, as well as the residual direct effect for this relationship, are shown in Table 8. The table also shows the bias corrected bootstrapped intervals that were created based on a 95% level of confidence. For all bootstrapping analyses, I used 10,000 bootstrap samples (Preacher & Hayes, 2008). As can be seen, at low levels of positive affect the indirect effect of cognition-based trust on team decision quality via information sharing was positive and significant (indirect effect = .11, 95% CI = .03 – .24), whereas at high levels zero was included in the bootstrap intervals (indirect effect = .00, 95% CI = -.07 – .09), which means that the mediation effects were not significant anymore. These findings provide support for the moderated mediation hypothesis H11a. Hypothesis H11c was not supported, since the required moderation effect of learning goal orientation on the relationship between

Table 8: Indirect effects of cognition-based trust (via information sharing) on decision quality at different levels of positive affect

Indirect effect	Moderator: Positive affect ^a	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Mediator:	-1.00	0.11	.05	.03	.24
Information sharing	0.00	0.06	.04	.01	.16
(Z-standardized)	1.00	.00	.04	-.07	.09
Residual direct effect		Effect	SE	t	p
Cognition-based trust on team decision quality		.20	.08	2.46	.02

Notes: n= 112, CI = Confidence Interval; Control variables: gender, age, team age, firm size, team size, industry background, affect-based trust, negative affect, performance goal orientation.
^a Z-standardized
 Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

¹⁰ As a robustness check, I also conducted the analyses with both moderators simultaneously, which did not change the results that are reported in this section.

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cognition-based trust and information sharing was not significant, as shown in the moderation analyses. The table also shows that the direct effect of cognition-based trust on team decision quality remains significant, confirming that the total effect of this relationship was *partially* mediated by information sharing.

Focusing on affect-based trust as the independent variable, I entered learning goal orientation as the only moderator into the model. The bootstrapped results of the mediation effects of information sharing on the relationship between affect-based trust and team decision quality contingent on learning goal orientation, as well as the residual direct effect for this relationship, are shown in Table 9. As expected, the indirect effect of affect-based trust on team decision quality via information sharing was significant at low levels of learning goal orientation (indirect effect = .20, 95% CI = .07 – .34). At high levels of learning goal orientation, the effect became non-significant (indirect effect = .05, 95% CI = -.00¹¹ – .14). This provides support for hypothesis H11d, suggesting that the mediating effects of information sharing on the relationship between affect-based trust and team decision quality will be higher at lower levels of learning goal orientation. Hypothesis H11b was not supported, because the required moderation effect of positive affect for the relationship between affect-based trust and information sharing was not significant, as shown in the moderation analyses. Table 9 also shows that the direct effect of affect-based trust on team decision quality becomes non-significant, confirming that the total effect of this relationship was *fully* mediated by information sharing.

To summarize, the moderated mediation analysis revealed three major findings: first, the total effect of cognition-based trust on the decision quality of entrepreneurial teams was stronger than the effect of affect-based trust on decision quality. Second, there was a full me-

¹¹ The lower limit of the confidence interval was -0.0035. Thus, 0 was included in the confidence interval.

Table 9: Indirect effects of affect-based trust (via information sharing) on decision quality at different levels of learning goal orientation

Indirect effect	Moderator: Learning goal orientation ^a	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Mediator:	-1.000	.20	.07	.07	.34
Information sharing	0.000	.12	.04	.05	.22
(Z-standardized)	1.000	.05	.03	-.00	.14
Residual direct effect		Effect	SE	t	p
Affect-based trust on team decision quality		.04	.09	.45	.65

Notes: n= 112, CI = Confidence Interval; Control variables: gender, age, team age, firm size, team size, industry background, cognition-based trust, negative affect, performance goal orientation.
^a Z-standardized
Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

diation of the relationship between affect-based trust and decision quality via information sharing, while the relationship between cognition-based trust and team decision quality was mediated only partially. Finally, the mediation of cognition-based trust on team decision quality via information sharing was moderated by positive affect, but not by learning goal orientation. Vice versa, for affect-based trust the mediation effect was moderated by learning goal orientation, but not by positive affect.

4.3 Robustness checks

In this section, I present results from robustness checks which I conducted for both the Mechanisms of Trust Model and the Conditional Effects of Trust Model. I will first present the results of robustness checks across the two models. More specifically, I included both moderators in the Mechanisms of Trust Model, and I included workload sharing in the Conditional Effects of Trust Model. In addition to that, I conducted robustness checks of both models using team level variables, and I tested the relationship of intrateam trust on information sharing with negative affect and performance goal orientation as moderators.

Table 10: Hierarchical regression analysis predicting workload sharing

	Model 1	Model 2	Model 3a	Model 3b
<i>Control Variables</i>				
Gender	-0.11	-0.11	-0.14	-0.11
Participant's Age	0.24*	0.27**	0.29**	0.27**
Team Age	0.09	0.08	0.09	0.07
Firm Size (FTE)	0.09	0.10	0.10	0.10
Team Size	0.08	0.09	0.10	0.09
Industry Dummy 1	0.12	0.12	0.13	0.12
Industry Dummy 2	0.02	0.01	-0.02	0.01
Industry Dummy 3	0.10	0.17	0.17	0.17
Industry Dummy 4	-0.11	-0.09	-0.10	-0.09
Industry Dummy 5	-0.09	0.00	-0.02	0.00
Negative Affect	0.06	0.17	0.17	0.16
Performance Goal Orientation	0.07	0.00	0.00	0.00
<i>Main effects</i>				
Cognition-based trust		0.31**	0.33**	0.31**
Affect-based trust		0.21	0.20	0.21
Positive Affect		0.16	0.18	0.16
Learning Goal Orientation		-0.02	0.00	-0.02
<i>Interactions</i>				
Cognition-based trust X Positive Affect			-0.10	
Cognition-based trust X Learning Goal Orientation			0.14	
Affect-based trust X Positive Affect				0.01
Affect-based trust X Learning Goal Orientation				-0.01
Adjusted R ²	0.04	0.31	0.32	0.30
ΔR^2		0.27***	0.02	0.00
F	1.40	4.12***	3.91***	3.59***
df	12, 99	16, 95	18, 93	18, 93
Notes: Standardized regression coefficients are shown. n = 112 (participants)				
* p < 0.05				
** p < 0.01				
*** p < 0.001				
Two-tailed tests				

4.3.1 Robustness checks across models

Table 10 presents the hierarchical regression results to test the moderation effects of both positive affect and learning goal orientation on the relationship between both trust dimensions and workload sharing. None of the interaction terms exhibited a significant

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relationship with workload sharing: $\beta = -.10$, *ns*, for the interaction of cognition-based trust and positive affect; $\beta = .14$, *ns*, for the interaction of cognition-based trust and learning goal orientation; $\beta = .01$, *ns*, for the interaction of affect-based trust and positive affect; and $\beta = -.01$, *ns*, for the interaction of affect-based trust and learning goal orientation. Moreover, both models 3a and 3b did not explain significant additional variance over model 2 ($\Delta R^2 = .02$, *ns* for model 3a, and $\Delta R^2 = .00$, *ns* for model 3b). Therefore, it seems that there are no significant moderation effects when workload sharing is considered as a dependent variable.

Table 11 presents the hierarchical regression results for predicting decision quality, including workload sharing as an additional mediator and the interaction terms of workload sharing with the two moderators (see models 4a and 4b). The results of model 3 suggest that the main effects of both trust dimensions on decision quality are fully mediated by the two team processes (cognition-based trust: $\beta = .20$, *ns*; affect-based trust: $\beta = .00$, *ns*). This multiple mediation model is significant ($F(16, 95) = 4.33$, $p < .001$), and explains an additional variance in decision quality of 9% ($p < .01$) over the main effects model (model 2). The inclusion of the moderators and the interaction terms (model 4a and model 4b) did not add significant explanatory power ($\Delta R^2 = .04$, *ns* for model 4a, and $.03$, *ns* for model 4b).

I also conducted the same regression analyses with team performance as the dependent variable (see Table 12). Model 3 represents the Mechanisms of Trust Model that has been presented before, additionally including negative affect and performance goal orientation as control variables. Model 4a and model 4b include the moderators and the interaction terms. Similarly to the hierarchical regression results for decision quality as the dependent variable, the inclusions of moderators and interaction terms did not add any explanatory power ($\Delta R^2 = .01$, *ns* for model 4a, and $\Delta R^2 = .02$, *ns* for model 4b). Neither of the interaction terms was significant (interaction of cognition-based trust and positive affect: $\beta = -.06$, *ns*; interaction of information sharing and positive affect: $\beta = .03$, *ns*; interac-

Table 11: Hierarchical regression analysis predicting decision quality

	Model 1	Model 2	Model 3	Model 4a	Model 4b
<i>Control Variables</i>					
Gender	0.11	0.15	0.17*	0.10	0.19*
Participant's Age	-0.03	-0.02	-0.05	-0.01	-0.05
Team Age	-0.01	-0.03	-0.04	0.00	-0.05
Firm Size (FTE)	0.05	0.07	0.07	0.06	0.07
Team Size	-0.02	-0.02	-0.06	-0.00	-0.05
Industry Dummy 1	-0.04	-0.04	-0.04	-0.02	-0.05
Industry Dummy 2	-0.02	-0.05	-0.05	-0.02	-0.01
Industry Dummy 3	-0.12	-0.06	-0.10	-0.07	-0.08
Industry Dummy 4	-0.02	-0.01	-0.01	0.02	-0.00
Industry Dummy 5	-0.19	-0.11	-0.13	-0.09	-0.08
Negative affect	-0.15	-0.10	-0.12	0.07	-0.14
Performance Goal Orientation	0.04	-0.04	-0.03	-0.00	-0.05
<i>Main effects</i>					
Cognition-based trust		0.36**	0.20	0.21	0.20
Affect-based trust		0.22*	0.01	0.01	0.04
<i>Mediators</i>					
Information Sharing			0.33**	0.23	0.24*
Workload Sharing			0.22*	0.18	0.21*
<i>Moderators and interactions</i>					
Positive affect				0.21	
Cognition-based trust X Positive Affect				-0.18	
Information Sharing X Positive Affect				0.05	
Workload Sharing X Positive Affect				0.00	
Learning Goal Orientation					0.07
Affect-based trust X Learning Goal Orientation					-0.20
Information Sharing X Learning Goal Orientation					0.02
Workload Sharing X Learning Goal Orientation					0.02
<hr/>					
Adjusted R ²	-0.03	0.23	0.32	0.34	0.33
ΔR ²		0.25***	0.09**	0.04	0.03
F	0.72	3.40***	4.33***	3.84***	3.75***
df	12, 99	14, 97	16, 95	20, 91	20, 91
<hr/>					
Notes: Standardized regression coefficients are shown. n = 112 (participants)					
* p < 0.05					
** p < 0.01					
*** p < 0.001					
Two-tailed tests					

tion of workload sharing and positive affect: $\beta = .11$, *ns*; interaction of affect-based trust and learning goal orientation: $\beta = -.08$, *ns*; interaction of information sharing and learning goal orientation: $\beta = -.09$, *ns*; interaction of workload sharing and learning goal orientation: $\beta = .06$, *ns*). Moreover, the multiple mediation results did not change after the inclusion of the moderation terms: there was still a partial mediation of cognition-based trust, and a full mediation of affect-based trust (see models 4a and 4b compared to model 3 in Table 12). Hence, these findings suggest that the regression results (see Table 2, Table 6 and Table 7) are robust across the different models.

Table 12: Hierarchical regression analysis predicting team performance

	Model 1	Model 2	Model 3	Model 4a	Model 4b
<i>Control Variables</i>					
Gender	0.08	0.14	0.17*	0.15*	0.18*
Participant's Age	-0.09	-0.08	-0.11	-0.11	-0.11
Team Age	0.00	-0.04	-0.05	-0.01	-0.06
Firm Size (FTE)	0.11	0.15	0.14*	0.15*	0.16*
Team Size	-0.01	-0.02	-0.06	-0.05	-0.07
Industry Dummy 1	0.03	0.03	0.04	0.05	0.03
Industry Dummy 2	-0.15	-0.18	-0.18	-0.17	-0.18
Industry Dummy 3	-0.15	-0.06	-0.10	-0.10	-0.10
Industry Dummy 4	-0.03	-0.02	-0.02	-0.01	-0.01
Industry Dummy 5	-0.21	-0.11	-0.13	-0.12	-0.09
Negative affect	-0.01	0.04	0.03	0.04	0.01
Performance Goal Orientation	0.11	0.03	0.03	0.04	0.01
<i>Main effects</i>					
Cognition-based trust		0.53***	0.35***	0.38***	0.37***
Affect-based trust		0.20*	-0.05	-0.07	-0.04
<i>Mediators</i>					
Information Sharing			0.37***	0.35**	0.29**
Workload Sharing			0.25**	0.21*	0.28**
<i>Moderators and interactions</i>					
Positive affect				0.02	
Cognition-based trust X Positive Affect				-0.06	
Information Sharing X Positive Affect				0.03	
Workload Sharing X Positive Affect				0.11	
Learning Goal Orientation					0.01
Affect-based trust X Learning Goal Orientation					-0.08
Information Sharing X Learning Goal Orientation					-0.09
Workload Sharing X Learning Goal Orientation					0.06
<hr/>					
Adjusted R ²	-0.04	0.41	0.53	0.52	0.54
ΔR ²		0.41***	0.12***	0.01	0.02
F	0.64	6.41***	8.85***	7.10***	7.37***
df	12, 99	14, 97	16, 95	20, 91	20, 91
<hr/>					
Notes: Standardized regression coefficients are shown. n = 112 (participants)					
* p < 0.05					
** p < 0.01					
*** p < 0.001					
Two-tailed tests					

4.3.2 Team level results for the Mechanisms of Trust and the Conditional Effects of Trust models

In this section, I present the regression results for the two models at a team level. In order to generate a team level dataset, I first aggregated the individual values for each variable included in the model by taking the mean average of all individual values for each entrepreneurial team (cf. Bono & Judge, 2003; Colbert, Kristof-Brown, Bradley, & Barrick, 2008). As an aggregated value for gender does not make sense, it was not included in the control variables at the team level. To assess whether aggregating the individual level data on

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a team level was justified, I first computed within-team agreements $r_{wg(j)}$ based on James, Demaree and Wolf's (1984) formula for each of the ten constructs included in the two models (i.e., cognition- and affect-based trust, information sharing, workload sharing, positive and negative affect, learning and performance goal orientation, team performance and decision quality).

I calculated these figures for the teams of which there were at least two respondents, which was the case for 40 teams. Hence, I ended up with 400 $r_{wg(j)}$ figures (10 constructs for each of the 40 teams). The $r_{wg(j)}$ ranged from 0 to 1, with an average of .90. In 27 (or 6.8% out of 400) cases, $r_{wg(j)}$ was below .70, which is a generally accepted cutoff value for substantial interrater agreement (see Sinclair, Wang, & Tetrick, 2012). In addition to that, I calculated team-size corrected intraclass correlation coefficients for each construct using Bliese and Halverson's (1998) formula. The results for the ICC(1) calculations ($-.10 \leq ICC(1) \leq .27$, median = .12) and the corresponding F-tests ($.79 \leq F(39, 52) \leq 1.85$; critical F -value is $F(39, 52) > 1.60$ for $p < .05$) did not indicate that the team members' views were sufficiently similar to rely on a team-level operationalization of these variables (Klein & Kozlowski, 2000). In fact, only affect-based trust with an ICC(1) of .27 and an F -value of 1.85 justified aggregation on a team level. Based on these findings, it needs to be pointed out that the following analyses only provide an indication of whether the results for the two models remain stable based on team level variables.

Team level results for the Mechanisms of Trust Model. Similarly to the individual level regression analyses, I conducted hierarchical linear regression analyses and bootstrapping analyses based on computed team variables in order to test the robustness for the different models. Due to the aggregation of the variables, the sample size decreases from 112 (individual participants) to 60 (teams), which causes a reduction of statistical power (Barling, Kelloway, & Iverson, 2003). This means that regression results that were significant

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on a 5% level for a sample size of 112 may not be significant for a sample size of 60. I computed the team level variables by taking the mean average of the individual level variables across each team. The regression results for the Mechanisms of Trust Model are shown in Table 13. In contrast to the individual level regression results, cognition-based trust did not show a significant relationship to either information sharing ($\beta = .23$, *ns*, see model 2) or workload sharing ($\beta = .24$, *ns*, see model 4). Therefore, the regression analysis based on team level variables does not support a mediation effect of information sharing and workload sharing for the relationship between cognition-based trust and team performance.

In contrast, the results for the relationship between affect-based trust and information sharing ($\beta = .55$, $p < .001$) and the relationship between affect-based trust and workload sharing ($\beta = .33$, $p < .05$) were in line with the individual level results. The main effects of both trust variables on team performance were significant (cognition-based trust: $\beta = .27$, $p < .05$; affect-based trust: $\beta = .51$, $p < .001$, see model 6). However, after entering the two team process variables, both the relationship between cognition-based trust and team performance ($\beta = .12$, *ns*) and the relationship between affect-based trust and team performance ($\beta = .23$, *ns*) became insignificant (see model 7). Both the main effects model ($F(11, 48) = 6.61$, $p < .001$, see model 6) and the mediation model ($F(13, 46) = 8.31$, $p < .001$) were significant, and the inclusion of the two mediators added significant explanatory power over the main effects model ($\Delta R^2 = .10$, $p < .001$) with regards to the variance of team performance. The findings above suggest a full mediation of the effect of affect-based trust on team performance, consistent with the findings from the individual level results. For cognition-based trust, the regression results for the team level pointed into the same direction as for the individual level variables, despite not being significant.

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Table 13: Team level results of the standardized regression analysis for the mediated effects of cognition-based and affect-based trust on team performance

Independent Variables	Team processes				Team performance		
	Information sharing		Workload sharing		Model 5	Model 6	Model 7
	Model 1	Model 2	Model 3	Model 4			
Participant's Age	-0.18	-0.11	0.24	0.28*	-0.21	-0.14	-0.20*
Team Age	0.04	0.03	0.15	0.13	0.02	0.00	-0.05
Firm Size (FTE)	-0.04	-0.05	0.11	0.10	0.14	0.13	0.12
Team Size	0.05	0.09	0.10	0.13	-0.06	-0.02	-0.09
Industry Dummy 1	-0.06	-0.09	0.12	0.10	0.06	0.03	0.03
Industry Dummy 2	0.26	0.12	0.02	-0.07	-0.04	-0.17	-0.19
Industry Dummy 3	0.21	0.16	0.09	0.07	-0.06	-0.10	-0.18
Industry Dummy 4	0.10	0.12	-0.15	-0.14	-0.03	-0.01	-0.01
Industry Dummy 5	0.13	0.16	-0.03	0.00	-0.21	-0.17	-0.22*
Cognition-based trust		0.23		0.24		0.27*	0.12
Affect-based trust		0.55***		0.33*		0.51***	0.23
Information sharing							0.33*
Workload sharing							0.32**
Adjusted R ²	-0.09	0.47	0.00	0.29	-0.06	0.51	0.62
ΔR ²		0.50***		0.26***		0.50***	0.10**
F	0.44	5.79***	1.03	3.15***	0.61	6.61***	8.31***
df	9, 50	11, 48	9, 50	11, 48	9, 50	11, 48	13, 46

Notes: Standardized regression coefficients are shown. n = 60 (teams)

* p < 0.05
 ** p < 0.01
 *** p < 0.001

Two-tailed tests

Table 14 shows the bootstrapping results for the Mechanisms of Trust Model with cognition-based trust as the independent variable based on team level variables. The 95% bootstrap confidence intervals suggest that neither the total mediation effect, nor the mediation effects of information sharing or workload sharing are significant, consistent with the hierarchical regression results. However, both bootstrap indirect effects pointed into the same direction when compared to individual level results (information sharing: .05, *ns* compared to .07, $p < .01$ in Table 3; workload sharing: .06, *ns* compared to .07, $p < .05$ in Table 3). The bootstrapping results for affect-based trust as the independent variable are shown in Table 15. Both indirect effects (information sharing: .12, $p < .05$; workload sharing: .07, $p < .05$; total effect: .19, $p < .01$) were significant, which is consistent with the bootstrapping results based on individual level variables. Hence, the bootstrapping analyses provide some support for the robustness of the Mechanisms of Trust Model.

Table 14: Team-level results for the indirect effect of cognition-based trust (via information sharing and workload sharing) on team performance

	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Information sharing	.05	.05	-.01	.20
Workload sharing	.06	.06	-.04	.19
Information sharing vs Workload sharing	-.01	.07	-.15	.16
TOTAL	.11	.08	-.01	.32

Notes: n= 60, CI = Confidence Interval; Control variables: age, team age, firm size, team size, industry background, affect-based trust.

Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

$R^2_{adj} = .62$, $F(13,46) = 8.29$, $p < .001$

** $p < .01$; * $p < .05$

Table 15: Team-level results for the indirect effect of affect-based trust (via information sharing and workload sharing) on team performance

	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Information sharing	.12*	.06	.01	.24
Workload sharing	.07*	.05	.00	.20
Information sharing vs Workload sharing	.05	.08	-.12	.18
TOTAL	.19**	.08	.05	.36

Notes: n= 60, CI = Confidence Interval; Control variables: age, team age, firm size, team size, industry background, cognition-based trust.

Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

$R^2_{adj} = .62$, $F(13,46) = 8.29$, $p < .001$

** $p < .01$; * $p < .05$

Team level results for the Conditional Effects of Trust Model. For the team level analyses of the Conditional Effects of Trust Model, I conducted the same regression analyses as for the individual level variables. First, I conducted a hierarchical linear regression of information sharing on the control variables (see model 1 in Table 16), additionally including the two trust variables and the moderators (model 2), and subsequently entering the interaction terms for the trust variables and the moderators. Consistent with the findings from the team level regressions based on the Mechanisms of Trust Model, Table 16 shows that the relationship between information sharing and cognition-based trust was non-significant ($\beta =$

Table 16: Team level hierarchical regression analysis predicting information sharing

	Model 1	Model 2	Model 3a	Model 3b
<i>Control Variables</i>				
Participant's Age	-0.23	-0.08	-0.02	0.01
Team Age	0.06	0.06	0.08	0.08
Firm Size (FTE)	-0.07	-0.02	-0.05	-0.07
Team Size	0.08	0.12	0.16	0.14
Industry Dummy 1	-0.04	-0.09	-0.03	-0.08
Industry Dummy 2	0.24	0.14	0.14	0.15
Industry Dummy 3	0.18	0.22	0.23	0.22
Industry Dummy 4	0.11	0.13	0.13	0.12
Industry Dummy 5	0.12	0.21	0.25*	0.29*
Negative Affect	-0.11	0.05	0.01	0.02
Performance Goal Orientation	0.18	-0.00	-0.03	-0.06
<i>Main effects</i>				
Cognition-based trust		0.19	0.20	0.16
Affect-based trust		0.47**	0.48**	0.50**
Positive Affect		0.14	0.12	0.14
Learning Goal Orientation		0.17	0.13	0.14
<i>Interactions</i>				
Cognition-based trust X Positive Affect			-0.20	
Cognition-based trust X Learning Goal Orientation			-0.08	
Affect-based trust X Positive Affect				-0.17
Affect-based trust X Learning Goal Orientation				-0.22*
Adjusted R ²	-0.10	0.48	0.52	0.55
ΔR^2		0.50***	0.05	0.07*
F	0.51	4.56***	4.68***	5.24***
df	11, 48	15, 44	17, 42	17, 42

Notes: Standardized regression coefficients are shown. n = 60 (teams)

* p < 0.05

** p < 0.01

*** p < 0.001

Two-tailed tests

.19, *ns* in model 2), while there was a significant positive relationship between affect-based trust and information sharing ($\beta = .47, p < .01$). When focusing on cognition-based trust as the independent variable, the interaction terms with both positive affect ($\beta = -.20, ns$) and learning goal orientation ($\beta = -.08, ns$), as well as the increase in R^2 of .05, *ns*, were not

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significant (see model 3a). However, the interaction term of cognition-based trust and positive affect exhibited the same sign as in the individual level regression results. The team level regression results for the moderation of the relationship between affect-based trust and information sharing were fully consistent with the individual level regression results (see model 3b): while the moderation effect of positive affect was not significant, ($\beta = -.17, ns$), the interaction term of affect-based trust and learning goal orientation was significantly negatively related to information sharing ($\beta = -.22, p < .05$). Model 3b significantly added explanatory power regarding the variance of information sharing when compared to the main effects model 2: $\Delta R^2 = .07, p < .05$, and the moderation model was significant: $F(17, 42) = 5.24, p < .001$. These findings provide support for the robustness of the moderation effects.

Next, I regressed decision quality on the control variables (see model 3 in Table 17), additionally including the two trust variables (model 4), the mediator (model 5), and subsequently entering the interaction terms for the trust variables, the mediator and the moderators (models 6a and 6b). Neither of the trust variables exhibited a significant relationship to decision quality ($\beta = .22, ns$ for cognition-based trust and $\beta = .34, ns$ for affect-based trust), and the main effects model was not significant: $F(13, 46) = 1.62, ns$. However, the standardized regression coefficients had the same signs when compared to the individual level regression results (see model 2 in Table 2). The inclusion of information sharing in the regression equation (model 5) increased R^2 by $.09, p < .05$, and the model became significant: $F(14, 45) = 2.19, p < 0.05$. The regression coefficient of information sharing was significantly positive ($\beta = .46, p < .05$), which is consistent with the results based on the individual level analyses. Moreover, although the main effects in model 2 were not significant, both regression coefficients decreased, which is in line with the mediation hypotheses. Consistent with the regression results based on individual level analyses, the inclusion of the moderators and the interaction terms (models 4a and 4b) showed that neither

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Table 17: Team level hierarchical regression analysis predicting decision quality

Independent variables	Information sharing		Decision quality				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6a	Model 6b
<i>Control Variables</i>							
Participant's Age	-0.23	-0.12	-0.11	-0.04	0.02	0.07	0.04
Team Age	0.06	0.03	0.04	0.01	-0.00	0.08	-0.02
Firm Size (FTE)	-0.07	-0.06	0.05	0.06	0.09	0.06	0.05
Team Size	0.08	0.09	-0.01	-0.00	-0.04	0.05	-0.07
Industry Dummy 1	-0.04	-0.10	0.03	0.00	0.05	0.08	0.03
Industry Dummy 2	0.24	0.12	0.04	-0.03	-0.09	-0.00	-0.08
Industry Dummy 3	0.18	0.15	-0.08	-0.08	-0.15	-0.04	-0.15
Industry Dummy 4	0.11	0.12	-0.02	-0.01	-0.07	-0.01	-0.07
Industry Dummy 5	0.12	0.16	-0.15	-0.12	-0.19	-0.08	-0.15
Negative Affect	-0.11	-0.03	-0.18	-0.12	-0.11	-0.00	-0.12
Performance Goal Orientation	0.18	-0.01	0.08	-0.04	-0.04	-0.01	-0.04
<i>Main effects</i>							
Cognition-based trust		0.22		0.22	0.12	0.12	0.10
Affect-based trust		0.55***		0.34	0.08	0.03	0.19
<i>Mediator</i>							
Information Sharing					0.46*	0.28	0.41*
<i>Moderators and interactions</i>							
Positive affect						0.40**	
Cognition-based trust X Positive Affect						-0.20	
Information Sharing X Positive Affect						0.02	
Learning Goal Orientation							-0.03
Affect-based trust X Learning Goal Orientation							-0.24
Information Sharing X Learning Goal Orientation							0.15
<hr/>							
Adjusted R ²	-0.06	0.39	-0.14	0.12	0.22	0.33	0.19
ΔR ²		0.41***		0.24**	0.09*	0.12*	0.02
F	0.50	6.17***	0.35	1.62	2.19*	2.69**	1.79
df	12, 99	14, 97	11, 48	13, 46	14, 45	17, 42	17, 42
<hr/>							
Notes: Standardized regression coefficients are shown. n = 60 (teams)							
* p < 0.05							
** p < 0.01							
*** p < 0.001							
Two-tailed tests							

of the interaction terms was significant. The inclusion of positive affect and the respective interaction terms (cognition-based trust x positive affect and information sharing x positive affect) added significant explanatory power to the model ($\Delta R^2 = .12, p < .05$, see model 4a), which was due to the direct effect of the moderator, as I verified in a separate analysis. The inclusion of learning goal orientation and the respective interaction terms (affect-based trust x learning goal orientation and information sharing x learning goal orientation) did not add significant explanatory power to the model ($\Delta R^2 = .02, ns$, see model 4b).

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I also conducted bootstrapping analyses, including both the mediator and the moderators simultaneously. The team level bootstrapping results for the indirect effect of information sharing on the relationship between cognition-based trust and decision contingent on positive affect, as well as the residual direct effect for this relationship, are shown in Table 18. The table also shows the bias corrected bootstrapped intervals that were created based on a 95% level of confidence. At low levels of positive affect, the indirect effect of cognition-based trust on decision quality via information sharing was positive and significant (indirect effect = .12, 95% CI = .01 – .33), whereas at high levels of positive affect the indirect effect became non-significant, as the zero was contained within the bootstrap interval (indirect effect = .01, 95% CI = -.11 – .12). This is fully consistent with the results from the individual level bootstrapping analyses (see Table 8).

The results for the corresponding team level bootstrapping analyses for the indirect effect of information sharing on the relationship between affect-based trust and decision quality contingent on learning goal orientation, as well as the residual direct effect for this relationship, are shown in Table 19. Again, the results are fully consistent with the individual level analyses (see Table 9): at low levels of learning goal orientation, the mediation effect was stronger (indirect effect = .23, 95% CI = .01 – .53) than at higher levels of positive affect (indirect effect = .10, 95% CI = .01 – .28). The findings from the bootstrapping analyses based on team level variables provide support for the robustness of the Conditional Effects of Trust Model.

In summary, the robustness checks presented in this section that are based on regression analyses of team level variables do provide support for the two models, although not all effects reached the 5% significance levels. The relationship between cognition-based trust and both information sharing and workload sharing, as well as the main effects of both trust variables on decision quality, were not significant for the team-level variables. However,

Table 18: Indirect effects of cognition-based trust (via information sharing) on team decision quality at different levels of positive affect

Indirect effect	Moderator: Positive affect ^a	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Mediator:	-1.00	.12	.08	.01	.33
Information sharing	0.00	.06	.05	-.00	.22
(Z-standardized)	1.00	.01	.06	-.11	.12
Residual direct effect		Effect	SE	t	p
Cognition-based trust on team decision quality		.07	.10	.70	.49

Notes: n= 60 (teams), CI = Confidence Interval; Control variables: age, team age, firm size, team size, industry background, affect-based trust, negative affect, performance goal orientation.
a Z-standardized
Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

Table 19: Indirect effects of affect-based trust (via information sharing) on team decision quality at different levels of learning goal orientation

Indirect effect	Moderator: Learning goal orientation ^a	Bootstrap indirect effect	SE	Lower limit 95% CI	Upper limit 95% CI
Mediator:	-1.00	.23	.13	.01	.53
Information sharing	0.00	.16	.09	.01	.37
(Z-standardized)	1.00	.10	.06	.01	.28
Residual direct effect		Effect	SE	t	p
Affect-based trust on team decision quality		.05	.12	.43	.67

Notes: n= 60 (teams), CI = Confidence Interval; Control variables: age, team age, firm size, team size, industry background, cognition-based trust, negative affect, performance goal orientation.
a Z-standardized
Confidence intervals are bias-corrected, based on 10,000 bootstrap samples.

all of the results pointed into the same direction when compared to the individual level results. This is also true for the results of the bootstrapping analyses. When considering affect-based trust as the independent variable, all bootstrapping results on a team level were fully consistent with the results of the corresponding analyses on an individual level for both models under investigation. The bootstrapping results for cognition-based trust were not significant for the Mechanisms of Trust Model, but the indirect effects pointed into the same direction when compared to the individual level bootstrapping results. Hence, the results of the robustness checks suggest that both the Mechanisms of Trust Model and the Conditional Effects of Trust Model are relatively robust. The differences in significance levels between the individual level regression results and the team level regression results may be explained by the reduction of the sample size from 112 participants to 60 teams, which causes a loss of

statistical power in the regression analyses (e.g., Barling et al., 2003), and by the fact that aggregation of the individual data may not be justified in every case, as pointed out before.

4.3.3 Moderation results using negative affect and performance goal orientation as moderators

In order to test the robustness of the distinctive moderation effects with regards to the relationship between the two trust dimensions and information sharing, I substituted positive affect and learning goal orientation with negative affect and performance goal orientation and conducted a hierarchical regression analysis including both variables as moderators. The results for this analysis are shown in Table 20. The interaction term of cognition-based trust and negative affect was significant ($\beta = .22, p < .05$), and the standardized correlation coefficient has the opposite sign when compared to the standardized correlation coefficient of the interaction of cognition-based trust and positive affect (see Table 6). This finding suggests that for team members exhibiting high levels of negative affect, cognition-based trust plays an even more important role when trying to yield superior levels of information sharing. In contrast to that, the moderating effects of positive affect suggest that cognition-based trust becomes more important at *low* levels of positive affect. Performance goal orientation did not moderate the relationship between cognition-based trust and information sharing ($\beta = -.12, ns$), and the model including both interaction terms provided significant additional explanatory power of the variance of information sharing ($\Delta R^2 = .03, p < .05$) over the main effects model (see model 3a in Table 20). When considering affect-based trust as the independent variable, none of the interaction terms was significant (affect-based trust x negative affect: $\beta = .09, ns$; affect-based trust x performance goal orientation: $\beta = -.08, ns$, see model 3b in Table 20). Hence, performance goal orientation does not seem to play a significant role in the moderation of the relationship between either dimension of intrateam trust and information sharing.

Table 20: Hierarchical regression analysis predicting information sharing

	Model 1	Model 2	Model 3a	Model 3b
<i>Control Variables</i>				
Gender	-0.13	-0.07	-0.06	-0.06
Participant's Age	-0.06	-0.06	-0.04	-0.05
Team Age	0.04	0.00	-0.00	-0.02
Firm Size (FTE)	-0.08	-0.07	-0.07	-0.05
Team Size	0.08	0.09	0.10	0.10
Industry Dummy 1	-0.09	-0.08	-0.10	-0.09
Industry Dummy 2	0.11	0.03	0.00	0.03
Industry Dummy 3	0.04	0.04	0.03	0.04
Industry Dummy 4	0.06	0.08	0.10	0.08
Industry Dummy 5	0.06	0.08	0.12	0.09
Positive Affect	0.42***	0.23*	0.26**	0.22*
Learning Goal Orientation	0.11	-0.01	0.00	0.00
<i>Main effects</i>				
Cognition-based trust		0.23*	0.23*	0.26*
Affect-based trust		0.42***	0.42***	0.38***
Negative Affect		0.05	-0.06	0.02
Performance Goal Orientation		0.01	0.06	0.03
<i>Interactions</i>				
Cognition-based trust X Negative Affect			0.22*	
Cognition-based trust X Performance Goal Orientation			-0.12	
Affect-based trust X Negative Affect				0.09
Affect-based trust X Performance Goal Orientation				-0.08
Adjusted R ²	0.14	0.42	0.45	0.42
ΔR^2		0.27***	0.03*	0.01
F	2.49**	6.02***	6.01***	5.47***
df	12, 99	16, 95	18, 97	18, 97

Notes: Standardized regression coefficients are shown. n = 112 (participants)

* p < 0.05

** p < 0.01

*** p < 0.001

Two-tailed tests

In summary, the results for the moderation effects of negative affect on the relationship between both trust dimensions and information sharing support the robustness of the moderation results of the Conditional Effects of Trust Model. Again, the moderation effects were different for the two trust dimensions.

5 Discussion

The goal of the present dissertation is to gain a better understanding of the mechanisms *how* trust within entrepreneurial teams affects different team outcomes and *which individual level conditions* affect these mechanisms. Drawing on data gathered from 112 entrepreneurs representing 60 different teams, I find that there are positive effects from both cognition-based and affect-based trust on team performance and decision quality. Moreover, these effects are mediated by information sharing and workload sharing when team performance is considered as the team outcome variable, and they are mediated by information sharing when decision quality represents the team outcome variable. The mediation mechanisms are different for affect-based trust and cognition-based trust. Furthermore, the mediation mechanisms with regards to the relationship between intrateam trust and decision quality are contingent on the levels of positive affect and learning goal orientation of individual team members. The results have implications for the literature on trust, entrepreneurship and organizational psychology.

In the following I discuss the results pointed out above and I detail the contributions from both the Mechanisms of Trust Model and the Conditional Effects of Trust Model to current research literature. I also include suggestions for future research directions when detailing the contributions. As in the previous chapters, I have divided this chapter into separate parts for the two models. The first section discusses the before-mentioned points for the Mechanisms of Trust Model, while the second section concentrates on the Conditional Effects of Trust Model. Finally, I highlight the practical implications for entrepreneurs and point out the limitations of the study.

5.1 Discussion of the results for the Mechanisms of Trust Model

The empirical results of the Mechanisms of Trust Model suggest that intrateam trust is associated with superior team performance, and that this relationship is mediated by certain team processes. Table 21 summarizes the hypotheses for this model. In general, the results from this study support all the proposed hypotheses for this model. The findings add to the understanding of *how* intrateam trust unfolds its benefits within entrepreneurial teams. Moreover, it seems that these mechanisms differ across the two principal dimensions of trust. In the following, I discuss the results for the Mechanisms of Trust Model in more detail, starting with the contributions to and implications for the entrepreneurship literature.

Table 21: Overview of hypotheses for the Mechanisms of Trust Model

Hypotheses	Status
H1a: Cognition-based trust positively affects team performance	Supported
H1b: Affect-based trust positively affects team performance	Supported
H1c: Cognition-based trust has a stronger effect on team performance than affect-based trust	Supported
H2a: Cognition-based trust positively affects information sharing	Supported
H2b: Affect-based trust positively affects information sharing	Supported
H3a: Cognition-based trust positively affects workload sharing	Supported
H3b: Affect-based trust positively affects workload sharing	Supported
H4a: Information sharing positively affects team performance	Supported
H4b: Workload sharing positively affects team performance	Supported
H5a: Information sharing mediates effect of cognition-based trust on team performance	Supported
H5b: Information sharing mediates effect of affect-based trust on team performance	Supported
H5c: Workload sharing mediates effect of cognition-based trust on team performance	Supported
H5d: Workload sharing mediates effect of affect-based trust on team performance	Supported

5.1.1 Contributions to the entrepreneurship literature

As emphasized in the introduction, scholars contend that trust plays an important role in entrepreneurship because it helps individuals involved in the establishment of a new venture to overcome the risks and uncertainties that are associated with such an endeavor (Scarborough et al., 2013; Welter, 2012). For example, trust between investors and

entrepreneurs has emerged as an important factor in the decision of an investor to make an investment (Maxwell & Lévesque, 2011), and in the investor's assessment of venture performance (Bammens & Collewaert, 2012). However, most research around trust in entrepreneurship focused on the relevance of social networks for the establishment of new ventures, thereby assessing the role of trust only indirectly (Welter, 2012; Welter & Smallbone, 2006). Empirical research on trust *within* entrepreneurial teams is scarce. An exception is provided by Talaulicar et al. (2005), who found that in TMTs with high levels of trust, a CEO model results in high degrees of decision comprehensiveness and decision making speed. The authors contend that trust within the TMT helps solicit and provide information from the team members to the CEO. In addition to that, researchers deem trust important for building team commitment, which increases team effectiveness (Chowdhury, 2005a), and for preventing entrepreneurial teams from process losses in performing complex tasks, thus promoting venture performance (Ensley et al., 2002). In their studies, however, Chowdhury (2005a) and Ensley et al. (2002) did not investigate the consequences of trust directly but rather used it in their discussions of the effects of team commitment on team effectiveness, and team cohesion on new venture sales growth. As pointed out before, an empirical investigation of the consequences of trust within entrepreneurial teams and its mechanisms can contribute to a better understanding of entrepreneurial team dynamics.

In the present thesis, I built on the literature on trust (Blatt, 2009; Jong & Elfring, 2010; McAllister, 1995; Schaubroeck et al., 2011; Welter, 2012), team processes (Bunderson & Sutcliffe, 2002; Campion et al., 1993; Mesmer-Magnus & DeChurch, 2009) and team performance (Schaubroeck et al., 2011; Shaw et al., 2010), and proposed that certain team interaction processes may transfer the benefits of intrateam trust into superior team performance of entrepreneurial teams. The results from the Mechanisms of Trust Model make several contributions to the entrepreneurship literature.

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First of all, the present research sheds light on the role and the importance of trust in an entrepreneurial team setting as intrateam trust emerged as an important antecedent of entrepreneurial team performance, which in turn is believed to be closely connected to venture performance (Ensley et al., 2002; Watson et al., 1995). In the theory chapter I hypothesized that intrateam trust may be especially crucial for superior performance outcomes in entrepreneurial teams, as new ventures typically act in risky and uncertain environments and often lack stable structures (Blatt, 2009; Ensley et al., 2006; Shepherd et al., 2000). In such an environment intrateam trust may act as a substitute for non-existent stable structures because it may reduce the feelings of uncertainty within the team (Sorrentino et al., 1995) and it may help the team to work towards its goals as a unit (Bennis & Nanus, 2007; Dirks, 2000), which could promote team performance. The results show a significant relationship between both trust dimensions and the performance of the entrepreneurial team and hence support this argument. The research outcomes suggest that intrateam trust provides a basis for effective and collaborative interaction in a risky and uncertain environment, thereby resulting in a superior performance of the entrepreneurial team.

Second, the findings from the Mechanisms of Trust Model increase our understanding of *how* trust affects the performance of entrepreneurial teams. The results imply that there are team interaction processes, in particular information sharing and workload sharing, which seem to play a prominent role in transferring the benefits of intrateam trust into better performance outcomes of the entrepreneurial team. The empirical findings suggest that both cognition-based trust and affect-based trust are important ingredients for superior team processes such as information sharing and workload sharing. Extant research has already emphasized the importance of interpersonal processes for venture success (e.g., Watson et al., 1995). The results of the present study imply that team interaction processes are critical in entrepreneurial teams, as new ventures typically do not have an established structure that

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would e.g. regulate information sharing, and neither do they have an organizational setting such as a supervisor that would regulate the distribution of workload within the entrepreneurial team (Shepherd et al., 2000). This is in line with the argument that these team processes can help achieve superior performance outcomes by better integrating available resources such as human capital and by contributing to a more effective allocation of resources that are scarce in entrepreneurial teams (Foo et al., 2005; Kotha & George, 2012; Ucbasaran et al., 2003). After all, it is the entrepreneur who fully recognizes the value of resources such as knowledge in order to realize an economic opportunity (Alvarez, 2001), and an effective resource allocation is crucial for new venture success (West, 2007).

Finally, my research highlights the *differences* for the two trust dimensions with regards to their consequences on the entrepreneurial team's performance. Two major differences became apparent: the total effect of cognition-based trust on team performance was stronger than the total effect of affect-based trust on team performance. Moreover, while in the case of affect-based trust the two mediators under investigation fully explained how affect-based trust affects team performance, there is only a partial mediation in the case of cognition-based trust. These results imply that there may be differences with regards to both strength and mechanisms of how affect-based trust and cognition-based trust transfer into team performance. In the following I discuss these differences, starting with the different strengths of these effects.

In the theory chapter, I hypothesized that cognition-based trust may have a stronger effect on the entrepreneurial team's performance when compared to affect-based trust because its function as an uncertainty reducer may be more relevant for entrepreneurial team performance than a sense of obligation to fellow team members resulting from affect-based trust (see Colquitt et al., 2012). I also argued that believing in other team members'

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capabilities and strategies increases motivation, which in turn results in a higher team performance (see Schaubroeck et al., 2011), may be particularly important for entrepreneurial teams. These teams may require superior capabilities and strategies in order to make the best possible use of their scarce resources (Foo et al., 2005; Kotha & George, 2012; Ucbasaran et al., 2003), and this may be even more relevant for the performance of entrepreneurial teams than a psychologically safe environment which results from affect-based trust (Schaubroeck et al., 2011). The results of the present study support these hypotheses.

Extant empirical research has found contrasting results: in a longitudinal study with 78 student teams investigating the relationship between intrateam trust and team performance, Webber (2008) found a significant positive effect of affect-based trust on team performance, while there was no significant effect of cognition-based trust on team performance. These findings may be attributable to the different context of the author's study. For example, it may be the case that believing in other team members' capabilities and strategies may be of less importance in student teams, as these teams may not face such complex and uncertain conditions in their work as is the case for entrepreneurial teams (Blatt, 2009; Haynie & Shepherd, 2009). This would imply that cognition-based trust would be less important for team performance in student teams when compared to entrepreneurial teams (Schaubroeck et al., 2011). Moreover, cognition-based trust is associated with fellow team members' track records of reliable role performance (McAllister, 1995). This track record may not be as established in student teams when compared to entrepreneurial teams, as the latter ones have been working together and may know each other over a longer period (indeed, the longitudinal study carried out by Webber (2008) comprised a time span of one semester). Further research that accounts for different contexts and different developmental stages of the team will be necessary in order to yield more clarity regarding the strengths of the effects of both trust dimensions on team performance.

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With respect to the differences in the mechanisms of trust in entrepreneurial teams, the results of my research suggest that cognition-based trust can enhance team performance because it fosters information sharing based on the increased expectance that team members help to reach someone's goals by acting on the shared information in a productive manner (Bunderson & Sutcliffe, 2002). In addition to that, cognition-based trust can enhance team performance by promoting workload sharing because cognition-based trust reduces the risk individuals perceive of being dependent on potentially unreliable fellow team members when giving away someone's workload (Langfred, 2007). However, there may also be something else which is triggered by cognition-based trust, something which is not transferred by these two team processes, and which would explain partial mediation. For example, cognition-based trust may also help entrepreneurial teams to accept common goals, beliefs and visions, which may result in more constructive and straightforward discussions and working modes, allowing the team to better work together as a unit (Bennis & Nanus, 2007; Dirks, 2000) and thus to achieve a better team performance. This relationship, however, may also involve the affective dimension of trust, and further research will be needed to clarify this aspect.

Another indirect effect may result from a reduced need of monitoring of other team members at higher levels of trust (Powell, 1990), which may be attributable to the cognitive dimension of trust. I encourage future entrepreneurship research to take additional team interaction processes such as team participation (West & Anderson, 1996) into account that may shed further light on the speculations above. I also emphasized in the theory chapter that affect-based trust creates a psychologically safe environment which promotes engagement at work (Schaubroeck et al., 2011). This engagement may perhaps be fully reflected in information sharing and workload sharing, which would explain a full mediation of these two team processes.

5.1.2 Contributions to the literature on trust

As in other studies (Curşeu & Schrujjer, 2010; Jong & Elfring, 2010; Schaubroeck et al., 2011), I found that trust has a significant positive effect on team performance. In their article on the role of trust in organizational settings, Dirks and Ferrin (2001) point out that trust does affect team performance in a positive way, yet it was still unclear *how* this relationship occurs. Investigating the processes that transmit these effects has thus been deemed crucial for a more detailed understanding of trust (Mayer & Gavin, 2005). Jong and Elfring (2010) have already discovered team reflexivity and team monitoring as team *behavioral* aspects that mediate this relationship. The findings from the Mechanisms of Trust Model further contribute to the research on trust in several ways.

First of all, by investigating the role of team *interaction* processes such as information sharing and workload sharing as mediators, my research extends the aforementioned findings of Jong and Elfring (2010) and contributes to a better understanding of *how* trust affects team performance. These team interaction processes become visible in concrete day-to-day interactions within the team and seem to affect team performance outcomes. The results of this research study provide evidence that both information sharing and workload sharing may indeed convert the benefits of intrateam trust into superior team performance. The size of the indirect effects seems to be significant: the inclusion of both mediators into the regression equation explained an additional 12% ($p < .001$) of the variance in team performance when compared to the main effects model (see Table 2 on p. 129). This is in line with other empirical studies of mediation effects (for comparison, in Jong & Elfring (2010), the mediators explained an additional 6%, in Olson et al. (2007) the mediators explained an additional 2.3% to 15%, in Bunderson & Boumgarden (2010) the mediators explained an additional 13% of the corresponding dependent variables). The study results imply that increased levels of trust within the team may create conditions in which team members feel

comfortable to proactively share information and workload, thereby promoting a collaborative working style across the team (cf. Dirks & Ferrin, 2001; Schaubroeck et al., 2011). The present research confirms Jong and Elfring (2010), who argue that in order to fully understand *how* trust affects performance, it is crucial to investigate the role of multiple mediators simultaneously, and it expands on current research findings by showing that team *interaction* processes are important mediators in the trust – performance relationship.

Second, my research findings enhance the understanding of the distinctive features of the two principal components of trust, namely cognition-based trust and affect-based trust. As pointed out before, empirical research has already examined different consequences of the two trust dimensions (e.g., Chua et al., 2008; Colquitt et al., 2012; Schaubroeck et al., 2011; Webber, 2008). For example, in their study with 191 financial services teams in Hong Kong and the U.S., Schaubroeck et al. (2011) already found distinctive features of the two trust dimensions, as their relationship with team performance is mediated by different team psychological states: team potency mediated the relationship of cognition-based trust and team performance, while team psychological safety mediated the relationship of affect-based trust and team performance.

The results of the present study highlight distinctive effects with regards to both strength and mediating mechanisms of the relationship between the two trust dimensions and team performance, as already discussed in the previous section. Adding to that, the results of the Mechanisms of Trust Model with cognition-based trust as the independent variable, exhibiting only partial mediation by the two team processes, suggest that there may be further mediators that can help explain the corresponding relationship between cognition-based trust and team performance, as well as the respective mechanisms, even better. Future research could continue this avenue of research and identify other team behaviors, e.g. team potency

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(Gully et al., 2002), team autonomy (Langfred, 2005), and goal acceptance (Podsakoff, Mackenzie, & Ahearne, 1997), as well as other interaction processes such as team participation (West & Anderson, 1996) that have an impact in the trust – performance relationship.

Finally, the results of this study confirm the findings of Jong and Elfring (2010), demonstrating that in teams that work together for a long period of time, trust exhibits a significant positive main effect on team performance. It may be the case that for short-term teams with high levels of autonomy, trust can exhibit negative effects by decreasing the level of monitoring each other, which in turn decreases the performance of the team (cf. Langfred, 2004). However, within the context of entrepreneurial teams, which certainly represent teams working together for an extended period of time (Lechler, 2001), our study provides further support that trust can be beneficial for the performance of these teams. The results are in line with the argument made by Jong and Elfring (2010), who suggest that the potential negative consequences of trust described in Langfred (2004) apply to teams working together for a limited period of time only. In contrast, trust that develops in long-term teams is likely to encourage a form of monitoring that enables team members to monitor each other in order to help out other team members who may need help (McAllister, 1995). This aspect was also accentuated during the interviews in the BEST research study, with one interviewee stating:

... Who takes over which tasks? [...] We determine this, and I can trustfully rely on them that the tasks will be accomplished. There is no need for further control, and if someone just can't handle it, no problem to say: 'Would you take this one? I just can't handle it at the moment'. (45-114-110517)

In general, one should be careful when proposing universal models of potential positive or negative consequences of intrateam trust.

5.1.3 Contributions to the team performance literature

This study makes several contributions to the team performance literature. First, by investigating the consequences of workload sharing, I revealed that this team process may be an important antecedent of team performance in an entrepreneurial context. While both trust (e.g., Dirks, 1999, 2000; Schaubroeck et al., 2011) and information sharing (for a meta-analysis on the relationship between information sharing and team performance, cf. Mesmer-Magnus & DeChurch, 2009) have already been identified as important antecedents of team performance, an extensive literature research indicates that empirical data on the effect of workload sharing on team performance in non-laboratory research settings (Barrick et al., 1998; Campion et al., 1993; Campion et al., 1996) is still very scarce and thus requires further investigations in different contexts. The results of my research support the argument that workload sharing can enhance team outcomes such as team performance by preventing social loafing or free-riding (Albanese, 1985) in entrepreneurial teams and confirm the positive effects of workload sharing on team performance in this context. The data hence support the generalizability of previous findings on the effect of workload sharing on team performance.

Second, the results highlight the importance and mechanisms of both trust dimensions as a predictor of team performance. Numerous team studies have focused on work design, team composition, and team context variables as predictors of team outcomes such as team performance (for an extended review, see Mathieu, Maynard, Rapp, & Gilson, 2008). While trust has long been a neglected variable in this research area (Kiffin-Petersen, 2004), recent empirical findings from Jong and Elfring (2010) and Schaubroeck et al. (2011) suggest that there is much more to know about trust beyond exhibiting a significant main effect on team performance. The present study sheds further light on this complex relationship and goes into detail concerning the specific mechanisms of the relationship between both trust dimensions

and team performance. The findings of the study suggest that cognition-based and affect-based trust within the team may help unlock the team's performance potential, and it may do so by promoting team interaction processes such as information sharing and workload sharing.

The results also show that the strengths of the effect and the mechanisms of the two trust dimensions as antecedents of team performance are somewhat different. Cognition-based trust exhibits a stronger main effect than affect-based trust, and there is only a partial mediation for cognition-based trust as compared to the full mediation for affect-based trust. This suggests that there may be differences in importance regarding the two trust dimensions as antecedents of team performance, which may be attributable to the entrepreneurial context. As pointed out before, there also seem to be differences in the mediation mechanisms for the two trust dimensions, and I encourage future research to investigate additional team interaction processes such as team participation (West & Anderson, 1996) or social support (Campion et al., 1993) in order to further clarify these differences. Confirming the findings from Jong and Elfring (2010), the results of this research also propose that within the input-process-output framework (cf. Mathieu et al., 2008, p. 413 for details on this framework), trust can be considered as an input variable that is converted into team performance outcomes via team interaction processes.

5.1.4 Contributions to the literature on team processes

The conceptual model and the empirical findings also make several contributions to the literature on team processes. First, the results further enhance the understanding of the role of information sharing as an important mediator in different relationships. As already pointed out in the theory chapter, empirical findings have shown that information sharing mediates the negative relationship between the dominant function diversity of the team and

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team performance (Bunderson & Sutcliffe, 2002), as well as the positive relationship between team structure and learning in teams, and the positive relationship between psychological safety and team learning (Bunderson & Boumgarden, 2010). The results of the present study provide indications that information sharing may also mediate the positive relationship between cognition-based trust and team performance, as well as the positive relationship between affect-based trust and team performance. Information sharing may thus be a critical team interaction process in which some of the benefits of both dimensions of trust can be observed. It may provide part of the answer to the question of *how* exactly trust affects team performance.

Second, to the best of my knowledge, this study is the first to empirically investigate the role of workload sharing in the trust performance relationship. Both the conceptual model and the results support that workload sharing plays a similar role in the trust performance relationship as does information sharing: it mediates the positive relationship of both trust dimensions and team performance, and some of the benefits of intrateam trust may become manifest in workload sharing. It would have been interesting to “rank” the two team interaction processes based on the strength of their respective mediation effects in the proposed model. In order to investigate this question, I examined the pair-wise contrasts of the indirect effects coming from information sharing and workload sharing with bootstrapping analysis. However, the bootstrapping results show that, based on a 95% level of significance, this study could not provide an answer to this question (see Table 3 on p. 133 and Table 4 on p. 133), as the corresponding confidence interval for the pair-wise contrasts of information sharing versus workload sharing included zero. Future research may eventually reveal which team process is the “more important” mediator for the trust performance relationship.

Finally, continuing with the contributions to the input-process-output framework (Mathieu et al., 2008), the Mechanisms of Trust Model suggests that both information sharing and workload sharing may be considered as process variables within this framework. Both variables may convert input variables (cognition-based trust and affect-based trust in the present study) into output variables (here: team performance). This provides further support for the validity of this framework.

It has to be noted that the present study investigates the mediating role of information sharing and workload sharing in the relationship between intrateam trust and team performance for self-managed teams that often lack stable organizational structures (Shepherd et al., 2000). Research with corresponding samples is needed in order to determine whether the results obtained in this study can be generalized to other settings such as work teams in large organizations.

5.2 Discussion of the results for the Conditional Effects of Trust Model

Table 22 summarizes the hypotheses of the Conditional Effects of Trust Model. The results of this study support most of the proposed hypotheses for this model. Hypotheses that were not supported are the moderation of the relationship between affect-based trust and information sharing by positive affect, as well as the moderation of the relationship between cognition-based trust and information sharing by learning goal orientation. Consequently, positive affect does not moderate the mediation effects of information sharing regarding the relationship between affect-based trust and team decision quality, and learning goal orientation does not moderate the mediation effects of information sharing regarding the relationship between cognition-based trust and team decision quality. The patterns in the findings add to the understanding of *how* and *under which conditions* intrateam trust results

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in superior decision quality of entrepreneurial teams and suggest that both the mechanisms and the conditions differ across the two principal dimensions of trust. In the following, I discuss the results for the Conditional Effects of Trust Model in more detail, starting with the contributions to and implications for the entrepreneurship literature.

Table 22: Overview of the hypotheses for the Conditional Effects of Trust Model

Hypotheses	Status
H2a: Cognition-based trust positively affects information sharing	Supported
H2b: Affect-based trust positively affects information sharing	Supported
H6a: Cognition-based trust positively affects team decision quality	Supported
H6b: Affect-based trust positively affects team decision quality	Supported
H6c: Cognition-based trust has a stronger effect on team decision quality than affect-based trust	Supported
H7: Information sharing positively affects team decision quality	Supported
H8a: Positive affect moderates the relationship between cognition-based trust and information sharing such that the higher positive affect, the weaker this relationship	Supported
H8b: Positive affect moderates the relationship between affect-based trust and information sharing such that the higher positive affect, the weaker this relationship	Not supported
H9a: Learning goal orientation moderates the relationship between cognition-based trust and information sharing such that the higher positive affect, the weaker this relationship	Not supported
H9b: Learning goal orientation moderates the relationship between affect-based trust and information sharing such that the higher positive affect, the weaker this relationship	Supported
H10a: Information sharing mediates effect of cognition-based trust on team decision quality	Supported
H10b: Information sharing mediates effect of affect-based trust on team decision quality	Supported
H11a: Positive affect moderates the mediation effect of information sharing on the relationship between cognition-based trust and team decision quality such that the mediation effects will be higher at lower levels of positive affect.	Supported
H11b: Positive affect moderates the mediation effect of information sharing on the relationship between affect-based trust and team decision quality such that the mediation effects will be higher at lower levels of positive affect.	Not supported
H11c: Learning goal orientation moderates the mediation effect of information sharing on the relationship between cognition-based trust and team decision quality such that the mediation effects will be higher at lower levels of learning goal orientation.	Not supported
H11d: Learning goal orientation moderates the mediation effect of information sharing on the relationship between affect-based trust and team decision quality such that the mediation effects will be higher at lower levels of learning goal orientation.	Supported

5.2.1 Contributions to the entrepreneurship literature

Current literature on the role of trust within entrepreneurial teams has been summarized in section 5.1.1 already. I will therefore focus on discussing additional contributions of the Conditional Effects of Trust Model. Drawing on the literature of trust (Blatt, 2009; Jong & Elfring, 2010; McAllister, 1995; Schaubroeck et al., 2011; Welter,

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2012), information sharing (Bunderson & Sutcliffe, 2002; Mesmer-Magnus & DeChurch, 2009), decision quality (Amason, 1996; Olson et al., 2007; West, 2007), affect (Cardon et al., 2012; Foo et al., 2009; Fredrickson, 2001; Fredrickson & Branigan, 2003) and goal orientation (Bunderson & Sutcliffe, 2003; Dweck, 1986; Matzler & Mueller, 2011), I proposed that information sharing may transfer the benefits of intrateam trust into superior decision qualities of the entrepreneurial team, and that this mediation effect is contingent on the levels of learning goal orientation and positive affect for individual team members. The findings from the Conditional Effects of Trust Model make several contributions to the entrepreneurship literature.

First of all, in addition to the contributions from the Mechanisms of Trust Model discussed in the previous section, the findings from the Conditional Effects of Trust Model further extend the understanding of the effects of trust within entrepreneurial teams on team outcomes. As pointed out before in a study with German technology-based start-ups Talaulicar et al. (2005) investigated the impact of a CEO model for TMTs on the comprehensiveness of a strategic decision under different levels of trust among the TMT members. However, the direct effect of trust within the entrepreneurial team on the team's decision quality has not yet been investigated before. The empirical findings of this study suggest that both dimensions of trust are important antecedents of the entrepreneurial team's decision quality.

In the theory chapter, I hypothesized that affect-based trust is crucial for a superior decision quality in entrepreneurial teams because it curtails potential negative consequences of team diversity and interaction that may otherwise impede the maintenance of affect (Amason, 1996). Moreover, new ventures often make decisions in high-velocity environments (Talaulicar et al., 2005), thereby reducing individual informational capabilities, and affect-based trust, which involves goodwill, may facilitate decision making with limited

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individual information capabilities (Welter & Smallbone, 2006). Trust in the other team members' competencies may also help achieve decisions of superior quality because team members are more likely to bring in their individual perspectives and cognitions as a decision basis (Bunderson & Sutcliffe, 2002), which promotes a high quality of decisions (Olson et al., 2007; West, 2007). Indeed, the results show a significant relationship between both trust dimensions and the decision quality of entrepreneurial teams and hence support the previously stated arguments.

Second, investigating the role of information sharing as a mediator increases our understanding of *how* trust affects the entrepreneurial team's decision quality. To this ends, the findings of my research suggest that information sharing plays a crucial role in transferring the benefits of intrateam trust into superior decision quality for entrepreneurial teams. Consequently, information sharing seems to be crucial for the quality of decisions in entrepreneurial teams. This is an interesting aspect as entrepreneurial teams often need to make their decisions based on little information and under high uncertainty (Baron, 2008; Ensley et al., 2006; McKelvie et al., 2011; McMullen & Shepherd, 2006), at the same time often not having established structures that would regulate information sharing (Shepherd et al., 2000). To the best of my knowledge, the consequences of information sharing on the entrepreneurial team's decision quality have not yet been investigated empirically. However, the results of my research support the argument that information sharing is particularly critical for entrepreneurial teams who often make decisions under the just mentioned conditions.

As a third point, the results of the Conditional Effects of Trust Model exhibit further distinctive features of cognition-based and affect-based trust. The findings suggest that there are differences in both strength and mechanisms of the effect of the two trust dimensions on the entrepreneurial team's decision quality. With regards to the strength of the total effect, the

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findings are consistent with prior research: in a study with 109 hospitals investigating the moderating role of cognition-based and affect-based trust in the relationship between conflict and decision quality, Parayitam and Dooley (2009) found cognition-based trust to be more important than affect-based trust. In the theory chapter, I argued that cognition-based trust exhibits a stronger effect on the entrepreneurial team's decision quality than affect-based trust because it brings together individual perspectives and cognitions as a decision basis (Bunderson & Sutcliffe, 2002) and increases the beneficial effects of cognitive diversity on task conflict (Olson et al., 2007). These aspects may be more relevant for the decision quality of entrepreneurial teams (West, 2007) than the maintenance of affect and the facilitation of decision making due to goodwill, which results from higher levels of affect-based trust (Amason, 1996; Welter & Smallbone, 2006). Moreover, for complex and sensitive decisions the perceived trustworthiness based on team members' competence may more likely affect decision quality when compared to trust based on personal relationships (Parayitam & Dooley, 2009). The results of this study support these arguments.

In addition to that, the mechanisms were different for the two trust dimensions. It seems that the maintenance of affect and increased goodwill that facilitate decision making may be fully reflected in information sharing, hence explaining the full mediation of the relationship between affect-based trust and decision quality. However, it seems that information sharing only partially reflects the beneficial effects of cognitive diversity on task conflict and the consolidation of individual perspectives and cognitions as a decision basis, which are associated with cognition-based trust and result in higher decision quality, as pointed out above. Hence, there may also be something else mediating the relationship between cognition-based trust and decision quality which cannot be explained by information sharing, and which also leads to superior decision quality. Perhaps, it may be the case that high levels of cognition-based trust increase the entrepreneurial team members' engagement

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in learning from experiences of failure, which in turn leads to a higher decision quality (see Carmeli et al., 2012). This could be investigated as a potential further mediator of the relationship between cognition-based trust and decision quality in future entrepreneurship research.

Finally, the present research reveals insights on individual level factors that can affect the mechanisms of trust within entrepreneurial teams. Following the suggestion from Klotz et al. (in press), I developed and tested a conditional indirect effects model to gain these insights. The results show that the mechanisms of the effects of trust on the entrepreneurial team's decision quality are contingent on individual team members' level of positive affect and learning goal orientation, while the moderating effects are different for the two trust dimensions. Prior research has already investigated the role of positive affect in an entrepreneurial context, for example its mediating role in the relationship between the employees' perceptions of the founder's entrepreneurial passion influences their affective commitment to entrepreneurial ventures (Breugst et al., 2012a), or the impact of affect on the entrepreneur's risk perceptions and risk preferences (Foo, 2011a). However, to the best of my knowledge there has not yet been any research on *how* the consequences of intrateam trust differ at different levels of positive affect in entrepreneurial teams. The results suggest that at high levels of positive affect, the relationship between cognition-based trust and information sharing becomes insignificant.

One may interpret the results such that entrepreneurial team members experiencing high levels of positive affect would engage in information sharing even when the level of cognition-based trust in their teammates is low. Positive affect may therefore exhibit a compensatory effect in this relationship, which means that it compensates for a lack of cognition-based trust in entrepreneurial teams. This is in line with an argument frequently made by different scholars that affect influences cognition (see Cardon et al., 2012).

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However, the results also suggest that this compensatory effect does not hold true for the relationship of affect-based trust and information sharing, as the moderation effect proved to be insignificant in this study. It seems that team members lacking affect-based trust in each other cannot compensate this deficiency with high levels of positive affect.

To the best of my knowledge, learning goal orientation has been investigated in an entrepreneurial context only scarcely. For example, in a study with 158 college students, Culbertson et al. (2011) found that learning goal orientation predicted entrepreneurial career anchors when coupled with high self-efficacy, but not with low self-efficacy. As emphasized in the theory chapter, interviewees of the BEST research study mentioned the learning aspect frequently when they talked about their motivations to establish a new venture. Moreover, continuous knowledge acquisition (Chandler & Lyon, 2009), adaptations and improvements (Andries & Debackere, 2006; Bhave, 1994; Wolff & Pett, 2006), which may be promoted by high levels of learning goal orientation, seem to play a crucial role for venture success. To illustrate this, no single startup participating in our BEST research study and being financed by venture capital received this financing based on the initial business model. These startup teams changed their business model at least once before they got venture capital financing. Therefore, although scholars have investigated the role of learning goal orientation in non-entrepreneurial contexts (Bell & Kozlowski, 2002; Bunderson & Sutcliffe, 2003; Matzler & Mueller, 2011; VandeWalle et al., 1999), the implications of learning goal orientation in a new venture context are certainly of interest.

The results of our study indicate that learning goal orientation may play a similar role as positive affect, but instead of affecting the relationship between cognition-based trust and information sharing, it rather unfolds its impact on the relationship between affect-based trust and information sharing. The results show that at higher levels of learning goal orientation, the relationship between affect-based trust and information sharing becomes less pronounced.

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One possible interpretation of these results may be that entrepreneurial team members who exhibit high levels of learning goal orientation engage more in information sharing because their learning-oriented approach motivates them to learn from their fellow team members (Bunderson & Sutcliffe, 2003). This may hold true even if affect-based trust is low. Therefore, high levels of learning goal orientation compensate for a lack of affect-based trust when it comes to effective information sharing. Moreover, the results also suggest that high levels of learning goal orientation cannot compensate for a lack of cognition-based trust. If individuals do not trust in the competences and capabilities of their fellow team members, they may not expect that these team members will help them to reach their goals such as completing a certain task or solving certain problems when sharing information with them (Bunderson & Sutcliffe, 2002), and hence a learning-oriented approach may not motivate an increased information sharing under these conditions. This implies that low levels of cognition-based trust prevent team members from sharing information no matter what the level of learning goal orientation of these team members is, and thus there will be no compensatory effect.

Future entrepreneurship research can investigate further factors and team processes that may influence the relationship between intrateam trust and the entrepreneurial team's decision quality. I argued in the theory chapter that intrateam trust may be particularly important for the decision quality of entrepreneurial teams because these teams make decisions in highly uncertain and complex environments and uncertain internal structures (Baron, 2008; Blatt, 2009; Haynie & Shepherd, 2009) and trust can reduce the feelings of uncertainty (Sorrentino et al., 1995). Hence, the level of uncertainty may be an important parameter to consider in this aspect. Moreover, there may be further team processes such as the team members' participation in decision making (Dreu & West, 2001) that may help explain how intrateam trust affects team decision quality.

5.2.2 Contributions to the literature on trust

The findings from the Conditional Effects of Trust Model contribute to the research on trust in several ways. First of all, by investigating the direct effect of intrateam trust on the team's decision quality the results provide further evidence that trust may be considered as an important antecedent of decision quality, and by taking into account information sharing as a mediator, the findings provide insights into the mechanisms *how* trust may affect the team's decision quality. To the best of my knowledge, the direct effects of trust on decision quality have been researched only scarcely. In fact, after conducting extensive literature research, the only empirical research on this relationship that I found was a study with 77 TMTs carried out by Carmeli et al. (2012). In this study, the authors found that the relationship between trust within the TMT and the TMT's decision quality may be mediated by the TMT's learning from experiences of failure.

In other research studies, trust has been included as a moderator when investigating the decision quality of teams. For example, in a study with TMTs from 85 U.S. hospitals, Olson et al. (2007) investigated the moderating role of cognition-based trust in the positive association between cognitive diversity and task conflict, where the latter mediates the impact of cognitive diversity on decision outcomes such as decision quality. Similarly, in a study with 70 top management teams, Simons and Peterson, (2000) investigated intrateam trust as a moderator of the relationship between task conflict and relationship conflict, arguing that intrateam trust may help reaping the benefits of task conflict with respect to decision quality, without resulting in higher levels of relationship conflict.

In both examples, the positive effect of trust is based on its moderating role, because a high level of intrateam trust promotes relationships that are beneficial for the team's decision quality (such as the relationship of cognitive diversity and task conflict in the case of Olson et al., 2007), and it suppresses relationships that are detrimental for the team's decision quality

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(such as the relationship between task conflict and relationship conflict in the case of Simons & Peterson, 2000). In the theory chapter, I hypothesized that both dimensions of trust, i.e. cognition-based trust and affect-based trust, may be important antecedents for the team's decision quality, and that these relationships may be mediated by information sharing, as teams which exhibit a greater level of trust in each other may engage in collaborative interpersonal cooperation such as information sharing, which in turn may result in superior levels of the team's decision quality. The data of the present research study provide evidence that there is a significant positive relationship between the two trust dimensions and the team's decision quality, suggesting that trust may indeed promote superior levels of the team's decision quality. Moreover, it seems that these benefits are transferred by information sharing, which acts as a mediator in the relationships between both dimensions of trust and decision quality.

Second, the results of the Conditional Effects of Trust Model further demonstrate distinguishing features of cognition-based trust and affect-based trust. The current state of literature on this aspect has already been summarized in the discussion of the Mechanisms of Trust Model. I therefore concentrate on the additional contributions from the Conditional Effects of Trust Model. It seems that cognition-based trust exhibits a stronger total effect on decision quality than affect-based trust, and while information sharing seems to fully explain how affect-based trust affects decision quality, there is only a partial mediation when cognition-based trust is considered as the independent variable. These differences were already discussed in the previous section.

In addition to that, the moderation results provided another aspect of the difference between cognition-based trust and affect-based trust: whereas the positive relationship between cognition-based trust and information sharing seems to be contingent on the level of positive affect of team members, this does not seem to be the case for the positive

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relationship between affect-based trust and information sharing. The results indicate that at low levels of positive affect, cognition-based trust is significantly positive associated with information sharing, whereas at high levels of positive affect this relationship is essentially non-existent. In contrast, investigating the moderation of learning goal orientation with respect to the relationship between cognition-based trust and information sharing, I did not discover a significant moderating effect.

Focusing on affect-based trust as the independent variable, the results with respect to the two moderators were exactly vice versa: while the moderation effect of positive affect on the relationship between affect-based trust and information sharing was not significant, this was different for the moderation effects of learning goal orientation. At low levels of learning goal orientation, the positive relationship between affect-based trust and information sharing seems to become even stronger, while at high levels of learning goal orientation, the relationship seems to become weaker. These findings may be interpreted as evidence for a “compensatory effect” in the respective moderations: while positive affect, an “affective” moderator, may compensate for lack of cognition-based trust in entrepreneurial teams, learning goal orientation (a “cognitive” construct) may compensate for a lack of affect-based trust in the entrepreneurial team. The findings provide further support for the distinction of cognition-based trust and affect-based trust as suggested by McAllister (1995).

With regards to the additional variance explained by the moderation effects, the inclusion of the moderators into the regression equation for the relationship between cognition-based trust and information sharing explained an additional 5.3% of the variance of information sharing. In the case of affect-based trust as the independent variable, the moderators explained an additional 3.7% of the variance in information sharing. One may argue that the incremental variance due to these interaction terms are rather small. However, Evans (1985) emphasized that moderator effects are typically underestimated and that even

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those moderator effects which explain as little as 1% of the total variance should be considered important (see also van Dick, van Knippenberg, Kerschreiter, Hertel, & Wieseke, 2008). In addition to that, reviews of the social science literature from Champoux and Peters (1987) and Chaplin (1991) state that field study interactions typically account for about 1–3% of the variance (see also McClelland & Judd, 1993; van Dick et al., 2008). For comparison, the inclusion of moderators explained an additional 7% in the studies of Schaubroeck, Lam and Cha (2007) and Breugst et al. (2012a), 2.7% in the study of Olson et al. (2007), and 3%–7% in the study of Chandler and Lyon (2009). Therefore, the effect size was in line with other empirical studies that investigate moderators.

Finally, by taking the two moderators into account, the data do not only provide insights into *how* trust unfolds its benefits within teams, but also *under which individual level factors* this happens. From the previously discussed results, we have seen that different conditions of positive affect result in different relationships for cognition-based trust and information sharing, and they also affect the mediation mechanism of information sharing in the relationship between cognition-based trust and decision quality. The same is true for learning goal orientation with respect to the relationship between affect-based trust and information sharing. To the best of my knowledge, there is no previous empirical research on the consequences of intrateam trust under different individual level factors. Therefore, the present study is pioneering work with regards to this aspect, and there are probably more conditions that may be worth considering when investigating the consequences of intrateam trust.

To this ends, it may be interesting for future research to take into account negative affect as an additional individual level factors, which can occur simultaneously with positive affect rather than being the opposite end of the same scale (Morris, Kuratko, Schindehutte, & Spivack, 2012). Another example for individual level factors that future research could

investigate is self-efficacy, which relates to people's judgements of their own abilities to take actions required to achieve designated performance levels (Bandura, 1994). The author points out that individuals with a strong sense of self-efficacy set challenging goals for themselves and work towards these goals with persistency. Self-efficacy may influence the consequences of trust with respect to activities such as information sharing: individuals with a high self-efficacy may engage in information sharing if they consider it helpful to achieve their goals, and they may do so even when trust in fellow team members is low.

5.2.3 Contributions to the literature on decision quality

This study makes several contributions to the literature on decision quality. First, while the relationship between information sharing and decision quality has been established empirically already (see e.g. Wittenbaum et al., 2004), the findings of my research contribute to the understanding of what may trigger this relationship. I hypothesized that information sharing is crucial for decision quality because it provides the opportunity for unique information to be shared (Mesmer-Magnus & DeChurch, 2009) so that teams which are better in sharing information should therefore gain a broader basis of shared information and thus can achieve a superior quality of decisions (cf. Lam & Schaubroeck, 2011). The data of the present study provide support for this argument and are in line with previous research (Wittenbaum et al., 2004). My findings make an additional contribution because the data show that intrateam trust can trigger this relationship: higher levels of intrateam trust result in superior information sharing, which in turn promotes decision quality.

Second, I extend the understanding of intrateam trust as an important antecedent of decision quality. As mentioned before, the direct effects of intrateam trust on decision quality have recently been investigated in an empirical study by Carmeli et al. (2012), who found that the relationship between trust within the TMT and the TMT's decision quality is mediated by the TMT's learning from experiences of failure. The results of my research

suggest that both principal dimensions of trust, that is cognition-based trust and affect-based trust, may be important antecedents of the team's decision quality. They also suggest that in addition to learning from failures, information sharing may be an important team process that can explain the *mechanisms* of the relationship between trust and decision quality of teams. Future research may shed even further light on this relationship by investigating additional team processes such as the individual's participation in decision making (Dreu & West, 2001).

5.2.4 Contributions to the literature on information sharing

In addition to the contributions pointed out in the discussion of the Mechanisms of Trust Model, the conceptual model and the empirical findings of the Conditional Effects of Trust Model add several contributions to the literature on information sharing. First, the results provide further support that information sharing may play an important role as a mediator in different relationships. Next to the mediating roles already discussed for the Mechanisms of Trust Model, the data of the present study also suggest that information sharing mediates the positive relationship between cognition-based trust and the team's decision quality, as well as the positive relationship between affect-based trust and the team's decision quality. Thus, information sharing seems to be a team process in which the benefits of intrateam trust become manifest, and it may transfer intrateam trust into the quality of the team's decisions. Information sharing may therefore help to answer the question *how* intrateam trust affects decision quality.

Second, while intrateam trust has already been discussed as an important predictor of information sharing, based on the results of the Conditional Effects of Trust Model it seems that the effects of these antecedents are contingent on different individual level factors. The findings suggest that in order to predict the effect of cognition-based trust on information

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sharing, it is important to take into account the levels of positive affect within the team. As it seems, in case teams lack cognition-based trust in each other, positive affect can compensate for this deficiency. Moreover, the mediation effects of information sharing on the relationship between cognition-based trust and decision quality seem to depend on the level of positive affect such that the mediation described above vanishes at high levels of positive affect. Likewise, learning goal orientation seems to compensate for a lack of affect-based trust when considering information sharing as a dependent variable, and the mediation effects of information sharing on the relationship between affect-based trust and decision quality seem to decrease at higher levels of learning goal orientation. These findings propose that beyond what has been pointed out in the discussion of the Mechanisms of Trust Model about the relationship between intrateam trust and information sharing, there are additional aspects to be considered. Future research may therefore take different conditions into account when trying to predict the effects of intrateam trust on information sharing. For example, the level of perceived uncertainty may be another important condition: as argued in the theory chapter, intrateam trust may be especially important when individuals perceive a high level of uncertainty.

5.2.5 Contributions to the literature on affect and learning goal orientation

Affect has already been investigated empirically in many studies before. For example, as Baron (2008) summarizes, affect has been shown to influence important outcomes, such as decision making (e.g., Isen, 2001; Isen & Labroo, 2003), performance appraisals (e.g., Cropanzano & Wright, 1999) or job satisfaction (e.g., Weiss, 2002), as well as the performance of many cognitive tasks (e.g., Staw & Barsade, 1993). Empirical results have also revealed that affect promotes engagement in citizenship behavior (e.g., George & Brief, 1996; Podsakoff & MacKenzie, 1997) and work team cooperation (e.g., Beersma et al., 2003). As already mentioned before, affect has also been researched in an entrepreneurial

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context (Breugst et al., 2012a; Foo, 2011a; Foo et al., 2009). Learning goal orientation has also been investigated in several empirical studies already (Bell & Kozlowski, 2002; Bunderson & Sutcliffe, 2003; Matzler & Mueller, 2011; Porter et al., 2010; VandeWalle et al., 1999). The present study makes three major contributions to the literature of affect and learning goal orientation.

First, my findings suggest that positive affect increases the scope of attention of entrepreneurial team members (Fredrickson & Branigan, 2003) and confirms Foo et al. (2009) in their argument that it fuels proactive behavior. The results suggest that individuals who are high in positive affect proactively share information with their fellow team members, independent on whether they trust in the team member's competencies and capabilities. Therefore, I found that positive affect may exhibit a "compensatory effect" – that is, positive affect compensates for a lack of cognition-based trust that would otherwise lead to lower information sharing within the team. As demonstrated in the present study, information sharing within entrepreneurial teams is beneficial for different team outcomes, and the consequences of positive affect described above can therefore benefit the entrepreneurial team. However, there may also be hostile environments where distrust (i.e., the "positive expectation of injurious action", see Luhmann, 1979, p. 72) results in protective action of individuals (Lewicki, McAllister, & Bies, 1998). In such an environment, positive affect may have downsides if it undermines the protection function of distrust and enhances information sharing, which may lead to injurious actions taken by the counterparty. I encourage future research to explore these potential negative consequences of positive affect in such an environment.

Second, there seems to be a selective feature of the compensatory effect of positive affect just described with regards to the two principal dimensions of trust. Given the finding that the moderation of positive affect on the relationship between affect-based trust and

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information sharing was not significant, one may conclude that positive affect compensates only the cognitive component, but not the affective component of trust. This is an interesting aspect, as it suggests that the increased scope of attention associated with positive affect (Fredrickson & Branigan, 2003) is relevant especially for cognitive processes, which is in line with a frequently stated argument made by different scholars that affect has a strong impact on cognitions (see Cardon et al., 2012). Based on our empirical data, it seems that at high levels of positive affect team members engage in proactive information sharing, even when there is a lack of cognition-based trust, whereas at low levels of positive affect the engagement in information sharing strongly depends on cognition-based trust within the team. Moreover, the moderation results imply that positive affect can undermine the protection function of the cognitive, but not of the affective trust dimension. Hence, as long as the protection function of trust is associated with the affective component, the aforementioned downside of positive affect should not be severe. Extending the suggestion for future research from above, scholars could examine the protection function of the two trust dimensions separately, which could yield a better understanding of this aspect.

Third, the results contribute to a better understanding of the risks an individual is willing to take based on his or her propensity to learning goal orientation. The data show that learning goal orientation moderates the affective dimension, but not the cognitive dimension in the relationship between trust and information sharing: when team members' learning goal orientation is high, they engage in information sharing even when they lack affect-based trust in their fellow team members. This is interesting, given that learning goal orientation emphasizes rather rational, cognitive behaviors such as the development of skill, knowledge and competence (Leggett, 1988). It may be the case that a high learning goal orientation enables individuals to take risk (Porter et al., 2010), which may be required to engage in

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information sharing in case of a lack of affect-based trust that would otherwise signal that the present environment is safe (Schaubroeck et al., 2011).

Another interesting aspect of the moderation effects of learning goal orientation with respect to the relationship between affect-based trust and information sharing emerges when examining the conditions at high levels of learning goal orientation. As can be seen in Figure 19B, it seems that at high levels of learning goal orientation information sharing is lower at high levels of affect-based trust. This may be another example for negative consequences of high levels of learning goal orientation (see also Bunderson and Sutcliffe (2003)'s empirical study with management team members of different business units in a Fortune 100 company. The authors found that high levels of team learning goal orientation may compromise performance by overemphasizing learning). An interpretation of this finding could be that when coupled with high affect-based trust, team members tend to excessively share information and hence feel that they are at a suboptimal level of information sharing because they may receive information that is not relevant to them. However, further empirical research is needed in order to resolve this question.

I also encourage future research to further explore the moderation effects of positive affect and learning goal orientation on the relationships between the two trust dimensions and other team interaction processes such as team participation (West & Anderson, 1996). This should provide additional insights in order to confirm whether positive affect predominantly has an effect on cognitive aspects, while learning goal orientation predominantly has an effect on affective aspects of trust. Moreover, the findings of the present study may be attributable to the specific entrepreneurial setting, as entrepreneurs often have extreme experiences (Schindehutte et al., 2006), and they face a special achievement situation as continuous innovativeness and change are typically required from entrepreneurs (Bammens & Collewaert, 2012; Thorgren & Wincent, 2011; Zahra et al., 2006). Hence, the moderation

effects of positive affect and learning goal orientation on the relationship between intrateam trust and information sharing should be investigated in non-entrepreneurial settings such as work groups from large organizations in order to determine whether the findings discussed above can be generalized.

5.3 Practical implications

This study has considerable practical implications for founders, team managers and coaches alike, which are discussed subsequently. Starting with founders, as pointed out before they should have a high interest in increasing the entrepreneurial team's performance, as it is believed to be closely connected to the venture's performance (Ensley et al., 2002; Watson et al., 1995). The same holds true for achieving superior qualities in their decisions, as decisions often affect the allocation of resources in order to increase the organizational performance (Mason & Mitroff, 1981). As resources are especially scarce in entrepreneurial teams, making good decisions is crucial for them (Brush et al., 2001; Ensley et al., 2003). Founders need to pay attention to the complex pattern of interdependencies between cognition-based trust and affect-based trust, the team interaction processes and, subsequently, the relations of all these variables to the performance and the decision quality of the entrepreneurial team, thereby taking into account individual level factors. This suggests several implications for their daily work.

First, founders should be aware of team interaction processes as being important antecedents of the entrepreneurial team's performance and decision quality. Looking for means to increase team performance, team interaction processes such as information sharing and workload sharing may provide a key lever. Therefore, entrepreneurial teams who wish to increase their team performance need to understand and establish conditions that support the respective team processes. Analyzing whether these processes are put into place effectively,

and taking appropriate measures if this is not the case may yield performance gains of entrepreneurial teams. As emphasized by Mesmer-Magnus and DeChurch (2009), prior research has found three information processing factors that may facilitate information sharing: task demonstrability (i.e., tasks with verifiably correct answers, see Laughlin, 1980; Stasser & Stewart, 1992), discussion structure (e.g., structured group discussions, see Larson, JR, Christensen, Franz, & Abbott, 1998; Mennecke, 1997; Okhuysen & Eisenhardt, 2002), and cooperation (e.g., cooperative group discussions, see Chapman, 1998; Henningsen & Henningsen, 2003). These factors are thus potential improvement levers for superior information sharing, and subsequently, a higher team performance.

In addition to promoting team performance, the results also suggest that information sharing is an important antecedent of the entrepreneurial team's decision quality. Founders also emphasized this aspect in our interviews during the BEST study. For example, one interviewee explained:

[...] Person A and I are constantly exchanging ideas [...] but nevertheless we keep the rest of the team [...] 'up-do-date'. [...] When there are important decisions to be made, then Person B's input is very valuable and important for us, so that each decision will be made by the three of us. (I2_57_146_120109; the team is composed of three founders, where person A and B are members of the founding team)

Another interviewee reported a situation when there was a lack of information sharing:

[...] I made assumptions which I did not align with the others. We then challenged each assumption in an unstructured meeting [...] It was a lengthy process [...] In the future, I will prepare my colleagues better when such important decisions need to be made. (I2_18_044_111212)

Hence, if founding teams look for means how to achieve better decisions, they may question how they excel in information sharing within the team.

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The second implication is linked to the aforementioned suggestion for creating an environment that fosters cooperative group discussions. The empirical findings suggest that, in order to increase their performance or decision quality, entrepreneurial teams should take into account their level of intrateam trust. These relationships were also emphasized in the interviews during the BEST research study. For example, one of the interviewees accentuated that “Sincereness and trust in each other is very important to me. Things need to be accomplished in a certain quality. It is important that one can count on each other” (37-093-110523). The mediation results of the present study imply that instead of trying to increase team outcomes by relying on the establishment of formal structures that would manage sharing information and workload more effectively, entrepreneurs may rather want to focus on the role of trust as an antecedent to these team processes. The finding that both principal components of trust play a crucial role for both the performance and the decision quality of entrepreneurial teams indicates that these teams can benefit from monitoring and actively managing the levels of cognition-based and affect-based trust, e.g., by initiating trust-building activities (Bachmann & Zaheer, 2006; Jong & Elfring, 2010). Team building exercises and the awareness of a collective goal for the team may be just a few examples in which the establishment of intrateam trust can be facilitated (Curşeu & Schruijer, 2010). Moreover, communal schemas and contracting practices can be combined to build trust (Blatt, 2009).

Third, this study showed that due to its positive impact, trust can be a key ingredient in order to successfully implement certain team processes. This relationship was also present during the interviews: “... if you have good people who you can trust, than it [distribution of workload] works out automatically, and if you don't have good people or if you are convinced that you are the only one who can do it, [...] then there will be no positive development” (24-060-110510). Another interviewee explained that “A trust base needs to be developed, and one needs to understand *how* one can work together” (05_14_20110505).

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Founders should therefore question the level of intrateam cognition-based and affect-based trust when searching for reasons for suboptimal execution of their team processes.

Finally, the research results imply that founders should pay special attention to *when* trust is particularly important for achieving superior levels of information sharing. Insights regarding this question can be derived from the moderation results of the Consequences of Trust Model. The results suggest that entrepreneurial teams whose members exhibit low levels of learning goal orientation should be especially aware that affect-based trust may become more important in order to achieve higher levels of information sharing. Interview statements collected during the BEST research study suggest that many entrepreneurs have a high learning goal orientation in their achievement situations. As an example, a representative statement said that “I like to face challenges and to master these challenges [...] It is very important to me that the task, [...] the challenge is motivating” (05_14_20110505). Nevertheless, there may also be founders who do not exhibit such high levels of learning goal orientation. In such cases, the founding team should be aware of the relationship pointed out above. Likewise, entrepreneurial teams whose members exhibit low levels of positive affect should be especially aware that cognition-based trust may be more critical in order to achieve higher levels of information sharing. Put otherwise, teams whose members exhibit low levels of learning goal orientation or positive affect face higher risks that a lack of affect-based trust or, respectively, cognition-based trust may result in poor information sharing within the team. In these cases, trust-building activities (cf. Bachmann & Zaheer, 2006; Curşeu & Schruijer, 2010; Jong & Elfring, 2010) become even more important.

Even in a non-entrepreneurial context, the findings of this study may have practical implications. First, in facilitating the exchange of knowledge and information, organizations often invest large amounts of money in technical solutions (Wang & Noe, 2010). At the same time, at least \$31.5 billion are estimated to be lost each year by Fortune 500 companies by

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failing to share knowledge (Babcock, 2004). While it is certainly necessary to have technical support which makes knowledge readily available, the present work also suggests that the level of trust among different members of the organization may also play a crucial role. Therefore, it may be a good investment to engage in trust building efforts such as the ones pointed out before. Vice versa, the best technical support may not have the desired impact when team members lack trust in each other, because under such conditions team members may for example be reluctant to share knowledge and information using technical solutions.

Second, supervisors in organizations are often responsible for a well-balanced and effective allocation of workload to their employees. In practice, teams may be far away from these idealistic conditions of workload distribution. While there may certainly be different reasons for this phenomenon, the results of this study indicate that a lack of trust within the team may explain part of it. However, as I draw this practical implication from research on teams lacking a supervisor, future research needs to investigate the relationship between intrateam trust and workload sharing under the presence of a supervisor in order to finally confirm this implication.

Third, organizations may consider establishing a culture that promotes higher levels of learning goal orientation among employees when thinking about ways how to improve information sharing within the organization. This could mitigate negative consequences arising from a lack of affect-based trust among employees, because their learning goal oriented mindset may compensate for this lack and promote information sharing despite lower levels of affect-based trust. In order to encourage learning goal orientation in organizations, Bunderson and Boumgarden (2010) argue that organizations should ensure to utilize structural controls appropriately, instead of risking that these controls are perceived as inhibitors for learning goal orientation. To further support employees' learning goal orientation organizations should encourage supervisors to create opportunities for their

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employees that allow them to acquire new skills and knowledge, and to assign tasks that teach new things. However, when advocating for promoting learning goal orientation in teams, one should also take into account the findings from an empirical study from Bunderson and Sutcliffe (2003). In their research with management team members of different business units in a Fortune 100 company, the authors found that high levels of team learning goal orientation may compromise performance by overemphasizing learning. They conclude that it is an important management question with implications on team effectiveness how much to emphasize learning within a team (p. 558). To this ends, I encourage future studies to investigate the optimal level of learning goal orientation in teams in greater detail.

The results of this study may also be of relevance for team coaches. When coaches work with teams in order to achieve better outcomes such as a better team performance or a better decision quality for the team, they should be aware of the antecedents of these team outcomes, namely information sharing, cognition-based and affect-based trust. For increasing team performance, workload sharing seems to be an additional important factor. They should especially consider the complex mechanisms *how* higher levels of trust can translate into superior team outcomes. Taking these mechanisms into account, coaches should question the effectiveness of information sharing and workload sharing within the team, and if there is potential for improvement, they may also want to investigate whether the team members lack trust in each other. If this is the case, coaches can help to improve such team processes by making the teams aware of the interdependencies described before and encourage team members to engage in trust building activities (Jong & Elfring, 2010; Bachmann & Zaheer, 2006; Curşeu & Schruijer, 2010). In addition, the moderation results suggest that coaches should also investigate individual level factors of team members, such as the level of positive affect or learning goal orientation, to determine the likelihood of lack of trust resulting in lower information sharing effectiveness and, subsequently, poor quality of team decisions.

5.4 Limitations of the study

The present empirical research exhibited relatively robust effects of the mediating mechanisms of the relationship between trust and performance, as well as between trust and decision quality in entrepreneurial teams. Nevertheless, I acknowledge several limitations of this study. First of all, the underlying data for each variable to empirically test the proposed model was taken from one point in time only. As with any cross-sectional data, there will be limitations, and one needs to be careful when discussing causality in the proposed model. The mediator approach implies a specific causality among different team phenomena. However, cross-sectional data cannot reveal any chains of effects with regards to these phenomena. As an emergent state, trust is a dynamic construct by nature that can vary, and it may even depend on team processes and outcomes (Marks et al., 2001, p. 358). For example, openly sharing information within the team may promote intrateam trust which, in turn, could improve team performance (Beal, Cohen, Burke, & McLendon, 2003; Mesmer-Magnus & DeChurch, 2009).

Nevertheless, the focus of this study was to investigate the consequences of trust at a specific point in time, and the relationships that I found in this study are in line with the specific causal understanding that I presented here: trust affects certain team processes, which in turn have an impact on team outcomes. This should serve as an initial evidence for the mediating effects of information sharing on the positive relationships between affect- and cognition-based trust and the team's performance and decision quality, and for the mediating effects of workload sharing on the positive relationship between the two trust dimensions and team performance. In the present study, I investigated the two dimensions of trust solely as independent variables. However, it will be important for future research to take into account the dynamic nature of trust and to provide a more straightforward test for these mediating effects, for example by employing a longitudinal study design (cf. Langfred, 2007; Webber,

2008). Specifically, such a design could help to answer the question to which degree trust is affected by team processes, such as information sharing and workload sharing, and in how far team performance influences the development of intrateam trust.

Second, the specific entrepreneurial context of our study may limit the applicability of our results to non-entrepreneurial teams, and particularly to short-term teams, because entrepreneurial teams are in a somewhat extreme situation and they often have extreme experiences (Schindehutte et al., 2006) as they are trying to set up their business in an uncertain environment (Blatt, 2009), at the same time facing high failure rates (Shepherd et al., 2000; Timmons & Spinelli, 1994). Any effects on team performance and decision quality may thus be more or less pronounced in comparison to teams not working under these conditions. As argued in the methods chapter, our context provides an excellent opportunity to conduct research on team phenomena that may otherwise not be as easy to observe. Yet, it remains unclear whether these findings will generalize to organizational contexts in which, as an example, organizational structures are well established. It will therefore be interesting to find out whether the mediating mechanisms investigated in our study will apply to a non-entrepreneurial context as well. For example, trust may operate differently in short-term teams as was pointed out before (Jong & Elfring, 2010). Thus, a corresponding research design may provide more clarity concerning the differences of *how* trust operates in long-term teams compared to short-term teams.

Moreover, given that entrepreneurial teams often make decisions under great uncertainty (Baron, 2008; Ensley et al., 2006; McKelvie et al., 2011; McMullen & Shepherd, 2006), it may be even more important to proactively share information in this context than for non-entrepreneurial teams. With respect to the relationship between intrateam trust and decision quality, however, a previously mentioned study by Carmeli et al. (2012) has already demonstrated that there may be a significantly positive correlation in non-entrepreneurial

contexts. Although this is consistent with the finding in the present study, future research should investigate in different contexts whether or not the proposed relationships are a phenomenon limited to entrepreneurial teams.

Third, the data in this research are self-reported. While self-reported data are common in field research (Watson et al., 1995), it is important to acknowledge that the data in this study all came from a common source. This may raise the concern that the reported correlations that I found were influenced by common method variance (“variance that is attributable to the measurement method rather than to the constructs the measures represent”, Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). As an example, common method variance may result if the same person provides the measures for both the predictor and the criterion variables (cf. Podsakoff et al., 2003). This may inflate or deflate the size of the measured relationships (Podsakoff et al., 2003), for example due to response bias (such as social desirability, leniency or acquiescence, cf. Bagozzi & Yi, 1991). Unfortunately, in the context of entrepreneurial teams, there is no supervisor who may be able to evaluate e.g. team performance, in contrast to typical research settings in large organizations. As a consequence, I was dependent on self-reported measures in this study, which may become potential limitations.

Adding to that, prior research has shown that the way team members assess performance may also depend on certain team conditions. For example, in a multilevel study with 52 student teams, Breugst et al. (2012b) found that relationship conflict moderates the relationship between team objective performance and individual assessments of team performance, and it also moderates the relationship between team objective performance and team assessments of team performance. Hence, it may be important to consider such team conditions when evaluating self-assessed team performance in future research. As described in subchapter 3.8.1, I tested for common method bias and included all 22 items of the 5

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constructs used in the Mechanisms of Trust Model. The analysis produced 5 factors, explaining 67% of the variance. The first factor explained 41% of the variance. As the test did not produce a single factor and the largest factor did not account for the majority of the variance, according to Podsakoff and Organ (1986) common-method variance is not a major issue. I also tested for common method bias including all 36 items of the 6 constructs used in the Conditional Effects of Trust Model. This analysis produced 9 factors, explaining 70% of the variance, and the first factor explained 29% of the variance. This implies that common-method variance is not a major issue for the Conditional Effects of Trust Model either (Podsakoff & Organ, 1986).

Fourth, the present study was also limited with respect to the number of team processes and individual level factors under consideration in my models. As I already highlighted in the theory chapter, I followed the suggestion of Marks et al. (2001) and focused on action processes, namely information sharing and workload sharing, that may help clarifying *how* the benefits of trust unfold in entrepreneurial teams. It may be interesting to take into account additional team processes that may further contribute to the mediation of cognition-based trust and the team's performance and decision quality in particular, as these relationships could only be partly explained by the two mediators under investigation. I suggest that further action processes should be taken under consideration in order to explain these relationships in teams in even greater detail. In addition to that, I focused on positive affect and learning goal orientation as individual level factors when I investigated the relationships between cognition-based and affect-based trust and information sharing. In a robustness check I also checked for potential moderation effects of negative affect and performance goal orientation and found negative affect to significantly moderate the relationship between cognition-based trust and information sharing. This finding suggests

that there may be further factors that should be taken into account when investigating the effects of intrateam trust on the team's decision quality.

Fifth, one needs to be careful with the implications drawn based on the moderation results from learning goal orientation. As pointed out before, a study carried out by Bunderson and Sutcliffe (2003) revealed that overemphasizing learning goal orientation may compromise team performance by overemphasizing learning. The positive impact of learning goal orientation with respect to the relationship between affect-based trust and information sharing found in the present study may therefore be only one side of the medal. Future studies should investigate the consequences of learning goal orientation in teams in greater detail in order to achieve a better understanding when and to which intensity learning goal orientation in teams should be encouraged.

Finally, the relatively small sample size may be a further limitation. Although $n = 112$ respondents is a considerable sample size when conducting studies with entrepreneurs (e.g., $n = 22$ in West, 2007; $n = 56$ in Talaulicar et al., 2005; $n = 46$ in Foo et al., 2009; and $n = 90$ in Ucbasaran et al., 2003), given the overall design of the study requiring substantial time efforts of the participants, larger samples are desirable in order to increase statistical power. Therefore, future entrepreneurship research is necessary to statistically confirm the results obtained from the empirical investigation of the two models. Moreover, it would be interesting to confirm the results based on team level variables. Although the robustness check in the previous chapter suggests that the outcomes are in line with the results obtained from the individual level analyses, the statistical power resulting from $n = 60$ teams may be too low in order to test such rather complex models. However, the relatively robust effects based on the statistical tests suggest that there are strong mediation and moderation effects of both team interaction processes and individual level factors with respect to the relationship of both trust dimensions and the entrepreneurial team outcomes under investigation.

6 Final conclusions and avenues for future research

In the introduction of this thesis I highlighted the importance of entrepreneurial teams for the success of new ventures. Team-based ventures are more successful than ventures founded by single entrepreneurs (cf. Cooper & Bruno, 1977; Kamm et al., 1990; Lechler, 2001), and venture capitalists consistently emphasize the entrepreneurial team's quality as an important investment criterion (Franke et al., 2008; Kirsch et al., 2009; Maschke & Knyphausen-Aufseß, 2012). Research supports that a team of founders can enhance the potential of new ventures (Colombo & Grilli, 2005; Eisenhardt & Schoonhoven, 1990; Ucbasaran et al., 2003; West, 2007). This led scholars to raise several questions regarding the role of entrepreneurial teams in new ventures such as:

What role do entrepreneurial teams play in the processes of discovery that drive competitive markets? How do entrepreneurial teams form? Does entrepreneurial alertness extend beyond the boundaries of skull and skin, or is it a propensity of individual minds only? Is there such a thing as a "team agent" over and above the actions of its members, or is everything reducible to the actions of individual entrepreneurs? (Harper, 2008, p. 613)

In an attempt to answer these questions, research has investigated the entrepreneurial team's composition and its consequences, as well as entrepreneurial team formation and turnover (Ensley et al., 2002; Forbes et al., 2006; Steffens et al., 2012; Ucbasaran et al., 2003; Vanaelst et al., 2006). Research on entrepreneurial team dynamics has provided some answers to the question whether there is something that is beyond the actions of the individual members of the entrepreneurial team (see Harper, 2008). For example, Ensley et al. (2002) have investigated the consequences of team cohesion and conflict on new venture

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performance, and West (2007) has examined the entrepreneurial team's collective cognition as a determinant of new venture performance. In addition, Chowdhury (2005a) has researched the effects of team characteristics such as the entrepreneurial team's diversity on certain team processes such as cognitive comprehensiveness or team commitment, and the impact of these team processes on the effectiveness of entrepreneurial teams. Still, more research is needed in order to investigate important determinants of new venture success and to distinguish successful from ordinary entrepreneurial teams (Blatt, 2009). The present thesis provides contributions to the understanding of some of these aspects. Nevertheless, there are further avenues for future research that may help answering the questions raised above.

First, although variables investigated in this thesis may be related to venture performance, e.g. decision quality (West, 2007) or team performance (Ensley et al., 2002; Watson et al., 1995), venture performance was beyond the scope of this thesis. Ultimately, however, it is probably the venture's overall performance that determines whether the venture can be considered as a success or a failure and that is thus probably most interesting for entrepreneurs and investors. Future research could therefore focus on the importance of the topics of my dissertation for venture performance. For instance, empirical research could investigate the relationship of cognition-based and affect-based trust and venture performance. This could demonstrate that there is a "real value" resulting from trust within entrepreneurial teams. Moreover, as pointed out above certain team processes such as cohesion (Ensley et al., 2002) and collective cognition (West, 2007) have been shown to affect venture performance. Future research could clarify whether the team *interaction* processes investigated in this study, i.e. information sharing and workload sharing, are related to venture performance as well.

Second, the findings of my research are solely based on cross-sectional data and thus do not include observations from an extended period of time. Although the present work may

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have clarified some aspects of *how* intrateam trust unfolds its benefits in entrepreneurial teams, this picture may still be incomplete as I did not take into account the dynamic nature of trust (Zand, 1972). The model and the empirical findings presented in this thesis suggest a unidirectional mechanism of trust, leading to superior team interaction processes that in turn result in better team outcomes, which is consistent with the causal understanding that I suggested. However, superior team processes or superior team outcomes in entrepreneurial teams may also lead to higher levels of trust, which in turn reinforces team interaction processes and team outcomes. For example, Ferrin et al. (2006) argue that “Intuitively, one would expect that one of the most important determinants of trust is the interpersonal behavior of the trustee during prior interactions” (p. 870). This would be in line with the dynamic trust model developed by Zand (1972), which proposes that an initial level of trust results in an information flow, which in turn “feeds back to alter trust” (p. 231). The investigation of such a reinforcing mechanism requires the observation of entrepreneurial teams at multiple points in time (Welter & Smallbone, 2006). A cross-lagged panel design (cf. Kenny, 2005) could take the results of the present study one step further and may bring further clarification with regards to the role of trust within entrepreneurial teams. In addition to that, taking into account further team processes and individual level factors as suggested in the discussion chapter may extend our understanding of the role of trust in entrepreneurial teams.

Third, an even more complete understanding of the mechanisms of trust in entrepreneurial teams could be achieved by investigating how trust is destroyed and repaired (Welter, 2012). The author contends that “sometimes the suspicion that a trust breach might happen is sufficient to destroy it” (p. 205). She lays out options the entrepreneur might have in these situations, such as enforcing claims by legal action, which could even further erode trust, and she asks the question whether trust can be repaired in these situations. She

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speculates that the “renewal of trust is a more calculative decision process compared to its initial emergence” (p. 205). Future research could test this hypothesis by distinguishing between the cognitive and affective dimension of trust, as was done in my dissertation, when investigating destruction and renewal of trust within entrepreneurial teams.

Finally, this thesis also offers future avenues for research on organizational behavior. In the present thesis, I focused on the role of trust within entrepreneurial teams. These teams lack organizational structure and stability, and they are confronted with a “liability of newness” (Stinchcombe, 1965), which creates uncertainty (Blatt, 2009; McKelvie et al., 2011; Shepherd et al., 2000). Entrepreneurial teams therefore provide an example of work teams operating under extreme conditions. Researchers from the fields of organizational behavior could test their theories under such conditions, which may result in more pronounced characteristics of different phenomena. Moreover, the lack of organizational structure in entrepreneurial teams provides an opportunity to disentangle the effects of trust observed in empirical studies from influencing factors associated with organizational structure such as the supervisor of a team.

I conclude this thesis by acknowledging that, in spite of the contributions of the present work and an abundance of other studies, the potential avenues for future research set out above suggest that there is still some way to go in order to yield a sufficient understanding of entrepreneurial team dynamics, as well as the antecedents and consequences thereof. As demonstrated in this thesis, it may be promising to include different team processes and individual level factors simultaneously when investigating the question whether there is something that is beyond the actions of individual entrepreneurs and which may contribute to better team outcomes. Future research can shed further light on entrepreneurial team dynamics and reveal more concrete aspects that may also help to understand what venture capitalists *should* mean when they claim to invest in “good teams”.

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8 Appendix

A1: BEST telephone guide for recruitment of startup teams

"Guten Tag, mein Name ist Florian Bernlochner von der TU München. Ich arbeite als Wissenschaftler am Lehrstuhl für Entrepreneurship bei Prof. Dr. Patzelt und rufe an, um mich zu erkundigen, ob Ihr Gründerteam Interesse hätte an unserem Projekt zum Thema „Erfolgreiche Gründerteams“ teilzunehmen.

Ganz grob wollen wir in dem Projekt untersuchen, was die Zusammenarbeit in jungen Unternehmerteams und damit auch das Unternehmen an sich erfolgreich macht. Die Erfahrungen mit einer Vielzahl von Teams wollen wir nutzen um Teams bei ihrer Entwicklung zu helfen und ihre Erfolgsaussichten zu erhöhen.

Wir möchten uns deshalb auf Teamaspekte konzentrieren, weil wir glauben dass das der vielleicht wichtigste Baustein bei der Gründung und Entwicklung eines jungen Unternehmens ist. Mit dem Team steht und fällt das gesamte Gründungsvorhaben. Da wir nur Teams bestehend aus mindestens zwei Personen untersuchen eine kurze Frage an dieser Stelle: besteht Ihr Unternehmen aus einem Gründerteam von mindestens zwei Personen?

Uns ist es natürlich bewusst, dass Sie als Unternehmer sehr beschäftigt sind. Gleichzeitig glauben wir aber, dass die Teilnahme am Projekt für Sie eine tolle Möglichkeit zur Weiterentwicklung Ihres Unternehmens darstellt:

- Sie lernen über Ihre eigene Zusammenarbeit als Team, d.h. Sie werden noch besser verstehen worauf es wirklich ankommt in der täglichen Teaminteraktion. Hierzu erhalten Sie nach Studienende von uns eine teambezogene Auswertung der Teamstärken und Verbesserungspotenziale.

A1: BEST telephone guide for recruitment of startup teams

- Wir werden gemeinsam mit Ihrem Team in einem maßgeschneiderten Training mit unserem Beraterteam auf Basis der individuellen Ergebnissen konkrete Strategien erarbeiten, wie Sie ihr Team zu einem noch schlagkräftigeren Unternehmerteam entwickeln können.
- Darüber hinaus können Sie sich auf der TUM-Homepage positionieren, haben die Gelegenheit Kontakte zu knüpfen – und leisten einen Beitrag für die Entrepreneurship-Praxis und –Forschung

Was konkret bedeutet eine Teilnahme für Sie? Im Zeitraum von Mai bis Dezember 2011 füllen Sie Onlinefragebögen aus und nehmen an 2 Interviews teil – der individuelle Aufwand dafür beträgt ca. 1 Stunde im Monat.

Wir würden uns wirklich freuen, wenn Sie an unserem Projekt teilnehmen würden. Haben Sie dazu noch Fragen?

Gerne schicke ich Ihnen auch eine kurze Broschüre zu, die das Projekt und unser Angebot an Sie nochmals näher erläutert. Alternativ können Sie sich auf unserer Homepage www.best-studie.de noch einmal über die Studie informieren."

A2: BEST telephone FAQ document

During the acquisition phase, we used this frequently asked questions (FAQ) document to handle the questions of potential study participants.

FAQ 1: "Wir sind aber kein Startup mehr. Was verstehen Sie denn unter einem Startup?"

Fall 1: Startup unter sechs Jahre alt. Unter einem Start-Up verstehen wir Unternehmen, die vor maximal 6 Jahren gegründet worden sind. Ihr Unternehmen zählt demnach für uns noch zu der Gruppe von jungen Unternehmen und ist herzlich eingeladen, an der Studie teilzunehmen.

Fall 2: Start-Up zwischen 6 und 8 Jahren. Unter einem Start-Up verstehen wir Unternehmen, die vor maximal 6 Jahren gegründet worden sind. Bei einem Alter von x Jahren liegt Ihr Unternehmen ja nur knapp über der Grenze. Diese geringern Abweichungen stellen für uns kein Problem dar - bei einer so geringen Abweichung ist Ihr Unternehmen bzw. sind Ihre Mitarbeiter für unsere Studie immer noch sehr interessant. Wir würden uns also sehr freuen, wenn Sie und Ihr Team an unserer Studie teilnehmen würden.

Fall 3: Start-Up 9 Jahre oder älter. Unter einem Start-Up verstehen wir Unternehmen, die vor maximal 6 Jahren gegründet worden sind. Wir können zwar kleinere Abweichungen von diesem Wert berücksichtigen, aber mit x Jahren sind sie als Unternehmen schon so weit entwickelt, dass sie sich zu stark von den anderen Unternehmen, die bei uns mitarbeiten, unterscheiden werden. Deshalb können Sie leider nicht an der Studie teilnehmen.

FAQ 2: "Warum denn gerade/ ausschließlich Start-Ups bzw. junge Gründerteams?"

Wir haben die Studie ins Leben gerufen um gemeinsam mit jungen Unternehmerteams Erfolgsfaktoren der Teaminteraktion herauszuarbeiten und den Teams dadurch bei ihrer Entwicklung zu helfen. Die übergreifende Forschungsfrage ist dabei, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind.

Wir konzentrieren uns auf Gründungsteams, weil wir erstens untersuchen wollen, wie sich Unternehmen in einer frühen Phase entwickeln und bei jungen Start-Ups vermutlich die dynamischsten Entwicklungen ablaufen. Teams, die schon lange zusammenarbeiten, verändern sich oft nicht mehr so stark in Bezug auf die Interaktionsprozesse, weil sie schon eingespielt sind.

FAQ 3: "Wie sind Sie auf uns gekommen?"

Wir befragen Unternehmen, welche an Gründerzentren in Bayern angebunden sind. Ihr Inkubatorleiter möchte unsere Studie sehr gerne unterstützen und hat uns netterweise Ihre Kontaktdaten zur Verfügung gestellt. Wie hoffen sehr, dass das für Sie in Ordnung ist und Sie unser Projekt ebenso positiv beurteilen.

FAQ 4: "Was wollen Sie denn genau herausfinden?"

Wir haben die Studie ins Leben gerufen um gemeinsam mit jungen Unternehmerteams Erfolgsfaktoren der Teaminteraktion herauszuarbeiten und den Teams dadurch bei ihrer Entwicklung zu helfen. Die übergreifende Forschungsfrage ist dabei, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind. Genauer kann ich Ihnen leider zum jetzigen Zeitpunkt nicht mitteilen, weil das eventuell Ihr Antwortverhalten beeinflussen könnte.

FAQ 5: "Werden die Daten mit meinen Wettbewerbern verglichen?"

Die übergreifende Forschungsfrage unseres Projektes ist, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind. Dafür schauen wir uns im Wesentlichen die Werte über alle teilnehmenden Teams an welche aus verschiedensten Industrien kommen, d.h. wir werden nicht bestimmte Einzelteams miteinander vergleichen. Die einzigen Vergleiche, die wir ggf. machen werden, sind z.B. zwischen Gruppen aus Teams unterschiedlicher Größe oder aus unterschiedlichen Industrien. Darüber hinaus wird von uns nicht bekannt gegeben, welche Unternehmen an der Studie teilnehmen – zu Wettbewerbern werden wir Sie nicht befragen.

FAQ 6: "Wie zeitaufwendig wird diese Studie für uns?"

Wir haben uns bei dem Aufsetzen des Projektes bemüht, den Zeitaufwand möglichst gering zu halten. Der gesamte Zeitaufwand beträgt ca. 1 Std. im Monat über 6 Monate.

Sie werden von uns insgesamt auf 6 Monate verteilt 4 umfassendere Fragebögen bekommen, die je ca. je 45 Min. beanspruchen, sowie wöchentliche Kurzfragebögen, die sie in 3-5 Minuten ausfüllen können. Die Fragebögen können Sie online ausfüllen, so dass Sie von jedem Computer darauf zugreifen können. Hinzu kommen noch 2 Einzelinterviews pro Person in Ihrem Team, die ca. 1 Stunde dauern. Dazu werden wir zu Ihnen fahren, Sie müssen dafür nicht reisen.

FAQ 7: "Wie laufen die Interviews ab? Wer würde mich denn interviewen?"

Die Interviews sind Einzelgespräche mit einer Dauer von ca. 60 Minuten. Für das Interview werden wir zu Ihnen kommen, Sie müssen dafür nicht reisen. Des Weiteren müssen Sie für die Gespräche auch nichts vor- oder nachbereiten. Das Interview wird von mir selbst oder einem meiner beiden Kollegen am Lehrstuhl für Entrepreneurship durchgeführt werden.

FAQ 8: "Warum setzen Sie die Studie über einen so langen Zeitraum auf?"

Unsere übergreifende Forschungsfrage ist, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind. Daher ist es wichtig, die Entwicklung von Teams über die Zeit zu untersuchen. Dabei kann man z.B. schauen, wie sich bestimmte Teaminteraktionen auf die spätere Leistung auswirken. Wir glauben, dass wir hierzu über ein halbes Jahr gute Beobachtungen machen können. In der wissenschaftlichen Forschung ist eine derart intensive längsschnittliche Forschung sehr selten, so dass wir uns gerade deshalb viele neue Erkenntnisse erhoffen. Daher ist es uns diesen Aufwand auch wert.

FAQ 9: "Wer von meinem Team soll teilnehmen? Muss das ganze Team teilnehmen?"

Unsere übergreifende Forschungsfrage ist, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind. Daher ist es für uns wichtig, dass wir Teams als Ganzes befragen. Gleichzeitig kann auch unsere Rückmeldung und unser Trainingsangebot Ihnen nur bei der Teamentwicklung helfen, wenn das ganze Team einbezogen ist. Daher ist es für uns und für Sie wichtig, dass das ganze Gründungsteam teilnimmt.

FAQ 10: "Wie läuft die Befragung genau ab?"

Sie werden von uns insgesamt auf 6 Monate verteilt 4 umfassendere Fragebögen bekommen, die je ca. je 45 Min. beanspruchen, sowie (zwei-??)wöchentliche Kurzfragebögen, die sie in 3-5 Minuten ausfüllen können. Die Fragebögen können Sie online ausfüllen, so dass Sie von jedem Computer darauf zugreifen können. Es wird Ihnen für jeden Fragebogen eine E-Mail zugesendet werden, in der Sie einfach auf einen Link klicken können.

Über die Fragebögen hinaus würden wir mit Ihnen gerne noch 2 Einzelinterviews pro Person in Ihrem Team durchführen, die ca. 1 Stunde dauern. Dazu werden wir zu Ihnen fahren, Sie müssen dafür nicht reisen.

FAQ 11: "Wie wird die Vertraulichkeit der Daten sichergestellt?"

Die Fragebögen werden Sie online ausfüllen, so dass Sie von jedem Computer darauf zugreifen können. Es wird Ihnen für jeden Fragebogen eine E-Mail zugesendet werden, in der Sie einfach auf einen Link klicken können. Sie erhalten von uns einen persönlichen anonymen Code, so dass Sie sich nicht mit Ihrem Namen einloggen, sondern mit diesem Codeschlüssel. Die Daten werden dann statistisch ausschließlich anonymisiert ausgewertet. Es werden keine Rückschlüsse auf individuelle Personen möglich sein und niemand außerhalb des Forschungsprojektes wird Zugriff auf die Daten haben.

FAQ 12: "Kann ich mit meinem Team sprechen und Rückmeldung geben?"

Natürlich können Sie sehr gerne mit Ihrem Team sprechen – es ist uns wichtig, dass Sie alle Lust haben, an dem Projekt teilzunehmen. Soll ich Sie einfach in 2-3 Tagen nochmals anrufen?

FAQ 13: "Werde ich die Ergebnisse der gesamten Studie erfahren?"

Ihr Team erhält nach Studienende eine individuelle Auswertung der eigenen Stärken und Herausforderungen in der Teaminteraktion. Weiterhin werden wir in einem kostenlosen und maßgeschneiderten Training diese Stärken und Herausforderungen mit Ihnen besprechen und konkrete Handlungsempfehlungen zur Weiterentwicklung des Unternehmerteams geben. Dabei werden wir gerne auch Ergebnisse der Studie rückmelden, die zu dem Zeitpunkt vorliegen. Es besteht darüber hinaus natürlich die Möglichkeit, die anonymisierten Ergebnisse zu einem späteren Zeitpunkt in wissenschaftlichen Veröffentlichungen nachzulesen.

FAQ 14: "Wie läuft der Workshop ab? Machen wir den Workshop alleine?"

Im Anschluss an die Rückmeldung der Stärken und Schwächen des Teams werden wir in einem kostenlosen und maßgeschneiderten Training diese Stärken und Herausforderungen mit Ihnen besprechen und konkrete Handlungsempfehlungen zur Weiterentwicklung des Unternehmerteams geben. Dabei wird ein Training basierend auf den Herausforderungen gegeben, vor denen Sie als spezifisches Team stehen. Wie genau die Trainings ablaufen werden, steht zum jetzigen Zeitpunkt leider nicht fest, da wir die Trainings nach der Befragung basierend auf den Befragungsergebnissen konzipieren werden.

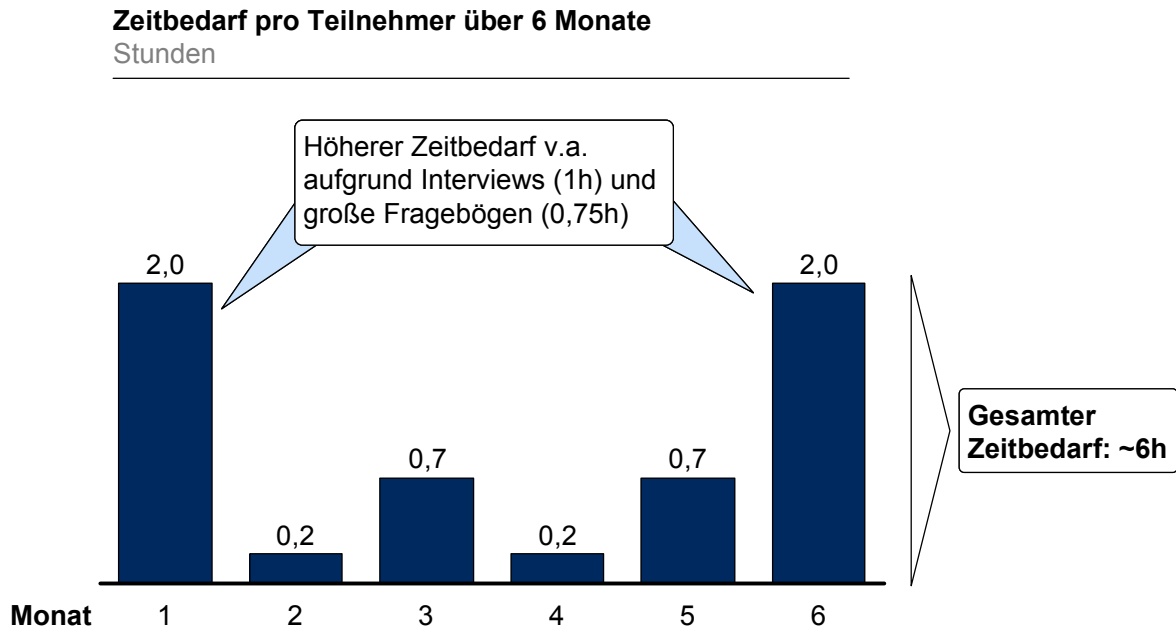
FAQ 15: "Können wir während der Befragung aussteigen?"

Unsere übergreifende Forschungsfrage ist, welche Interaktionsprozesse in Teams ablaufen und welche Faktoren für den Erfolg in Gründungsteams ausschlaggebend sind. Daher ist es wichtig, die Entwicklung von Teams über die Zeit zu untersuchen. Dabei kann man z.B. schauen, wie sich bestimmte Teaminteraktionen auf die spätere Leistung auswirken. Wenn

A2: BEST telephone FAQ document

Sie aus der Befragung aussteigen, werden wir Ihre Daten für die Beantwortung der oben genannten Fragen leider nicht verwerten können. Daher bitten wir Sie herzlich, die Teilnahme nicht abubrechen. Auch erhalten Sie im Falle eines Abbruches weder Rückmeldung noch Training. Natürlich können wir Sie aber nicht verpflichten, dass Projekt bis zum Ende durchzuführen.

Der Zeitbedarf beträgt insgesamt 6h pro Teilnehmer, wobei ein großer Teil zu Beginn und am Ende anfällt



Themenübersicht BEST-Studie 1. Interview

Kennenlernen des Unternehmens

- Geschäftsidee
- Historie
- Teamkomposition
- Ausblick

Persönliche Sicht auf das Unternehmen

- Persönlicher Alltag
- Motivation
- Vision

Zusammenarbeit im Unternehmer-team

- Zusammenarbeit im Team
- Kommunikation
- Rollen im Team

A4: Initial online questionnaire for data acquisition

A4: Initial online questionnaire for data acquisition

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A5: Second online questionnaire for data acquisition

A5: Second online questionnaire for data acquisition

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Eidesstattliche Erklärung

Ich erkläre an Eides statt, dass ich die bei der promotionsführenden Einrichtung bzw. Fakultät für Wirtschaftswissenschaften der TUM zur Promotionsprüfung vorgelegte Arbeit mit dem Titel:

Success factors for new venture teams: The consequences of trust within entrepreneurial teams

am Lehrstuhl für Betriebswirtschaftslehre – Entrepreneurship unter der Anleitung und Betreuung durch Prof. Dr. Dr. Holger Patzelt und Prof. Dr. Nicola Breugst ohne sonstige Hilfe erstellt und bei der Abfassung nur die gemäß § 6 Abs. 6 und 7 Satz 2 angegebenen Hilfsmittel benutzt habe.

- Ich habe keine Organisation eingeschaltet, die gegen Entgelt Betreuerinnen und Betreuer für die Anfertigung von Dissertationen sucht, oder die mir obliegenden Pflichten hinsichtlich der Prüfungsleistungen für mich ganz oder teilweise erledigt.
- Ich habe die Dissertation in dieser oder ähnlicher Form in keinem anderen Prüfungsverfahren als Prüfungsleistung vorgelegt.
- Die vollständige Dissertation wurde nicht veröffentlicht.
- Ich habe den angestrebten Doktorgrad **noch nicht** erworben und bin **nicht** in einem früheren Promotionsverfahren für den angestrebten Doktorgrad endgültig gescheitert.

Die öffentlich zugängliche Promotionsordnung der TUM ist mir bekannt, insbesondere habe ich die Bedeutung von § 28 (Nichtigkeit der Promotion) und § 29 (Entzug des Doktorgrades) zur Kenntnis genommen. Ich bin mir der Konsequenzen einer falschen Eidesstattlichen Erklärung bewusst.

Mit der Aufnahme meiner personenbezogenen Daten in die Alumni-Datei bei der TUM bin ich einverstanden.

München, den 02. September 2013

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Florian Bernlochner