

The conflict potential of the entrepreneur's decision-making style in the entrepreneur-investor relationship

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Abstract While prior research has indicated the importance of conflicts between investors and entrepreneurs, little is known about their causes. We use theory on entrepreneurial decision-making to examine the impact of a founding team's causal versus effectual decision style on the level of perceived task conflict that founders experience with their venture capitalists. Based on a sample of 141 German ventures, we find that a founding team perceives fewer conflicts when following the causal principle of overcoming the unexpected and the effectual principle of affordable loss.

Keywords Effectuation · Causation · Task conflict · Venture capital

Introduction

Over the past decade, research on conflict between investors and entrepreneurs has proliferated. One of the first to reveal the importance of these conflicts was Sapienza (1992), who showed that divergence of perspectives between venture capital firms (VCFs) and their entrepreneurs reduces the VCF's value added. Since then, scholars have advanced our understanding of the implications of such conflicts on both the individuals and the companies involved: investor-entrepreneur conflicts have been shown to affect portfolio companies' performance and innovativeness (Collewaert and Sapienza 2015; Higashide and Birley 2002), investors' and entrepreneurs' intentions to exit the venture (Collewaert 2012), and entrepreneurs' confidence in partners' cooperation (Zacharakis et al. 2010). Given the far-reaching effects of investor-entrepreneur conflicts, it is important to understand how these conflicts arise.

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Recent findings suggest that conflicts between investors and entrepreneurs may be caused by high levels of investor involvement (Yitshaki 2008) or the lack thereof (Khanin and Turel 2009). Adopting a process-based approach, other scholars have focused on specific conflict-triggering events, such as financing decisions involving venture devaluation (Forbes et al. 2010) and unethical behavior of investors or entrepreneurs (Collewaert and Y. Fassin 2013). With this paper, we build upon and extend this line of research on the determinants of investor-entrepreneur conflicts by using the lens of cognition-based decision theory to consider how entrepreneurs' decision-making approaches may cause conflicts with their VCFs.

We employ theory on the decision-making styles of effectuation and causation as a starting point for our study and thereby contribute to the literature on conflict between entrepreneur and investor in three ways. First, expert entrepreneurs use the logic of effectuation, which is distinct from the classic, established causal management paradigm that is based on prediction. The finding that expert entrepreneurs use the effectual decision-making approach in the face of uncertainty (Sarasvathy 2001) provides a new perspective on how entrepreneurs act and decide. Effectuation emphasizes a constructionist view of entrepreneurship, where strategies of creation mean that entrepreneurial opportunities are created rather than discovered and exploited (Alvarez and Barney 2007; McMullen and Shepherd 2006). Hence, effectuation challenges the traditional models that underlie most entrepreneurship research, such as causal decision-making or discovery theory (Alvarez and Barney 2007; Shane 2003). Following Perry et al. (2012) who refer to the effectuation framework as a paradigmatic shift in the understanding of entrepreneurship, we offer an investigation into a very specific type of consequence for applying different decision-making styles, namely conflict.

Second, theory on effectuation and causation allows for a detailed view of entrepreneurial decision-making as a potential driver of investor-entrepreneur conflict, as it is broken down into a set of individual principles that entrepreneurs use in the process of starting and scaling their ventures. Entrepreneurs will differ in their use of effectuation and causation in the new venture creation process, just as investors – such as business angels and VCFs – differ in their behavior and in the logic they adopt (Wiltbank et al. 2009; Wiltbank and Sarasvathy 2002). Overall, though, Read and Sarasvathy (2005, p. 59) expected effectual entrepreneurs to “share little common ground with investors, who are, by virtue of their task, predominantly causal, predictive thinkers.” While the idea seems plausible, we lack empirical results on VCFs' acceptance of entrepreneurial decision-making principles. The four principles of effectuation describe facets of the entrepreneurial decision-making process that we expect to influence the interaction and collaboration with an investor in a way that is at least partially different from how the principles of prediction-based management logic would influence such interaction. The principle of affordable loss, for example, describes the logic of how resources are deployed, an aspect of behavior that is usually monitored by VCFs and that appears regularly on their agenda with the entrepreneurial team. We hypothesize these effects and find some surprising results as to how several dimensions of entrepreneurial decision logic are seen to influence the relationship.

Third, research on entrepreneurial decision-making has not been clear on the relationship of effectuation to causation. While some studies treat the preferences for effectuation or causation as opposites on the same continuum (for example, Brettel et al. 2012), others claim that the dimensions of both logics are independent of each other and can actually co-

occur (for example, Chandler et al. 2011). We contribute to this discussion by employing split scales that allow insights into the distinctiveness of the decision-making styles.

In conclusion, we identify some entrepreneurial decision-making principles as an important source of conflict in the relationship between entrepreneurs and their VCFs. With this study, we aim to shed light on the question concerning which specific dimensions of effectuation and causation lead to or reduce task conflict with their VCFs as perceived by the entrepreneurs.

Theoretical background

Conflict theory

Conflict is usually defined as “perceived incompatibilities or discrepant views among the parties involved” (Jehn and Bendersky 2003, p. 189), with research mostly distinguishing among three types of conflict: task conflict, relationship conflict, and process conflict. This paper focuses on the most prominent type of conflict, task conflict (Jehn and Mannix 2001), which refers to perceived disagreements about the content of the tasks being performed, including differences in opinions, viewpoints, and ideas. Task conflicts are of considerable interest because, compared to relationship and process conflicts, task conflicts are the most likely to positively affect distal dyad, group, or venture outcomes like performance or decision-making quality (De Dreu 2008; De Wit et al. 2012). In the venture capital context, for instance, Higashide and Birley (2002) showed that task conflicts between VCFs and entrepreneurial teams are positively associated with venture performance, whereas relationship conflicts are negatively associated with venture performance. They argue that lively and open disagreements on a task-related basis foster critical evaluation of opportunities and that the resulting contribution of multiple perspectives and opinions increases the creativity of solutions. Similar results were found by Brettel et al. (2013) who studied a more proximate effect of conflict on the perception of investor value. They not only underscore the positive effect of task conflict but also show negative direct and interacting effects of relationship conflict.

Despite the relevance of investor-entrepreneur conflicts, studies on their antecedents are rare. Among the first was Yitshaki (2008), who revealed that a VCF’s strategic involvement may increase task conflict with entrepreneurs, while a VCF’s managerial involvement may increase relationship conflict. Regardless of the type of conflict, Yitshaki’s findings suggest that higher levels of VCF involvement cause conflict. Khanin and Turel (2009) found the opposite: that insufficient VCF support caused task conflict. Adopting a process-based approach, subsequent research zoomed in on specific conflict-triggering events. For example, Forbes et al. (2010) found that venture boards experience more task and relationship conflict when “down rounds” occur (that is, when new funding is accepted at lower valuations than prior valuations). Finally, Collewaert and Y. Fassin (2013) proposed that perceived unethical behavior among venture partners may trigger conflict through increased attribution of fault to the party perceived as unethical. While these studies offer intriguing insights concerning how investor-entrepreneur conflicts may arise, much remains to be learned. This paper shifts attention to entrepreneurs’ decision-making as a potential cause of conflict by exploring how entrepreneurs’ use of effectuation versus causation principles may cause task conflicts with their investors.

Decision-making styles and entrepreneur-investor conflict

Building upon Sarasvathy's think-aloud protocol study of serial entrepreneurs (Sarasvathy 2008) further studies have provided nuances to the definition of effectuation dimensions (Dew et al. 2008; Read et al. 2009; Sarasvathy 2001; Sarasvathy and Dew 2005). Building on Sarasvathy's seminal introduction of effectuation principles (2001), Dew et al. (2009) outlined four dimensions of effectuation as measures of entrepreneurial expertise: *means-orientation* as the basis for taking action; *affordable loss* as the predisposition toward risk and resources; *partnerships* as the attitude toward outsiders; and *leveraging the unexpected* as the attitude toward unexpected contingencies. Effectuation usually is differentiated from causation which refers to the dimensions of managerial expertise: *goals-orientation*, *expected returns*, *competitive analysis*, and *overcoming the unexpected*.

As it stands now, theory on entrepreneurial decision-making provides a useful framework from which to investigate whether entrepreneurs' causal versus effectual decision-making leads to or reduces task conflict with their VCFs. Prior work on effectuation in an entrepreneurial finance context revealed that the use of causal strategies by angel investors is associated with their making larger investments, whereas effectual strategies are associated with angels' making fewer strike-outs but not fewer home runs (Wiltbank et al. 2009). More relevant for the current study, Wiltbank and S. Sarasvathy (2002, p. 2) suggested that VCFs "tend to use a causal approach based on predictive rationality." Murnieks et al. (2011) find that similarity in decision-making styles leads an investor to a more favorable evaluation of the opportunity. While cognizant of the possible variation in entrepreneurs' and investors' use of effectual and causal decision-making styles, Read and Sarasvathy (2005, p. 59) expected entrepreneurs to "share little common ground with investors, who are, by virtue of their task, predominantly causal, predictive thinkers." This logic suggests that entrepreneurs' use of causal principles is in line with investors' decision-making style and hence reduces the potential for task conflicts with investors while the use of effectual principles increases the potential for task conflicts with investors. Below we detail how this overall logic translates to each of the causal and effectual decision-making principles entrepreneurs can rely on.

Hypotheses development

Our basic assumption is that an effectual approach creates conflict with the investor while a causal approach does not. We argue that effectuation captures entrepreneurial expertise in the sense of non-predictive control heuristics. Expert entrepreneurs have adopted these heuristics from constantly dealing with situations of high uncertainty. "Non-predictive control is defined as eschewing predictive information in favor of what the decision maker and her stakeholders can actually control at any given point in time" (Dew et al. 2009, citing Wiltbank et al. 2006). For an investor, strong reliance on predictive information is the 'natural' way. Predictive information is much more tangible (documented in plans), comprehensible (standardized risk-return framework, allowing for quick standardized decisions), static (deviations from plans still follow the basic logic of the plan) and relatable (in line with an investor's working practice) for investors. On the other hand, reliance on elements currently under control is more

intangible (closely related to the individuals involved), fuzzy (based on heuristics that are more difficult to evaluate for long-run results), iterative (new paths emerge as new control elements appear) and unfamiliar to them (uncertainty-coping behavior as opposed to investment and risk management).

While some of the initial presentations of the two decision-making logics create the impression that causation and effectuation are opposites on a continuum, we build on existing empirical research that suggests treating causation and effectuation as orthogonal constructs (Chandler et al. 2011; Brettel et al. 2012). In general, one can both work with means and have goals, or take affordable loss levels and expected return levels into account. For our study, entrepreneurs might actually work with means but also specify their goals in communication with a venture capitalist. Therefore, we will not restrict our empirical results to a bipolar framing (Brettel et al. 2012). Instead we will create independent hypotheses for effectual and causal principles. Against this background of causation and effectuation as independent constructs we develop the following hypotheses.

The causal entrepreneur: expectations of a smooth investor relationship

Our basic assumption is that entrepreneurs following the four aspects of a causal decision-making style will much better fit with the prediction-based character of the venture capitalist business model and respective decision style than entrepreneurs following effectuation principles. We see this relationship to be more straightforward than for effectuation principles, therefore leading quite naturally to the following set of hypotheses.

Goal-orientation Goal-orientation in the causal entrepreneur mirrors the VCF's business model. Because VCFs rely on providers of funds, such as institutional investors, who require them to achieve predefined milestones and often expect a planned exit within a limited timeframe, a VCF's business model tends to require clear goals and a certain degree of predictability. In consequence, VCFs do their best to increase predictability for their own investors by applying a staged-financing approach to their portfolio companies, thereby doling out "discrete amounts [of capital] closely matched to the attainment of clear milestones, enabling them to limit damage by refusing additional financing if the company appears unsuccessful in the early stages" (Gorman and Sahlman 1989, p. 238). The VCFs' emphasis on milestones comes along with a certain expectation regarding the entrepreneur's use of formal planning (Fried and Hisrich 1995). Therefore, goals-oriented entrepreneurs may be more compatible with a VCF's investment approach, and VCFs may appreciate goals-oriented planning since it helps entrepreneurs track progress toward their goals systematically (Shrader et al. 1989) and prevents them from getting sidetracked (Delmar and Shane 2003). While the definition of specific common goals should alleviate disagreements between entrepreneurs and investors regarding tasks and responsibilities, it also reinforces a sense of control from the VCF's perspective. Control is widely acknowledged as an important factor in leading strategic alliances (Das and Teng 2001; Geringer and Hebert 1989), and research has emphasized "that the definition of desired results [or goals] is an essential part of a control process" (Das and Teng 1998, p. 506). Therefore, VCFs tend to prefer formalized goals, and a goal-oriented entrepreneur will perceive less task

conflict as he generates accountability, reliability, and controllability, all of which reduce the potential for task conflict with the investor.

Hypothesis 1 The more a founding team employs the causal decision-making principle of goal-orientation the lower will be the level of perceived task conflict with the VCF.

Expected returns Causal entrepreneurs choose among projects based on the principle of expected returns; they focus on maximizing expected returns and potential gains, calculate and discount future cash flows, and then choose those business opportunities that hold the highest expected return. In addition, they solve potential resource restrictions by accumulating or buying necessary resources (Dew et al. 2008). For VCFs there is an appeal in entrepreneurs using return maximization as this is in line with the primary motive of almost all professional investors (Gorman and Sahlman 1989). A vast body of research has indicated VCFs' preference for ventures with high financial potential as reflected by a high expected rate of return, among other measures (for example, De Clercq et al. 2006; MacMillan et al. 1985; Petty and Gruber 2011; Tyebjee and Bruno 1981). Since both causal entrepreneurs and investors seek to maximize the ventures' returns, their motives are congruent. We expect this congruence to translate into congruency in their opinions regarding the tasks to be executed, decreasing investor-entrepreneur task conflicts. This conjecture is also supported by prior research findings that see such conflicts to be often rooted in investors and entrepreneurs having incompatible goals (for example, Collewaert and Y. Fassin 2013; Yitshaki 2008). When both sides are focused on return maximization their goals become compatible, which is likely to result in fewer task-related disagreements.

Hypothesis 2 The more a founding team employs the causal decision-making principle of expected returns the lower will be the level of perceived task conflict with the VCF.

Competitive analysis Causal entrepreneurs perceive outsiders as competitors (Dew et al. 2009). They favor competitive analysis (Porter 1998) in order to gain control over the situation, and they analyze the market and competition to protect their ideas and to position themselves in a competitive environment. Causal entrepreneurs who act in line with the principle of competitive analysis are likely to have a deep and precise understanding of the competitive environment. Prior research has revealed the importance of entrepreneurs' familiarity with the market landscape for VCFs to invest (MacMillan et al. 1985; Mason and Stark 2004). VCFs expect entrepreneurs to be aligned with their market and competition so they can react immediately to changes and challenges from them. Indeed, Fiet (1995) showed that VCFs when investing are most concerned about market risk given they can more adequately protect themselves against agency risk on the part of the entrepreneur through airtight contracts. Entrepreneurs who share this concern and who put continuous effort into gathering superior market and competition knowledge are less likely to induce frustrations on this matter with their VCFs. Further, competitive analysis may also imply a preference for formal planning, another feature valued by VCFs (Fried and Hisrich 1995) as formal planning helps entrepreneurs track their goals systematically (Shrader et al. 1989) and prevents them from getting sidetracked (Delmar and Shane 2003). Therefore, formal planning should also help reduce the number of task-related disagreements between entrepreneurs and their VCFs.

Hypothesis 3 The more a founding team employs the causal decision-making principles of competitive analysis the lower will be the level of perceived task conflict with the VCF.

Overcome the unexpected Causal entrepreneurs strive for overcoming the unexpected. They strictly focus and work to avoid surprises, whether positive or negative (Denrell and March 2001; Dew et al. 2009). We expect causal entrepreneurs to meet the interests of VCFs. In order to limit phenomena like moral hazard, VCFs often use techniques such as staging the commitment of capital based on predefined milestones (Sahlman 1990; Van Osnabrugge 2000). This approach is also mirrored in VCFs' preference for measuring success relative to milestone plans and goals and for adherence to tasks and schedules (De Clercq et al. 2006). Entrepreneurs who stick to these clear paths of predetermined plans and goals adhere to the milestone logic. Their behavior is in line with the logic of the causal principle of overcoming the unexpected as well as with VCFs' expectations. These entrepreneurs will try the hardest to avoid any changes to preset plans. We therefore expect that when steps forward have been decided upon and are being executed, an entrepreneur will perceive less task conflict with the VCF when disregarding any surprises or contingencies arising along the way.

Hypothesis 4 The more a founding team employs the causal decision-making principle of overcoming the unexpected the lower will be the level of perceived task conflict with the VCF.

The effectual entrepreneur: expectations of a misaligned investor relationship

Conflict through a means-oriented basis for taking action Means-oriented entrepreneurs focus on their own means and resources and the question of what they can directly do with them. "Means" refers to three categories of resources that are closely connected to entrepreneurs as individuals: their identity (who they are), their capabilities and experiences (what they know), and their networks (whom they know) (Sarasvathy 2001, 2008). Effectual entrepreneurs who favor means-orientation start the entrepreneurial process with their endowment of means and resources. In this approach, goals are very unspecific, emerge within the process, and serve much more as part of the means base than as a particular predefined vision of the future. This focus on basing action on directly available means carries the assumption of creating one of many possible effects from this means base (Sarasvathy 2001). This logic is inherently non-optimizing towards a specific goal. For the VCF this means a loss of control as taken actions are not accountable by their common standards of being rationally directed to a clear goal. From a principal-agent perspective, the quality of a venture may not be observable to an investor because of information asymmetries (Akerlof 1970). This holds even stronger in terms of the entrepreneurs' means base and possible action upon this means base that can lead down very different routes. Therefore, entrepreneurs who base their actions on their own means will increase the necessity for discussion and the potential for divergent views, thereby increasing task conflict with their VCFs. We hypothesize:

Hypothesis 5 The more a founding team employs the principle of means-orientation, the higher the level of perceived task conflict with the VCF.

Conflict through an affordable loss predisposition toward risks and resources Effectual logic implies that entrepreneurs make choices among possible actions based on the affordable loss principle. They start by estimating their personal downside and assess which level of resources they can afford to lose. Driven by the desire to still be able to try out other paths of action if one path fails they keep their potential loss in an affordable range and rather adapt the actions they can carry out. We assume that VCFs are concerned about the responsible use of the capital invested along the lines of the projected and agreed-upon activities. Drawing on agency theory, researchers argue that VCFs are well aware of the moral hazard that results from the separation of ownership and control in their portfolio companies (Gabrielsson and Huse 2002; Jensen and Meckling 1976).

With regard to decision-making style there is a mismatch between an affordable loss approach of taking small affordable steps that might well prove to lead to a dead end, and the idea of spending a necessary amount of money on a pre-defined project. As the entrepreneur will be rather spending small sums in a variety of ways, control will again be lowered from the VCF's point of view. This can create the impression of spending resources – which not only come from the entrepreneurs' pool of resources anymore – on a random set of options that do not match what has been agreed upon according to the plan. Entrepreneurs who actually handle the invested capital responsibly and efficiently from their point of view in terms of not overspending when uncertainty is still high may be regarded as unfocused and chaotic from the VCF's perspective. This approach may result in more discussion with the VCF, negotiations about targets of capital expenditures, and thus increasing the perception of task conflict. Furthermore, entrepreneurs that base decisions on affordable loss might not spend their budget in congruence with an agreed-upon timeline. This might lead to postponing milestones, a slowdown of company development and an extension of the investment horizon. This will increase the stress level for the VCF who is committed to his own investors on the basis of a certain investment timeline. Summing up, we hypothesize:

Hypothesis 6 The more a founding team employs the principle of affordable loss, the higher the level of perceived task conflict with the VCF.

Conflict through a partnership attitude toward outsiders The third effectuation principle implies that effectual entrepreneurs have an open and inviting view towards outsiders. Such entrepreneurs view customers, suppliers, competitors, and investors as potential partners who self-select by committing resources to the venture while influencing and supporting its development. Effectuation favors building alliances and bringing new stakeholders on board (Dew et al. 2009). We argue that entrepreneurs who adopt an effectual partnership logic are likely to encounter more task conflicts with their VCFs for three reasons. First, effectual entrepreneurs may be prone to over-trust when pursuing new commitments. As Ye et al. (2008, p. 6) suggested, entrepreneurs who use effectual reasoning “trust in situations where others may urge caution and seek cautionary safeguards, which may lead to a less than ideal partnership.” Moreover, effectual entrepreneurs have a tendency to evaluate potential partners on a “can” join basis, rather than a “should” join basis (Sarasvathy and Dew 2005). VCFs, on the other hand, tend to adopt a more causal approach toward new partnerships in trying to protect their ownership and to be cautious in taking up new partners. In the context of this

study, it is likely that these contrasting approaches will lead to differences in opinion between entrepreneurs and their VCFs regarding the quality and necessity of a specific new partnership, increasing the probability of task conflict.

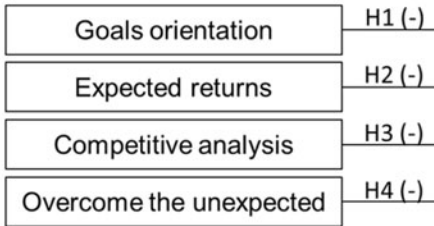
The second reason that entrepreneurs who adopt a partnership logic are likely to encounter task conflicts with their VCFs is that, when new partners join in an effectual way, all partners are likely to have to renegotiate the new constellation. Since contradictory views are likely, conflicts between old and new partners, but also between old partners (that is, the VCF) and the entrepreneurs, may arise. Third, as new partners enter, the entrepreneurs' time and resources available for each partner decreases, causing a negative change in investor perception regarding the entrepreneurs' commitment to their partnership. Adding new partners will also increase complexity as well as the need for coordination (Mohr and Spekman 1994; Provan 1984). All of these issues increase task conflicts for entrepreneurs who act along the principle of partnerships. Taking these thoughts together, we hypothesize:

Hypothesis 7 The more a founding team employs the principle of partnerships, the higher the level of perceived task conflict with the VCF.

Conflict through a leveraging attitude toward contingencies The last dimension of effectuation, leveraging the unexpected, describes entrepreneurs' attitudes toward contingencies. Effectual entrepreneurs view surprises as opportunities and leverage them for the further development of their ventures (Dew et al. 2009). Therefore, entrepreneurs who act on this principle are open to changing plans and agreements, including those with their investors. Leveraging unexpected changes, however, may result in repeated debates and negotiations between investors and entrepreneurs concerning what to do and why to change. Change increases uncertainty and unpredictability, which may result in a sense of loss of control on the VCF's side. As shown in the alliance context, perceived partner cooperation increases when firms feel that they have an adequate level of control over their partners (Beamish 1988; Sohn 1994). A perceived loss of control due to entrepreneurs' effectual behavior may therefore undermine the investors' confidence in the entrepreneur. Das and Teng (1998, p. 492) describe partner cooperation in the alliance context as being "characterized by honest dealing, commitment, fair play, and complying with agreements." The last principle in particular may be undermined by entrepreneurs' leveraging rather than overcoming the unexpected. The resulting decreased confidence in cooperation leads to VCFs' and entrepreneurs' viewing each other with suspicion (Das and Teng 1998) and encourages conflicts between them. For example, Weaver and Dickson (1998) observed that partner behavior in small business alliances is detrimental for relationships if it is perceived as inconsistent with expectations (whether contractually mandated or socially obligated). It seems likely that effectual (rather than causal) behavior by leveraging the unexpected on the entrepreneur's part meets this criterion. Therefore, we argue that investor-entrepreneur task conflicts will be more numerous when the VCF perceives entrepreneurs as "trimming their sails to every wind that blows." In summary, then, we hypothesize:

Hypothesis 8 The more a founding team employs the principle of leveraging the unexpected, the higher the level of perceived task conflict with the VCF (Fig. 1).

Principles of causation



Principles of effectuation

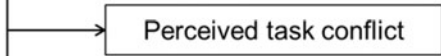
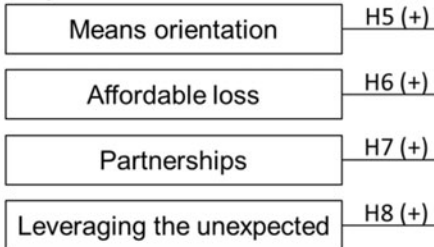


Fig. 1 Summarizes our hypotheses and depicts our research model

Research design

Sample and survey methodology

We used several data sources to compile a sample of German VC-backed ventures. Using databases from Bureau van Dijk and the German Private Equity and Venture Capital Association, as well as directories from the largest German start-up communities (*Gründerszene* and *Deutsche Startups*), we compiled a sample of 1,207 potentially VC-backed ventures. To each of these ventures, we sent an online survey between January and April 2011 and asked that one member of the management team participate. All respondents were required to belong to the venture's founding team and to be playing an active management role. The venture also had to have received external equity from a VCF in the year 2000 or later.¹ Participants could choose to answer the questionnaire online or in a paper-based format. We received 156 responses from ventures with financing by VCFs, yielding a response rate of 13 %. Taking into account the sensitive nature of the research topic and that not all of the addressees received external equity, this is a satisfying response rate. We excluded eight responses because of missing data and seven responses because ventures received financing prior to the year 2000. In the end, we included 141 answers in the analyses, each representing a unique investor-entrepreneur relationship.

Dependent variable

To measure task conflict we relied on Jehn and Mannix's (2001) revised version of Jehn's (1995) intragroup conflict scale. We adapted the original scale slightly to apply it

¹ The VCF was not required to continue to hold equity in the venture. Robustness checks revealed stable results after exclusion of nine non-active investments.

to the investor-entrepreneur context and asked entrepreneurs to answer all questions with respect to their main investor and their relationship with that investor during the first few years after engagement. Task conflict is a three-item measure consisting of the questions “How much conflict of ideas is there with your investor?”, “How frequently do you have disagreements with your investor about the tasks to be performed?”, and “How often do you and your investor have conflicting opinions about the project?” The task conflict scale shows good reliability, with a Cronbach’s alpha of 0.80.

Independent variables

To measure effectual and causal behavior, we used the scale developed by Brettel et al. (2012). Although the scale was originally used and developed in the context of corporate R&D projects, it still displays individual behavior – extrapolated to the team – rather than organizational behavior. We therefore adapted it slightly to fit the context of venture creation. However, in contrast to Brettel et al. (2012) and as suggested by the authors themselves, we did not measure effectuation and causation items on a bipolar scale but as independent constructs. The survey therefore contained independent measures for effectual and causal behavior in each of the four hypothesized dimensions (for the full scale, see [Appendix](#).) In the original study, respondents were asked to decide between effectual and causal statements on a bipolar scale, which resulted in an either effectual or causal preference, neglecting the possibility that a respondent may appreciate both or neither facet of the scale. Therefore, we separated the statements in the original scale and allowed the entrepreneurs to focus on both characteristics of an effectual/causal dimension or neither, an approach that opens up new ways to investigate the specific impact of single characteristics. The dimensions of effectuation and causation show good to excellent reliability, with all exceeding the threshold for Cronbach’s alpha of 0.70 in a range from 0.73 to 0.92.

Control variables

We included several investor- and venture-related variables in the analyses to control for their influence. The first control variable accounts for *investor involvement*, as measured by the scale used by Ehrlich et al. (1994). Entrepreneurs were asked how often and how the management team interacts with their VCF. Prior research has revealed the importance of investor involvement in causing investor-entrepreneur conflicts, although findings with regard to its effect have been mixed (for example, Khanin and Turel 2009; Yitshaki 2008).

Since openness and sympathy may also have an important impact on conflict, we included Sapienza’s (1992) two-item-scale for *openness of relations*, which measure the degree to which entrepreneurs agree with the statements, “This investor and I are very friendly” and “Aside from work-related functions, this investor and I do not have a frequent social interaction” (reverse-coded). Openness of relations has a weak Cronbach’s alpha of 0.59, probably because it consists of only two items, one of which is reverse-coded.²

² As a robustness check, we reran the analyses excluding openness of relations. Results remained robust.

The third control variable used is *procedural justice* (Busenitz et al. 2004), which captures an individual's perception of fairness in decision processes. Although both entrepreneurs and investors hold equity stakes in the venture, investors are widely seen as more powerful (Busenitz et al. 2004; Cable and Shane 1997), so it is important for the success of their relationship that entrepreneurs perceive that they are being treated fairly. Procedural justice is measured using three items: "Our investor forces us to accept his business views" (reverse-coded), "Our investor is willing to compromise with us," and "Our investor has hampered development of new ideas" (reverse-coded) (Cronbach's alpha 0.75).

Finally, we included a measure of the venture's *market effectiveness* based on Vorhies and Morgan (2005) to control for potential venture- and business-related reasons for task conflict (Cronbach's alpha 0.86). This control is important as task conflict between entrepreneurs and VCFs is regularly caused by unsatisfactory results (Yitshaki 2008).

Non-response and common method bias

To test for possible non-response bias, we compared early to late respondents (Armstrong and Overton 1977). Late respondents are assumed to be similar to non-respondents, so mean differences may indicate a potential non-response bias. However, our analyses revealed no significant differences among the variables used in the analyses or in the ventures' number of employees and industries. These results indicate a limited threat of non-response bias.

Concerns may also arise regarding common method variance, given that this study is based on data collected through a single survey. To reduce the threat of common method bias, we designed the questionnaire with caution, used validated constructs, and arranged the order of the constructs so no direct connection could be revealed and to limit the risk of socially desirable answering behavior (Mohr and Spekman 1994). Socially desirable response behavior is also unlikely because it can be assumed that respondents were neither familiar with effectuation principles nor with VCFs' views and expectations about those. On the contrary, socially desirable would have been a response behavior showing strong positive effects of causation principles on the reduction of perceived task conflict – which we will show is not the case. Furthermore, the multidimensionality of the independent variables, effectuation and causation, further reduces common method concerns. We also included reverse-coded items as well as some variety in wording and guaranteed absolute anonymity to all respondents. Further, we used Harman's single factor test; an unrestricted and unrotated exploratory factor analysis resulted in twelve factors, with the first, second, and third factors accounting for only 14, 11, and 8 % of the variance, respectively. We conclude that common method bias is unlikely to be a serious concern in this study.

Results

The means, standard deviations, and Pearson correlations of all variables used are shown in Table 1. The limited threat of multicollinearity is corroborated by the variance inflation factors (maximum value of 2.2).

Table 1 Descriptive statistics and correlations

Variables	Mean	S.D.	Min.	Max.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Investor involvement	3.95	0.90	1.50	6.50	–												
(2) Openness of relations	4.37	1.60	1.00	7.00	0.08	–											
(3) Procedural Justice	5.45	1.23	1.33	7.00	-0.15	0.44	–										
(4) Market effectiveness	4.60	1.25	1.00	7.00	-0.10	0.10	0.06	–									
(5) Means-orientation	4.27	1.52	1.00	7.00	-0.02	-0.01	-0.06	0.03	–								
(6) Affordable Loss	3.19	1.17	1.00	6.50	-0.08	0.06	0.07	0.01	0.31	–							
(7) Partnerships	5.22	1.22	1.00	7.00	0.02	0.16	0.05	-0.03	0.19	0.23	–						
(8) Leverage unexpected	5.43	0.91	2.00	7.00	0.07	0.03	0.14	-0.02	0.02	0.09	0.24	–					
(9) Goals-orientation	5.02	1.53	1.00	7.00	0.17	0.08	0.01	0.01	-0.51	0.00	0.16	0.14	–				
(10) Expected returns	5.51	1.12	1.75	7.00	0.20	0.00	0.01	-0.08	-0.06	-0.20	-0.02	-0.01	0.27	–			
(11) Competitive analysis	3.79	1.52	1.00	7.00	0.11	0.03	-0.05	-0.04	-0.09	0.12	0.12	0.08	0.48	0.29	–		
(12) Overcome unexpected	3.83	1.20	1.50	6.75	0.04	0.01	-0.07	-0.02	-0.09	0.07	-0.02	-0.18	0.35	0.17	0.36	–	
(13) Task Conflict	2.42	1.23	1.00	5.33	0.14	-0.35	-0.56	-0.20	0.11	-0.27	-0.05	-0.07	-0.12	-0.03	0.03	-0.08	–

Bold correlations are significant at the 0.05 level

Table 2 Regression results

Regression analysis for task conflict (*n*=141)

Variables	Base model		Full model		Separate models	
	β	<i>S.E.</i>	β	<i>S.E.</i>	β	<i>S.E.</i>
Control variables						
Investor involvement	0.06	0.06	0.06	0.06		
Openness of relations	-0.16*	0.07	-0.11	0.07		
Procedural Justice	-0.57***	0.07	-0.58***	0.07		
Market effectiveness	-0.11†	0.06	-0.11†	0.06		
Causation						
Goals-orientation			-0.08	0.09	-0.12†	0.06
Expected returns			-0.09	0.07	-0.03	0.07
Competitive analysis			0.14†	0.07	-0.01	0.07
Overcome unexpected			-0.15*	0.07	-0.15*	0.06
Effectuation						
Means-orientation			0.02	0.08	0.00	0.06
Affordable Loss			-0.21***	0.07	-0.18**	0.06
Partnerships			-0.07	0.07	-0.08	0.07
Leverage unexpected			-0.02	0.07	-0.02	0.07
<i>F</i> -value	31.22***		13.15***			
<i>R</i> ²	0.48		0.55			
ΔR^2			0.07			
Adjusted <i>R</i> ²	0.46		0.51			

† *p*<0.10 * *p*<0.05 ** *p*<0.01 *** *p*<0.001

Calculations with standardized coefficients. Hypotheses tested using two-tailed t-tests

We use hierarchical OLS regression models for the analyses and report the results in Table 2. We show a base model (only controls) and two independent variable models, one full model (with all independent variables), and a set of separate models (with one independent variable each). Confirmatory factor analysis supported an 8-factor structure. However, there were some cross loadings among effectuation and causation items, respectively. The respective regression equations can be described as follows:

Base model:

$$\text{CONFLICT} = \beta_1 \text{InvInv} + \varepsilon_1 + \beta_2 \text{OpeRel} + \varepsilon_2 + \beta_3 \text{ProJus} + \varepsilon_3 + \beta_4 \text{MarEff} + \varepsilon_4 \quad (1)$$

Full model:

$$\begin{aligned} \text{CONFLICT} = & \beta_1 \text{InvInv} + \varepsilon_1 + \beta_2 \text{OpeRel} + \varepsilon_2 + \beta_3 \text{ProJus} + \varepsilon_3 + \beta_4 \text{MarEff} + \varepsilon_4 + \\ & \beta_5 \text{GoaOri} + \varepsilon_5 + \beta_6 \text{ExpRet} + \varepsilon_6 + \beta_7 \text{ComAna} + \varepsilon_7 + \beta_8 \text{OveUne} + \varepsilon_8 + \\ & \beta_9 \text{MeaOri} + \varepsilon_9 + \beta_{10} \text{AffLos} + \varepsilon_{10} + \beta_{11} \text{ParShi} + \varepsilon_{11} + \beta_{12} \text{LevUne} + \varepsilon_{12} \end{aligned} \quad (2)$$

Separate models:

$$\text{CONFLICT} = \beta_1 \text{InvInv} + \varepsilon_1 + \beta_2 \text{OpeRel} + \varepsilon_2 + \beta_3 \text{ProJus} + \varepsilon_3 + \beta_4 \text{MarEff} + \varepsilon_4 + \beta_5 \text{GoaOri} + \varepsilon_5 \quad (3)$$

$$\beta_6 \text{ExpRet} + \varepsilon_6 \quad (4)$$

$$\beta_7 \text{ComAna} + \varepsilon_7 \quad (5)$$

$$\beta_8 \text{OveUne} + \varepsilon_8 \quad (6)$$

$$\beta_9 \text{MeaOri} + \varepsilon_9 \quad (7)$$

$$\beta_{10} \text{AffLos} + \varepsilon_{10} \quad (8)$$

$$\beta_{11} \text{ParShi} + \varepsilon_{11} \quad (9)$$

$$\beta_{12} \text{LevUne} + \varepsilon_{12} \quad (10)$$

With regard to the control variables, we find that entrepreneurs' perception of procedural justice has a strong negative effect on investor-entrepreneur task conflicts ($\beta_3 = -0.57, p < 0.001$). Investor involvement does not have an effect on the level of task conflict between entrepreneurs and their VCFs, and we find weak negative effects on task conflict for openness of relations and market effectiveness ($\beta_2 = -0.16, p < 0.05$), and $\beta_4 = -0.11, p < 0.10$). Hence, in line with expectations, we find that the more fairly treated entrepreneurs feel, the more open they consider the relationship with their VCFs to be, and the better the performance of their ventures, the fewer task conflicts they have with their VCFs.

The next step, adding the hypothesized causal and effectual dimensions, results in a significant contribution to the base model ($\Delta R^2 = 0.07$). The causation principle of expected return shows no effect on the level of perceived task conflict by the entrepreneur, which leads to a rejection of hypothesis 2. However, from the other effects only the principle of overcoming the unexpected is robust over the full and the separate models. It shows the expected negative, that is reducing, effect ($\beta_8 = -0.15, p < 0.05$). For goal orientation we only find the expected negative effect ($\beta_5 = -0.12, p < 0.10$) in the separate models. In contrast and quite surprisingly, we find that entrepreneurs who focus on competitive analysis experience more task conflict with their VCFs than do entrepreneurs that do not ($\beta_7 = 0.14, p < 0.10$). In sum, we only find strong support for hypothesis 4.

For the effectuation principles, we also find highly interesting results. It turns out that only the effectuation principle of affordable loss shows a significant and robust influence on the level of perceived task conflict, leading to a rejection of hypotheses 5, 7 and 8. However, against our expectations the influence of affordable loss is negative, i.e., reducing the level of perceived task conflict ($\beta_{10} = -0.21, p < 0.001$ in the full model; $\beta_{10} = -0.18, p < 0.01$ in the separate model). In sum, our hypotheses on the influence of effectuation as a decision-making style on the level of perceived task conflict by the entrepreneur need to be rejected. Instead, we find a rather surprising effect for the effectual principle of affordable loss pointing to the opposite of our hypothesis.

Discussion and conclusion

In this study, we set out to explore in how far causal and effectual decision-making by entrepreneurs causes increases in the perception of task conflict by the entrepreneur in the relationship with a VCF. Building on theory of entrepreneurial decision-making and conflict theory, we find support for some of our hypotheses with regard to causal decision-making but also some surprising results for effectual decision-making. Consistent with our hypotheses, investor-entrepreneur task conflicts are reduced when founding teams employ the causation principles of overcoming the unexpected. However, we do not find robust significant effects for founding teams' use of goal orientation, expected return and competitive analysis, and neither for the effectuation principles of means-orientation, partnerships, and leveraging the unexpected. One explanation for finding no or no robust effect for either a means or goals approach may be that these principles are the starting point of the entrepreneurial process and, as such, may not influence conflicts until the other principles are acted upon. In other words, while means-orientation and goals-orientation may drive entrepreneurs' actions and behaviors, this motivation may be less observable to their partners than, for instance, how entrepreneurs deal with unexpected events. Therefore, these two principles may be less likely than other principles to affect investor-entrepreneur conflicts.

With regard to the attitude towards outsiders we find no effect for founding teams that employ the effectual principle of partnerships. Perhaps entrepreneurs tend to enter partnerships in the post-investment phase that are specifically targeted at enhancing value of the firm through risk-sharing in line with VC expectations. Hence, conflict that results from new partners being brought in at this stage may be avoided by ensuring alignment between new and old partners before a new partners' entry.

Furthermore, albeit a weak effect, we find that the causal principle of competitive analysis actually increases rather than reduces task conflicts. This is, however, no robust finding. One explanation for this finding may be that, while an entrepreneur's understanding of the market landscape is a prerequisite for investing, VCFs may also expect the entrepreneur to devote his or her full capacity to the core business once the deal has been closed. VCFs invest in a team's expertise and capabilities (Franke et al. 2008; MacMillan et al. 1985), and these are likely to be applied most optimally by focusing on the team's core business and not by continuing to conduct market research. Hence, rather than seeing competitive analysis as a strength, VCFs may also see its use as a weakness. More research is needed to answer this question in more detail.

Surprisingly, only one effectuation principle significantly influences task conflict: founding teams who make decisions based on affordable loss logic have fewer task conflicts with their investors. This might suggest that although VCFs use the expected rate of return as an important decision criterion and work to maximize their expected returns after investment, they are also concerned about the responsible use of the capital invested. Drawing on agency theory, researchers argue that VCFs are well aware of the moral hazard that results from the separation of ownership and control in their portfolio companies

(Gabrielsson and Huse 2002; Jensen and Meckling 1976). After acquiring an investment, entrepreneurs may be enticed to misuse the capital invested, making poorly reasoned decisions or spending it on items that optimize their individual well-being rather than that of the venture. Investors' fear of moral hazard might be reduced if entrepreneurs favor decision-making based on affordable loss, as such entrepreneurs are likely to handle the invested capital responsibly and efficiently, and are less likely to overspend. This approach may result in more discretion for the entrepreneurs and fewer negotiations with their VCFs about capital expenditures, reducing task conflicts. Furthermore, entrepreneurs that base decisions on affordable loss are more likely than those who do not to stay within the budget constraints set by the investment contract and to spend only what they can afford to lose, thereby supporting the staged-financing approach practiced by many investors (Forbes et al. 2010; Steier and Greenwood 1995). The VCF's goal is often to "maintain maximum control over the venture and [to] be able to save resources if it becomes clear that a venture is going to fail" (Khanin and Turel 2009, p. 3), so the affordable loss approach is likely to reduce the need to renegotiate the financing terms and the level of related task conflicts.

Academic contributions

Our findings have several academic and practical implications. First, as research has established the importance of investor-entrepreneur conflicts to the success and continuation of their partnership, scholars have begun to explore antecedents to these conflicts. This paper builds on that emergent line of research by drawing on effectuation and zooming in on entrepreneurs' decision-making approaches as a potential cause of task-related disagreements with their investors. Thus, our results add to prior research by revealing that effectual and causal decision-making approaches are important in the investor-entrepreneur relationship not only because they affect the investment decision (Murnieks et al. 2011), but also because they affect investor-entrepreneur dynamics once the investment has been made. In so doing, we also inform the conflict literature which has paid relatively little attention to the role of elements related to cognitive and decision-making as causes of conflicts (exceptions include Miron-Spektor et al. 2011). The significant negative effect of procedural justice on investor-entrepreneur task conflicts is also noteworthy. If entrepreneurs perceive themselves as being treated fairly in procedural matters, fewer task conflicts with their VCFs occur. Sapienza and Korsgaard (1996, p. 547) were the first to point out that "procedural justice provides a useful framework for understanding entrepreneur-investor relations." With this paper, we show that this statement holds true with regard to entrepreneur-investor conflicts.

Second, effectuation research has focused on contextual specification (Dew et al. 2008, 2009; Read et al. 2009) and delineation from extant theories (Goel and Karri 2006; Sarasvathy and Dew 2008) and has only recently started to examine effectuation empirically (Chandler et al. 2011). We add to this stream of research and take effectuation to the interpersonal level by investigating the effects of effectuation and causation on task conflict.

Third, we find no “black-and-white” pattern in the results in that effectual entrepreneurial behavior does not necessarily lead to more conflict with investors, an assumption that is easily made if stereotypes of effectual entrepreneurs and causal VCFs are front of mind. We show that Wiltbank and S. Sarasvathy’s (2002) suggestion that VCFs tend to rely on causal behavior does not necessarily lead to more conflict with entrepreneurs who favor an effectual approach. Much rather, our evidence suggests that affordable loss (effectuation) can support conflict decreasing mechanisms of causation principles such as action focus in the sense of overcoming the unexpected.

Fourth, our study supports the call for an independent operationalization of effectual and causal dimensions (Chandler et al. 2011). Only one effectual dimension shows an impact on the task conflict between entrepreneurs and their VCFs, while three causal dimensions influence the level of task conflict, albeit with varying levels of robustness. The tentative result on the conflict-increasing effect of (for example) competitive analysis may not necessarily imply a conflict-decreasing effect of the alternative effectuation dimension (partnerships), so that in conclusion a dimension of causation may be orthogonal to the respective effectuation dimension. Furthermore, as Table 1 shows, only one correlation coefficient between the corresponding effectual and causal dimensions exceeds the absolute value of 0.30. Although there are some significant negative correlations that are slightly below that value, the low correlation coefficients suggest that none of the dimension pairs are mutually exclusive (Kraaijenbrink et al. 2011).

Managerial implications

Our results provide valuable practical insights for entrepreneurs and VCFs. Entrepreneurs and investors alike can assess their relationships and their likely levels of task conflict in view of the entrepreneurs’ potential for effectual or causal behavior. For example, entrepreneurs can analyze their own actions from an effectuation perspective and identify conflict-increasing and -decreasing factors in their behavior. When they are experiencing a significant level of task conflict, this exercise may help them identify, discuss, and address the reasons for conflict, making it easier to identify and implement a solution. In general, a detailed understanding of what causes conflict will help practitioners in the venture capital industry manage conflicts and their outcomes with more consciousness and precision. This would mark a step forward in the mutual understanding between capital suppliers and entrepreneurs.

Limitations and avenues for further research

This study is not without limitations, all of which provide opportunities for future research. First, data in this study was retrieved from only entrepreneurs, one side of the investor-entrepreneur dyad. While this unilateral approach is a common

limitation in research on investor-entrepreneur dynamics (Forbes et al. 2010; De Clercq and Sapienza 2006), prior research has indicated that investors and entrepreneurs usually agree on the degree to which they are in conflict (Collewaert 2012). Hence, gathering information from only the entrepreneurs should not have biased the levels of conflict reported in this paper. However, this approach does not allow us to examine the impact on conflict of actual differences in the use of effectual and causal principles between investors and entrepreneurs. Future research may measure the VCF's own use of effectual and causal decision-making principles in order to assess the effect of cognitive similarity. As a related suggestion, future research could also measure the VCF's view on and acceptance of an entrepreneur's use of effectuation and causation principles, which would facilitate a more direct test of our hypothesized effects.

Second, we used cross-sectional data even though the use of effectuation and causation may change over time (Sarasvathy 2008), especially when the entrance of VCFs shifts an entrepreneur's behavior to a more causal approach. Therefore, it may be meaningful to assess in greater detail these dynamics and temporal interdependencies between effectuation and causation on one hand and the level of task conflict on the other. For example, an event study of the potential behavioral shift of entrepreneurs when VCFs enter may be a worthwhile research project.

Third, while there are several types of conflict that have been shown to be important, this study focuses only on task conflict. Future research should deepen our understanding of the causes of relationship conflict and process conflicts between investors and entrepreneurs. While we would not expect effects of effectual or causal reasoning on relationship conflicts (that are not spillovers from task conflicts), there may be implications for process conflicts. Process conflict, which pertains to debates about the logistics of task accomplishment, such as delegation of responsibilities and duties (Jehn and Bendersky 2003), corresponds directly with the process perspective of effectuation (Sarasvathy 2008). The mindsets of effectual entrepreneurs and causal investors might differ substantially on what the process to accomplish certain tasks should look like and who should be responsible for what. While this is just speculation on our part, future research may benefit from such an investigation.

Conclusion

This study sheds light on the important question concerning which behavioral antecedents provoke task conflict between entrepreneurs and their VCFs. Our model combines insights from entrepreneurship, effectuation, and conflict theory, and it deepens understanding of intergroup processes with respect to effectual and causal behavior. The application of effectuation, a relatively new theory of entrepreneurial behavior, offers intriguing insights into how conflicts between entrepreneurs and their investors arise.

Appendix

Information on constructs and items

Causation (adapted from Brettel et al. 2012)

Goals-orientation ($\alpha=0.90$)

- 1) Our project was specified on the basis of given targets.
- 2) The starting point for the project was concrete company targets.
- 3) Starting with given project targets, the required means/resources were defined.
- 4) Starting point of our project was concisely given company targets.
- *) The target of our project was clearly defined in the beginning.

Expected returns ($\alpha=0.81$)

- 1) Decisive for the project were considerations about potential returns.
- 2) The selection of options for our project was mostly based on calculations of potential returns.
- 3) We mainly considered the potential odds of the project.
- 4) Decisions on capital expenditures were primarily based on potential returns.

Competitive analysis ($\alpha=0.92$)

- 1) We tried to identify risks of the project through thorough market analysis.
- 2) We have taken our decisions on the basis of systematic market analysis.
- 3) Our focus was rather on the early identification of risks through market analysis in order to be able to adopt our approach.
- 4) In order to reduce risks, we focused on market analyses and forecasts.

Overcome the unexpected ($\alpha=0.79$)

- 1) New, surprising results and findings were only integrated when the original project target was at risk.
- 2) Our mode of operation focused on reaching target without any delay.
- *) The project planning was basically carried out at the beginning of the project.
- 4) We first of all took care of reaching our initially defined project targets without delay.
- 5) We have always focused on reaching the initial project target.
- *) Potential setbacks or external threats were avoided by the use of upfront market analysis.

Effectuation (adapted from Brettel et al. 2012)

Means-orientation ($\alpha=0.82$)

- 1) Our project was specified on the basis of given resources (e.g., capabilities within team).
- 2) The starting point for the project was given means and resources.
- 3) Starting with given means, the project target was defined.
- 4) Starting point of our project was rather available resources than concisely given project targets.
- *) The target of our project was clearly defined in the beginning (reverse-coded).

Affordable loss ($\alpha=0.76$)

- 1) Decisive for the project were considerations about potential losses.
- 2) The selection of options for our project was mostly based on a minimization of risks and costs.
- 3) We mainly considered the potential risk of the project.
- 4) Decisions on capital expenditures were primarily based on potential risks of losses.

Partnerships ($\alpha=0.73$)

- 1) We tried to reduce risks of the project through internal or external partnerships and agreements.
- 2) We jointly decided with our partners/stakeholders on the basis of our competences.
- 3) Our focus was rather on the reduction of risks by approaching potential partners and customers.
- 4) In order to reduce risks, we started partnerships and received pre-commitments.

Leverage the unexpected ($\alpha=0.79$)

- 1) New, surprising results and findings were integrated – even though this was not necessarily in line with the original targets.

- 2) Our mode of operation was flexible enough to always adjust targets to new findings.
- *) The project planning was carried out in small steps during the project implementation.
- 4) Despite potential delays in project execution, we were flexible and took advantage of opportunities as they arose.
- 5) We allowed the project to evolve as opportunities emerged – even though the opportunities weren't in line with the original project target.
- 6) Potential setbacks or external threats were used as advantageously as possible.

*) Item eliminated during factor analysis

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