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**Start-Up(s) with Hubris - The Effects of Hubris on the
Performance of Core Entrepreneurial Functions**

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For Nico
The most rational and hubris-driven person I know

(Un)fortunately, I am not blessed with hubris. This journey was probably the most intense and memorable time of my life. I am incredibly thankful for everything I learned during the last years and all the people who always believed in me and constantly challenged my thoughts.

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Zusammenfassung

Die vorliegende Dissertation reflektiert die vorwiegend negativen Auffassungen von Hybris in Wissenschaft und Praxis kritisch und belegt erstmalig auch positive Effekte auf die Performance und Wettbewerbsfähigkeit von Startups. Hierbei wird eine vielversprechende Forschungslücke innerhalb der Entrepreneurship-Literatur adressiert und mit der Entwicklung erster theoretischer Erkenntnisse in diesem Bereich begonnen. Zu diesem Zweck wird untersucht, wie sich Hybris auf die Ausübung zentraler Unternehmerfunktionen im Gründungsprozess auswirkt. Diese Funktionen umfassen die Gestaltung und den Schutz von Innovationspotentialen (Innovations-/ Risikomanagementfunktion) in Verbindung mit deren interner und externer Verwertung (Interne Koordinations-/ Arbitragefunktion). Als Basis für die empirische Studie wurden in einem mehrstufigen Forschungsprozess qualitative Daten erhoben. Dieser Prozess beinhaltete eine interdisziplinäre Literaturanalyse zum theoretischen Verständnis von Hybris (I) sowie Experteninterviews, um die praktische Relevanz der Thematik einzuordnen (II) und die forschungsleitende Fragestellung zu untersuchen (III). Zusätzlich wurden Daten im Rahmen von zwei Fallstudien erhoben, um den Einfluss kontextueller Faktoren auf die zuvor bestimmten Effekte von Hybris zu erforschen (IV). Die gesammelten Daten wurden mittels eines transparenten, induktiven Ansatzes nach Gioia et al. (2013) analysiert. Folgende Auswirkungen von Hybris wurden bestimmt:

- Persistente Umsetzung einmal entworfener Geschäftsideen, die oftmals Potential für „kreative Zerstörungsprozesse“ (Schumpeter, 1934) aufweisen (Innovationsfunktion)
- Hohe interne Kontrollüberzeugung, die mit positiver Beeinflussung der internen Motivation einhergeht, jedoch teilweise auch zu unrealistischen Einschätzungen der benötigten Ressourcen und Kompetenzen führt (interne Koordinationsfunktion)
- Starke Überzeugungskraft gegenüber Dritten, obwohl oftmals wenig durchdachte Kommerzialisierungsstrategien verfolgt werden (Arbitragefunktion)
- Betrachtung des eigenen Unternehmens als unverwundbar gegenüber externen Gegebenheiten (Risikomanagementfunktion)

Die Auswertung der beiden Fallstudien ergab, dass das Auftreten dieser Effekte durch kontextuelle Faktoren, wie beispielsweise zuvor gesammelten Branchenerfahrungen und die wahrgenommene Abhängigkeit von den Kompetenzen Dritter, moderiert wird. Auf Basis dieser Erkenntnisse werden verschiedene theoretische und praktische Implikationen im Zusammenhang mit dem Umgang hybristischer Gründerpersönlichkeiten abgeleitet.

Abstract

This dissertation challenges existing opinions of hubris as a detrimental cognitive bias and provides the first empirical evidence that it does also entail positive effects for startup performance and competitiveness. In doing so, it addresses the lack of empirical findings on hubris and its effects in entrepreneurship literature in order to trigger theory development on this subject. For this purpose, it is explored how hubris affects the execution of core entrepreneurial functions performed by individual startup founders during the launch and establishment of their ventures. These functions involve the creation and protection of innovation potentials (innovation/risk management function) in combination with their internal and external exploitation (internal coordination/arbitrage function). As a basis for the empirical examinations, qualitative data is collected in a multi-method research approach that is divided into four phases. These consist of: a systematic review of literature on hubris to understand its theoretical foundation (I), the conduction of expert interviews to determine the practical relevance of the chosen research topic (II) and to explore the effects of hubris (III), as well as two mini-case studies to contextualize the findings (IV). For the analysis, a rigorous inductive approach according to Gioia et al. (2013) is applied. The outcomes indicate that hubristic founders:

- are highly persistent in the implementation of originally envisioned business ideas, which often entail potentials for creative destruction (innovation function),
- possess a high internal locus of control regarding the management of their entrepreneurial potentials, which positively influences the motivation within their ventures but also involves, among other things, unrealistic assessments of required resources and competences (internal coordination function),
- are highly persuasive and easily able to initiate strategic partnerships despite their pursuit of inconsiderate commercialization strategies (arbitrage function), and
- are driven by a feeling of invulnerability, which involves an inferior risk perception and subjective interpretations of actual circumstances (risk management function).

The outcomes of the two mini-cases suggest that various contextual factors, such as previous industry experiences and the dependability on competences from third parties, moderate these effects of hubris. On this basis, various theoretical and practical contributions in relation to the handling of hubristic entrepreneurs through practitioners are developed.

Previous Publications

The following publications are related to the overall topic of this dissertation and were submitted to diverse conferences (chronological order):

- (1) Sundermeier, J. (2017). Effects of hubris on core entrepreneurial functions performed by startup founders, 7th Leuphana Conference of Entrepreneurship, Lüneburg, Germany.
- (2) Sundermeier, J. (2016). How does hubris influence the innovation activities of company founders? Babson College Entrepreneurship Research Conference, Bodø, Norway.
- (3) Sundermeier, J., Bier, S., Gersch, M. (2016): Beyond conventional thinking in highly and less digitalized industries: hubris as a driver for exceptional decision-making logics, Multikonferenz Wirtschaftsinformatik (MKWI 2016), Ilmenau, Germany.
- (4) Sundermeier, J. (2016): How does hubris affect the execution of crucial entrepreneurial functions? 76th Annual Meeting of the Academy of Management, Anaheim, US.
- (5) Sundermeier, J. (2015): Positive and negative effects of individual hubris on entrepreneurial functions in the IT-industry, Doctorial Consortium of the Information System School at the Queensland University of Technology, Brisbane, Australia.
- (6) Sundermeier, J. (2015): The effects of hubris on entrepreneurial decision-making processes, 75th Annual Meeting of the Academy of Management, Vancouver, Canada.
- (7) Sundermeier, J., Gersch, M. (2015): Organizational hubris in entrepreneurial ICT-settings, 12. Internationale Tagung Wirtschaftsinformatik (WI 2015), Osnabrück, Germany.
- (8) Sundermeier, J., Gersch, M. (2015): Determining the role of (organizational) hubris as a driver of innovation in newly founded ventures – guidance and propositions for future research, 5th Leuphana Conference on Entrepreneurship, Lüneburg, Germany.
- (9) Sundermeier, J., Gersch, M. (2014): Abnormal decision making logics in entrepreneurial settings - towards an additional symptom of organizational hubris in newly founded ventures, 18. Forum Gründungsforschung - Interdisziplinäre Entrepreneurship Jahreskonferenz, Oldenburg, Germany.

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Abbreviations

AoM 2015	Academy of Management Conference 2015
CbTF	Competence-based theory of the firm
CEO	Chief executive officer
CSE	Core self-evaluation
DSM	Diagnostic and statistical manual of mental disorders
GM	General Motors
HC	Hard core
NAE	New Austrian Economics
M&A	Mergers & acquisitions
NPD	Narcissistic personality disorder
RUP	Risk, uncertainty and profit
TMT	Top management team

1. Introduction

Hubristic founders are incredibly convinced of their own glory [...]. As a third party you get the impression that they perceive themselves to be the center of the universe” (startup consultant since 2010).

“The only thing that you can blame hubristic founders for, is their ignorance of people that critically reflect their business idea” (investor and startup consultant since 2003).

Steve Jobs, Mark Zuckerberg, Michael Dell, Jeff Bezos, and Christian Reber are only a few startup founders that can be characterized by the previous quotes¹. They all stand for innovative ideas, new business models, technological breakthroughs and paths that often go beyond conventional standards (e.g. Bollaert & Petit, 2010; Hayward, 2007; Picone, Dagnino, & Minà, 2014). What drives these founders? What differentiates them from others? There is a growing interest, in research and practice fields alike, to examine their distinguishing characteristics in order to identify the triggers and motivators behind their actions (e.g. Forster & Sarasvathy, 2007; Hayward, Shepherd, & Griffin, 2006; Ranft & O'Neill, 2001). Within this context, hubris is repeatedly discussed by scholars, opinion leaders and journalists, who focus on cognitive and behavioral aspects of startup founders who perform beyond average (e.g. Haynes, Hitt, & Campbell, 2015; Hayward, 2007; The Guardian, 2015). However, research-driven theory development, with regard to the relevance and consequences of hubris in the context of newly founded ventures, is still nascent. This is, among others, a result of missing empirical evidence on this subject (cf. Edmondson & McManus, 2007). It is these observations and empirical shortcomings that this dissertation seeks to resolve and constitute the starting point for the following examinations.

1.1. Relevance and Contribution

From a conceptual perspective, hubris can be defined as a cognitive bias that is characterized by excessive pride, exaggerated self-confidence and inflated positive self-evaluations (Judge, Piccolo, & Kosalka, 2009; Kets de Vries, 1990). The growing interest in examining managerial aspects of hubris was triggered by intensive scientific discussions that rational models of human decision-making behavior lack realism. Since the 1950s, scholars in the area of economics and other research disciplines increasingly admitted that constraints in time and knowledge together with limitations in human “computational capacities” (Gigerenzer, 2002, p. 37) cause bounded

¹ The citations are taken from the expert interviews that were conducted during the data collection process of this dissertation (cf. section 4.3.1).

rational decision-making approaches that are often accompanied by cognitive biases, such as hubris (e.g. Simon, 1956; Tversky & Kahneman, 1974). These developments led to a paradigm shift that involved the opening of economic research² towards the disciplines of sociology and psychology³. Following this, sociological and psychological aspects were increasingly considered to influence economic decision-making processes (cf. Döring & Wöhe, 2008; Pfriem, 1997; Rühli, 2013). In line with these advances, hubris was introduced to corporate finance and strategic management literature by Richard Roll in 1986. As such, Roll (1986) opened the “black box” of executive psychology and established hubris in these research areas as another, yet unrepresented, determinant for the performance and competitiveness of large and established corporations (Hayward, 2007; Picone et al., 2014). Following these ideas, research has mainly focused on the effects of hubris in connection to individual executives and top management teams in established organizations (e.g. Cormier, Lapointe-Antunes, & Magnan, 2016; Hayward & Hambrick, 1997; Kroll, Toombs, & Wright, 2000). Exemplary case studies include the German Cargo Lifter AG (Hermanns, 2012), the American Enron Corporation (Boje, Rosile, Durant, & Luhman, 2004), and the French Vivendi Universal SA (Petit & Bollaert, 2012). Various studies on this subject determined that managerial hubris leads executives to, among others: overestimations of capabilities (Roll, 1986), strategic persistency and path dependencies (Chowdhury, 2014; Hiller & Hambrick, 2005), poor decision-making (Brady & Davies, 2010), and social irresponsibility (Tang, Qian, Chen, & Shen, 2015).

These outcomes are of substantial consequence to organizational performance and competitiveness, both of which are also relevant to startups. This makes the absence of research on

² For instance, the focus of economic research in Germany was considerably influenced by the work of Erich Gutenberg until the 1960s. The scholar aimed to “[...] examine whether the original relation between factor input and factor output, namely, the firm’s productivity relation, could be used as the basis for a reference system in which all business processes find their natural order” (Sabel, 2012, p. 71). Gutenberg perceived economic actors to operate on perfectly transparent markets and to possess all available information of relevance for their decision-making processes. As a consequence, the model of the “homo economicus” dominated economic research at that time. This implied that economic actors were perceived to follow strictly rational decision-making approaches.

³ The opening of economic research towards the disciplines of sociology and psychology was in Germany especially triggered by Edmund Heinen. The scholar discussed that the advancements of these disciplines could support the development of more realistic decision-making models in economic research since prevalent models were based on the assumption that perfect and complete market information exist. However, Heinen (1976) and other scholars, emphasized the importance of risk and uncertainty for decision-making processes as a result that entrepreneurs in general and startup founders in particular need to derive their decisions on incomplete and often insecure information. Following these thoughts, psychological and sociological factors were increasingly discussed to cause bounded rational approaches of decision-making behavior. As a consequence, the “homo economicus” was replaced by a variety of more realistic models of human behavior (cf. chapter 3) (Döring & Wöhe, 2008; Kirsch & Picot, 2013).

hubris in entrepreneurship literature surprising. If the findings on effects of hubris within established organizations can be extended to startups, this could provide an explanation for high failure rates of new ventures. In addition, empirical evidence is provided that startup founders are more susceptible to cognitive biases, such as hubris, compared to managers in established organizations (Busenitz & Barney, 1997). It is therefore expected that existing evidence will be extended by new insights on the effects of hubris that primarily occur in entrepreneurs that launch innovative and growth-oriented ventures. Specifically, founders that establish their own businesses face conditions of rapid change, information overload, and uncertainty (Forbes, 2005; Haynes et al., 2015; Hayward et al., 2006). In these settings, hubris is assumed to provide “cognitive shortcuts” that expedite decision-making processes and allow founders to focus on their core entrepreneurial functions despite the aforementioned circumstances (Forster & Sarasvathy, 2007; Tversky & Kahneman, 1974). Hayward, Shepherd, and Griffin (2006) even argue that hubris is a necessary prerequisite for startup founders, who would otherwise get discouraged in light of failure rates as high as 80% (cf. Artinger & Powell, 2016). This dissertation seeks to resolve how this thinking is compatible with the previously outlined evidence that predominantly determined negative effects of managerial hubris in the context of established organizations.

Research and media frequently relate hubris with harmful and undesirable patterns (Petit & Bollaert, 2012). These unbalanced and prejudiced views predetermine the results of empirical examinations and are, in comparison, inconsistent with the argument that hubris is likely to positively influence venture creation processes (cf. Hayward et al., 2006). However, various scholars denounce negative perceptions on hubris, as they are unrepresentative of the true meaning and origin of the concept⁴ (e.g. Bollaert & Petit, 2010; Forster & Sarasvathy, 2007; Judge et al., 2009). Instead, these perceptions lead researchers, who aim to contribute to the so-called “hubris tradition of research” (Bollaert & Petit, 2010, p. 362), to be “[...] caught in a negative-negative paradigm in which they seek to identify pathological psychological characteristics in top executives and link them to poor performance effects or other disastrous consequences” (ibid., p. 363). The first steps towards a more impartial approach were achieved by Tang, Li, and Yang (2015), who concluded that positive impacts of hubris on innovation processes could exist. Moreover, the successes of hubristic founders, such as Steve Jobs, Mark

⁴ Comparably, also the examinations in relation to narcissism were dominated by negative associations with the cognitive bias over several decades. Interestingly, a reconceptualization of narcissism triggered more impartial research approaches (Bollaert & Petit, 2010).

Zuckerberg, and Michael Dell (Forster & Sarasvathy, 2007; Hayward, 2007; Picone et al., 2014), support the necessity of this development. This dissertation extends this progress and proposes hubris as a crucial motivator for startup founders who aim to address societal challenges of the 21st century (cf. section 2.1).

To determine positive and negative effects likewise, an impartial perspective on hubris is adapted based on careful reflections of its true meaning. Therewith, this dissertation also aims to overcome conceptual imprecisions in literature caused by different understandings of hubris among and across distinct research disciplines (Petit & Bollaert, 2012). These weak conceptual groundings lead to hubris frequently being confounded with related but overall independent cognitive biases, such as narcissism, overconfidence, and optimism (Bollaert & Petit, 2010; Forster & Sarasvathy, 2007; Judge et al., 2009). Aiming to resolve these weaknesses, this dissertation creates a thorough conceptualization of hubris. This will then be the basis for the theoretical and empirical examinations of its effects, with a focus on newly founded ventures. Moreover, this dissertation aims to address the criticism that existing empirical approaches lack an organized appraisal and comprehensive framework that support systematic and holistic explorations of hubris and its effects (Picone et al., 2014). A comparison of evidence reveals that existing findings determine effects of hubris on diverse functions that entrepreneurs perform in order to launch their ventures (e.g. Schumpeter, 1934), internally and externally exploit innovation potentials (e.g. Casson, 1982; Kirzner, 1978; Mises, 1949), and protect their startup from menacing forces (e.g. Knight, 1921). Research on these functions has been considerably advanced by the New Austrian Economics (hereafter NAE) and existing evidence suggests that a set of four interrelated entrepreneurial functions influences the performance and competitiveness of newly founded ventures⁵ (e.g. Freiling, 2009; Reckenfelderbäumer, 2013; Schoppe, 1995). These functions are the innovation, internal coordination, arbitrage, and risk management function (cf. Freiling, 2009). Summarized, these insights then provide the basis for the development of a conceptual framework that allows a systematic analysis of hubris and its effects in order to answer the following research question:

⁵ Notably, the performance of these functions is equally relevant in established organizations and affects not only the venture creation but also growth, establishment, and internationalization processes (cf. Freiling & Lütke Schelhowe, 2014). The following discussions are related to the performance of these functions in the context of newly founded ventures because of the focus of this dissertation.

How does hubris affect the execution of core entrepreneurial functions performed by individual startup founders?

The empirical approach to address this question is based upon an explorative and iterative research design that is divided into four phases of data collection and analysis. These are: a review of literature on hubris (phase I), semi-structured expert interviews to determine the practical relevance of the derived research gap (phase II), explorative expert interviews with a focus on hubristic founders and the performance of their entrepreneurial functions (phase III), and two mini-cases that contextualize the findings (phase IV).

Thereby, this dissertation contributes to the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) in various aspects. Firstly, it provides necessary empirical evidence on the effects of hubris in the context of newly founded ventures and hence, also a basis for theory development on this subject in entrepreneurship literature. Secondly, the empirical examinations are structured through a conceptual framework that is based on the advancements of, among others, the NAE on core entrepreneurial functions. Therefore, it supports a systematic and comprehensive exploration on how hubris affects the execution of core entrepreneurial functions that ensure venture performance and competitiveness. Thirdly, the applied qualitative research design offers a new methodological approach in this area. Fourthly, a multidisciplinary perspective is adapted that supports the derivation of an informed conceptualization of hubris. Moreover, it allows the transferability of existing findings, in relation to effects of hubris in the context of executives in established organizations to startup founders, to be determined. Fifthly, the impartial approach towards hubris ensures that the aforementioned and possible occurring positive effects are not precluded from the examinations.

1.2. Structure of the Dissertation

The conceptual and empirical investigations of the previously outlined phenomena are structured as follows (cf. Figure 1).

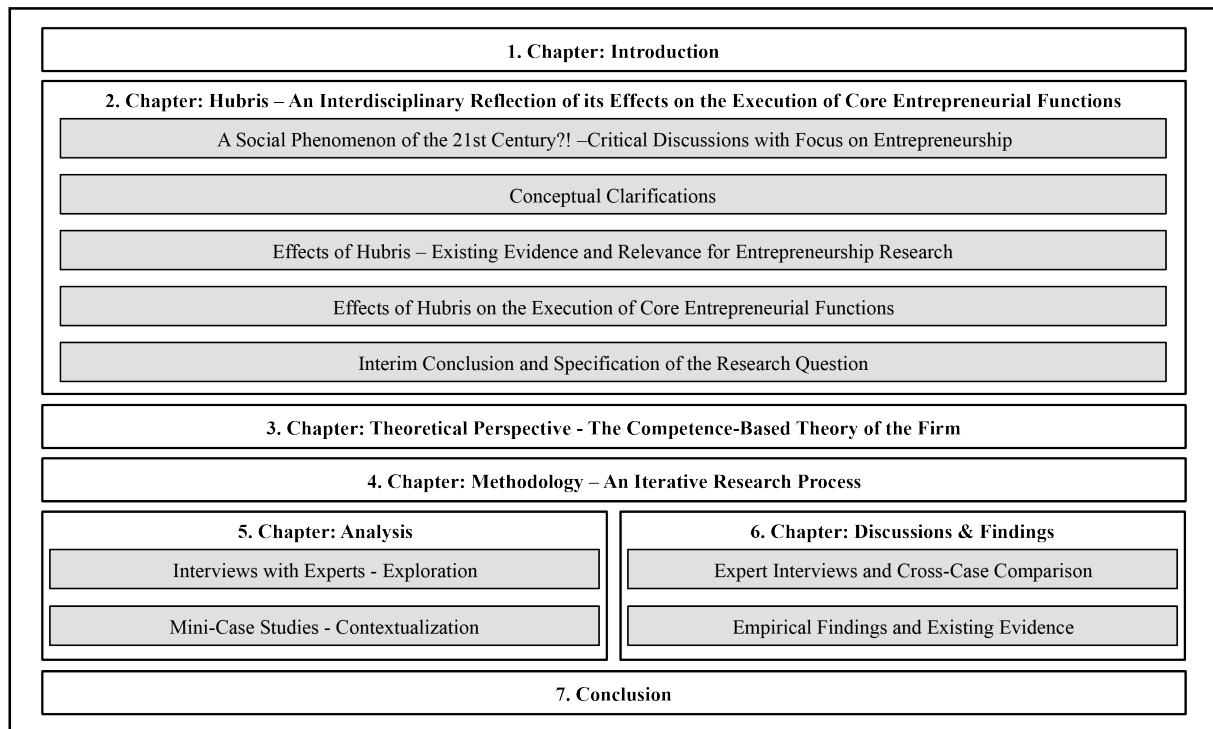


Figure 1: Structure of the dissertation (author's illustration).

The introduction discusses the relevance of examining hubris and its effects on the execution of core entrepreneurial functions performed by individual startup founders (**chapter 1**). Moreover, it outlines the crucial contributions of this dissertation. After this, a profound conceptualization of hubris is derived (**chapter 2**). In this context, the distinguishing characteristics of hubris are highlighted in order to achieve the delimitation of the concept from related cognitive biases, such as narcissism, overconfidence, and optimism. In addition, a systematic overview of existing evidence on the effects of hubris in diverse research disciplines is presented and interpreted from the perspective of crucial entrepreneurial functions performed by new venture founders. On this basis, the underlying conceptual framework is derived. Moreover, the competence-based theory of the firm is introduced as a coherent theoretical perspective on how hubristic entrepreneurs are perceived to execute their core functions and interact with their surroundings (**chapter 3**). Thereafter, the methodological approach of this dissertation is outlined (**chapter 4**). This comprises an explorative and iterative research design that structures the data collection processes into four phases. The analysis of the conducted expert interviews and mini-cases is presented thereafter (**chapter 5**). Following this, the discussion of the findings with regard to new insights on effects of hubris, that primarily occur in the context of newly founded ventures, as well as in relation to the transferability of already existing evidence is outlined (**chapter 6**). Finally, the theoretical and practical implications of this dissertation as well as the limitations and options for future research projects are summarized (**chapter 7**).

2. Hubris - An Interdisciplinary Reflection of its Effects on the Performance of Core Entrepreneurial Functions

A dissertation focusing on the effects of hubris in the context of newly founded ventures entails, beside considerable conceptual and methodological challenges, interesting and often surprising discussions with practitioners and researchers. Both groups contributed meaningfully to this research by sharing their own experiences and often controversial thoughts on multiple occasions over several years. Particularly formative for this dissertation was the professional development workshop on “Psychological Foundations of Management: Core Self-Evaluation, Hubris and Humility”⁶ at the Academy of Management Conference in 2015 (hereafter AoM 2015). Through the discussions during the workshop, it became evident that there are very few impartial considerations of hubris in practice and science. Instead, press releases and scientific publications frequently perceive hubris as an undesirable and detrimental pattern that should be avoided (Bollaert & Petit, 2010; Petit & Bollaert, 2012). Participants consistently considered these perceptions to be restrictive and misleading as they lack a profound reflection of the origin, meaning, and the potentials of hubris. Therefore, the following thought-provoking counter position is developed that addresses the unrecognized role of hubristic startup founders who perform beyond average in order to meet societal challenges of the 21st century (cf. section 2.1). Thereafter, a profound conceptualization and delimitation of hubris is derived from a critical discussion of existing approaches to define the concept (cf. section 2.2). On this basis, existing scholarly evidence on the effects of hubris is displayed (cf. section 2.3) and interpreted from the perspective of core entrepreneurial functions startup founders perform in order to launch and establish their ventures (cf. section 2.4). Eventually, the research question, which guides the empirical examinations of this dissertation, is specified (cf. section 2.5).

2.1. A Social Phenomenon of the 21st Century?! Critical Discussions with Focus on Entrepreneurship

Since the beginning of the 21st century, there has been a considerable increase in the use of the term hubris in headlines of national and international leading newspapers as well as in titles and abstracts of scientific publications (cf. Figure 2). A first peak was reached around 2008, when hubris was frequently discussed by journalists, book authors, and scholars as a contributor,

⁶ Organizers (O) and distinguished speakers (DS) of the PDW (alphabetical order): Craig Crossland (DS), Giovanni Battista Dagnino (O), Sydney Finkelstein (DS), Michael A. Hitt (DS), Pasquale Massimo Picone (O), Yi Tang (O), Dusya M. Vera (DS), and David H. Zhu (DS).

trigger, and facilitator of the financial crisis (e.g. Bollaert & Petit, 2010; Desai, 2015; Gould, 2013).

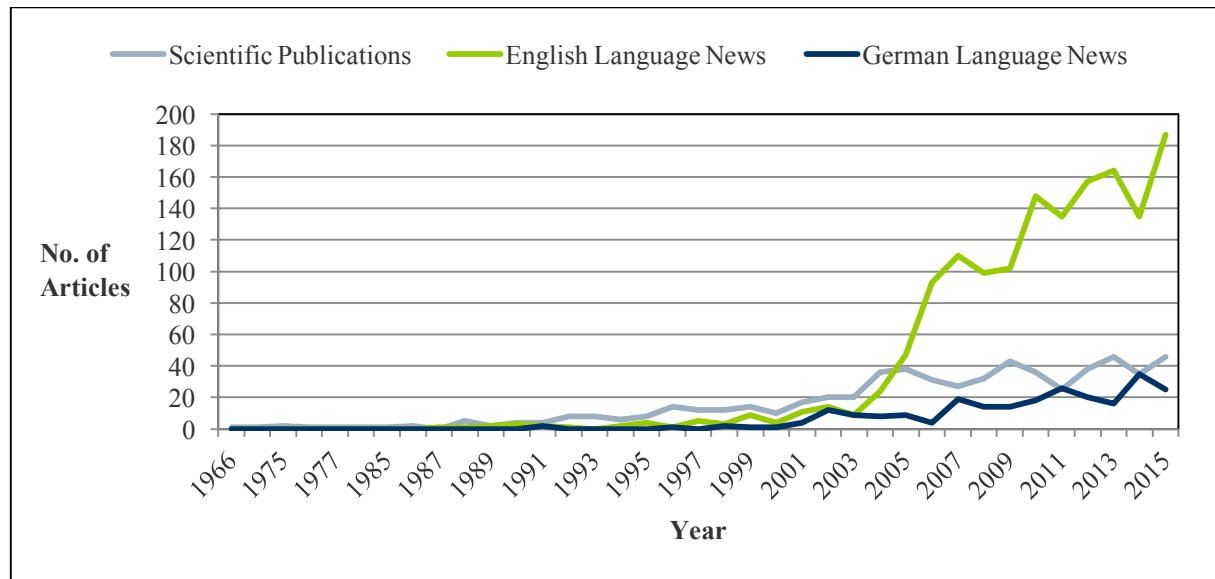


Figure 2: Use of the term “hybris/hubris” in headlines of national and international leading newspapers (source: LexisNexis) as well as titles and abstracts of scientific publications (source: Ebsco)⁷ (author’s illustration).

Is there growth in the number of economic actors that perceive themselves as godlike and free from existing social conventions, rules, and laws in this new century⁸? The German sociologist Meinhard Miegel (2014) affirms this question in his book “Hybris”⁹. He depicts an “excessive” German society that considerably overreaches itself, especially with regard to mega infrastructure projects, technological advances, and mobility. Do we have to remind ourselves to act more rational or does the supposedly “new” excessiveness of the 21st century offers unforeseen opportunities for the domestic and international economy? The following statements and remarks are meant to provoke thoughts and discussions beyond this dissertation.

At first glance, the media attributes the label “hubris” mainly to influential players that do not fulfill their societal responsibilities and seemingly endanger economic growth. At the time of writing, hubris is a point of discussion in connection to the emission scandal of Volkswagen.

⁷ The information was retrieved from the databases “LexisNexis” and “Ebsco” in June 2016. The search in LexisNexis was limited to the use of the term “hybris/hubris” in the headlines of all available newspapers. The search in Ebsco focused on journal and book publications that contained the term “hybris/hubris” in their headlines and/or abstracts. Noticeably, all duplicates were deleted and the first results were found in 1966.

⁸ Hubris is not a new phenomenon in the 21st century as it already was discussed in connection with Napoleon and other warlords (cf. Kroll, Toombs, & Wright, 2000). However, there is a considerable increase in the use of the term since the beginning of 2000, which might be an indicator for a rising significance of hubris in the 21st century.

⁹ German spelling of the term “hubris”.

The German car manufacturer is described as “[...] an organization full of hubris, you know, dominate the world and walk-on-water type of thinking” (Forbes, 2016). Besides, Tesla Motors laid blame to internal hubris as the cause of an overload of technology in the new electric vehicle “Model Xs“, which led to considerable delays in the delivery process (The Verge, 2016). Comparable examples can be found in scientific publications that link hubris with recent events, such as the drop of the highly promising German Cargo Lifter AG (Hermanns, 2012), the disastrous project management of Heathrow’s Terminal 5 (Brady & Davies, 2010), and the scandal of the American energy company Enron Corporation (Boje et al., 2004) (cf. section 2.3.1.2). Are Miegel’s assumptions consequently true? Is the economy of the 21st century confronted with powerful psychological forces that trigger excessive overestimations and prevent decision-making processes that could have avoided previously depicted events?

Looking at hubris in an entrepreneurial context, George Arthur Akerlof and Robert Shiller (2010), both winners of the noble price in economics, call on society to rethink accepted conventions and similar questions to those previously stated. They claim societal perceptions on how economic actors behave and perform their core entrepreneurial functions to be still based on outdated scientific models of decision-making behavior. Until the beginning of the 20th century, entrepreneurs were frequently characterized as profit-maximizing, omniscient and rational individuals (*homo economicus*) in classical economic theories (Gigerenzer & Todd, 1999; Rakow, 2010; Thaler & Sunstein, 2008). However, such strictly rational assumptions were already replaced by more plausible models in economic research during the 1950s (e.g. Mises, 1949; Simon, 1956). These adapted models considered cognitive restrictions of entrepreneurs, who have to cope with limitations in time and knowledge as well as uncertain and risk intensive conditions, during their decision-making processes (Gigerenzer, 2002). As a consequence, bounded rational models of human decision-making behavior, such as the *homo agens* (e.g. Kirzner, 1978; Mises, 1949), became prevalent in economic theory (Heinen, 1976; Ulrich, Krieg, & Malik, 1976). In addition, the importance of human psychology, as an integral part and driver of our economy with considerable impacts on global capitalism (cf. Akerlof & Shiller, 2010), was also increasingly emphasized since the 1970s (Tversky & Kahneman, 1974). The necessity of these developments is demonstrated by the aforementioned examples that indicate that beliefs and behaviors of economic actors are guided by psychological triggers, instead of pure rationality. These triggers are, among others, optimism, confidence, hysteria, narcissism, and hubris (Akerlof & Shiller, 2010; Bollaert & Petit, 2010; Hayward et al., 2006).

The societal importance of these psychological triggers can be exemplified by the variety of new developments mankind is facing in the 21st century (Landström, 2007). The integration of refugees, demographic changes, and the ongoing digital transformation are only a few challenges that imply uncertainty and a disequilibrium (Bettis & Hitt, 1995; Meyer & Heppard, 2000). These need to be addressed in order to ensure economic growth and societal well-being (OECD, 2016). Business opportunities that provide solutions for these challenges often need to go beyond conventional imaginations. Limited information about the future, together with the lack of benchmarks, hinder the assessment of the economic and social efficiency of identified opportunities (Forster & Sarasvathy, 2007; Hayward et al., 2006). Scientific evidence proves that cognitive biases (= psychological forces), such as hubris, positively trigger the motivation of economic actors to pursue and commercialize innovative ideas despite these uncertain and risk intensive circumstances (e.g. Bollaert & Petit, 2010; Li & Tang, 2010; Tang, Li et al., 2015; Tversky & Kahneman, 1974). In this context, various authors argue that “[...] entrepreneurs who are preoccupied with establishing when and how they could be wrong are more timid, indecisive and defensive; they prefer to avoid mistakes, scrutinize others and resist opportunities” (Hayward et al., 2009, p. 576).

From this perspective, however, there is a contradiction between the demonization of “excessiveness” driven by hubris and the shared anxiety about the national and international economic future. For instance, at the time of writing it is questioned if the “economic miracle 2.0” is still achievable in Germany (High-Tech Gründerfond, 2015). Especially with regard to the ongoing digitalization, the German economy tends to have a longing towards the US and its internationally celebrated founders, such as Steve Jobs, Mark Zuckerberg, Elon Musk, and Jeff Bezos. However, none of these founders achieved their successes based on modesty or cautiousness. On the contrary, Steve Jobs even postulated publically “We’re here to put a dent in the universe. Otherwise why else even be here?” (Macworld, 2011). These founders are recognized for leaving established paths and meeting societal and economic challenges with innovative approaches against all expressed reservations (Hayward, 2007; Picone et al., 2014). Therefore, such examples demonstrate the importance of “excessiveness” to address current economic and societal challenges of the 21st century. In addition, scientific publications support this assumption and contribute to the development of a “hubris theory of entrepreneurship” (cf. Hayward et al., 2006), which investigates the relevance of hubris and other cognitive biases to be crucial triggers for entrepreneurial actions (e.g. Bollaert & Petit, 2010; Hiller & Hambrick, 2005; Petit & Bollaert, 2012). In more detail, uncertain and dynamic conditions in combination with high

venture failure rates require psychological triggers, such as hubris, to motivate entrepreneurs, to undertake challenging tasks and to launch new ventures (Hayward et al., 2006).

These themes should not be misinterpreted as a call to excessive economic actions that endanger economic growth or our societal well-being. However, it is necessary to resolve the contradiction between the demonization of hubris and other psychological forces that drive entrepreneurial actions and the simultaneous anxiety that the economy is not able to address existing societal challenges (Bollaert & Petit, 2010; Li & Tang, 2013; Picone et al., 2014). This dissertation contributes to this objective and examines the positive and negative effects of hubris in the context of startup companies. For this purpose and in the first place, a careful conceptualization of hubris is derived in the following.

2.2. Conceptual Clarifications

The basis for the theoretical and empirical examinations of the previously outlined phenomena builds a careful conceptualization of the term “hubris” for this dissertation. However, the systematic formulation of such a conceptualization is subject to several challenges as existing scientific literature lacks a shared understanding of hubris. Instead, existing approaches to define the concept often diverge considerably across and even within research disciplines (Forster & Sarasvathy, 2007; Picone et al., 2014). In order to achieve greater conceptual transparency, the working definition of hubris for the following examinations is derived from a critical assessment of current conceptualizations that are applied in various research disciplines (cf. section 2.2.1). In this context, it is also of particular importance to emphasize the distinguishing characteristics of hubris, as they allow a comprehensible delimitation from related, but overall independent, concepts such as narcissism, overconfidence, and optimism (cf. section 2.2.2). These are often improperly used synonymously, or as proxies for hubris (Bollaert & Petit, 2010). Taken together, the previously outlined conceptual imprecisions impede theory development and scientific advances to understand the relevance and implications of hubris from a managerial perspective (cf. section 2.2.3).

2.2.1. Origin and Definition

The term “hubris” originates from Greek mythology and was first used by ancient scholars to characterize powerful mythical heroes and rulers who expressed beliefs and behaviors that reflected extreme self-confidence and excessive pride (e.g. Bollaert & Petit, 2010; Hayward & Hambrick, 1997; Trumbull, 2010; Woodruff, 2005). In this context, the myth of Icarus and his father Daedalus, who were both banished to the Island of Crete, is frequently cited. In an

effort to escape from Crete, Daedalus built artificial wings layered with wax and instructed Icarus not to fly too close to the sun. However, his son ignored his father's instructions as he was overwhelmed by the godlike ability to fly and view mankind from above. His perception of being equal to the Gods is interpreted as a hubristic act. Eventually, Icarus plunged into the sea as the wax of his wings melted by the warmth of the sun (Graves, 1990; Petit & Bollaert, 2012). Beside the perceived equality between oneself and the Gods, further exemplary acts of hubris that are handed down in Greek mythology are the mistreatment of dead bodies, the disregard of the Gods, and the humiliation of beaten enemies (Fisher, 1992; Hayward et al., 2009; Kroll et al., 2000; Trumbull, 2010). In numerous Greek myths¹⁰, these and similar acts are interpreted by ancient scholars as "hamartia"¹¹ or flaws in the decision-making processes of the protagonists who typically hold a position of power (Brennan & Conroy, 2013; Ford, 2006; Trumbull, 2010). According to ancient scholars, such flaws constitute one of the eight of man's capital sins, which are misconducts that always were punished with deadly retribution by the Goddess Nemesis¹² (Audretsch, 1991; Brennan & Conroy, 2013; Forbes, 2005; Trumbull, 2010).

In a contemporary research context, there are diverse approaches to translate the mythical notion of hubris into a concept that describes extreme self-confidence and excessive pride on the level of powerful individuals (e.g. Hayward & Hambrick, 1997; Kroll et al., 2000; Owen, 2006; Picone et al., 2014) and collectives (e.g. Brady & Davies, 2010; Chowdhury, 2014; Hermanns, 2012). However, this translation is impeded as a result of considerable variations in the interpretations of the ancient Greek myths around hubris (Bollaert & Petit, 2010)¹³. These differences are especially reflected in the focus of existing conceptualizations on either cognitive or behavioral aspects of hubris or a combination of both (cf. examples below). On an aggregate level, three different types of conceptual approaches are identified:

¹⁰ See Fisher (1992) and Trumbull (2010) for detailed overviews of Greek myths dealing with hubris.

¹¹ Ancient Greek term to describe "errors in judgement" (Bollaert & Petit, 2010).

¹² Goddess of divine indignation and retribution (Trumbull, 2010).

¹³ See Bollaert and Petit (2010) for a detailed overview of existing interpretations and derived conceptualizations.

- **Type (I): Focus on Cognitive Aspects**

These definitions conceptualize hubris exclusively based on cognitive aspects and beliefs held by powerful individuals and collectives. Examples are the often cited descriptions of hubris as a combination of pride with arrogance (e.g. Chowdhury, 2014; Kerfoot, 2010; Russell, 2011) or as exaggerated pride, overwhelming self-confidence, and contempt for others (Owen, 2006). However, it does not exist a uniform set of specific cognitive aspects yet.

- **Type (II): Focus on Behavioral Aspects**

These types of conceptualizations define hubris with reference to expected behaviors. Such approaches are mainly applied in research on mergers and acquisitions (hereafter M&A) where hubris is defined, for instance, as the behavior to “[...] pay for synergy where none at all exists” (Hodgkinson & Partington, 2008, p. 102).

- **Type (III): Type (I) + Type (II)**

Several of the identified conceptualizations combine cognitive (type I) and behavioral aspects (type II) of hubris. Such a combination is applied in the most frequently cited definition that describes hubris, with reference to Greek mythology, as “[...] exaggerated pride or self-confidence, often resulting in retribution” (Hayward & Hambrick, 1997, p. 106)¹⁴. Similarly, also Ford (2006) conceptualizes hubristic beliefs on a cognitive level as “[...] an overweening pride or ego” (p. 483), which are manifested in specific behaviors, such as “[...] the violation of a law or failure to recognize the limitations of one’s knowledge by regarding oneself as equal to the god” (p. 483).

A critical reflection of these approaches indicates that not all three types are equally suitable as a conceptual basis to examine effects of hubris. For instance, approaches that exclusively focus on behavioral aspects of hubris (type II) are criticized to hinder an unbiased analysis of its effects. In more detail, they are perceived to favor circular reasoning as a result that such conceptualizations already entail expected behaviors resulting from hubris and hence, the research

¹⁴ Noticeably, the publication of Hayward and Hambrick (1997) is frequently cited as a primary reference (e.g. Chatterjee & Hambrick, 2007; Hill, Kern, & White, 2014), although the scholars refer to Webster’s dictionary as a source for their definition.

focus is predetermined (Judge et al., 2009; Petit & Bollaert, 2012). These weaknesses are avoided in approaches, which merely focus on cognitive elements expressing hubris (type I). However, explicitly applied cognitive aspects, such as exaggerated pride and arrogance, are considered to be highly abstract as they leave significant scope for subjective interpretations. For this reason, theory development and the formulation of an adequate operationalization are impeded (Bollaert & Petit, 2010). Therefore, an adapted combination of abstract cognitive and more explicit behavioral aspects (type III) seems to provide a promising basis for a working definition of hubris in this dissertation.

Such a conceptualization can be derived from a careful review of the most frequently applied cognitive and behavioral aspects attributed to hubris, as it was conducted by several authors in an attempt to achieve more conceptual uniformity (e.g. Judge et al., 2009; Petit & Bollaert, 2012). Characteristic cognitive aspects are summarized, on an aggregate level, as excessive pride, exaggerated self-confidence, and inflated positive self-evaluations (Judge et al., 2009). In order to avoid the previously discussed circular reasoning, Petit and Bollaert (2012) derived three related but sufficiently abstract behavioral manifestations of hubris from the literature. According to the scholars, hubristic individuals can be characterized (1) to have a grandiose sense of themselves, (2) to consider themselves above the community of humans (equal to the Gods), and (3) not to feel constraint by existing social rules and laws. These approaches refrain to derive a conceptualization exclusively from Greek myths, which entail a large scope of possible interpretations. Instead, they rely on psychology as a research discipline that traditionally focuses on cognitive and behavioral aspects of research phenomena, such as hubris (Fernald, 2007; Hockenbury & Hockenbury, 2010). With regard to the main psychological traditions¹⁵ that are displayed in Figure 3, hubris is anchored in abnormal psychology, which focuses on the analysis of cognitive and behavioral patterns that are generally classified as “unusual” (Alloy, Riskind, & Manos, 2005; Bollaert & Petit, 2010; Petit & Bollaert, 2012). In this context, hubris is acknowledged as one of several cognitive biases that are conceptualized as decision-making and judgment processes deviating from rational or normative standards (e.g. Baron, 2004; Haselton & Nettle, 2006; Hayward & Hambrick, 1997; Hiller & Hambrick, 2005; Tversky & Kahneman, 1974; Zhang & Cueto, 2015).

¹⁵ The interpretations of hubris from Greek mythology do not relate to any psychological traditions (Bollaert & Petit, 2010).

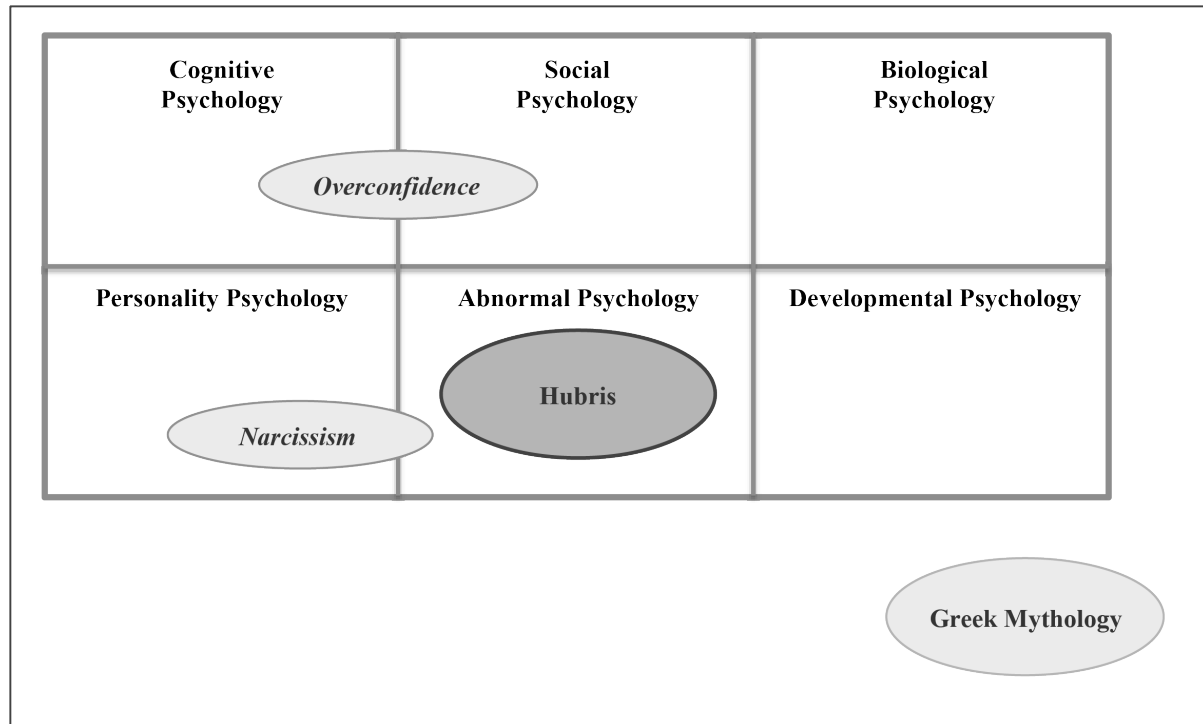


Figure 3: Classification of hubris in psychological research traditions (adapted from Bollaert and Petit, 2010, p. 367)).

The following working definition of hubris is derived from a combination of the previously presented conceptualizations that aggregate frequently applied cognitive and behavioral aspects and also integrate psychological perspectives on hubris. Additionally, arrogance, as another commonly applied cognitive aspect (e.g. Chowdhury, 2014; Kerfoot, 2010; Kroll et al., 2000; Russell, 2011), is included. On this basis,

*“hubris is defined as a **cognitive bias** that is characterized by **excessive pride, exaggerated self-confidence, inflated positive self-evaluations, and arrogance** (cf. Judge et al., 2009). These cognitive aspects are manifested in behaviors that express a (1) **grandiose sense of oneself**, the (2) **consideration of oneself above the community of humans (equal to the Gods)**, and (3) **no feelings of constraint by existing social rules and laws** (cf. Petit & Bollaert, 2012)”*.

This working definition entails distinguishing characteristics of hubris that allow a delimitation from related but overall independent concepts as discussed in the following sections.

2.2.2. Delimitation from (Inter)Related Cognitive Biases

The aforementioned conceptual imprecisions hamper the creation of valid and reliable research designs to determine the relevance and implications of hubris. In order to circumvent this problem, scholars apply related but overall independent cognitive biases, such as narcissism, overconfidence and optimism, as proxies for hubris (Brennan & Conroy, 2013; Forster & Sarasvathy, 2007; Petit & Bollaert, 2012). Such cognitive biases entail more precise and recognized definitions and operationalization that are readily applicable to real life environments as they are well established in scientific literature. These advantages and perceived similarities between the concepts induce numerous scholars to imprudently treat such biases as equal or interchangeable with hubris (e.g. Hayward et al., 2006; Johnson & Fowler, 2011; Picone et al., 2014). However, these approaches fail to acknowledge that these biases are independent with own inherent characteristics and with origins in distinct psychological research traditions (cf. Figure 3). Therefore, careful delimitations of cognitive biases that are frequently applied alongside hubris, such as narcissism (cf. section 2.2.2.1), overconfidence (cf. section 2.2.2.2), and optimism (cf. section 2.2.2.3), are derived in the following.

2.2.2.1. Narcissism

Narcissism is a complex and multidimensional personality trait that can be regularly found in scholarly publications dealing with hubris (e.g. Bollaert & Petit, 2010; Kets de Vries, 1990; Kroll et al., 2000; Owen, 2006; Owen & Davidson, 2009). Similarly to hubris, the term narcissism is also rooted in Greek mythology and was used by ancient scholars to describe individuals that express an inflated self-love, an overstated perception of their own importance, and a deeply anchored craving for admiration (Chatterjee & Hambrick, 2007; Hiller & Hambrick, 2005; Kernberg, 1985; Kohut, 1971; Mathieu & St-Jean, 2013; Morf & Rhodewalt, 2001). Commonly known and frequently cited is the myth of the youthful and beautiful man Narcissus. He was greatly admired by numerous people but instead of gratefulness, he responded with prideful disrespect and denial. In the interpretation of the myth by Ellis (1898), his behavior was punished by the Goddess Nemesis¹⁶, who made Narcissus fall deeply in love with his own image that was reflected from the water of a fountain. Captivated by his own reflection and self-preoccupation, Narcissus drowned while attempting to hug his own reflection (Chatterjee & Hambrick, 2007; Lubit, 2002).

¹⁶ Goddess of divine indignation and retribution (Trumbull, 2010).

The first attempt to apply the myth of Narcissus to psychological phenomena was undertaken by Ellis (1898)¹⁷, who substantially inspired the examinations of Freud (1914). In his highly regarded work “On Narcissism: An Introduction” Freud identified crucial cognitive and behavioral aspects of narcissistic behavior. Moreover, he triggered scholarly interest in narcissism with more than 1000 related studies published across various research disciplines, including psychology, sociology, and political sciences, during the last century (e.g. Baumeister, Campbell, Krueger, & Vohs, 2003; Campbell, Brunell, & Finkel, 2006; Gabriel, Critelli, & Ee, 1994; Kets de Vries, 1990; Morf & Rhodewalt, 2001; Raskin & Terry, 1988). The majority of subsequent studies conceptualized narcissism as a mental disorder and an ingrained clinical syndrome (e.g. Chatterjee & Hambrick, 2007; Emmons, 1984; Morf & Rhodewalt, 2001). Although, there were attempts to re-conceptualize narcissism as a flexible personality dimension (e.g. Chatterjee & Hambrick, 2007; Emmons, 1984; Raskin & Hall, 1979), the American Psychiatric Association¹⁸ officially approved narcissism as a personality disorder (hereafter NPD¹⁹) half a century ago. In this context, narcissism is characterized as an enduring and inflexible syndrome with nine specific symptoms that are summarized in Table 1. They include, among others, a sense of entitlement to be admired (symptom 5) and a lack of empathy (symptom 7) (American Psychiatric Association, 2015; Bollaert & Petit, 2010; Brown, Budzek, & Tamborski, 2009; Campbell, Hoffman, Campbell, & Marchisio, 2011).

¹⁷ Ellis (1898) initially referred to the concept as “autoerotism”.

¹⁸ “The American Psychiatric Association is an organization of psychiatrists working together to ensure human care and effective treatment for all persons with mental illness, including substance use disorders. It is the voice and conscience of modern psychiatry” (APA, 2016). The organization regularly issues updated versions of the “Diagnostic and Statistical Manual of Mental Disorders” (DSM), which entails standard classifications of mental disorders together with diagnostic criteria sets and rich descriptions (ibid.).

¹⁹ Narcissistic personality disorder.

Diagnostic criteria for narcissistic personality disorder	
A pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:	
1)	Has a grandiose sense of self-importance (e.g., exaggerates achievements and talents, expects to be recognized as superior without commensurate achievements)
2)	Is preoccupied with fantasies of unlimited success, power, brilliance, beauty, or ideal love
3)	Believes that he or she is “special” and unique and can only be understood by, or should associate with, other special or high-status people (or institutions)
4)	Requires excessive admiration
5)	Has a sense of entitlement, i.e., unreasonable expectations of especially favorable treatment or automatic compliance with his or her expectations
6)	Is interpersonally exploitative, i.e., takes advantage of others to achieve his or her own ends
7)	Lacks empathy: is unwilling to recognize or identify with the feelings and needs of others
8)	Is often envious of others or believes that others are envious of him or her
9)	Shows arrogant, haughty behaviors or attitudes
Source: DSM IV, Diagnostic and Statistical Manual of Mental Disorders, 4th ed., 1994.	

Table 1: Characteristic and approved symptoms of narcissism (adapted from Bollaert and Petit, 2010, p. 365).

A comparison of characteristic patterns suggests that narcissism and hubris overlap in certain cognitive and behavioral aspects. However, scientific evidence related to narcissism builds upon more than a century of research (cf. Brown et al., 2009). Especially advances in the areas of clinical psychology and psychiatry offer scholars well-developed tools, such as established measurement scales, for their research projects on narcissism (Chatterjee & Hambrick, 2007; Mathieu & St-Jean, 2013; Raskin & Terry, 1988).

With this knowledge, a careful delimitation of both concepts can be achieved based on the following criteria. Firstly, the conceptualization of narcissism as a multidimensional clinical syndrome is contrary to hubris. Attempts to officially approve hubris as a personality disorder (Owen, 2006, 2008a; Owen & Davidson, 2009) remain unconsidered in clinical psychology and psychiatry (Russell, 2011). Instead, hubris is treated as a temporary condition whereas “[...] narcissism is the more fundamental, ingrained property” (Chatterjee & Hambrick, 2007, p. 357). Therefore, the intensity of hubris might differ or completely disappear while narcissism is an enduring and inflexible bias (Bollaert & Petit, 2010; Chatterjee & Hambrick, 2007; Homberg & Osterloh, 2010). Secondly, the comparison of typical aspects of both concepts indicates that narcissistic individuals are much more self-focused. Hubris also lacks crucial characteristics of narcissism, such as the preoccupation with the own self (symptom 1), the sense of entitlement (symptom 5), and the continuous and excessive pursuit of admiration

(symptom 4) (Chatterjee & Hambrick, 2007). Thirdly, hubris occurs specifically in the context of power whereas narcissism affects individuals independent from their status (Freud, 1914; Kets de Vries, 1990; Mathieu & St-Jean, 2013; Petit & Bollaert, 2012; Picone et al., 2014). Fourthly, both concepts are anchored and developed in distinct psychological research areas. With regard to the main psychological traditions displayed in Figure 3, narcissism is rooted in personality psychology. This area is concerned with the clinical diagnosis of personality disorders, which implies, fifthly, that a convincing “diagnosis” of narcissism can only be achieved by skilled mental health professionals, such as psychologists or psychiatrists (Hiller & Hambrick, 2005; Lubit, 2002). This is considered the reason why many scholars refrain from narcissism and alternatively apply overconfidence as another cognitive bias to mirror hubris.

2.2.2.2. Overconfidence

Overconfidence, generally defined as the overestimation of one’s own capabilities and prospects of success (e.g. Hill, Kern, & White, 2014; Hiller & Hambrick, 2005; Johnson & Fowler, 2011; Langer, 1975; Oskamp, 1965), is another cognitive bias that plays a crucial role in research on hubris. Similar to hubris, inconsistencies on how overconfidence was conceptualized have limited its role in research fields (cf. Moore & Healy, 2008). However, Moore and Healy (2008) made an important contribution towards a uniform conceptualization of overconfidence that has become widely accepted. Based on a systematic review of literature, the authors identified three distinct dimensions of overconfidence. These are the:

- (1) **overestimation** of own abilities, expected performances, level of control and chances of success (e.g. Camerer & Lovallo, 1999; Hayward, Rindova, & Pollock, 2004; Koellinger, Minniti, & Schade, 2007; Robinson & Marino, 2015),
- (2) **overplacement** of own skills as considerably better in comparison to others (e.g. Svenson, 1981; Zenger, 1992), and
- (3) **overprecision**, which refers to excessive certainty in own beliefs (e.g. Busenitz & Barney, 1997; Forbes, 2005; Hayward et al., 2006).

These three dimensions constitute an overarching conceptualization of overconfidence and all existing definitions relate to at least one of them.

A comparison of characteristic aspects associated with overconfidence and hubris indicates various similarities between both cognitive biases. Therefore, they are regularly confounded or

incorrectly assigned equivalence in scientific literature (e.g. Brown & Sarma, 2007; Hayward et al., 2006; Homberg & Osterloh, 2010; Li & Tang, 2010; Malmendier & Tate, 2005; Picone et al., 2014). Nevertheless, a comprehensive delimitation can be achieved based on a deeper analysis of both concepts. Firstly and equally to narcissism (cf. section 2.2.1.1), overconfidence is not exclusively aligned to individuals and collectives that hold a position of power (Petit & Bollaert, 2012). Secondly, overconfidence originates from cognitive and social psychological research traditions (cf. Figure 3) (Gilbert, Fiske, & Lindzey, 1998), which focus on numerous biases that constitute the psychological make-up of every person. Hence, every human being is acknowledged to carry a disposition to overconfidence whereas hubris affects far fewer people (Bollaert & Petit, 2010; Forbes, 2005). Thirdly, both biases describe overconfident behavior but hubris refers to extreme and excessive manifestations that go beyond conventional standards (Forster & Sarasvathy, 2007; Johnson & Fowler, 2011). Specifically, attributions like “exaggerated” and “excessive” as well as cognitive aspects reflecting pride and arrogance are exclusively applied in connection to hubris. Therefore, overconfidence is perceived as a continuum that turns into hubris at its extreme (cf. Figure 4).

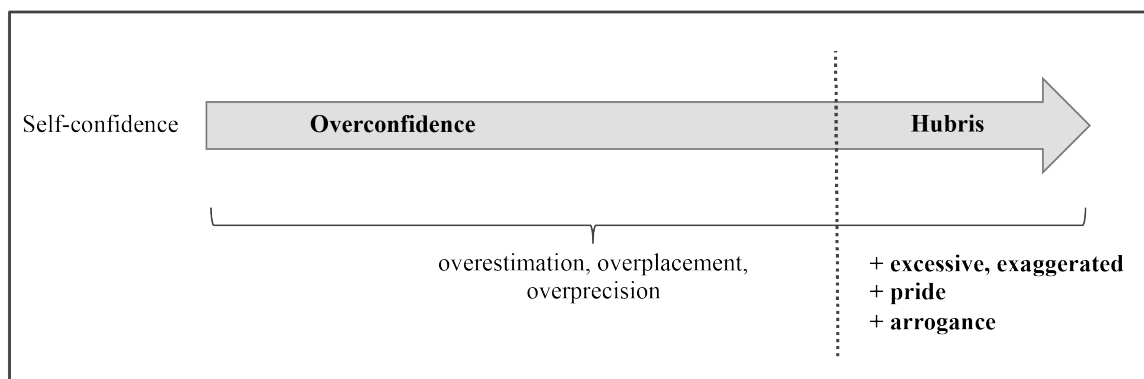


Figure 4: Delimitation between overconfidence and hubris (author's illustration).

2.2.2.3. Optimism

Optimism is another cognitive bias that is sometimes, but comparatively less frequently, associated with hubris (e.g. Li & Tang, 2013; Malmendier & Tate, 2005; Picone et al., 2014). Existing definitions of optimism differ only marginally. The most frequently applied version can be traced back to Scheier and Carver (1985). The authors define optimism as the general attitude of individuals to expect positive outcomes in the future. These positively biased expectations support individuals to approach challenging tasks with enthusiasm. Moreover, the level of optimism usually remains stable regardless of situational and contextual factors (Carver & Scheier, 2003; Hmielecki & Baron, 2009; Schulman, Keith, & Seligman, 1993).

The concepts can be delimited through the direction of their biases. Optimism influences perceptions and beliefs that individuals have about external circumstances whereas hubris, similar to narcissism and overconfidence, affects individual and collective self-assessments (Malmendier & Tate, 2005). Moreover, optimism originates from the research area of positive psychology, which is comparatively young and focuses on the examination of happiness (Carver & Scheier, 2003; Weinstein & Klein, 2002). Therefore, insights on optimism extend and enrich various psychological areas but cannot be explicitly aligned to one of the main psychological traditions in Figure 3.

2.2.3. Implications of Existing Conceptual Imprecisions

The aforementioned weaknesses in the conceptualization of hubris and the imprecise delimitation between (inter)related cognitive biases, such as narcissism, overconfidence, and optimism, have two main implications. Firstly, the lack of a fundamental conceptual basis impedes theory development on the effects of hubris due to the limited comparability of research findings (e.g. Collins, 2009; Forster & Sarasvathy, 2007; Petit & Bollaert, 2012). The often missing or vague conceptualizations in the majority of studies complicate a precise assignment of research findings to a specific cognitive bias. Secondly, these imprecisions imply methodological difficulties as a result that the derivation of a valid and reliable operationalization is hindered. Hence, it impedes the practitioners' ability to apply these concepts in real life scenarios. Until now, literature on hubris has lacked a commonly accepted scale to determine the bias (Bollaert & Petit, 2010; Hiller & Hambrick, 2005). In order to overcome this issue, scholars either rely on cognitive biases that already entail an adequate theoretical and methodological grounding or develop less valid operationalization for hubris (cf. section 4.1.1) (Petit & Bollaert, 2012).

As an attempt to address these issues and to enable theory development on the effects of hubris, the conceptualization applied in this dissertation is based on a thorough review of existing approaches to define hubris (cf. section 2.2.1).

2.3. Effects of Hubris – Existing Evidence and Relevance for Entrepreneurship Research

A review of existing evidence on the effects of hubris indicates that these are examined in a variety of disciplines and research settings. However, hubris is frequently confounded or equated with previously presented cognitive biases (cf. section 2.2.2). Therefore, a systematic approach to review scientific literature according to established procedures²⁰ is hindered. In order to circumvent these obstacles, the following established databases²¹ were scanned for journal articles and books that contain the term “hubris” in their headlines, abstracts, and/or titles²²:

- Ebscohost (N= 268; n= 8),
- Emerald (N= 22; n= 7),
- Jstor (N= 82; n= 18),
- PsycINFO (N= 145; n= 18)
- Scopus (N= 501; n= 21)

Subsequently, the identified publications were manually sorted and selected according to the following criteria: (1) definite published journal articles and books, (2) examination of hubris in a context of interest from a management perspective, and (3)²³ reference to a conceptualization that corresponds to the understanding of hubris in this dissertation (cf. section 2.2.1) and allows a delimitation from related cognitive biases (cf. section 2.2.2). In total, 71 publications met these criteria and were summarized in a spreadsheet. A detailed overview of all identified literature is compiled in Appendix I. With reference to the purpose of this dissertation, the subsequent focus is led to publications dealing with the effects of hubris (n = 35).

2.3.1. Critical Reflections on Existing Evidence

Research disciplines that conceptually and empirically examine hubris and its effects from a management perspective can be categorized into corporate finance (cf. section 2.3.1.1), business and management (cf. section 2.3.1.2), psychology and medicine (cf. section 2.3.1.3),

²⁰ For instance according to vom Brocke et al. (2009).

²¹ Latest access and update in August 2016.

²² N = total number of identified articles, n = number of relevant articles for this dissertation.

²³ It needs to be taken into consideration that a considerable amount of identified publications does not provide an explicit definition of their underlying concept. In these cases, especially in the area of corporate finance (cf. section 2.3.1.1), the assumed understanding of hubris was derived from references made to other publications.

and entrepreneurship (section 2.3.1.4). All identified publications were critically analyzed and discussed in reference to the contribution to their respective field of study, with specific focus on their conceptualization and research approach. At the end of each section, a table summarizes all relevant publications of the respective research discipline.

2.3.1.1. Corporate Finance

As displayed in Table 2, all identified studies on the effects of hubris in corporate finance literature (n= 18) build upon the “hubris hypothesis” that was conceptually developed by Roll (1986). The author focused on M&A and assumed that hubris is an unconsidered explanation for the transfer of disproportionate and **excessive premiums** that result in zero aggregate returns. Specifically, this hypothesis states that hubris leads decision-makers of acquiring firms to **neglect the real market value** of the combined entities and to engage in **value-destroying mergers**. This behavior is triggered by the **hubris driven belief to possess extraordinary capabilities that enable the extraction of considerably higher value** from the combined firms. With this conceptual approach, Roll (1986) was one of the first to open the “black box” (Hambrick, 2007, p. 335) of executive psychology for corporate finance literature (Petit & Bollaert, 2012; Picone et al., 2014). Although the scholar is frequently characterized as the pioneer in the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362)²⁴, his publication is also criticized for not providing any conceptual clarifications regarding the understanding of the term hubris (Bollaert & Petit, 2010; Hayward & Hambrick, 1997). Despite this weakness, Roll’s (1986) research generated considerable interest in hubris in a variety of research disciplines. Therefore, his, and other studies that build upon Rolls’ ideas, are included into the review of relevant literature.

Subsequent studies empirically approved Roll’s hubris hypothesis through the application of standard event study techniques on company and bank acquisitions in the US (e.g. Baradwaj, Dubofsky, & Fraser, 1992; Billett & Qian, 2008; Dubofsky & Fraser, 1989; Ismail, 2005; Mueller & Sirower, 2003), New Zealand (Anderson & Marshall, 2007), and UK (Arnold & Parker, 2009; Hodgkinson & Partington, 2008). Moreover, the case of the failed merger between Volvo and Renault in 1993 was also examined from this perspective. In this context, it is found that hubris triggered the decision-makers at Volvo to considerably overestimate the

²⁴ This attribution only does justice to corporate finance and management literature as a result that there already have been former advances on hubris in the area of psychology (e.g. Fischhoff, Slovic, & Lichtenstein, 1977; Oskamp, 1965).

future performance and benefits of the joint venture (Bruner, 1999). Despite these interesting findings, the majority of the previously cited studies neglect, as Roll (1986) did before, to provide a definition of their core concept. This is especially problematic as their contribution in this field of research may be founded on inconsistent definitions of the concept of hubris (cf. section 2.2.3). Without clarity of the concept it would be scientifically inappropriate to compare and consolidate research findings and in turn develop a constructive and dependable theory.

Hayward and Hambrick (1997) aimed to address these weaknesses as they recognize the potential of the hubris hypothesis to explain yet unconsidered phenomena in management and corporate finance literature. Therefore, the authors were the first to provide a detailed conceptualization of hubris (cf. section 2.2.1). This is frequently adapted in other research disciplines but overall neglected in corporate finance literature. With this systematically derived conceptualization as a basis, the scholars collected a sample of 106 large acquisitions (> \$100 million) and provided additional empirical support for the hubris hypothesis.

Effects of Hubris	Author/s	Definition of Hubris	Research Approach
<p>According to the findings in relation to the “hubris hypothesis²⁵” (cf. Roll, 1986), hubris leads decision-makers of mergers and acquisition projects to:</p> <ul style="list-style-type: none"> neglect the actual market value of the combined firms pay excessive premiums considerably overestimate their capabilities to generate value from the combined firms engage in value destroying mergers 	Roll (1986)	none	Conceptual (Discussions in relation to the relevance and implications of hubris for M&A)
	Dubofsky & Fraser (1989)	none	Quantitative: standard event study techniques (Sample: 39 US bank acquisitions between 1973-1980)
	Baradwaj et al. (1992)	none	Quantitative: standard event study techniques (Sample: 108 US bank acquisitions between 1981-1987)
	Berkovitch & Narayanan (1993)	none	Quantitative: standard event study techniques (Sample: 330 US acquisitions between 1964-1988)
	Hayward & Hambrick (1997)	“exaggerated pride or self-confidence, often resulting in retribution” (p. 106; cited from Webster's Dictionary)	Quantitative: standard event study techniques and content analysis (mixed method) (Sample: 106 large (>\$ 100 million) and publicly traded firms involved in acquisitions in 1989 and 1992)

²⁵ All identified findings on the effects of hubris in corporate finance literature directly refer and contribute to the “hubris hypothesis” developed by Roll (1986).

Bruner (1999)	none	Quantitative: standard event study techniques and field research (mixed method) (Case study: failed merger of Volvo and Renault in 1993)
Mueller & Sirower (2003)	none	Quantitative: standard event study techniques (Sample: 168 US company acquisitions between 1978-1990)
Ismail (2005)	none	Quantitative: standard event study techniques (Sample: 78 US bank acquisitions between 1987-1999)
Anderson & Marshall (2007)	none	Quantitative: standard event study techniques (Sample: 119 New Zealand company acquisitions between 1983-1992)
Berger et al. (2007)	none	Quantitative: standard event study techniques (Sample: > 18000 US bank acquisitions between 1982-2000)
Mueller & Yurtoglu (2007)	none	Quantitative: standard event study techniques (Sample: 9733 worldwide company acquisitions in the 1980s and 1990s)
Billett & Qian (2008)	none	Quantitative: standard event study techniques (Sample: 2213 US company acquisitions between 1980- 2002)

Hodgkinson & Partington (2008)	"Those cases where managers pay for synergy where none at all exists we call pure hubris" (p. 102)	Quantitative: standard event study techniques (Sample: 199 successful UK company acquisitions between 1984-1998)
Kiyamaz & Baker (2008)	none	Quantitative: standard event study techniques (Sample: 1664 large public US company acquisitions between 1989-2003)
Lin et al. (2008)	none	Quantitative: standard event study techniques (Sample: 4582 Japanese merger attempts between 1989-2003)
Aktas, Bodt, & Roll (2009)	none	Conceptual (Discussions on the relevance and implications of hubris for M&A)
Arnold & Parker (2009)	none	Quantitative: standard event study techniques (Sample: 63 UK company mergers between 1989-2003)
Nguyen et al. (2012)	none	Quantitative: standard event study techniques (Sample: 3520 US domestic acquisitions between 1984-2004)
Jansen et al. (2015)	none	Quantitative: standard event study techniques (Sample: 2982 US public company acquisitions between 1980-2008)

Table 2: Overview of existing publications on effects of hubris in corporate finance literature (author's illustration).

2.3.1.2. Business and Management

Existing scholarly publications in business and management literature provide more heterogeneous perspectives²⁶ on the effects of hubris (cf. Table 3) compared to the aforementioned findings in corporate finance literature (cf. section 2.3.1.1). In particular the diversity of research approaches and applied methodologies contributes to a broader understanding of hubris on the level of individual CEOs (e.g. Li & Tang, 2010; McManus, 2016; Tang, Li et al., 2015), executive collectives such as top management teams (hereafter TMTs), and boards of directors (e.g. Brady & Davies, 2010; Chowdhury, 2014; Mishina, Dykes, Block, & Pollock, 2010). Moreover, a first approach adapted a longitudinal perspective on the effects of hubris (Lawrence, Pazzaglia, & Sonpar, 2011). Nevertheless, the identified publications in business and management literature (n= 12) also need to be critically reflected with regard to their theoretical contributions as discussed in the following.

Roll (1986) together with Hayward and Hambrick (1997) (cf. section 2.3.1.1) inspired the first studies in this area. Building on the main assumptions of their predecessors, Kroll, Toombs, and Wright (2000) compared the hubris of contemporary business executives to the behaviors of Napoleon. Similar to the first emperor of the French, individual executives were found to rely on **simplistic strategies to achieve success**. This simplicity is reflected in the retrospective focus on strategies that have proven their worth in the past. The scholars concluded that hubristic CEOs **fail to face changing realities** as they do not take current internal and external circumstances for strategic questions into consideration. Although, the scholars provide novel findings, their operationalization of hubris remains unclear. Therefore, it is not possible to assess the objectivity of their study nor to reproduce their findings.

In order to overcome these methodological weaknesses, Hiller and Hambrick (2005) were the first who discussed the assessment of core-self evaluations²⁷ (hereafter CSE) as a suitable measure²⁸ to determine hubris in business and management literature (cf. section 4.1.1.2). In this context, several hypotheses were conceptually derived that illustrate how the hubris of individual CEOs triggers whole organizations to **engage in “[...] naïve, even foolish behaviors”**

²⁶ This diversity is influenced through the traditional greater pluralism with regard to applied theories and concepts in these research disciplines (cf. Steinmann & Scherer, 1997).

²⁷ “A core self-evaluation (CSE) is a deeply sourced dispositional trait that defines how we evaluate ourselves and our relationship with the environment” (Hiller & Hambrick, 2005, p. 299).

²⁸ The first empirical study that applied CSE as a measure to determine hubris was conducted by Solveig Bier, Prof. Martin Gersch and myself. It was published and presented at the “Multikonferenz Wirtschaftsinformatik” in 2016 (MKWI 2016) (cf. page III [3]).

(Hiller & Hambrick, 2005, p. 313). For instance, it was proposed that the perception of hubristic CEOs to already possess all relevant information that is necessary to properly evaluate strategic alternatives disseminates within the subordinated company. Therefore, strategic **decision-making processes in their organizations deviate from average industry tendencies** as they are **less comprehensive, faster and highly centralized**. Additionally, organizations managed by hubristic CEOs are thought to be **strategically persistent**. As a result, decisions are implemented without taking possible adaptations into consideration. These hypotheses build upon a profound conceptual basis and provide promising research opportunities for subsequent research.

Li and Tang (2010) found empirical support for these hypotheses as they determined a positive relationship between the hubris of individual CEOs and the **risk taking** of whole organizations. Their findings are the result of a quantitative survey on 2,790 CEOs of manufacturing firms in China. Since the scholars explicitly state their conceptualization and operationalization of hubris, their study is considered to be transparent and reproducible. Mishina et al. (2010) followed a similar methodological approach and conducted a survey on 194 US manufacturers that were operating between 1990 and 1999. Their findings indicated that hubristic TMTs are more likely to **engage in corporate illegality**, which refers to illegal acts such as violating environmental regulations (McKendall, DeMarr, & Jones-Rikkers, 2002; Szwajkowski, 1985). Hubris is found to positively influence the perception of TMTs to **be able to outsmart regulatory authorities** and to **avoid the detection of their illegal activities**. Despite these interesting insights, the authors' theoretical contribution to literature is impeded as they do not disclose their conceptual understanding of hubris.

Brady and Davies (2010) sort to determine the effects of hubris in the case study of the mega infrastructure project "Heathrow's Terminal 5". The terminal was completed in 2008 and titled "21st Century gateway to Britain" (BBC News, 2008) by the Queen. Although, the mega project was on time and budget after 19 years of construction, the opening day of the terminal turned into a national disaster. Approximately 70 flights had to be cancelled, passengers were unable to check-in their luggage and more than 1000 baggage items were lost. The authors identified that the board of directors, which was responsible for the project management of the terminal, were driven by hubris. As a consequence, the members of the board heavily focused on the completion of the terminal within the planned budget and time frame. Their **expectations to perfectly** meet these objectives resulted in **poor decision-making**. This was reflected not only in the **neglect of actual circumstances** but also in the disregard of **internal and external**

concerns about the state of operational readiness that were raised by a diversity of experts. These findings could have contributed meaningfully to theory development on the effects of hubris. However, the scholars did not provide a definition nor an operationalization of the underlying concept of hubris. This hinders the comparability and reproducibility of their research findings.

In contrast, a comprehensible conceptualization can be found in the first longitudinal study in this field as conducted by Lawrence, Pazzaglia, and Sonpar (2011). The authors examined the case of the peripheral Anglo Irish Bank that “[...] triggered a shift away from traditionally conservative and risk-averse banking values towards aggressive values of entrepreneurial risk taking [...] thereby exposing the bank excessively to one sector, and leading to substantial increases in lending over time” (p. 401). In the analysis, with a focus on the TMT of the peripheral bank, the authors determined that hubris led the team to imprudently **increase the pace to adopt the innovative banking approach**, which implied short-term gains. However, it also implied severe disadvantages, such as the economic crisis, in the long term. The generalizability of these findings require further investigations given the authors did not clearly define their applied measure to determine hubris.

Another interesting case study was examined by Chowdhury (2014), who traced the history of competition between General Motors (hereafter GM) and Toyota. The overall aim of his research project was to determine the effects of hubris on path dependencies. In this regard, his findings indicated that hubris triggered the resistance within the TMT of GM to consider strategic changes between 1908 and 2010. Instead, it led to **strategic path dependencies**. In contrast, the hubristic TMT of Toyota **left established paths** with the overall aim to beat GM and to achieve market leadership. Whereas GM “[...] hung on to the Number 1 position longer than any other automaker [...]” (Chowdhury, 2014, p. 127), Toyota was only able to sustain its market leadership for two years. Although the case study of Chowdhury (2014) yields interesting findings with regard to the effects of hubris on path dependencies, its theoretical implications remain unclear. Future research is required to determine boundary conditions that illuminate in which cases hubris leads executives to maintain or leave established paths.

A different perspective is taken by Haynes, Hitt, and Campbell (2015). The scholars conceptually derived various propositions that discussed the **misuse of human**, and the **erosion of**

social capital²⁹ as potential effects of hubris. Specifically, the authors assumed that hubristic CEOs are likely to keep rewards to themselves, which in turn leads to dissatisfaction among their employees. In addition, they tend to rely on a fragile structure of social capital as they often only receive required resources from actors with a lower risk perception. This negative perception on the effects of hubris contrasts the empirical findings of Tang, Li, and Yang (2015), who determined a positive relationship between hubris on the level of individual CEOs and **firm innovation**. These empirical outcomes were the result of a quantitative survey of 2820 Chinese CEOs in manufacturing industries and 3825 US public firms in high-tech industries. Noticeably, the authors were the first to provide empirical support for existing conceptual contributions that discuss potential positive effects of hubris in literature (e.g. Bollaert & Petit, 2010; Forster & Sarasvathy, 2007; Petit & Bollaert, 2012; Picone et al., 2014).

Despite these outcomes, subsequent studies again focused exclusively on the negative effects of hubris and neglected the opportunity to determine positive impacts of hubris. For instance, Tang et al. (2015) conducted another survey on 397 US companies and 464 US CEOs. On this basis, the scholars proved that hubris leads individual CEOs to **corporate social irresponsible activities**, which are for instance manifested in exploitative labor practices in developing economies. In a similar context, hubris is also found to trigger **financial misreporting** (Cormier et al., 2016), the **manipulation of firm earnings**, as well as **amoral and subjective decision-making processes** (McManus, 2016).

All of the previously summarized contributions are extended by findings in psychology, medicine, and entrepreneurship literature as discussed in the following.

²⁹ Social capital is defined according to Lin (2001) as “resources embedded in social networks accessed and used by actors” (Haynes, Hitt, & Campbell, 2015, p. 481).

Effects of Hubris	Author/s	Definition of Hubris	Research Approach
<p>Executive hubris on the level of an individual CEO leads to:</p> <ul style="list-style-type: none"> reliance on simplistic formulas for success failure to face changing realities 	Kroll et al. (2000)	Definition adapted from Hayward and Hambrick (1997) ³⁰ : “exaggerated pride, self-confidence, or arrogance, frequently resulting in retribution” (p. 117)	<p>Qualitative: case studies</p> <p>(Cases: Napoleons march from Moscow, contemporary CEOs)</p>
<p>Executive hubris on the level of an individual CEO leads the directed organization to:</p> <ul style="list-style-type: none"> engage in naive and foolish behavior pursue less comprehensive, faster and centralized strategic decision-making processes that deviate from central industry tendencies strategic persistency with decisions made by the CEO 	Hiller & Hambrick (2005)	Reference to Hayward and Hambrick (1997) ²⁶ : “exaggerated self-confidence or pride (often with the connotation that retribution will follow)” (p. 306)	<p>Conceptual</p> <p>(Derivation of hypotheses)</p>
<p>Executive hubris leads boards of directors to:</p> <ul style="list-style-type: none"> neglect internal and external circumstances and concerns poor decision-making expect perfection 	Brady & Davies (2010)	none	<p>Qualitative: case study</p> <p>(Case: project management of Heathrow Terminal 5)</p>

³⁰ See Table 2.

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Executive hubris on the level of an individual CEO is positively related to:	Li & Tang (2010)	Reference to Hayward and Hambrick (1997) ³¹ : “exaggerated self-confidence or pride” (p. 45)	Quantitative: survey (Sample: 2790 CEOs of manufacturing firms in China)
<ul style="list-style-type: none"> firm risk taking 			
Executive hubris increases the likelihood that top management teams:			
<ul style="list-style-type: none"> engage in corporate illegality believe that they can outsmart regulatory authorities believe that they can avoid the detection of their illegal activities 	Mishina et al. (2010)	none	Quantitative: survey (Sample: 194 US manufactures between 1990-1999)
Executive hubris leads TMTs to:			
<ul style="list-style-type: none"> increase the pace of adoption of innovations (short-term gains, detrimental in the long term) 	Lawrence et al. (2011)	Reference to Hayward and Hambrick (1997) ³¹ : “exaggerated self-confidence or pride” (p. 414)	Qualitative: case study (Case: Anglo Irish Bank)
Executive hubris within a TMT:			
<ul style="list-style-type: none"> facilitates path dependencies promotes a departure from established paths 	Chowdhury (2014)	Reference to Greek mythology: “hubris combines pride with arrogance” (p. 128)	Qualitative: case study (Cases: General Motors and Toyota)

³¹ See Table 2.

Executive hubris leads individual CEOs to:			
<ul style="list-style-type: none"> a misuse of human capital and an erosion of social capital necessary for financial success 	Haynes et al. (2015)	Reference to Hayward and Hambrick ³² (1997) ³² : “exaggerated pride, self-confidence, or arrogance, frequently resulting in retribution” (p. 480)	Conceptual (Derivation of propositions)
Executive hubris on the level of an individual CEO is positively related to:			
<ul style="list-style-type: none"> firm innovation 	Tang, Li, & Yang (2015)	Definition adapted from Hayward and Hambrick (1997) ³² : “extreme self-confidence” (p. 1699)	Quantitative: survey (Sample: 2820 Chinese CEOs in manufacturing industries and 3825 US public firms in high-tech industries)
Executive hubris on the level of an individual CEO is positively related to:			
<ul style="list-style-type: none"> corporate social irresponsible activities 	Tang et al. (2015)	Definition adapted from Hayward and Hambrick (1997) ³² : “extreme self-confidence and pride” (p. X)	Quantitative: survey (Sample: 397 US companies and 464 US CEOs)
Executive hubris on the level of an individual CEO is positively related to:			
<ul style="list-style-type: none"> financial misreporting 	Cormier et al. (2016)	Reference to Petit and Bollaert (2012) ³³ : “hubristic CEOs have a grandiose sense of self. They overestimate their abilities, power and likelihood of success” (p. 529)	Qualitative: case study (Cases: 16 Canadian firms formally accused of financial reporting; 16 firms matched on industry and size with no evidence of financial misreporting)

³² See Table 2.³³ See Table 3.

Executive hubris increases the likelihood that individual CEOs:			
<ul style="list-style-type: none">• manipulate firms earnings• possess a limited moral awareness• pursue an amoral decision-making process• apply a flawed subjective assessment of the decision they face	McManus (2016)	Reference to Hayward and Hambrick (1997) ³⁴ and Webster’s Dictionary: “exaggerated self-confidence or pride” (p. 4)	Quantitative: survey (Sample: 142 US companies)

Table 3: Overview of existing publications on effects of hubris in business and management literature (author’s illustration).

³⁴ See Table 2.

2.3.1.3. Psychology and Medicine

In the 1970s, publications in the area of psychology and medicine introduced hubris as a cognitive bias into research (e.g. Fischhoff, Slovic, & Lichtenstein, 1977; Lichtenstein & Fischhoff, 1977). Nevertheless, only a handful of publications were identified that focused on the examination of its effects in these disciplines (cf. Table 4). The lack of a formal approval for hubris as a personality disorder may have contributed to the only moderate research interest. Therefore, there are no established psychological or pathological measures that support its determination. Only recent approaches by Lord David Owen intended to approve the “hubris syndrome” as a personality disorder³⁵ (Owen, 2006, 2007, 2008a, 2008b; Owen & Davidson, 2009). For this purpose, the scholar published several scientific articles and books in which he analyzed hubristic behaviors and actions taken by influential politicians, such as George W. Bush, Tony Blair, Margaret Thatcher, and Chairman Mao. For instance, the speech of George W. Bush in 2003, in which he announced the imminent victory of the US in the Iraq war while insufficiently planned attacks of the Americans failed in the meantime, is considered as an exemplary act of hubris. The analysis of these cases indicated that hubris leads influential leaders **to not seek external advice** and to **neglect recommendations that are given**. Moreover, the **inattention to details**, **poor judgments**, and **impulsivity** were identified as additional effects of hubris (Owen, 2006; Owen & Davidson, 2009).

Subsequent publications in these research disciplines did not directly examine further effects of hubris but interpersonal reactions on expressions of hubris (e.g. Hoorens, Pandelaere, Oldersma, & Sedikides, 2012; van Damme, Hoorens, & Sedikides, 2015). In various experimental approaches, it was found that the expression of hubristic beliefs and behaviors is perceived to imply a negative view on others. Therefore, it results in **undesirable interpersonal consequences**. However, the transferability and comparability of these research findings are impeded as a result that these studies lack a comprehensive definition of their core concept.

³⁵ These approaches remain mainly unconsidered in literature of psychology and medicine (Russell, 2011).

Effects of Hubris	Author/s	Definition of Hubris	Research Approach
<p>Hubris leads powerful leaders (to):</p> <ul style="list-style-type: none"> not to seek external advice neglect given external advice be inattentive with regard to details incompetent and poor judgement impulsivity 	<p>Owen (2006)</p> <hr/> <p>Owen & Davidson (2009)</p>	<p>“Hubris denotes over confidence, exaggerated pride. It can be associated with a lack of knowledge or interest in history, also with shaming or contempt of others.” (p. 548)</p> <hr/> <p>Definition adapted from Owen (2006): “exaggerated pride, overwhelming self-confidence and contempt for others” (p. 1396)</p>	<p>Qualitative: case studies</p> <p>(Cases: politicians, such as George W Bush, Margaret Thatcher, Tony Blair, Chairman Mao, Adolf Hitler etc.)</p>
<p>The expression of hubris leads to:</p> <ul style="list-style-type: none"> undesirable interpersonal consequences 	<p>Hoorens et al. (2012)</p> <hr/> <p>van Damme et al. (2015)</p>	<p>none</p>	<p>Qualitative: experiments</p> <p>(Sample: 98 students)</p>

Table 4: Overview of existing publications on effects of hubris in psychology and medicine literature (author’s illustration).

2.3.1.4. Entrepreneurship

In entrepreneurship literature, only three publications were identified that examine effects of hubris in the context of newly founded ventures (cf. Table 5)³⁶. Ranft and O'Neill (2001) conducted the first study in this area. They followed an empirical approach to determine how hubris affects the reaction of “high-flying” founders on imitation. Their findings indicate that hubris leads to behavioral inertia, which implies that **imitators are discounted as inferior**. As a consequence, it was concluded that hubristic founders are less likely to implement countermeasures in order to avoid negative implications from the imitation of their products and services. The authors applied a quantitative approach of matched pair design to derive their findings but the operationalization of hubris remains unclear. Hence, it is neither possible to reproduce their study nor to evaluate its objectivity.

Subsequent publications in this area derived theory-informed propositions on the effects of hubris. According to the conceptual discussions of Forster and Sarasvathy (2007), hubristic entrepreneurs are **more likely to start new ventures** as they are highly confident in their abilities to successfully establish a startup. Besides, it was proposed that hubristic founders have a long-term goal orientation and tend to **apply causal decision-making logics** as they are not questioning their once defined objectives. In contrast, Haynes, Hitt, and Campbell (2015) provided a more critical view and suggested that hubris leads founders to **underestimate necessary human and social capital** that would be necessary to achieve financial success.

All three identified publications provided a comprehensible definition of hubris that builds upon existing approaches from other research disciplines (e.g. Hayward & Hambrick, 1997; Kroll et al., 2000). Therefore, a greater comparability of research findings was possible. These are extended by empirical evidence in this dissertation as discussed in the following.

³⁶ The informed reader might wonder why the frequently cited “hubris theory of entrepreneurship” by Hayward, Shepherd, and Griffin (2006) was not included into the overview of studies on effects of hubris in entrepreneurship literature. Based on the detailed discussion of conceptual differences between hubris and overconfidence (cf. section 2.2.2.2), the title “hubris theory of entrepreneurship” is considered to be misleading. The definition of their core concept together with the frequent use of the term “overconfidence” indicates that the authors focus on overconfidence instead of hubris.

Effects of Hubris	Author/s	Definition of Hubris	Research Approach
<p>Hubris leads founders to:</p> <ul style="list-style-type: none"> discount imitators as inferior 	Ranft & O'Neill (2001)	Reference to Kroll, Toombs, and Wright (2000) ³⁷ , who adapted the definition of Hayward and Hambrick (1997) ³⁸ : "exaggerated pride, self-confidence, or arrogance" (p. 2001)	Quantitative: matched pair design (Sample: 91 firms with founder-CEOs and 91 firms with non-founder CEOs)
<p>Hubris leads to a:</p> <ul style="list-style-type: none"> higher likeliness to start new ventures casual decision-making logic 	Forster & Sarasvathy (2007)	"Entrepreneurs who are overconfident both in their predictions as well as in assessments of their own abilities to deliver on the predictions" (p. 16)	Conceptual (Derivation of propositions)
<p>Hubris leads founders to:</p> <ul style="list-style-type: none"> underestimate the necessary human and social capital to achieve financial success 	Haynes et al. (2015)	Reference to Hayward and Hambrick (1997) ³⁷ : "exaggerated pride, self-confidence, or arrogance, frequently resulting in retribution" (p. 480)	Conceptual (Derivation of propositions)

Table 5: Overview of existing publications on effects of hubris in entrepreneurship literature (author's illustration).

³⁷ See Table 3.

³⁸ See Table 2.

2.3.2. Implications for Entrepreneurship Research

The previous discussions about relevant literature indicate a large amount of academic evidence for the effects of hubris on the level of powerful political leaders (e.g. Owen, 2006; Owen & Davidson, 2009), individual executives, and TMTs in established organizations (e.g. Chowdhury, 2014; Hayward & Hambrick, 1997; Kroll et al., 2000). In comparison, the state of theory development in entrepreneurship literature can still be considered nascent as a result of insufficient empirical evidence and conceptual contributions to this subject (cf. Edmondson & McManus, 2007). This research gap is surprising given the occurrence of cognitive biases, such as hubris, is more likely in the context of newly founded ventures compared to established organizations (Busenitz & Barney, 1997; Forster & Sarasvathy, 2007; Hayward et al., 2006; Tversky & Kahneman, 1974). Therefore it is important to develop a comprehensive theoretical framework that allows the generation of additional knowledge on effects of hubris in order to determine if entrepreneurship research supports or contrasts the outcomes found in existing evidence (cf. section 2.3.2.1). Based on these considerations, the addressed research gap and purposes of this dissertation are specified (cf. section 2.3.2.2).

2.3.2.1. New Insights and Transferability of Existing Knowledge

The identified lack of comprehensive evidence on the effects of hubris in entrepreneurship literature has several implications for this dissertation. Firstly, the theoretical and practical relevance to address this research gap needs to be determined. In this context, previously identified conceptual discussions and observations of successful founders, such as Steve Jobs, Mark Zuckerberg, and Michael Dell (e.g. Hayward, 2007; Picone et al., 2014), already indicate that the effects of hubris are a relevant phenomenon in the context of newly founded ventures. This statement is empirically supported by first evidence in entrepreneurship literature (Ranft & O'Neill, 2001) and by several expert interviews that were conducted with startup consultants, coaches, and investors during the initial data collection process of this dissertation (cf. section 4.3.1.2). Secondly, the necessity to a) generate additional empirical findings on the effects of hubris in connection to new venture founders and b) examine the transferability of existing findings to entrepreneurship scenarios can be determined based on the knowledge of cognitive differences between startup founders and managers. In more detail, crucial findings from strategic management literature suggest that founders have a substantially greater susceptibility to cognitive biases, such as hubris, compared to managers (e.g. Baron, 1998; Busenitz & Barney, 1997; Gartner, Bird, & Starr, 1992; Zahra, 1993). One explanation for this can be found in the

dynamics of the environments in which newly founded ventures operate. These are characterized by conditions of rapid change, uncertainty, limited resources, time pressure, and information overload (Haynes et al., 2015). Startup founders do not only perceive such circumstances as stressful and exhaustive but also require “cognitive shortcuts” to support their decision-making processes. This is a result of decisions being made with incomplete contextual information and time restrictions. In this context, biases, such as hubris, are interpreted as shortcuts that enable founders to advance their decisions and to maintain project viability in spite of these conditions (Forster & Sarasvathy, 2007; Hayward et al., 2006; Tversky & Kahneman, 1974). Furthermore, there is a self-selection process as only a certain type of people are attracted to launch a venture themselves and to operate in such uncertain environments. It was found that startup founders, in contrast to managers, exhibit less rationality and fewer formal procedures in their decision-making processes as they are driven by impulsivity and instinct (Busenitz & Barney, 1997; Forbes, 2005). Summarized, all of this knowledge suggests that existing findings in connection to hubristic managers may not only be transferable but even extendable in connection to new venture founders. This assumption is supported as newly founded ventures often lack formalized governance structures. Although startup founders are required to report their (updated) business planning to investors, partners, or other stakeholder groups, there is a lack of binding formal reporting procedures they have to adhere to. As a consequence, the absence of such formal structures is likely to trigger effects of hubris that might not occur in established organizations (Haynes et al., 2015). In more detail, it is assumed that controlling authorities, such as supervisory boards, colleagues, seniors etc., moderate the impact of hubristic beliefs and behaviors expressed by managers (e.g. Abdelzaher, 2012; Homberg & Osterloh, 2010; Kets de Vries, 1990). Hence, additional and yet unconsidered effects of hubris are expected to be determined on the level of new ventures founders.

2.3.2.2. Qualification of Research Gap and Purposes

As hubris does not only occur on an individual but also on a collective level, such as within TMTs and board of directors (e.g. Bruner, 1999; Chowdhury, 2014; Hermanns, 2012; Kroll et al., 2000), both perspectives entail interesting opportunities for entrepreneurship literature. However, it is perceived to be essential to first determine the impact of individual hubristic founders on startup performance and competitiveness. Related outcomes provide the basis to examine the effects of hubris on a collective level of founding teams, referred to as organizational hubris (Hermanns, 2012), at a later date. A research project focusing on organizational hubris within a founding team would require an analysis of the impact of individual founders

on the shared hubris among all team members. Therefore, the focus of this dissertation is led on individual startup founders. Therewith, it provides a promising basis for future research opportunities (cf. section 7.3).

Previous studies examined the diverse effects of hubris but each only depicted a fraction of reality. Picone, Dagnino, and Minà (2014) criticized that an organized appraisal of its effects is missing as existing publications tended to focus on “[...] some trees and miss the whole forest” (p. 448). As a consequence, there is a gap with regard to a comprehensive framework that allows a systematic determination of hubris and its effects. In comparison, all existing publications have in common that they concordantly address tasks or functions that executives perform in order to ensure the performance and competitiveness of their departments and organizations. This common basis is used to derive a conceptual framework that illustrates the effects of individual hubris on core entrepreneurial functions (e.g. Freiling, 2008; Reckenfelderbäumer, 2013; Schoppe, 1995) (cf. section 2.4).

In doing so, it is necessary to adapt an impartial perspective in connection to hubris and its effects (cf. section 2.2.1). The majority of scholars are still “[...] caught in a negative–negative paradigm in which they seek to identify pathological psychological characteristics in top executives and link them to poor performance effects or other disastrous consequences” (Bollaert & Petit, 2010, p. 363). Hence, the determination of the positive effects resulting from hubris constitutes another interesting research gap that is worth to be addressed (e.g. Bollaert & Petit, 2010; Forster & Sarasvathy, 2007; Petit & Bollaert, 2012; Picone et al., 2014). Summarized, the purpose of this dissertation is the impartial examination of the effects resulting from hubris on core entrepreneurial functions performed by individual startup founders. Relevant functions are derived in the following.

2.4. Effects of Hubris on the Performance of Core Entrepreneurial Functions

The first thoughts on the role of the entrepreneur in economic theory can be traced back to Cantillon (1755) who discussed risk-taking and the management of uncertainties as the two core functions of every entrepreneur³⁹ (Freiling & Großmann, 2015; Landström, 2007). However, the contributions of Cantillon (1755) have not received much attention by other scholars during the 19th century. Instead, the entrepreneur remained a “[...] shadowy entity

³⁹ Notably, Cantillon (1755) excludes landowners and common workmen from his idea of an entrepreneur.

without clearly defined form and function“ (Baumol, 1968, p. 64) in the descriptions of classical economists. Their simplified assumptions, such as perfect competition, market equilibrium, and perfect information, did not leave room to consider specialized individuals that perform certain functions (Boutillier & Uzunidis, 2014). Only from the early 20th century onwards did the figure of the entrepreneur “re-enter” economic theory (Landström & Lohrke, 2010; Rocha, 2012). Since then, numerous streams of research⁴⁰ contributed to the determination of crucial functions that entrepreneurs execute in order to ensure the performance and competitiveness of their organizations (e.g. Freiling, 2008, 2009; Reckenfelderbäumer, 2013; Schoppe, 1995). In reference to Winnie-the-Pooh, Kilby (1971) reflected that the figure of the entrepreneur became a “heffalump” in the 20th century, which refers to a:

“[...] rather large and important animal. He has been hunted by many individuals using various trapping devices, but no one so far has succeeded in capturing him. All who claim to have caught sight of him report that he is enormous, but disagree on his particulars” (cited by Landström (2007, p. 7)).

With this comparison, Kilby (1971) described the considerable variety of perspectives on differing static and dynamic entrepreneurial functions that evolved during the 20th century (cf. Freiling, 2006; Hébert & Link, 1988). Static functions attribute a passive role to the entrepreneur, who is perceived to be merely involved in the provision of capital and ownership of property (Freiling, 2006; Landström & Lohrke, 2010). However, static perspectives do not apply to startup founders, who are usually equipped with limited (financial) resources and who face complex managerial challenges to establish their ventures (Freiling & Großmann, 2015; Schoppe, 1995). Therefore, static functions have been excluded from the following discussions. In contrast, dynamic functions acknowledge the active role of startup founders, who continuously interact with their ventures and environments (Freiling, 2006). For this reason, the focus of this dissertation is led on dynamic entrepreneurial functions.

In an effort to systematize all dynamic entrepreneurial functions, Hébert and Link (1988) identified three influential Schools of Thought (cf. Freiling, 2008):

⁴⁰ Detailed overviews of existing scholarly contributions on entrepreneurial functions are provided by Hébert and Link (1988, pp. 73–81) as well as Freiling (2006, pp. 82–84).

- the **Chicago School** with a focus on the management of uncertainties (e.g. Knight, 1921)
- the **German Historical School** that focused on the initiation and implementation of innovations (e.g. Schumpeter, 1934)
- the **Austrian School** with a focus on the generation of arbitrage profits (e.g. Kirzner, 1978; Mises, 1949)

These three Schools do not only differ in terms of the main function that they attribute to the entrepreneur but also in relation to their theoretical assumptions regarding the conditions under which these functions are performed. In order to provide an understanding of the differences and similarities among these Schools, the underlying economic premise for each one is presented (cf. section 2.4.1). Following this, the differing perspectives on the core functions of the entrepreneur are aggregated within a conceptual framework that is introduced to structure the empirical analysis in this dissertation (cf. section 2.4.2). On the basis of this framework, existing scholarly findings on the effects of hubris are interpreted from the perspective of the derived entrepreneurial functions (cf. section 2.4.3).

2.4.1. Entrepreneurial Functions in Different Schools of Thought

The works of Knight (1921), Schumpeter (1934) and Kirzner (1978) are considered as the most influential contributions on core functions of the entrepreneur (e.g. Freiling, 2009; Hébert & Link, 1988; Rocha, 2012). Beside the differences in the function each of the scholars attribute to the entrepreneur, their conformance to distinct Schools of Thought implies discrepancies in their underlying theoretical assumptions (cf. Table 6). In this regard, it is important to recognize that these Schools are not static unities but rather the results of evolution over time through the contributions of different generations of scientists. Therefore, the descriptions in Table 6 may not always be representative for an entire School but for the aforementioned scholars and their colleagues at the time their cited works on entrepreneurial functions were published.

	Schools of Thoughts		
	Chicago	German	Austrian
Entrepreneurial functions	Management of uncertainties	Initiation and implementation of innovations	Generation of arbitrage profits
Scholar(s)	e.g. Knight (1921)	e.g. Schumpeter (1934)	e.g. Mises (1949) and Kirzner (1978)
Model of decision-making	Homo economicus, utility-maximizing	Not specified, rational ⁴¹	Homo agens, bounded rational
Knowledge	Partial knowledge	Unstated (subject to interpretation ⁴²)	Imperfect and asymmetrically distributed knowledge
Economic agents perform their entrepreneurial functions under	Risk (quantifiable probabilities) and uncertainty (non-quantifiable probabilities)	Uncertainty	Radical uncertainty

Table 6: Theoretical assumptions in different Schools of Thought (author's illustration).

In the following, the contributions of the Chicago (cf. section 2.4.1.1), German Historical (cf. section 2.4.1.2), and Austrian School of Thought (cf. section 2.4.1.3) towards a better understanding of core entrepreneurial functions are described.

2.4.1.1. Chicago School

The Chicago School⁴³ of Economic Thought is an influential research program that was formed at the economics department of the University of Chicago⁴⁴ at the beginning of the 20th century. The precursors of the modern Chicago School⁴⁵ (which is mainly associated with Milton Friedman and Georg Stigler) are Frank Knight, Jacob Viner, and Henry Calvert Simons. The

⁴¹ Schumpeter stated that “[...] as a theorist I am naturally very interested in this problem (of rationality) which I have never been able to handle to my satisfaction” (Schumpeter & Swedberg, 1991, p. 69). In his work “On the meaning of rationality in the social sciences” he made an important distinction between the “rationality of the observer” and the “rationality of the observed” (Schumpeter, 1984).

⁴² See Seidl (2012, p. 200) for a discussion of the vague assumptions of Schumpeter with regard to the knowledge the entrepreneur possesses.

⁴³ Although crucial contributions in the Chicago School of Economic Thought can be traced back to the 1920s, the term “Chicago School” was first used and coined in the 1950s (Emmett, 2009).

⁴⁴ The department was already launched in 1892 but the first approaches towards an independent School of Thought were made in the interwar period between 1920 and 1930 (Miller, 1962).

⁴⁵ See Miller (1962) for a detailed description of the general development as well as similarities and differences between the “early/old” (e.g. Knight, Viner, Simons) and “modern” (e.g. Friedman and Stigler) Chicago School.

core of the School built the defense of conservative economics and capitalism⁴⁶, the interpretation of economics as applied policy science, and the promotion of laissez-faire (Emmett, 2009). Nevertheless, the Chicago School cannot be considered as monolithic since there are considerable variations in the general tendency and perceptions of the scholars involved in the research program. A common basis built the advocacy of a private enterprise and individualistic market economy with little government intervention (Miller, 1962). Moreover, neoclassical economic (price) theories were emphasized. This led to the Chicago School often being referred to as the Neoclassical School of Thought. However, there were great discrepancies between the scholars on how they thought markets function. In his early works⁴⁷, Knight (1921) proposed ideal markets in full equilibrium and without entry barriers, whereas Simons (1948) argued that ideal markets do not exist. Furthermore, the early Chicago School of Thought focused on criticizing monopolies and unions, while modern approaches focused on attacking government interventions (Emmett, 2009, 2010; Miller, 1962).

Despite these discrepancies, the Chicago School of Thought made important contributions towards the understanding of the role of the entrepreneur in market places. Especially, Frank Knight is cited to have “[...] succeeded in infusing him (the entrepreneur) with life and assigning to him a specific area of activity to any extent commensurate with his acknowledged importance” (Baumol, 1968, p. 64). In his highly recognized work “Risk, Uncertainty and Profit⁴⁸” (hereafter RUP), Knight (1921) described the entrepreneur as the owner of a company⁴⁹, who is responsible to cope with risks and uncertainties.

The differentiation between risk and uncertainty⁵⁰ is considered one of his most crucial contributions (Emmett, 2009). Specifically, Knight (1921) characterized risk and uncertainty to occur in situations in which the outcomes of an event or decision are unknown. In contrast, however, risk is associated with situations in which the entrepreneur is able to quantify the

⁴⁶ See Block (2011) for a critical appraisal on Henry Calvert Simons’ view on capitalism.

⁴⁷ Knight’s view on the functioning of markets changed over the time and he increasingly refused to apply a model of a market equilibrium in later stages of his career. Specifically, he came to the conclusion that “[...] uncertainty would not only create a moving equilibrium, but would alter the institutional structure that equilibrium theorizing takes as given” (Emmett, 2009, p. 83).

⁴⁸ The book builds upon his PhD thesis, which was finalized at the Cornell University in 1916 (Miller, 1962).

⁴⁹ In contrast to Schumpeter (cf. section 2.4.1.2), Knight equated the entrepreneur with the owner of a firm. Specifically, he argued that all decision within companies are made by persons that were appointed by the entrepreneur (Emmett, 2009).

⁵⁰ See Brooke (2010) for an overview of existing interpretations of the actual meaning of the differentiation.

probability of an outcome and to insure his decision. An exemplary situation of risk is the probability of a house burning down. Based on historical data, it is possible to calculate the probability of this event together with expected losses (cf. Brooke, 2010). In situations of uncertainty, also referred to as Knightian uncertainty, the distribution of probabilities is unknown and not quantifiable. Hence, entrepreneurs can only rely on subjective estimations of future outcomes as a basis for their decisions. According to Knight (1921), the distinction between risk and uncertainty is a crucial determinant to explain profit and competition. In a static economy, as assumed by Knight (1921), “[...] only under uncertainty, rather than risk, can it be possible for entrepreneurs to supersede the normal returns associated with equilibrium in competitive markets” (Miller, 2007, p. 58).

In order to function in uncertain conditions, the entrepreneur was supposed to be able to transform uncertainties into calculable risks. Moreover, the entrepreneur was modeled as an entirely rational acting economic agent that strive to maximize utility (*homo economicus*⁵¹, cf. Table 6):

“We assume that the members of the society act with complete "rationality." By this we do not mean that they are to be "as angels, knowing good from evil"; we assume ordinary human motives [...]; but they are supposed to "know what they want" and to seek it "intelligently." Their behavior, [...] all their acts take place in response to real, conscious, and stable and consistent motives, dispositions, or desires; nothing is capricious or experimental, everything deliberate. They are supposed to know absolutely the consequences of their acts when they are performed, and to perform them in the light of the consequences” (Knight, 1921, pp. II.III. 40).

Furthermore, entrepreneurs were assumed to rely on partial knowledge:

⁵¹ Often translated as “economic man” and usually equipped with the following characteristics: “(1) maximizing (optimizing) behavior; (2) the cognitive ability to exercise rational choice; and (3) individualistic behavior and independent tastes and preference” (Doucouliagos, 1994, p. 877).

“We live only by knowing something about the future; while the problems of life, or of conduct at least, arise from the fact that we know so little. This is as true of business as of other spheres of activity. The essence of the situation is action according to opinion, of greater or less foundation and value, neither entire ignorance nor complete and perfect information, but partial knowledge” (Knight, 1921, pp. III.VII. 5).

Summarized, Knight (1921) attributed the management of uncertainties as a crucial function to the entrepreneur. However, his thoughts expressed in RUP were criticized to lack an explanation for the incentives that drive entrepreneurial actions. Therefore, Knight (1942) revised his initial thoughts over the following decades. Later, he emphasized, in line with Schumpeter⁵² (cf. section 2.4.1.2), the introduction and adaptation of innovation to be a crucial entrepreneurial function that is of greater relevance compared to the ability to cope with risks and uncertainties (Brooke, 2010). Specifically, Knight (1942) acknowledged in his later works that entrepreneurs are better incentivized by the performance of the innovation function as it enables them to act as monopolists and to actively generate profits. The contributions of Schumpeter in this regard are described in the following.

2.4.1.2. German Historical School

The German Historical School considerably influenced economic thought in Germany, Britain and the US⁵³ between the 19th and early 20th century (Hébert & Link, 1988). Main contributors were, among others, Wilhelm Roscher, Karl Knies, Max Weber, Gustav von Schmöller, and Joseph A. Schumpeter⁵⁴ (Leyden & Link, 2015). The majority of these scholars were social policy advocates and involved in the initiation of reforms that enhanced the situations of common man during industrialization. Moreover, scholars of the Historical School shared the opinion that “[...] a thorough analysis and complete understanding of historical data were prerequisites for proper development of any economic theory” (Hébert & Link, 1988, p. 74). Following this principle, Schmöller (1913) analyzed a large extent of historical data, in order

⁵² The work of Schumpeter is not explicitly cited by Knight (Brooke, 2010).

⁵³ As a result of the strong intellectual influence of Prussia at that time, a considerable number of British and American economists got trained in Germany (Te Velde, 2004).

⁵⁴ There is still an ongoing debate with regard to the affiliation of Joseph A. Schumpeter (Tieben & Keizer, 1997). In fact, he was trained in the Austrian School but throughout his scientific career in Austria, Germany, and the US, he got involved in and influenced by different Schools of Thought. However, in relation to his perception of the crucial function of an entrepreneur, Hébert and Link (1988) identify crucial philosophical elements in Schumpeters’ assumptions that affiliate him with the German Historical School.

to gain an understanding of behavioral aspects in human and economic matters. On this basis, the scholar was one of the firsts who emphasized the central role of the entrepreneur as an initiator of innovation. This view of the entrepreneur was continued and developed further by the following generations of scholars in the German Historical School (cf. Hébert & Link, 1988).

Schumpeter, in particular, made important contributions by focusing his examinations on the activities of individual entrepreneurs as the initiators of technological and economic change (Te Velde, 2004). He supposed that (neo-)classical economic theories fell short of explaining changes in market environments because they merely focused on the analysis of equilibrium states without paying closer attention to the processes between two equilibria. In addressing this shortcoming, Schumpeter (1934) built upon the classical theory of economic equilibrium in order to complement his own dynamic model of economic development. His model consists of two spheres as displayed in Figure 5.

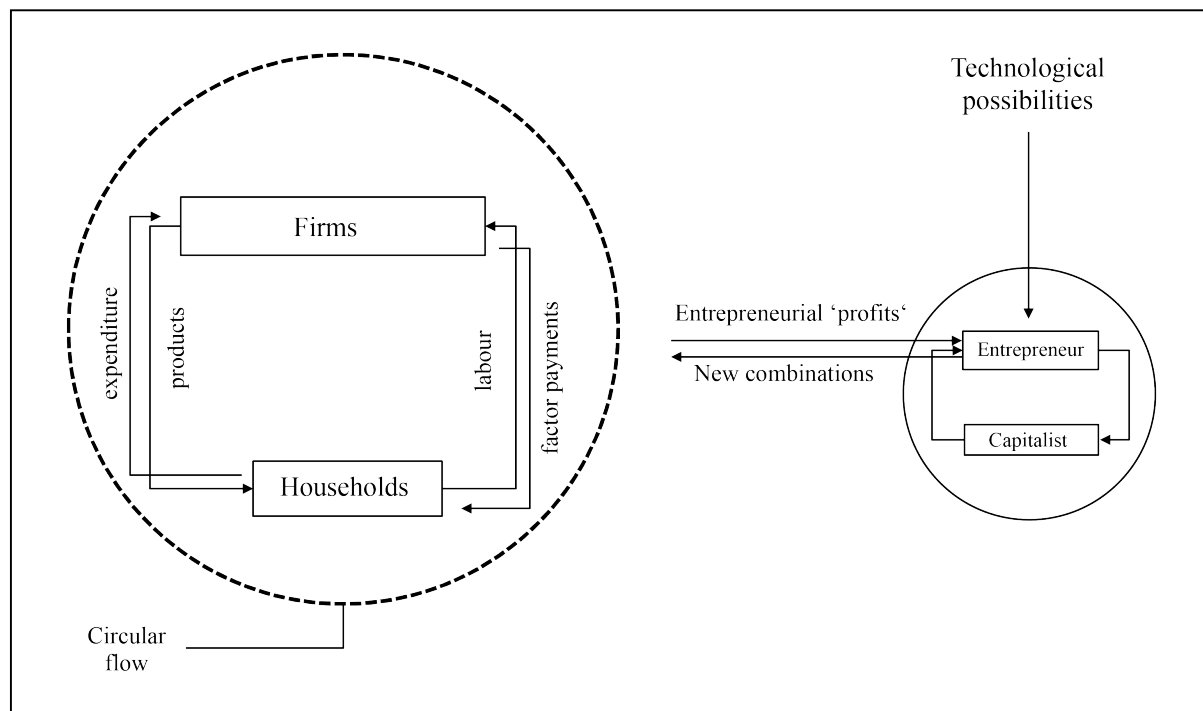


Figure 5: Schumpeter's model of economic development (Te Velde, 2004, p. 68).

The sphere on the left-hand side of the Figure depicts a self-perpetuating equilibrium that results from a “circular flow”. It refers to a:

“[...] stream that is fed from the continually flowing springs of labor-power and land, and flows in every economic period into the reservoir which we call income, in order to be transformed into the satisfaction of wants” (Schumpeter, 1934, p. 46).

This circular flow is repetitive and involves corresponding supplies and demands in a perfectly competitive and stationary economy. Consequently, there is no need to perform certain functions and the figure of the entrepreneur does not exist in this sphere. According to Schumpeter, however, such a static theory is not suitable to depict modern capitalist economies (Bertocco, 2007; Hébert & Link, 1988). Instead, processes of economic development are only triggered by carrying out “new combinations” of already existing components, such as products, production methods, markets, sources of supply, or organizational forms (right hand side of the Figure). The introduction of these innovations provides crucial impulses and has the potential to disrupt the aforementioned circular flow as these initiate dynamics and changes in a static economy. This process is referred to as “creative destruction” since it revolutionizes “[...] the economic structure from within, incessantly destroying the old one, incessantly creating a new one” (Schumpeter, 1976, p. 82). As soon as the introduced innovations are adapted and established within the circular flow, the entrepreneurial activity starts all over again. All these innovation activities are financed through credits provided by the capitalistic banking system (Te Velde, 2004). This view contrasts the ideas of Knight (1921) as not the entrepreneur but the banking institutions are considered as the bearers of risk (cf. section 2.4.1.1).

Schumpeter (1934) also differs in comparison to Knight (1921) in that he is less specific about underlying assumptions of human action, decision-making processes and the knowledge distribution among entrepreneurs (cf. Table 6). His work leaves considerable room for interpretation (cf. Schumpeter & Swedberg, 1991), although he proposed that the assumed behavior of the economic agents in both spheres differs:

“While in the accustomed circular flow every individual can act promptly and rationally because he is sure of his ground and is supported by his conduct ... he cannot simply do this when he is confronted with a new task ... While he swims with the stream in the circular flow which is familiar to him, he swims against the stream if he wished to change its channel. What was formerly a help becomes a hindrance. What was a familiar

datum becomes an unknown. Where the boundaries of routine stop, many people can go no further and the rest can only do so in a highly variable manner” (Schumpeter, 1934, p. 80).

Summarized, the entrepreneur, as described by Schumpeter (1934), is perceived as the key figure and vehicle of economic development, which is achieved through the introduction of innovations that disturb an equilibrium and results in new routines (Rocha, 2012; Te Velde, 2004). Nevertheless, it has to be taken into consideration that Schumpeter’s view of the entrepreneur changed in his later works, which were influenced by different American Schools. Specifically, he put less emphasis on the individual entrepreneur, who exogenously introduces changes into existing systems. Instead, he focused on the endogenous integration of innovation within large and established organizations (Ebner, 2006; Santarelli & Pesciarelli, 1990). Nevertheless, some of his earlier assumptions were adapted by scholars in the Austrian School as described in the following subchapter.

2.4.1.3. Austrian School

The Austrian School of Thought⁵⁵ emerged in the 1870s through the publication of “Principles of Economics⁵⁶” by Menger (1871). In this book, the founder of the Austrian School developed a theory of marginal utility and emphasized the subjective nature of economic values, which became one of the main pillars of the School. With his approach, the scholar criticized classical political economics as well as the German Historical School (cf. section 2.4.1.2) for their inability to properly understand human decision-making processes (Tieben & Keizer, 1997). Specifically, he argued that neither the collection of historical data nor the application of mathematical models could be considered as an appropriate methodology to examine subjective choices of individuals (Hébert & Link, 1988). Instead, Menger (1871) and his colleagues, such as Eugen Böhm von Bawerk and Friedrich von Wieser, emphasized the relevance of subjective perspectives as a basis for theory development in economics. This Austrian School view implied that individuals were assumed to trigger economic changes and development. This perception is manifested through the underlying assumption⁵⁷ of “methodological individualism”,

⁵⁵ The term was coined by Gustav von Schmöller in his response to the harsh criticism of Karl Menger with regard to the methodological approaches applied in the German Historical School (cf. section 2.4.1.2).

⁵⁶ His books is considered as one of the main pillars of the “marginalist revolution” (Hébert & Link, 1988).

⁵⁷ The Austrian School cannot be considered as monolithic but the assumption of methodological individualism was shared across the whole School by the majority of scholars involved (Tieben & Keizer, 1997).

which refers to individual economic actors, instead of whole organizations, to take decisions and learn from their outcomes (cf. section 3.1.1). Nevertheless, the role of the entrepreneur was not considered in more detail by the aforementioned pioneers of the Austrian School. Instead, the figure of the entrepreneur remained “[...] in the background orchestrating production [...]” (Hébert & Link, 1988, p. 58).

Only from the late 1940s onwards, these initial ideas were taken up by the NAE. In particular, Mises (1949) and his student Kirzner (1978) made important contributions towards a more detailed understanding of the actual function of the entrepreneur. In doing so, both scholars built upon the influential ideas of Knight (1921) and Schumpeter (1934) (cf. section 2.4.1.1 and 2.4.1.2). For instance, Mises (1949) proposed, in accordance with Schumpeter (1934), that a rigid model of an “evenly rotating economy” (cf. circular flow in Figure 5) with perfect price stability fails to explain human action. Specifically, he argued that:

“such a system is not peopled with living men making choices and liable to error; it is a world of soulless unthinking automatons; it is not a human society, it is an ant hill” (Mises, 1949, p. 249).

In order to overcome this shortcoming in the equilibrium model, Mises (1949) introduced human action as a trigger of dynamic economic processes. In contrast to Schumpeter (1934), however, the scholar perceived existing economic actors within a market place, such as customers and suppliers, as the driving forces behind changes that lead to a disequilibrium and not the entrepreneur. In particular, varying customer demands were assumed to entail changes that force other economic actors within the market place to adjust their products, services, production methods etc. Hence, in Mises’ model it is human action that influences the future state of the economy, which is unpredictable and cannot be foreseen by the entrepreneur. In accordance with Cantillon (1755) and Knight (1921), Mises (1949) emphasized that:

“[...] success or failure depends on the correctness of his (*the entrepreneurs*)’ anticipation of uncertain events. If he fails in his understanding of things to come, he is doomed. The only sources from which an entrepreneur’s profit stem is his ability to anticipate better than other people the future demand of customers” (p. 290).

Kirzner (1978) developed these thoughts further and ascribed the entrepreneur “[...] to achieve the kind of adjustment necessary to move economic markets toward the equilibrium state” (Hébert & Link, 1988, p. 95). Such adjustments can be achieved through the identification of

arbitrage opportunities, earlier than other actors within the market place. For this purpose, Kirzner (1978) and Mises (1949) perceived the entrepreneur to be equipped with a constant alertness, which “(...) refers to an attitude of receptiveness or preparedness to recognize existing, overlooked opportunities (...)” (Rocha, 2012, p. 8). His alertness enables the entrepreneur to identify such opportunities and exploit price differences. However, the performance of this function is subject to several obstacles as the NAE assumed that entrepreneurs act under radical uncertainties, which implies that their decision can only be derived based on incomplete information (cf. Table 6).

In contrast to Schumpeter (1934), the NAE did not perceive entrepreneurs as the initiators of changes that disrupt the market place. Instead, they were assumed to exploit changes triggered by human action in order to “re-establish” the market equilibrium (Rocha, 2012). Another difference is that the NAE developed and explicitly applied the “homo agens” as their underlying model of human decision-making behavior (cf. Mises, 1949). Hence, beside their alertness and willingness to act, entrepreneurs were perceived by both scholars to be bounded in their rationality as a result of limitations in their knowledge, time, and “computational capacities” (Gigerenzer, 2002, p. 37) (cf. section 3.1.1).

Summarized, Mises (1949) and Kirzner (1978) attributed the identification and exploitation of profit opportunities through the performance of the arbitrage function as the crucial role to the entrepreneur. Nevertheless, their work was also criticized for the lack of an explicit distinction between the generation of arbitrage profits and the bearing of uncertainties (Hébert & Link, 1988). This shortcoming is addressed in the following through the careful aggregation of the aforementioned perspectives on core entrepreneurial functions. On this basis, crucial functions are categorized and a conceptual framework for the empirical analyses of this dissertation is developed.

2.4.2. Aggregation of Functions and Development of Framework

All of the aforementioned perspectives on core entrepreneurial functions can be subdivided into mono-, meta-, and multifunctional approaches (Freiling, 2006; Freiling & Großmann, 2015). Mono-functional approaches, as exemplified by the arbitrage function (Kirzner, 1978; Mises, 1949), focus on the performance of a single entrepreneurial task that alone is perceived to determine venture success. Similarly, meta-functional approaches, such as the innovation function (Schumpeter, 1934), also include a core entrepreneurial task that is supported by several sub-functions. However, both approaches are considered to be insufficient for the purpose of this

dissertation as they do not reflect the complexity of tasks and challenges in the dynamic environments of startup companies (Freiling, 2008).

In order to provide a more coherent perspective, Schneider (1987) suggested a promising multi-functional approach. The author was the first to develop an integrated set of three interrelated and hierarchical entrepreneurial functions whose combined execution influences firm competitiveness⁵⁸ (Freiling, 2008, 2009). According to Schneider (1987), the assimilation of other persons' risk of income is the core tasks of an entrepreneur, which is supported by the execution of two additional functions. These entail the generation of arbitrage profits and the efficient coordination of internal value-adding processes. From the perspective of newly founded ventures, however, the insurance of income for other people as a core entrepreneurial function is considered to be a weakness of this approach for two reasons. Firstly, startups that are launched and run by a single founder, who must not assimilate the risk of income for another person, are not taken into account. This is especially problematic given the focus of this dissertation is led on individual startup founders (cf. section 2.3.2.2). Secondly, the performance of innovation activities, as a proven trigger for startup emergence and renewal (cf. Schumpeter, 1934), is disregarded (Freiling, 2006; Freiling, 2008). Therefore, the multifunctional approach of Schneider (1987) generally provides a promising basis for the following examinations but an adaptation is considered necessary to suit the purposes of this dissertation.

Building on the approach of Schneider, Freiling (2009) developed an extended multi-functional framework of four mutually exclusive entrepreneurial functions. This framework entails the influential perspectives on core functions within the aforementioned Schools of Thought (cf. section 2.4.1). In addition, the contributions of Casson (1982), who emphasized the coordination of value-adding processes, are also considered as an additional and crucial entrepreneurial function that is well researched but has not been covered by these Schools. Entrepreneurs perform all of these functions⁵⁹ in order to accumulate power in competitive environments, to achieve a favorable market position, and to withstand menacing forces (Freiling, 2008).

⁵⁸ Notably, Schneider (1987) did not exclusively focus on functions performed by startup founders but also by entrepreneurs and executives in established organizations throughout all life-cycle phases.

⁵⁹ Originally, this perspective includes startup founders and executives in established organizations likewise (Freiling & Lütke Schelhowe, 2014).

Overall, the framework of Freiling (2009) entails several advantages. For instance, it is based on the main assumptions and reasoning of market process theory (cf. section 3.1), which provides a coherent and homogenous theoretical grounding (Freiling, 2008, 2009; Gersch, Freiling, & Goeke, 2005). It also covers all entrepreneurial challenges in highly dynamic environments and it consists of four concrete entrepreneurial functions that are less abstract compared to the approach of Schneider (1987).

As displayed in Figure 6, the execution of the innovation function is acknowledged in the framework as the origin of all entrepreneurial activities as it triggers startup emergence and renewal. The obtained innovation potentials are internally and externally exploited through the performance of the internal coordination and arbitrage function. Eventually, the emerging startup needs to be protected through the performance of the risk management function (Freiling, 2009). Taken together, all of these functions are interrelated and “continuously neglecting some or only one function will most likely lead to shrinking competitiveness and finally, to bankruptcy” (Freiling & Lütke Schelhowe, 2014, p. 173). This implies that the framework does not only allow the determination of the direct effects of hubris on these four entrepreneurial functions but also indirect effects on venture performance and competitiveness.

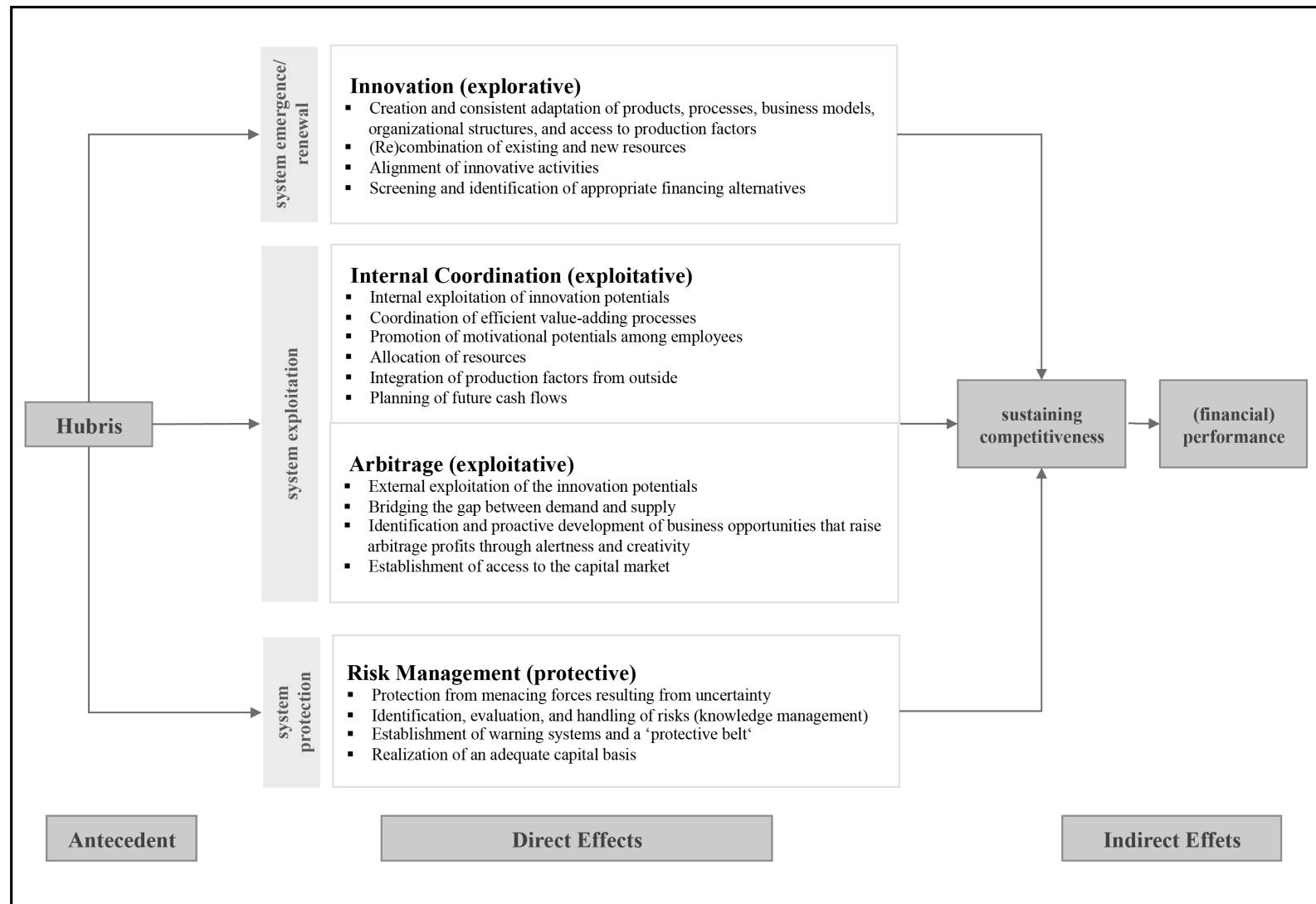


Figure 6: Conceptual framework (adapted from Freiling, 2008, p. 16)).

The performance of the **innovation function** in the context of newly founded ventures includes the creation and consistent adaptation of products, processes, business models, organizational structures, and access to production factors, among others (Freiling, 2008, 2009; Schumpeter, 1934). Therefore, it is the prerequisite for the emergence of startup companies and it enables its constant renewal in later stages of the venture creation and establishment processes (Freiling & Lütke Schelhowe, 2014). All of these activities depend on the identification of commercial potentials that are addressed through the (re-)combination of new and existing resources (Schumpeter, 1934). The deliberate alignment of all kinds of innovative activities within startups builds the basis upon which abnormal profits raise, processes of creative destruction are triggered (cf. section 2.4.1.2), and benefits from first mover advantages can be realized (Freiling, 2008, 2009). From a financial perspective, the execution of the innovation function is also related to all kinds of activities that involve the screening and identification of appropriate financing alternatives (Krikken, 2010).

To maximize the previously identified innovation potentials, startup founders must enable their internal and external exploitation (Freiling, 2008). The former is achieved through the execution of the **internal coordination function**⁶⁰, which includes all tasks related to the coordination of efficient value-adding processes and the promotion of motivational potentials among employees (Casson, 1982; Freiling, 2009; Freiling & Lütke Schelhowe, 2014). Besides this, the allocation of resources, the integration of production factors from outside, and the planning of future cash flows are also integral parts of the internal coordination function (Freiling, 2008; Krikken, 2010). However, the internal exploitation of innovation potentials can only be achieved by motivated employees that unfold their creativity and remain in the venture. Therefore, startup founders must foster values and cultural elements that trigger the creativity and sense of belonging among their employees (Freiling, 2009; Freiling & Lütke Schelhowe, 2014). In contrast to established organizations, management processes in newly founded ventures are usually highly personalized and connected to the founders, who considerably influence the internal coordination. Despite the size and agility of startup companies, planning processes are indispensable but usually less formalized compared to larger organizations (Freiling & Großmann, 2015).

⁶⁰ Notably, the understanding of the coordination function as applied in this dissertation follows the approach of Freiling (2008). The author builds upon the initial thoughts of Casson (1982) but focuses exclusively on internal coordination processes. Hence, external coordination tasks, such the management of transactions, is considered to be part of the arbitrage function.

The external exploitation of the innovation potentials is subject to the execution of the **arbitrage function**, which is also referred to as the market-making function (Freiling, 2009). It involves a variety of tasks to bridge the gap between demand and supply through the identification and proactive development of business opportunities that provide options to commercialize previously created innovation potentials (Freiling & Großmann, 2015; Kirzner, 1978; Lachmann, 1984). For this purpose, startup founders accumulate relevant market knowledge in order to determine promising opportunities and to raise arbitrage profits earlier than their competitors (Freiling & Lütke Schelhowe, 2014, Kirzner, 1978). Such profits emerge through the distribution of homogenous products or services with different prices on either distinct markets or within a certain period of time (Haid, 2004; Schneider, 1997). However, their exploitation depends on the alertness and creativity of startup founders since existing innovation potentials might be of value in distinct markets that first need to be identified and properly evaluated (Freiling, 2008). Furthermore, the execution of the arbitrage function also involves fostering relationships with investors in order to establish access to capital markets (Krikken, 2010).

Another important task is the protection of the startup from menacing forces resulting from uncertainty. This is an integral part of the **risk management function** (cf. Knight, 1921). The execution of this function involves the identification, evaluation, and handling of risks that could potentially hamper the performance and development of newly founded ventures (Freiling & Großmann, 2015; Haid, 2004). Additionally, startup founders have to properly assess emerging risks in order to decide whether they are handled or delegated. For this purpose, startup founders should emphasize knowledge management and establish warning systems that equip their companies with a “protective belt” (Freiling, 2008, p. 14). These systems support founders to identify even weak signals of potentially threatening internal and external developments (Freiling & Großmann, 2015). Nevertheless, not all risk potentials are recognizable and predicable in uncertain environments (Knight, 1921). Therefore, menacing forces that occur unexpectedly require ad-hoc management (Freiling, 2008). Additionally, the execution of the risk management function also involves securing a capital basis that corresponds to the characteristics of the business model and growth phase of the startup (Krikken, 2010). However, founders only possess limited (financial) resources and hence, their possibilities to execute the risk management functions as previously stated are restricted (Freiling, 2008; Freiling & Großmann, 2015).

In the following, existing evidence on the effects of hubris is interpreted from the perspective of these four entrepreneurial functions.

2.4.3. Interpretation of Existing Evidence

Although, existing evidence on effects of hubris does not explicitly refer to entrepreneurial functions in the sense introduced before, it is possible to interpret scholarly findings from this perspective. In the following, previously identified effects are aggregated and related to respectively affected entrepreneurial functions (cf. Table 7). Notably, an unambiguous categorization within a single function is not always possible. Therefore, some findings are interpreted from different perspectives as indicated in the right-hand side column of the table. Since most findings were determined on the level of hubristic executives in established organizations, it is additionally discussed whether similar effects of hubris are likely to occur on the level of new venture founders and, which implications these would have on the performance and competitiveness of their startups.

With regard to the execution of the innovation function, conceptual considerations directly retrieved from entrepreneurship literature already indicate that hubris is a **facilitator of startup emergence**. Hubristic founders are perceived to start new ventures despite high failure rates as a result of their conviction to perform better than others (Forster & Sarasvathy, 2007). Therefore, **positive effects on firm renewal**, which were determined for hubristic CEOs in established organizations (Chowdhury, 2014; Lawrence et al., 2011; Tang, Li et al., 2015), are also conceivable to occur in the context of newly founded ventures. The ability to transfer this finding across operational scenarios would imply that hubristic founders consistently tend to engage in innovation activities that affect various parts of their business models. Whether these renewals have positive or negative implications for startup performance and competitiveness depends on the exploitation of these innovation potentials through the execution of the internal coordination and arbitrage function.

With regard to the internal coordination function, there are several findings that can be directly related to its execution. For instance, evidence from corporate finance literature indicates that hubristic executives **overestimate their own capabilities** (e.g. Hayward & Hambrick, 1997; Roll, 1986). Similar discussions in entrepreneurship literature propose that overestimations of their own capabilities are not only beneficial but even essential for startup founders as they would otherwise be easily discouraged by high venture failure rates and lack the necessary motivation to launch their own ventures (Forster & Sarasvathy, 2007; Hayward et al., 2006).

For this reason, it is expected that an overestimation of capabilities also affects the internal coordination function of hubristic startup founders. In this context, it is also suggested that such overestimations, driven by hubris, are positively related to the **underestimation and misallocation of resources** (Haynes et al., 2015). Empirical evidence is required to validate these propositions and to assess the implications for startup performance and competitiveness. These may have a negative consequence if crucial resources, which are necessary to successfully implement a business model and to establish a company, are mismanaged. Additional effects that can be interpreted from the perspective of the internal coordination function are **interpersonal consequences** resulting from the expression of hubristic beliefs and behaviors, yet merely determined in psychological experiments (Hoorens et al., 2012; van Damme et al., 2015). Hubristic startup founders who tend to express their grandiose sense they have of themselves are also likely to experience interpersonal or social reactions from their team members or employees. The outcomes of the conducted experiments determined that these are often negative. However, it is also conceivable that the general attitude of hubristic startup founders, e.g. their overestimation of capabilities, spreads among team members. This could imply (temporary) increases in the motivation and productivity.

The positive relationship between hubris and **firm risk taking** on the level of CEOs in established organizations (Li & Tang, 2010) is one finding that could affect the risk management function. For instance, hubristic executives are found to be less likely to properly reflect risk potentials in the market and to establish security measures. In comparison, startup founders are generally characterized as risk takers since they operate in highly uncertain environments (e.g. Busenitz & Barney, 1997; Forster & Sarasvathy, 2007). Therefore, the transfer of this finding between established organizations and startups is likely and would imply that hubris further strengthens the risk taking propensity of startup founders, which possibly results in excessive or extreme forms of risk taking without reflecting the consequences.

Furthermore, there is existing evidence that can be interpreted from the perspective of several entrepreneurial functions as less specific effects of hubris were determined. For instance, aggregated outcomes from management and entrepreneurship literature suggest that hubris leads to **decision-making processes that indicate persistency** (Chowdhury, 2014; Forster & Sarasvathy, 2007; Hiller & Hambrick, 2005). Since conceptual discussions propose that startup founders do not question their once envisioned objectives (Forster & Sarasvathy, 2007), it is assumed that this finding could equally affect the internal as well as external exploitation of innovation potentials. Following this argument, startup founders might tend to maintain their

once developed commercialization strategies (arbitrage function) and value-added processes (internal coordination function) without taking possible adaptations into consideration. Especially the linear implementation of unadjusted commercialization strategies could be related to the hubris driven **neglect of external market conditions** that possibly affects the arbitrage function and is already determined for executives in established organizations (e.g. Kroll et al., 2000; Roll, 1986). However, this finding could also be interpreted from the perspective of the risk management function performed in the context of newly founded ventures. Hubristic startups founders who neglect external market conditions are less likely to identify menacing forces, such as upcoming competition or changing circumstances in the market. This could imply that the effects of hubris on the execution of the risk management function endanger startup performance and competitiveness.

Three aggregate findings, none of them from entrepreneurship literature, are conceivable to affect all four identified entrepreneurial functions. Firstly, the hubris driven **neglect of (given) internal and external advice** (Brady & Davies, 2010; Owen, 2006; Owen & Davidson, 2009) could be equally related to:

- the realization of innovation potentials (innovation function)
- the establishment of value-added processes (internal coordination function)
- the implementation of commercialization strategies (arbitrage function)
- the development of mechanisms to protect a venture (risk management function)

Since hubristic startup founders are considered to focus on their originally defined objectives (Forster & Sarasvathy, 2007), it is likely that they also tend to neglect advice that does not comply with their own goals. This behavior might imply rather negative outcomes for venture performance and competitiveness as especially founders with limited experiences might benefit from knowledgeable advices and feedback of external parties.

Secondly, the **promotion of amorality and corporate illegal activities** (Cormier et al., 2016; McManus, 2016; Mishina et al., 2010; Tang, Qian et al., 2015), as another effect of hubris, could affect all functions and manifest itself in (exemplary):

- the infringement of property rights (innovation function)
- the exploitation of employees or the use of inferior production factors (internal coordination function)
- the application of competition-distorting commercialization strategies (arbitrage function)
- illegal activities that endanger the reputation and performance of ventures (risk management function)

Generally, it is conceivable that all of these effects could also be applied to startup founders who aim to establish their ventures by all means without being afraid of legal consequences. However, such ventures are less likely to become operational as the illegal activities might negatively affect their insecure reputation.

Thirdly, it is determined that hubris leads to **decision-making processes that deviate from conventional (industry) standards** (e.g. Brady & Davies, 2010; Hiller & Hambrick, 2005; McManus, 2016). Interpreted from the perspective of the entrepreneurial functions, this could lead to (exemplary):

- the pursuit of unusual innovation activities or the introduction of unexpected products and services (innovation function)
- the establishment of value-added processes and commercialization strategies that are not aligned to common industry standards (internal coordination and arbitrage function)
- the negligence to develop any protection mechanism (risk management function)

As previously stated in reference to Steve Jobs, Mark Zuckerberg, and Elon Musk (cf. section 2.1), hubristic startup founders tend to leave established paths and to have the courage to solve existing problems with highly novel approaches. Therefore, it is likely that similar findings can also be determined on the level of hubristic founders. However, deviations from conventional (industry) standards could also imply negative consequences for venture performance and competitiveness. For instance, hubristic founders with highly novel approaches might face difficulties to enter the market and to convince their target group to embrace their products and services.

Effects (Hubris leads (to) ...)		Author/s	Research Discipline	Entrepreneurial Function
Aggregation	Specification (cf. Table 2 – 5)			
facilitation of firm innovation (renewal) and venture creation	increase the pace of adoption of innovations	Lawrence, Pazzaglia, & Sonpar (2011)	Business and Management	Innovation
	promotes a departure from established paths	Chowdhury (2014)		
	firm innovation	Tang, Li, & Yang (2015)		
	higher likelihood to start new ventures	Forster & Sarasvathy (2007)	Entrepreneurship	
overestimation of capabilities	considerably overestimate capabilities to generate value from the combined firms	Roll (1986) ⁶¹	Corporate Finance	
	engage in value-destroying mergers			
misallocation of existing and underestimation of necessary resources	misuse of human capital and an erosion of social capital necessary for financial success.	Haynes et al. (2015)	Business and Management	Internal Coordination
	underestimate the necessary human and social capital to achieve financial success		Entrepreneurship	
interpersonal consequences	undesirable interpersonal consequences	Hoorens et al. (2012), van Damme et al. (2015)	Psychology and Medicine	
risk-taking	firm risk-taking	Li & Tang (2010)	Business and Management	Risk Management

⁶¹ Exemplary for all identified publications in corporate finance literature that contribute to the “hubris hypothesis” (cf. section 2.3.1.1).

decision-making processes that indicate persistency	strategic persistency with decisions made by the CEO	Hiller & Hambrick (2005)	Business and Management	Internal Coordination/ Arbitrage
	facilitates path dependencies	Chowdhury (2014)		
	casual decision-making logic	Forster & Sarasvathy (2007)	Entrepreneurship	
neglect of external market conditions	neglect the actual market value of the combined firms	Roll (1986) ⁴⁰	Corporate Finance	Arbitrage/ Risk Management
	failure to face changing external realities	Kroll et al. (2000)	Business and Management	
neglect of (given) internal and external advice	neglect internal and external circumstances and concerns	Brady & Davies (2010)	Business and Management	
	not to seek external advice	Owen (2006), Owen & Davidson (2009)	Psychology and Medicine	
	neglect given external advice			
promotion of amorality and corporate illegal activities	engage in corporate illegality	Mishina et al. (2010)	Business and Management	Innovation / Internal Coordination/ Arbitrage/ Risk Management
	believe that they can outsmart regulatory authorities			
	believe that they can avoid the detection of their illegal activities			
	corporate social irresponsible activities	Tang, Qian, Chen, & Shen (2015)		
	financial misreporting	Cormier et al. (2016)		
	manipulate firms earnings	McManus (2016)		
	pursue an amoral decision-making process			
	possess a limited moral awareness			

decision-making processes that deviate from conventional standards	pay excessive premiums	Roll (1986) ⁶²	Corporate Finance
	reliance on simplistic formulas for success	Kroll et al. (2000)	
	pursue less comprehensive, faster and centralized strategic decision-making processes that deviate from “central industry tendencies”	Hiller & Hambrick (2005)	Business and Management
	engage in naive and foolish behavior		
	poor decision-making	Brady & Davies (2010)	
	apply a flawed subjective assessment of the decision they face	McManus (2016)	
	incompetent and poor judgement	Owen (2006), Owen & Davidson (2009)	Psychology and Medicine
expectation of perfectionism, impulsivity, and inattention to details	expect perfection	Brady & Davies (2010)	Business and Management
	impulsivity	Owen (2006), Owen & Davidson (2009)	Psychology and Medicine
	be inattentive with regard to details		

Table 7: Interpretation of existing evidence on the effects of hubris from the perspective of core entrepreneurial functions (author’s illustration).

⁶² Exemplary for all publications that were identified in corporate finance literature and contribute to the “hubris hypothesis” (cf. section 2.3.1.1).

2.5. Interim Conclusion and Specification of the Research Question

The thoughts and illustrations within the previous sub-chapters indicate that hubris is a multi-faceted phenomenon of considerable practical and scholarly interest (cf. section 2.1). However, its application and examinations are heavily biased given its origin and actual meaning are often not reflected in literature (cf. section 2.2.1). Therefore, hubris is often imprudently perceived as an undesirable cognitive bias that should be avoided as it would hamper company performance or result in negative interpersonal consequences (e.g. Forster & Sarasvathy, 2007; Hoorens et al., 2012; Petit & Bollaert, 2012). Recent discussions in scientific literature criticize these impartial reflections and ascribe them to the imprecise conceptual grounding of hubris. As a consequence, theory development on hubris in general and its effects in particular is impeded (cf. section 2.2.3). Nevertheless, there are a considerable research potentials in entrepreneurship literature, which lacks conceptual contributions and empirical evidence regarding the impact of hubris in the context of newly founded ventures. The present dissertation addresses this research gap with the overall aim to determine the transferability of existing evidence on the effects of hubris from various research disciplines and to generate new insight that occur particularly in connection to individual startup founders (cf. section 2.3). For this purpose, a thorough conceptualization is derived based on a review of the most frequent cognitive and behavioral aspects attributed to hubris in literature (cf. section 2.2). Furthermore, core entrepreneurial functions startup founders need to perform in order to ensure the survival and competitiveness of their ventures build the conceptual framework for the empirical examinations (cf. section 2.4). Specifically, an interrelated set of four entrepreneurial functions that affect venture emergence and renewal, the internal and external exploitation of innovation potentials, and the protection of startups from the menacing forces of uncertainty is derived (cf. Freiling, 2009). These are the innovation, internal coordination, arbitrage, and risk management function.

On this basis, the addressed research question of this dissertation can be specified as:

How does hubris affect the execution of core entrepreneurial functions, such as innovation, internal coordination, arbitrage, and risk management, as performed by individual startup founders?

3. Theoretical Perspective - The Competence-Based Theory of the Firm

The opening of economic research towards the integration of sociological and psychological aspects into models of economic decision-making processes has triggered the scientific interest to examine hubris from a managerial perspective (cf. section 2.1). This development began in the 1950s, when the prevalent model of the “homo economicus” in classical economic theories was increasingly criticized by scholars in different Schools of Thought (cf. section 2.4.1). Specifically, it was proposed that a fully rational man can only be considered as a “mythical hero” (Selten, 2002, p. 14). However, such a model cannot be readily applied to economic actors that operate in uncertain market environments (Gigerenzer & Selten, 2002). Instead, constraints in time and knowledge, together with limited “computational capacities” (Gigerenzer, 2002, p. 37) of human beings, were increasingly considered to cause bounded rational decision-making approaches (e.g. Kirzner, 1978; Mises, 1949; Simon, 1956). In the 1970s, this view was extended by Tversky and Kahneman (1974). The scholars emphasized the relevance of psychological aspects in decision-making and discussed that uncertain environments, which often entail conditions of rapid change and information overload, favor the application of heuristics and cognitive biases, such as hubris. In uncertain entrepreneurial environments, biases provide “cognitive shortcuts” and enable economic actors to approach their decisions despite the previously described circumstances (Forster & Sarasvathy, 2007; Hayward, Shepherd, & Griffin, 2006; Kahneman, 2003). Similar to bounded rational decision-making approaches, cognitive biases also lead to a “(...) systematic deviation from rationality or norms in judgment and decision making” (Zhang & Cueto, 2015, p. 1).

In line with these developments, Roll (1986) also aimed to address the criticism of the “homo economicus” by introducing hubris into corporate finance and strategic management literature (Hayward, 2007; Homberg & Osterloh, 2010). Specifically, Roll (1986) recognized that classical decision-making models could not explain his observations on decision-makers in M&A processes that invest excessive premiums and deliberately accept the risk of value-destroying mergers (cf. section 2.3.1.1). On the basis of these observations, the author emphasized the relevance of hubris and other, yet unconsidered, psychological aspects in economic decision-making processes. Moreover, he contributed to the growing discipline of psychological economics (e.g. Haselton & Nettle, 2006; Kahneman, 2003; Shleifer, 2000; Tversky & Kahneman, 1974), and opened the “black box” of executive psychology for corporate finance and strategic management literature (Hayward, 2007; Malmendier & Tate, 2005).

Subsequent studies on this subject proposed that instead of the “homo economicus”, “[...] richer characterizations of economic agents via a better understanding of human cognition” (Thaler, 2000, p. 137) were required (e.g. Forster & Sarasvathy, 2007; Haselton & Nettle, 2006; Johnson & Fowler, 2011). However, the great extent of publications on hubris neglect to disclose their underlying model of human decision-making behavior. As a consequence, the comparability of existing evidence in the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) is hindered (Forster & Sarasvathy, 2007; Petit & Bollaert, 2012; Picone et al., 2014). For this reason, it is of particular importance to address this obstacle and to advance a more uniform and coherent theoretical basis for subsequent studies on this subject.

A comparison of the different Schools of Thought that focus on the characterization of core functions entrepreneurs perform (cf. Table 6) demonstrates that especially the underlying assumption of “radical uncertainty”, as adopted by the NAE, is a necessary prerequisite to examine the effects of hubris in the context of newly founded ventures. Startup founders are not able to predict the future but they have to cope with rapid changes, high loads of information, and a high risk intensity that could rapidly destroy their entrepreneurial potential (Freiling, 2009; Hayward et al., 2006; Veit et al., 2014). A suitable theory, that provides a coherent basis to combine this and other core assumptions of the NAE with a commensurable perspective on the theory of the entrepreneurial functions, is the competence-based theory of the firm (hereafter CbTF) (e.g. Freiling, Gersch, & Goeke, 2006; Gersch et al., 2005). The CbTF entails crucial benefits that are of particular relevance for the theoretical basis of this dissertation. Specifically, the CbTF:

- builds upon a hard core of incontestable theoretical assumptions adapted from market process theory
- coherently models individual startup founders and the interactions with their environments
- applies a bounded rational model of economic decision-making processes that allows an extension by cognitive biases, exemplified by hubris
- is compatible with the theory of the entrepreneurial functions according to Schneider (1997)
- allows a holistic perspective on the execution of core entrepreneurial functions and their impact on internal and external processes
- is suitable to acknowledge differences in the disposition to hubris between startup founders

- emphasizes the relevance of time, which is a necessary prerequisite to determine effects of hubris in the long run

For these reasons, the CbTF is introduced as a theoretical framework for the examinations of hubris and its effects on the execution of core entrepreneurial functions performed by startup founders. In the following, crucial characteristics and background information of the theory are presented (cf. section 3.1). Afterwards, the general compatibility of the CbTF with cognitive biases, such as hubris, and the theory of the entrepreneurial functions is outlined (cf. section 3.2).

3.1. Background of the CbTF

The CbTF is an emerging theory that is positioned, on an aggregate level, in the field of organizational and management theories (Adler, 2015; Freiling et al., 2008; Gersch et al., 2005). In more detail, its epistemological objectives and theoretical assumptions indicate that the CbTF can be assigned to resource and competence-based research programs (cf. section 3.1.1). Beside this general classification of the theory, also its key terminology is presented in the following (cf. section 3.1.2).

3.1.1. Epistemological Objectives and Theoretical Assumptions

Based on the core assumptions of the market process theory⁶³, which was advanced by the New Austrians (e.g. Hayek, 1978; Kirzner, 1978; Mises, 1949), the CbTF aims to re-conceptualize resource and competence-based research traditions⁶⁴ (e.g. Penrose, 1959; Prahalad & Hamel, 1990; Teece, Pisano, & Shuen, 1997). These traditions are criticized for their limited uniformity⁶⁵ as they (e.g. Acedo, Barroso, & Galan, 2006; Freiling et al., 2008; Gersch et al., 2005; Knudsen, 1996; Ortmann, 2014; Priem & Butler, 2001):

⁶³ In fact, the CbTF extends the perspective of the traditional market process theory, which primarily focuses on the alertness of individual economic actors to identify relevant market knowledge. In addition, the CbTF emphasizes the application of knowledge in order to enable the generation of competitive outputs (Gersch et al., 2005).

⁶⁴ Freiling et al. (2008) summarize that the pioneering work of these approaches can be traced back to the publications of Babbage (1832), List and Theodor (1928), as well as Smith and Garnier (1838) on differing capabilities and skills that favor the division of labor. These thoughts were taken up by Penrose (1959) and Selznick (1957) who provided the basis for far-reaching extensions of these research programs (e.g. Barney, 1991; Prahalad & Hamel, 1990; Teece, Pisano, & Shuen, 1997; Wernerfelt, 1984).

⁶⁵ A detailed discussion of these weaknesses can be found in the publications of Freiling (2004b) and Freiling et al. (2008).

- lack a coherent and homogenous theoretical grounding of basic assumptions
- exhibit tautologies in their epistemological objectives
- combine incommensurable research traditions and suffer from eclecticism⁶⁶
- apply imprecise terminologies that are not aligned to their explanans
- determine competitive advantages through a static ex-post perspective

As a consequence of these inaccuracies, scholars face difficulties to assess the current state of research within these programs. Hence, theory development with regard to the impact of distinct resources and competences in market processes is considerably impeded (Freiling, Gersch, & Goeke, 2009).

In order to overcome these obstacles and to provide the basis for a coherent evolutionary theory of the firm, the CbTF provides several crucial contributions towards the re-conceptualization⁶⁷ of these programs (cf. Freiling et al., 2009; Gersch et al., 2005). Firstly, it modifies their tautologous epistemological objectives⁶⁸ through an “explanandum” that focuses on the determination of current and future firm competitiveness based on the heterogeneous availability of resources and competences in market environments (Freiling et al., 2008; Freiling et al., 2009; Gersch et al., 2005). From the perspective of newly founded ventures, competitiveness refers to the endurance of startups in market processes despite menacing forces, such as competing agents⁶⁹ (Freiling et al., 2008; Schneider, 1997). Secondly, it builds upon the widely-recognized framework of Lakatos (1970) that purposefully supports the (re-)conceptualization of theories. According to the Hungarian philosopher and mathematician, homogenous basic assumptions, also referred to as a “hard core”, are required as an incontestable and unquestionable foundation of each theory (Freiling et al., 2008; Lakatos, 1970). With regards to the CbTF, a hard core of six elements was derived from the fundamental assumptions and characteristics constituting resource and competence-based research traditions (cf. Freiling et al., 2008, p. 1147). These

⁶⁶ Eclecticism refers to the unreflected combination of multiple research traditions that are generally not (verified to be) compatible in their central paradigms (Freiling et al., 2008; Gersch et al., 2005).

⁶⁷ Sydow (2013) suggests the reconceptualization of a theory or research program as one of four alternatives, among rejection, improvement, or combination, to overcome fundamental weaknesses and to strengthen its explanatory power.

⁶⁸ The criticism of tautology refers to circular reasoning in these approaches. In more detail, resources and competences are considered, on the one hand, as factors that determine competitive advantages. However, competitive advantages, on the other hand, are explained through the existence of sufficient resources and competences (Freiling et al., 2008; Priem & Butler, 2001).

⁶⁹ Competitiveness are conceptualized as the ability “[...] to prove oneself in market processes with customers respectively suppliers (vertical level)” Freiling (2004b, p. 33) and “[...] to withstand competitive forces of rivals in the market (horizontal level) respectively menacing forces of the market environment” (ibid., p. 33).

hard core elements (hereafter HC[No.]) are presented in the following and their implications for the theoretical perspective of this dissertation are outlined:

(1) (Moderate) Methodological Individualism

The assumption of methodological individualism is anchored in market process theory and implies that decisions are not taken by whole organizations but by single economic actors (Freiling et al., 2008; Vanberg, 1975). Therefore, all choices and contributions within companies can be traced back to an individual decision-maker, who is also capable of learning from observed outcomes (Gersch et al., 2005). However, it has to be taken into consideration that the CbTF assumes a moderate form of methodological individualism⁷⁰. Therefore, it is acknowledged that decisions and behaviors of individual economic actors are influenced by institutional circumstances in their environments (Adler, 2015; Felin & Foss, 2005; Foss, 2011; Freiling et al., 2008). Summarized, the assumption of (moderate) methodological individualism is the necessary prerequisite to examine the hubris driven execution of core entrepreneurial functions performed by individual startup founders.

(2) Subjectivism

The element of subjectivism is also adopted from market process theory (cf. Kirzner, 1988; Mises, 1949) and refers to differences among economic agents with regard to “[...] what they know, what they want, what they do and what they are equipped with (e.g. skills)” (Freiling et al., 2008, p. 1148). Consequently, resources and competences are assumed to be distributed asymmetrically among heterogeneous economic actors. These differences are also reflected in their decision-making processes that rely on subjective perceptions and interpretations of internal and external circumstances (Freiling, 2008; Rese, 2000). “Thus, what would be a perfectly rational decision for one individual would not necessarily be rational for a second person, since only complete homogeneity of individuals would lead to fully homogenous expectations” (Freiling et al., 2009, p. 87). Hence, the assumption of (moderate) methodological individualism (HC1) is extended by differing expectations in relation to the outcomes of decisions. However, the equipment of individual actors with resources and competences is not static. Learning

⁷⁰ See Kincaid (2004) for an overview of distinct approaches related to the assumption of methodological individualism in the literature.

and training activities might trigger that these are further developed, adjusted, and extended (Freiling et al., 2008). For this reason, it is possible to determine interpersonal differences with regard to individual capabilities and motivations at a certain point in time and also intrapersonal variances over time (Freiling, 2004a; Gersch et al., 2005; Rese, 2000). Taken together, the assumption of subjectivism serves as an explanation for individual differences in the execution of entrepreneurial functions as, for example, in connection to the identification of potential innovation and arbitrage opportunities (Adler, 2015; Freiling, 2006).

(3) Radical Uncertainty

In contrast to some prominent Schools of Thought (cf. section 2.4.1), the CbTF proposes that economic actors take their decisions under radical uncertainty. This has two implications for their assumed knowledge base as displayed in Figure 7 (Freiling et al., 2008).

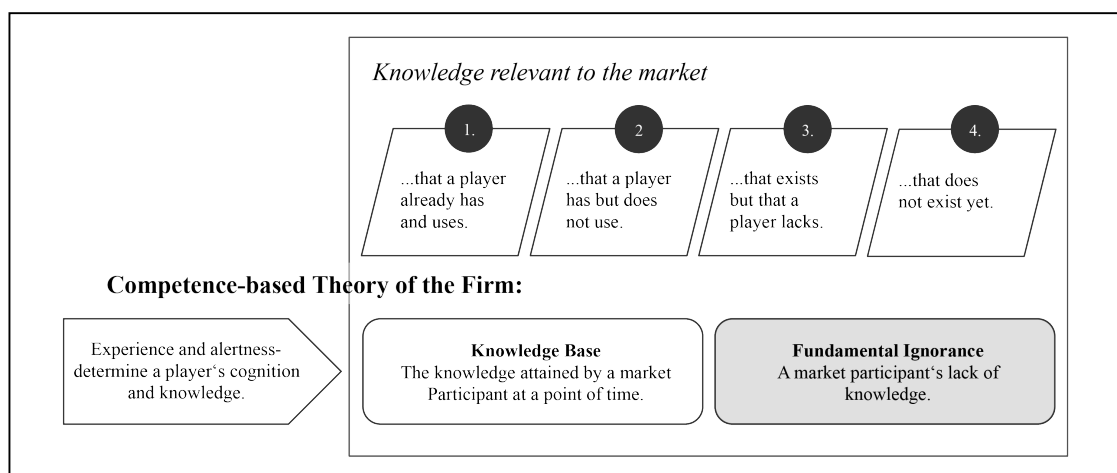


Figure 7: Knowledge relevant to the market (Freiling et al., 2009, p. 89).

Firstly, they are not aware of all internally and externally available knowledge that could be of relevance for their decision-making processes (Gersch et al., 2005). In extension to market process theory (cf. Rese, 2000), the CbTF supposes that new knowledge is permanently created and some might not yet exist when decisions are taken (Freiling, 2004b). Secondly, it also implies that “the history-to-come which will flow from men’s decisions is nonexistent until those decisions themselves are made. What does not yet exist cannot now be known” (Shackle, 1972, p. 3). Summarized, economic agents are assumed to differ with regard to their resources and competences (HC2) but future developments are equally unknown for all of them (Freiling, 2008; Freiling et al., 2008;

Gersch et al., 2005). Hence, the performance of their core entrepreneurial functions is also subject to uncertain developments.

(4) Homo Agens

In accordance with Mises (1949), the “homo agens”⁷¹ (= acting man) is applied to model behavior and decision-making processes of individual economic actors. In addition to the bounded rationality, crucial characteristics of this model are the constant alertness and strong focus of the actors on economizing activities (Freiling et al., 2008; Lachmann, 1986). Homo agens are perceived to actively seek chances that provide opportunities to alter their current situations, e.g. through new combinations of existing means and pursued objectives (Gersch et al., 2005; Kirzner, 1978; Mises, 1949).

Generally, this model provides a promising basis to examine the execution of core entrepreneurial functions performed by startup founders (Freiling & Reckenfelderbäumer, 2010; Schneider, 1997). However, the CbTF originally adopts, in accordance with the NAE, a strict economic perspective of the homo agens (Fink, 2013; Gersch et al., 2005; Hülsmann & Müller-Martini, 2009). This implies that individual actors are assumed to be bounded in their rationality as a result of knowledge and time restrictions (HC3). Nevertheless, they are perceived to always strive for the “most rational” decisions on this (limited) basis (Gersch et al., 2005; Hülsmann & Müller-Martini, 2009). As a consequence, hubris and other psychological factors that cause unconventional behaviors and decision-making processes, especially in relation to the performance of core entrepreneurial functions, cannot be interpreted. In order to overcome these limitations, this dissertation follows the approaches of Fink (2013) as well as Hülsmann and Müller-Martini (2009), who extend the economic perspective of the homo agens by psychological aspects. Specifically, cognitive biases, exemplified by hubris, are considered as an additional determinant that influences decision-making approaches of economic actors (cf. section 3.2.1).

⁷¹ There is no shared model of economic agents in resource and competence-based research traditions. According to Gersch et al. (2005), frequently applied models are the “homo economicus” (e.g. Foss, Knudsen, & Montgomery, 1995), “homo creativus” (e.g. Canter & Hanusch, 1997), and “satisfaction man” (e.g. Simon, 1959). In comparison of existing approaches, the “homo agens” is chosen as the model best suits the other hard core elements of the CbTF (Gersch et al., 2005).

(5) Moderate Voluntarism

As indicated by HC3, the CbTF supposes that future developments are unknown and cannot be predetermined. However, the assumption of moderate voluntarism acknowledges that individual actors at least attempt to influence emerging circumstances through proactive and creative management approaches (Prahalad & Hamel, 1990; Teece, 2007). Nevertheless, they possess only moderate impacts and cannot realize all identified business opportunities. Their actions are restricted through, among others, market conditions, legal limitations, and competition (Freiling et al., 2008; Gersch et al., 2005). Together with the assumption of their constant alertness (HC4), the moderate voluntarism can be interpreted as a prerequisite that explains why startup founders are motivated to perform their entrepreneurial functions.

(6) Time matters

Time plays a crucial role in the CbTF in various aspects. Firstly, time is important in the development of competences and the acquisition of resources that both determine current and future firm competitiveness (Adler, 2015; Freiling et al., 2006). Secondly, a longer-term perspective is required for the observation of path dependencies, which constrain organizational change processes and economic potentials (Freiling et al., 2009; Schreyögg, Sydow, & Koch, 2003). Thirdly, the irreversibility and historicity of decisions are also a matter of time. Once taken decisions are often only moderately adjustable and their influences are likely to affect the organization's development in the long run, e.g. through lock-in and lock-out effects (Ackermann, 2001; Ghewamat, 1991; Schreyögg et al., 2003). Fourthly, competitive advantages and entrepreneurial potentials only exist temporarily and are subject to changes in internal and external circumstances. Therefore, the current competitiveness can only be sustained for a limited period of time and entrepreneurs have to continuously identify opportunities in order to maintain their market positions (Freiling, 2008; Gersch et al., 2005). Taken together, the importance of time is essential to examine effects of hubris over time as some of its impacts might only occur in the long run. Moreover, it needs to be taken into consideration that hubris itself is not a static cognitive bias but can be subject to changes over time (cf. section 2.2.1).

These six hard core elements are a systematic attempt of the CbTF to address the lack of a coherent and homogenous theoretical grounding in traditional resource and competence-based

research programs. In addition, these assumptions provide a suitable theoretical perspective that describes how individual startup founders are perceived to interact with their ventures and environments.

3.1.2. Key Terminology

As indicated before (cf. section 3.1.1), traditional resource and competence-based research programs are criticized for imprecise and often highly abstract terminologies that are applied for their key concepts (e.g. Freiling et al., 2008; Gersch et al., 2005; Priem & Butler, 2001). For instance, resources are broadly defined as “[...] anything which could be thought of as a strength or weakness of a given firm” (Wernerfelt, 1984, p. 172). However, such a definition neither reflects the heterogeneous character of resources nor their account for differences between companies (Freiling, 2004b). For this reason, the CbTF elaborates on concrete definitions and delimitations of its key concepts, which are, in accordance with its epistemological objectives, ‘assets’, ‘resources’, and ‘competences’. These constitute in combination the entrepreneurial potential, also referred to as the readiness for action (cf. section 3.2.2.1), of each company (Freiling et al., 2008; Ortmann, 2014; Schneider, 1997). In the following, the underlying definitions of the three key concepts are presented:

- **Assets** are defined as “[...] homogenous external and internal factors that can usually be procured in markets, serving as input for value-added/upgrading processes” (Freiling et al., 2008, p. 1151). As a consequence of their homogeneity, assets themselves do not serve as sources for competitive advantages. Instead, they are either directly used as factors in value-adding processes or they are refined and evolve into resources (Freiling, 2004b; Freiling et al., 2006; Gersch et al., 2005).
- **Resources** are “[...] understood as those assets that have undergone a firm-specific upgrading process” (Freiling et al., 2008, p. 1151). Therefore, they “[...] contribute to the actual and future competitiveness of a firm and thus account for the firm’s heterogeneity” (ibid. 1151). Specifically, resources are to a certain extent company-specific and constitute isolation mechanisms to protect the competitiveness against substitutes and imitations (Barney, 1991; Freiling, 2004b; Gersch et al., 2005). Therefore, resources are a crucial component of the entrepreneurial potential but they are themselves not sufficient to generate competitive outputs and to realize market processes (Freiling et al., 2006). For these purposes, certain competences are required as indicated in the following definition.

- A **competence**⁷² is referred to as a “[...] repeatable, non-random ability to render competitive output. This ability is based on knowledge, channeled by rules and patterns. [...] Competences direct goal-oriented processes for surfacing future performance potential while offering concrete input to the market” (Freiling et al., 2008, p. 1151). Hence, competences provide organizations with an enduring but overall flexible entrepreneurial potential. Learning processes in connection with the assimilation of knowledge contribute to the modification, adaptation, and extension of competences over time (Ortmann, 2014).

Based on the formalizing of the epistemological objectives and key terminologies, the central line of reasoning in the CbTF is presented in the following.

3.2. Hubris and the Entrepreneurial Functions in the CbTF

The outline of the central line of reasoning is adapted to the perspective of startup founders for the purpose of this dissertation. Moreover, it directly focuses on the extension of the CbTF by cognitive biases, exemplified by hubris (cf. section 3.2.1), and its compatibility with the theory of the entrepreneurial functions (cf. section 3.2.2).

3.2.1. Extension by Cognitive Biases

Cognitive biases and other psychological aspects were not considered in the initial approaches of the CbTF, which originally applied, in accordance with the NAE, a strict economic perspective on individual decision-making processes (e.g. Freiling et al., 2006; Gersch et al., 2005). Even though homo agens are modeled to be bounded in their rationality (HC4) due to restrictions in their knowledge (HC3) and time, they are still perceived to strive for the identification of the “most rational” alternative on this (limited) basis (Freiling et al., 2008; Lachmann, 1986; Mises, 1949). This implies that the interpretation of hubris driven unconventional behaviors and decision-making processes is hindered. However, it is found that “[...] unbiased decisions are not necessarily the best strategy for maximizing benefits over costs, especially under conditions of competition, uncertainty and asymmetric costs of different types of error” (Johnson & Fowler, 2011, p. 317). Therefore, several researchers argue that the model

⁷² Gersch et al. (2005) distinguish between competences and capacities, which are two terms referring to the same concept as defined above. According to the authors, competences are related to an organizational level whereas capacities are associated with individual actors. Such a distinction is not crucial for this dissertation since it particularly focuses on individual startup founders. Therefore, both terms are used synonymously in the following.

of the homo agens, as originally applied in the CbTF and other competence-based research programs, could benefit from interdisciplinary and especially psychological evidence (e.g. Fink, 2013; Homberg & Osterloh, 2010; Hülsmann & Müller-Martini, 2009; Rese, 2000). In more detail, a modification of the model is assumed to provide an explanation of yet unconsidered phenomena, such as unconventional behaviors and decision anomalies (Frey & Benz, 2001). These discussions are of particular relevance for this dissertation, as it requires an underlying model that allows human actions to be interpreted beyond conventional standards.

However, an appropriate extension of the homo agens by psychological aspects can only be achieved through the integration of evidence from commensurable research traditions into the CbTF (Foss, 2007; Freiling et al., 2006). Otherwise, the previously criticized eclecticism, which is prevalent in traditional research and competence-based research programs (cf. section 3.1.1), would hamper theory development on this subject. In order to ensure a commensurable modification, the method of decreasing abstractions⁷³ by Lindenberg (1992) provides a promising approach to extend the originally strict economic perspectives of the homo agens in the CbTF by cognitive biases. The method is described as a “[...] means to integrate economic, sociological, and psychological lines of research without losing the analytical power of the economic approach or the descriptive advantages of the sociological and psychological approaches” (Lindenberg, 1992, p. 4). Therefore, it is frequently applied to approximate interdisciplinary models of human actions that address phenomena, which are not interpretable through the framing of a single theory (e.g. Fink, 2013; Haller, 1950; Hülsmann & Müller-Martini, 2009).

The first step of its application involves the determination of a core theory that builds upon an incontestable and unquestionable foundation (cf. Lakatos, 1970). Secondly, so-called bridge assumptions⁷⁴ need to be identified that support the interpretation of certain phenomena, which are not covered by the core theory, with commensurable evidence from related research disciplines. Thirdly, only these bridge assumptions, instead of whole research programs, are interpreted from the perspective of the core theory (Haller, 1950; Hülsmann & Müller-Martini, 2009; Lindenberg, 1991). On this basis, it is possible to extend models of human action based upon the theoretical foundation and epistemological objectives of a core theory without neglecting relevant evidence from related disciplines (Heine et al., 2006; Hülsmann & Müller-Martini, 2009). Notably, the application of this method should always aim to create models of

⁷³ Also referred to as the method of “[...] increasing closeness to reality” (Lindenberg, 1992, p. 3).

⁷⁴ See Lindenberg (1992, pp. 18–19) for a detailed overview of the requirements for bridge assumptions.

human action that are “[...] as simple as possible and as complex as necessary” (Lindenberg, 1992, p. 18).

For the purpose of this dissertation, the CbTF is determined as the core theory with six underlying theoretical assumptions (cf. section 3.1.1). Since the CbTF is limited with regard to its explanation of hubris driven unconventional behaviors and decision-making processes, the element of the homo agens (HC4) is extended by the bridge assumption of cognitive biases, exemplified by hubris. Cognitive biases originate from diverse psychological research traditions (cf. section 2.2.1) and refer to decision-making and judgment processes that deviate from rational or normative standards (e.g. Baron, 2004; Haselton & Nettle, 2006; Schwenk, 1988; Tversky & Kahneman, 1974). In the following, a compatible understanding of hubris that corresponds to the central paradigms⁷⁵ of the CbTF is derived. This is achieved through the interpretation of hubris in accordance with its six core assumptions:

(Moderate) Methodological Individualism (HC1): Hubristic startup founders make all decisions, e.g. in relation to the launch of a venture or the execution of their core entrepreneurial functions, themselves and are influenced by institutional circumstances. However, it is likely that their hubris leads them to neglect given conditions and to approach their decisions merely according to own perceptions and subjective interpretations of their environments (e.g. Brady & Davies, 2010; Kroll et al., 2000; Roll, 1986).

Subjectivism (HC2): New venture founders are heterogeneous in their knowledge, capabilities, motivations, and also their disposition to hubris. This accounts for differences in the execution of their entrepreneurial functions and implies that distinct effects of hubris might occur (cf. Chowdhury, 2014; Tang, Li et al., 2015).

Radical Uncertainty (HC3): Even tough hubristic startup founders are highly confident in the accuracy of their predictions (e.g. Forster & Sarasvathy, 2007; Hiller & Hambrick, 2005), they cannot foresee the future and do not possess all relevant

⁷⁵ The term paradigm originates from Greek language and means model or pattern (Webster, 2016). According to Kuhn and Simon (1976), paradigms refer to a set of assumptions, methods, and central problems that guide the conceptual and empirical examinations of a specific scientific community.

knowledge for their decision-making processes (some might not even exist yet). Therefore, they are assumed to make their decisions under radical uncertainty.

Homo Agens (HC4): As previously defined (cf. section 3.1.1), founders are modeled as homo agens that are characterized through their constant alertness and focus on economizing activities. However, they are bounded in their rationality as a result of economic restrictions, e.g. the limited accessibility of required knowledge (HC3) and time constraints. In addition, cognitive biases, such as hubris, also affect their decision-making behavior. This implies that individual startup founders driven by hubris might display behavior and decision-making processes that deviate from conventional standards (e.g. Hiller & Hambrick, 2005; McManus, 2016; Owen, 2006).

Moderate Voluntarism (HC5): Hubristic founders are able to moderately influence internal and external circumstances through the execution of their core entrepreneurial functions. However, they are less likely to actually reflect the conditions of their environments in this regard (cf. moderate individualism above).

Time Matters (HC6): Time is of importance for the observation of hubris and its effects since some might occur immediately and others only in the long run. Moreover, the individual disposition to hubris is not static but subject to changes over time.

Based on this understanding of hubris, the compatibility of the CbTF with the theory of the entrepreneurial functions is illustrated in accordance with its central line of reasoning.

3.2.2. Compatibility with the Theory of The Entrepreneurial Functions

There are several publications that discuss the compatibility of the CbTF with the theory of the entrepreneurial functions (e.g. Freiling, 2004c, 2009; Gersch et al., 2005). The most important prerequisite for the commensurable combination of these theories is the assumption of moderate voluntarism (HC5). This implies that individual startup founders actively attempt to influence their environments through the performance of their core entrepreneurial functions, which involve the management of resources and competences in their emerging organizations. In this regard, they are perceived to be driven by their ambitions to maintain the competitiveness of their ventures and to constantly identify arbitrage opportunities (HC4) (Freiling, 2004c; Schneider, 1997).

Based on the approach of Schneider (1997), a multi-functional framework of four mutually exclusive entrepreneurial functions was developed by Freiling (2009) (cf. section 2.4.2). The execution of these functions is important in the central line of reasoning in the CbTF, which is represented through “dyadic dynamism” (cf. section 3.2.2.1) and “co-evolution” (cf. section 3.2.2.2).

3.2.2.1. Dyadic Dynamism

The notion of dyadic dynamism refers to the interrelation between economic activities and the constant adjustment of the entrepreneurial potential (= readiness for action) within startups. Their potential consists of internally available assets, resources, and competences (cf. section 3.1.2) and is displayed on the left-hand side of Figure 8. Therefore, it provides the basis for all economic actions that involve the generation of competitive outputs and the realization of market processes. As a consequence, it determines the current and future competitiveness of newly founded ventures (Freiling et al., 2006). The assumption of subjectivism (HC2) suggests that entrepreneurial potentials are distributed asymmetrically among startup companies. Moreover, founders are assumed to differ in their willingness to exploit existing resources and competences (Freiling, 2004b; Mises, 1949).

In order to pursue economic actions, the currently existing potential X_1 needs to be activated through the execution of core entrepreneurial functions in T_1 (Gersch, 2006; Ortmann, 2014). The activation of the innovation function enables the (re-)combination of resources in order to invent innovative products and services (Schumpeter, 1934). Moreover, the internal coordination, arbitrage, and risk management functions are required to manufacture, commercialize, and protect competitive outputs (Casson, 1982; Freiling, 2009; Kirzner, 1978; Knight, 1921; Mises, 1949). Each pursued economic action yields learning outcomes that lead to adjustments of the entrepreneurial potential X_2 in T_2 . For instance, startup founders might receive customer feedback or are required to handle unexpected outcomes. These are two events that both contribute to and leverage their competences. Since these processes are a matter of time (HC6), the entrepreneurial potential can be characterized as variable and subject to constant changes (Freiling et al., 2008).

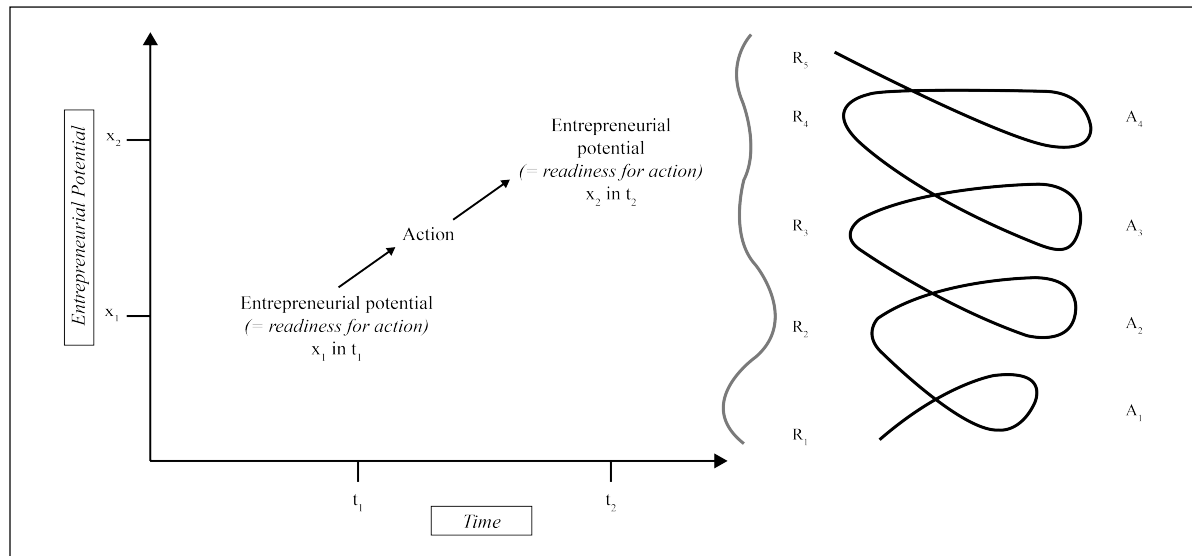


Figure 8: The interrelation between action and entrepreneurial potential (adapted from Freiling et al., 2009, p. 94).

The right-hand side of Figure 8 depicts the accumulation of assets, resources, and competences within a venture over time. Although startup founders make their decisions under radical uncertainty (HC3), they strive to influence internal and external developments (HC5). For this purpose, they attempt to adjust their entrepreneurial potential in accordance with the expected future requirements to maintain the competitiveness of their ventures. In order to estimate the necessary potential, they take goal-oriented actions, such as constant reflections of learning outcomes together with the observation of competitors and changing market conditions. However, coincidental insights, e.g. through „learning by doing“, can also lead to adjustments (Adler, 2015; Gersch, 2006; Ortmann, 2014). The protection of the entrepreneurial potential is of particular relevance as it can be endangered by competitors that trigger processes of creative destruction or by other changes in the market environment (e.g. Gersch et al., 2005; Schumpeter, 1934). Consideration must be afforded that hubris driven founders are less likely to reflect external circumstances in the adjustment of their entrepreneurial potential. Moreover, their assessments of necessary resources and competences, that are required to address certain market gaps, probably differ considerably from average estimations of founders in the same market (cf. section 3.2.1) (Brady & Davies, 2010; Kroll et al., 2000; Roll, 1986).

Taken together, the descriptions in relation to Figure 8 highlight the dynamic character of the CbTF and its compatibility with the theory of entrepreneurial functions. These functions are performed by startup founders in order to activate the entrepreneurial potential within their ventures and to maintain firm competitiveness.

3.2.2.2. Co-Evolution

The previously described processes are an “[...] endless sequence of actions and reactions, leading to trial-and error learning” (Schneider, 2001, p. 155 cited by Freiling et al., 2009, p. 96). This implies a continuous co-evolution between companies and their environments (Rese, 2000). In order to provide a reasonable structure for a systematic analysis of these processes, the CbTF integrates the “three phases of competition for the future” developed by Hamel and Prahalad (1994). Their model depicts the target-oriented development of competences through constant interaction between organizations and their environments in three phases. Therefore, it is suitable to highlight the co-evolutionary character of the CbTF together with the relevance to perform core entrepreneurial functions in distinct phases of the venture creation and establishment processes (Adler, 2015; Freiling, 2004c; Gersch & Goeke, 2007). For this purpose, the following outlines focus especially on the execution of these functions during the three phases suggested by Hamel and Prahalad (1994):

I. Competition for Intellectual Leadership

During the first phase, the performance of the innovation and arbitrage functions are of particular relevance for new venture founders. They attempt to anticipate and moderately influence future market developments with the overall aim to determine promising business opportunities that can be addressed with innovative products and services (HC4, HC5). The successful exploitation of these opportunities depends on the aggregation of assets, resources, and competences that are expected to be necessary for the creation of competitive outputs and the realization of market processes. As a result of the assumed radical uncertainty (HC3), founders are not able to predict the required entrepreneurial potential. Instead, they need to constantly adjust their currently available potential in accordance with the observed and expected developments in the market environment.

II. Competition for the Management of Migration Paths

The second phase focuses on the internal and external exploitation of the previously created innovation potentials. Therefore, it is necessary to set and implement the entrepreneurial potential in accordance with expected requirements. This process is time consuming (HC6) and accompanied by constant reflections of the currently available and potentially required set of resources and competences. Discrepancies are addressed through “migration paths”, which refer to activities that trigger the adjustment of the

currently available entrepreneurial potential in order to remain competitive. Moreover, the commercialization of products and services yields learning outcomes, e.g. through customer feedback, that is used to constantly modify products and services.

III. Competition for Market Share

Eventually, startup founders have to compete for market shares and need to protect their entrepreneurial potential. Processes of creative destruction within the market endanger the performance and competitiveness of their ventures. Therefore, founders stay constantly alert to identify new business opportunities (HC4). As soon as one of the market players succeeds to determine and exploit new innovation potentials, the competition for intellectual leadership (phase I) starts all over again.

Hence, the CbTF does not envision a stable equilibrium of markets but “[...] an endless sequence of the three phases” (Freiling et al., 2009, p. 97).

The previous sections outlined the integration of cognitive biases, exemplified by hubris, into the CbTF and highlighted its compatibility with the theory of the entrepreneurial functions in various regard. On this basis, the CbTF provides a suitable theoretical perspective to empirically examine effects of hubris as outlined in the following.

4. Methodology – An Iterative Research Process

The methodology chosen for this dissertation is based on a critical reflection of existing literature that examines the effects of hubris within various research disciplines (cf. section 2.3). An analysis of existing approaches is relevant given the variety of measurements and operationalization previously used. The diversity of approaches ranges in validity and limits the comparability of the empirical research outcomes (Hayward & Hambrick, 1997; Hill et al., 2014; Kroll et al., 2000). In addition, most measures “[...] lack rigorous psychological and methodological grounding” (Hiller & Hambrick, 2005, p. 298). As a consequence, theory development on the effects of hubris is hindered (Bollaert & Petit, 2010).

A qualitative research approach has been chosen for this dissertation. This approach seeks to overcome the identified weaknesses of existing methodologies and to ensure a valid and reliable determination of findings (cf. section 4.1). For this purpose, it is incorporated into an iterative research design (cf. section 4.2), which involves the collection of multiple forms of qualitative data through expert interviews and mini-case studies (cf. section 4.3). The data is analyzed following a rigorous inductive method according to Gioia, Corley, and Hamilton (2013) (cf. section 4.4) as it positively contributes to the validity and reliability of the empirical study (cf. section 4.5).

4.1. Qualitative Research Approach

In order to select a suitable approach to assess the consequences of hubris, several obstacles need to be taken into consideration. First and foremost, research on hubris generally addresses a very sensitive topic given the research subjects are responsible for the performance and competitiveness of their organizations. Therefore, they are less likely to participate in empirical research projects on hubris whereby the research findings may have potentially harmful consequences for their professional careers (Chatterjee & Hambrick, 2007; Cychota & Harrison, 2006; Hambrick & Mason, 1984; Homberg & Osterloh, 2010; Krosnick, 1999). For this reason, the collection of relevant empirical data on hubris through direct interaction with affected executives and company founders is impeded. As a consequence, the majority of existing studies tries to indirectly determine the effects of hubris through diverse proxies without interacting with the research subjects (Brennan & Conroy, 2013; Hill et al., 2014; Hiller & Hambrick, 2005). These proxies are frequently incorporated into quantitative research approaches. However, it is criticized that a complex cognitive bias, such as hubris, cannot be properly examined without any personal interaction with, and sufficient background information of, the affected individuals and organizations (Bollaert & Petit, 2010; Owen, 2006;

Picone et al., 2014). Therefore, several direct measures were developed and applied more recently through qualitative research attempts (e.g. Brady & Davies, 2010; Chowdhury, 2014; Cormier et al., 2016; Lawrence et al., 2011).

Herein, existing methodological approaches are critically reflected upon and discussed (cf. section 4.1.1). On this basis, a qualitative research approach is chosen in order to overcome identified methodological weaknesses in literature (cf. section 4.1.2).

4.1.1. Critical Perspectives on Existing Approaches

As a consequence of often-imprecise conceptualizations (cf. section 2.2.3), there is no commonly accepted approach to measure and operationalize hubris (Bollaert & Petit, 2010; Hill et al., 2014; Hiller & Hambrick, 2005). The subsequent sections provide an overview⁷⁶ of existing indirect (cf. section 4.1.1.1) and direct approaches (cf. 4.1.1.2) to examine the effects of hubris. These were identified through a literature review (cf. section 2.3.1). Notably, there are also a considerable number of studies that do not specify the measure of hubris applied (e.g. Brady & Davies, 2010; Kroll et al., 2000; Ranft & O'Neill, 2001). This has severe implications for the credibility and reproducibility of these studies.

4.1.1.1. Indirect Approaches and Proxies

The previously described difficulties to directly access hubristic executives and involve them in empirical research projects leads scholars to apply more “convenient or coarse measures” (Hiller & Hambrick, 2005, p. 1418) to determine the consequences of hubris. However, it is often neglected that the weaknesses of these measures outweigh their strengths (cf. Table 8).

Berkovitch and Narayanan (1993) were the first to develop an indirect measure for hubris in the area of corporate finance, which is still frequently applied (e.g. Anderson & Marshall, 2007; Berger et al., 2007; Bruner, 1999; Mueller & Sirower, 2003). The underlying assumption of their measure builds upon the “hubris hypothesis” by Roll (1986) and states that hubris drives decision-makers in M&A projects to neglect the actual market value of the combined entities as they overestimate their own capabilities to extract considerably larger gains (cf. section 2.3.1.1). As a consequence, they pay excessive premiums and engage in acquisitions that yield

⁷⁶ The overview is limited to the most frequently applied measures and proxies in research on the effects of hubris. For more detailed information on existing methodologies see Hill et al. (2014, p. 1419).

zero or negative returns. Following this, hubris can be determined as a trigger in value-destroying mergers through these two correlations:

- Correlation between target gains and total gains is zero
- Correlation between target gains and acquirer gains is negative

A strength of this proxy is that it can be applied to a variety of M&A cases. All necessary information to determine hubris based on these correlations is easily accessible through various databases⁷⁷. However, crucial background information about the decision-makers, such as their prior (working) experiences, their actual mental state, and other contextual factors that might have influenced their decisions are not considered (Brennan & Conroy, 2013; Hill et al., 2014). Hence, alternative explanations behind their behavior are neglected. It is, however, conceivable that their insufficient experiences, inaccurate market information, or their general propensity for risk-taking triggered the payment of excessive premiums. Beside these weaknesses, M&A are less frequent in the context of newly founded ventures and therefore, this measure is of limited utility for the empirical examinations herein.

In order to provide a measure of hubris that can be applied by scholars in different contexts, Hayward and Hambrick (1997) suggested a more complex indirect approach to determine hubris through three proxies:

- (1) **Recent media praise.** Favorable media coverage that attributes recent company successes to achievements of a particular CEO is perceived to trigger the hubris of the portrayed executive⁷⁸. This assumption is based on existing evidence that proves that favorable attributions by external parties are self-serving for individuals, lead to increased self-confidence, and positively influence beliefs in own capabilities (e.g. Brockner, 1988; Jacobs, Berscheid, & Walster, 1971; Meindl, Ehrlich, & Dukerich, 1985). Following this, Hayward and Hambrick (1997) assume that public acknowledgements in the media may strengthen the CEO's belief in own actions and lead them to ignore other contextual factors that might have contributed to their success. According to the scholars, these perceptions lead to a self-reinforcement of CEO hubris. **Measure:**

⁷⁷ For instance: Merger and Acquisition Journal, Securities Data Corporation, Center for Research in Security.

⁷⁸ For executives that hold a position of power, it is found that "[...] successful CEOs have a romantic aura in the media; they are often portrayed as "heroic" and larger than life" (Faulkner, 2002, p. 309).

At least two scholars review highly recognized newspaper and magazine articles⁷⁹ that depict the achievements of the observed CEOs. All articles are coded with a number between 3 (= “the article was unequivocally favorable to the CEO”) and -2 (“the article was unequivocally negative about the CEO”). The final score divided through the number of all considered articles displays the aggregate favorability of the media praise and serves as a proxy for hubris (Hayward & Hambrick, 1997).

- (2) **Recent organizational performance/success.** Similar to the previous proxy, it is assumed that recent organizational successes instill hubris in CEOs. Prior research proved that CEOs often receive the credit for positive achievements of their companies, even though other factors might have contributed to their success (e.g. Kelley & Meindl et al., 1985). CEOs who regularly receive such favorable attributions are found to be less self-critical and to develop high self-esteem with an undue belief in their own leadership skills (Brockner, 1988; Clapham & Schwenk, 1991; Miller & Chen, 1994; Schweiger, Sandberg, & Ragan, 1986). **Measure:** The recent company performance is determined based on stockholder returns⁸⁰:

$$\text{Recent performance} = \frac{\text{Stock price appreciation} + \text{returns from dividends}}{\text{Initial stock price}}$$

- (3) **CEO's self-importance.** Another proxy for hubris is the perceived self-importance of CEOs as hubristic executives are conceptualized to strongly believe in their own capabilities. Therefore, they aim to centralize power in their organizations and reward themselves above average for their efforts (cf. Kets de Vries & Miller, 1984; Miller & Dröge, 1986). **Measure:** Their perceived self-importance is assessed through the relative compensation⁸¹ of a CEO, which is calculated as follows:

$$\text{CEO self – importance} = \frac{\text{CEO cash compensation}}{\text{Compensation of second – highest – paid officer}}$$

⁷⁹ Relevant databases are, among others, LexisNexis, ABI, and the Dow Jones Factiva database for magazines and newspapers.

⁸⁰ Relevant data is available in the Bloomberg and CRSP databases.

⁸¹ Relevant data can be retrieved from compact disclosure and company proxy statements.

These three proxies were adapted and applied by several authors in order to determine hubris in their own empirical studies (e.g. Hill et al., 2014; McManus, 2016; Mishina et al., 2010). Similar to the previously presented approach of Berkovitch and Narayanan (1993), a strength of these proxies is the accessibility of relevant data that can be collected without any interaction with the observed CEOs. Moreover, Hill et al. (2014) argued that the reliability of empirical studies that apply multiple measures of hubris is increased. However, it is difficult to prove the validity of these proxies given other factors, apart from psychological biases, may have influenced the observed behavior of the executives. Furthermore, the extent at which positive media or company performance materially influenced the CEOs in their beliefs and behaviors cannot be monitored. Do all CEOs take notice of positive media? If so, does it really impact their perception they hold about themselves? Irrespective of these weaknesses, all three proxies are unsuitable to determine hubris of new ventures founders. Specifically, startup founders receive relatively little media attention, face varying performances, and mostly lack sufficient financial resources to pay themselves excessive compensations (expression for perceived self-importance). Therefore, relevant data to apply these proxies is scarce in the context of newly founded ventures.

Similar to the previously introduced proxy of “recent media praise” (cf. Hayward & Hambrick, 1997), Tang et al. (2015) focused on media coverage and developed a relative measure of hubris in which all newspaper articles whereby a particular CEO is described as (a) confident and (b) optimistic is recorded. The score is divided through the number of articles that depict the CEO as (c) conservative:

$$\text{Hubris} = \frac{(a) + (b)}{(c)}, \text{ with: } \frac{(a) = \text{confident} + (b) = \text{optimistic}}{(c) = \text{conservative (e.g. reliable, cautious, practical, frugal, conscientious)}}$$

The final score is compared with the scores achieved for other CEOs in order to classify the observed executive as highly overconfident, neutral, or under confident. Despite this adaptation of the measure, the previously discussed advantages and disadvantages in relation to the proxy developed by Hayward and Hambrick (1997) remain unchanged. Therefore, it is not suitable for the purpose of this dissertation.

Indirect Measure of Hubris	Author/s	Research Discipline	Strengths of Measure	Weaknesses of Measure
<p>Hubris exists if (M&A):</p> <p>(1) correlation between target gain and total gain = 0</p> <p>and</p> <p>(2) correlation between acquirer gain and target gain = negative</p>	e.g. Anderson & Marshall (2007), Berkovitch (1993), Hodgkinson & Partington (2008), Ismail (2005), Mueller & Yurtoglu (2007)	Corporate Finance	<ul style="list-style-type: none"> ▪ Applicability to a variety of M&A cases ▪ Accessibility of relevant data ▪ Hubris can be determined without any personal interaction 	<ul style="list-style-type: none"> ▪ Crucial background information of decision-makers and contextual factors are neglected (e.g. prior experiences, mental state, risk-taking propensity, inaccessible market information) ▪ Determination of a cognitive bias without personal interaction ▪ Questionable validity ▪ Limited applicability to the context of newly founded ventures
<p>Three proxies for hubris:</p> <p>(1) recent media praise</p> <p>(2) stockholder returns (recent organizational performance)</p> <p>(3) payment differential (CEO's self-importance)</p>	<p>Hayward & Hambrick (1997)</p> <hr/> <p>e.g. Hill et al. (2014), McManus (2016), Mishina et al. (2010)</p>	<p>Corporate Finance</p> <hr/> <p>Business and Management</p>	<ul style="list-style-type: none"> ▪ Applicability to a variety of cases (not limited to M&A) ▪ Accessibility of relevant data ▪ Appropriate reliability through the application of multiple measures (cf. Hill et al., 2014) ▪ Hubris can be determined without personal interaction 	<ul style="list-style-type: none"> ▪ No possibility to monitor how CEOs are actually influenced by the media praise and recent organizational successes ▪ Questionable validity ▪ Determination of a cognitive bias without personal interaction ▪ Limited applicability to new venture founders as information are hardly available

Media coverage as a proxy for hubris:

$$\text{Hubris} = \frac{(a) + (b)}{(c)}$$

Number of all articles where the CEO is portrayed as:

- (a) confident and
- (b) optimistic
- (c) reliable, cautious, conservative, practical, frugal, disciplined, conscientious, not confident, not optimistic

Tang et al. (2015)

Business and Management

- Applicability to a variety of cases (not limited to M&A)
- Accessibility of relevant data
- Appropriate reliability through the application of multiple measures (cf. Hill et al., 2014)
- Hubris can be determined without personal interaction
- No possibility to monitor how CEOs are actually influenced by media praise and recent organizational successes
- Questionable validity
- Determination of a cognitive bias without personal interaction
- Limited applicability to new venture founders as information are hardly available

Table 8: Indirect approaches to determine effects of hubris (author's illustration).

4.1.1.2. Direct Approaches

In order to overcome the aforementioned weaknesses of indirect approaches to determine hubris through proxies, several scholars developed a suite of direct measures (cf. Table 10). For instance, Hiller and Hambrick (2005) introduced the concept of core-self evaluations (hereafter CSE) as an appropriate measure to determine hubris. The CSE⁸² are represented through four traits that express how executives evaluate themselves and their relationship with their respective environments (cf. Judge, Erez, Bono, & Thoresen, 2003, pp. 303–304):

- **Self-esteem** (“the overall value that one places on oneself as a person”)
- **Generalized self-efficacy** (“an evaluation of how well one can perform across a variety of situations”)
- **Neurotism** (“the tendency to have a negativistic cognitive/explanatory style and to focus on negative aspects of the self”)
- **Locus of control** (“beliefs about the causes of events in one’s life-locus is internal when individuals see events as being contingent on their own behavior”)

The evaluation of these traits is determined through a Likert scale that was developed by Judge, et al. (2003) and entails 12 items as displayed in Figure 9. These items cover all of the previously presented traits through certain statements that the participants need to evaluate for themselves on a scale from 1-5⁸³ (1= strongly disagree; 5= strongly agree).

⁸² “A core self-evaluation (CSE) is a deeply sourced dispositional trait that defines how we evaluate ourselves and our relationship with the environment” (Hiller & Hambrick, 2005, p. 299).

⁸³ The scale can also be extended to 1-7 (Hiller & Hambrick, 2005).

<i>The Core Self-Evaluations Scale (CSES)</i>				
Instructions: Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item by placing the appropriate number on the line preceding that item.				
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. ____				
I am confident I get the success I deserve in life.				
2. ____				
Sometimes I feel depressed. (<i>r</i>)				
3. ____				
When I try, I generally succeed.				
4. ____				
Sometimes when I fail I feel worthless. (<i>r</i>)				
5. ____				
I complete tasks successfully.				
6. ____				
Sometimes, I do not feel in control of my work. (<i>r</i>)				
7. ____				
Overall, I am satisfied with myself.				
8. ____				
I am filled with doubts about my competence. (<i>r</i>)				
9. ____				
I determine what will happen in my life.				
10. ____				
I do not feel in control of my success in my career. (<i>r</i>)				
11. ____				
I am capable of coping with most of my problems.				
12. ____				
There are times when things look pretty bleak and hopeless to me. (<i>r</i>)				

(*r*) = reverse-scored. This measure is nonproprietary (free) and may be used without permission.

Figure 9: The core self-evaluation scale (cf. Judge et al., 2003, p. 315).

Eventually, all answers are summed up to a final score with a value between 12 and 60. Hiller and Hambrick (2005) suggested that participants with a very high score (90% or more) tend to have superior perceptions of themselves and can be considered as hubristic. In more detail, the researchers assume that hubristic executives “[...] are free of anxiety and have little concern about negative outcomes because they possess a core conviction that they can surmount adversity and repair all problems” (Hiller & Hambrick, 2005, p. 308). Therefore, they are likely to reach exceptionally high (hyper) values on the CSE scale.

Although the concept of CSE is well-established in personality literature (cf. Judge, Locke & Durham, 1997), no publication was identified that actually applied the scale to determine hubris. The first empirical study that used CSE as a measure for hubris was conducted as a side-project of this dissertation and was presented at the “Multikonferenz Wirtschaftsinformatik” in 2016 (MKWI 2016) (cf. page III [3]). However, it became evident that the application of the CSE scale entails several difficulties. Firstly, as discussed before (cf. section 4.1), both executives in established organizations and company founders are less likely to participate in research projects that focus on their psychological constitution. Therefore, it was considered necessary to communicate the purpose of the study as an empirical investigation on antecedents that influence decision-making processes during the initiation and launch of new ventures. However,

the communication of a “modified” research purpose raises some concerns from an ethical perspective⁸⁴. Secondly, more than 5000 questionnaires were sent out to founders in Germany, Austria, and the German-speaking areas of Switzerland. Nevertheless, it became obvious that it is difficult to receive answers from a representative sample of founders that can be classified as hubristic. The majority of participants in the study reached high but not hyper levels in their CSE. Thirdly, it was not possible to gain an in-depth understanding of the beliefs, behaviors, and background information of the participants. Therefore, it was not possible to actually explore effects of hubris but only to test hypotheses.

Another measure that follows a similar approach was developed by Li and Tang (2010). The scholars build upon the idea of Kahneman and Tversky (1995) “[...] that the essence of hubris is to overestimate the correctness of one’s own judgments” (Li & Tang, 2010, p. 51). On this basis, CEOs were asked to evaluate the financial performance of their companies during the last six month on a five-point Likert-scale (1= large loss; 3= breaking even; 5= large profit). A positive deviation between the subjective evaluations of the executives and the actual (financial) firm performance was considered as an indicator for hubris. This measure is a novel and interesting approach to determine hubris but it is also subject to some weaknesses that were already discussed in connection to indirect approaches (cf. section 4.1.1.1). For instance, it is difficult to determine the extent other factors, apart from psychological forces, influenced a deviation between the perceived and actual firm performance. Moreover, the measure does not allow a differentiation between diverse cognitive biases as every positive deviation is attributed to hubris.

In the area of clinical psychology, Owen and Davidson (2009) attempted to approve the “hubris syndrome” as a personality disorder (cf. section 2.3.1.3). For this purpose, the scholars developed a set of 14 symptoms for hubris that are “[...] evoked by a specific trigger (power), and usually remitting when power fades” (Owen & Davidson, 2009, p. 1397) (cf. Table 9). In doing so, the scholars take possible (inter)related disorders that are already approved and listed in the DSM⁸⁵ for the “diagnosis” of hubris into account. Specifically, seven of these symptoms are unique and occur exclusively in connection to hubris, such as the tendency to speak in the third

⁸⁴ All datasets were obviously anonymized.

⁸⁵ Diagnostic and Statistical Manual of Mental Disorders (cf. section 2.2.2.1).

person (No. 6). The other symptoms are characteristic for narcissism (n= 7), an antisocial personality disorder⁸⁶ (n= 1), and a histrionic personality disorder⁸⁷ (n= 1). On this basis, Owen and Davidson (2009) suggested that the determination of hubris is possible if at least three of all 14 symptoms can be diagnosed of which one must be unique to hubris. However, despite these efforts, hubris has not been approved as a personality disorder yet. Instead, the attempts of Owen and Davidson (2009) remain mainly unconsidered in the area of clinical psychology and the suggested symptoms have not been officially approved as indicators for hubris (Russell, 2011). Another disadvantage of this approach is that the “diagnosis” of hubris could only be undertaken by skilled psychologists and psychiatrists (Brennan & Conroy, 2013). As a consequence, it is unlikely that scholars from other research disciplines could apply this measure, which is the greatest weakness of this approach from an interdisciplinary perspective. For these reasons, the suggested set of 14 symptoms to determine hubris is not considered appropriate for the purpose of this dissertation.

⁸⁶ “Antisocial personality disorder is a disorder that is characterized by a long-standing pattern of disregard for other people’s rights, often crossing the line and violating those rights. A person with antisocial personality disorder (APD) often feels little or no empathy toward other people, and doesn’t see the problem in bending or breaking the law for their own needs or wants. The disorder usually begins in childhood or as a teen and continues into a person’s adult life” (PsychCentral I, 2016).

⁸⁷ “Histrionic personality disorder is characterized by a long-standing pattern of attention seeking behavior and extreme emotionality. Someone with histrionic personality disorder wants to be the center of attention in any group of people, and feels uncomfortable when they are not. While often lively, interesting and sometimes dramatic, they have difficulty when people aren’t focused exclusively on them. People with this disorder may be perceived as being shallow, and may engage in sexually seductive or provocative behavior to draw attention to themselves” (PsychCentral II, 2016).

Table The symptoms of hubris syndrome.		
Proposed criteria for hubris syndrome, and their correspondence to features of cluster B personality disorders in DSM-IV		
Item	Description of criteria	DSM IV
1)	A narcissistic propensity to see their world primarily as an arena in which to exercise power and seek glory	NPD.6
2)	A predisposition to take actions which seem likely to cast the individual in a good light—i.e. in order to enhance image	NPD.1
3)	A disproportionate concern with image and presentation	NPD.3
4)	A messianic manner of talking about current activities and a tendency to exaltation	NPD.2
5)	An identification with the nation, or organization to the extent that the individual regards his/her outlook and interests as identical	(<i>unique</i>)
6)	A tendency to speak in the third person or use the royal ‘we’	(<i>unique</i>)
7)	Excessive confidence in the individual’s own judgement and contempt for the advice or criticism of others	NPD.9
8)	Exaggerated self-belief, bordering on a sense of omnipotence, in what they personally can achieve	NPD.1&2
9)	A belief that rather than being accountable to the mundane court of colleagues or public opinion, the court to which they answer is: History or God	NPD.3
10)	An unshakable belief that in that court they will be vindicated	(<i>unique</i>)
11)	Loss of contact with reality; often associated with progressive isolation	APD 3&5
12)	Restlessness, recklessness and impulsiveness	(<i>unique</i>)
13)	A tendency to allow their ‘broad vision’, about the moral rectitude of a proposed course, to obviate the need to consider practicality, cost or outcomes	(<i>unique</i>)
14)	Hubristic incompetence, where things go wrong because too much self-confidence has led the leader not to worry about the nuts and bolts of policy	HPD.5
APD = Anti-Social Personality Disorder; HPD =Histrionic Personality Disorder; NPD =Narcissistic Personality Disorder		

Table 9: Symptoms of hubris according to Owen and Davidson (2009) (Bollaert & Petit, 2010, p. 369).

Collins (2009) developed a set of five indicators that is suggested to support the determination of hubris on the level of executives in established organizations. These five indicators suggest that hubristic executives are characterized through the following behaviors:

- (1) undisciplined leaps into areas where a company cannot be the best,
- (2) pursuit of growth beyond what a company can deliver with excellence,
- (3) risky and ambitious decisions that clearly indicate conflicting and negative evidence,
- (4) denial of the possibility of being imperiled by external threats or internal erosion,
- (5) arrogant neglect

This novel approach was applied by Chowdhury (2014) to analyze the effects of hubris in the case study of GM and Toyota (cf. section 2.3.1.2). However, it is considered problematic that such an operationalization of hubris already entails expected and quite explicit behaviors (cf. section 2.2.1). As a consequence, the research focus is already predetermined and circular reasoning could be unintentionally favored (Judge et al., 2009; Petit & Bollaert, 2012).

Therefore, a more abstract operationalization of hubris has been chosen in this dissertation (cf. section 4.3.1.2.2).

Direct Measure of Hubris	Author/s	Research Discipline	Strengths of Measure	Weaknesses of Measure
Core self-evaluations (cf. Figure 9)	Hiller & Hambrick (2005)	Business and Management	<ul style="list-style-type: none"> Easily applicable Approved scale (cf. Judge et al., 2003) Direct answers from participants 	<ul style="list-style-type: none"> Lack of empirical application in context of hubris Considerable dataset required to get a representative sample of participants who reach “hyper levels” of CSE In-depth exploration of phenomenon only possible on a limited basis
Hubris exists if: $\frac{\text{CEO's subj. eval. of firm perf.} - \text{Actual firm perf.}}{> 0}$	Li & Tang (2010), Tang et al. (2015)	Business and Management	<ul style="list-style-type: none"> Easily applicable Measure builds upon findings of profound studies (e.g. Kahneman & Tversky, 1995) 	<ul style="list-style-type: none"> No differentiation between distinct cognitive biases possible Alternative psychological or contextual factors that might have influenced deviations are not considered
Diagnosis of hubris through 14 specific symptoms	Owen & Davidson (2009)	Psychology and Medicine	<ul style="list-style-type: none"> Integration of symptoms of already approved disorders (e.g. NPD) 	<ul style="list-style-type: none"> Hubris has not been approved as a personality disorder Diagnosis only through skilled psychologists and psychiatrists

Five manifestations of hubris according to Collins (2009):

(1) undisciplined leaps into areas where a company cannot be the best,

(2) pursuit of growth beyond what a company can deliver with excellence,

(3) risky and ambitious decisions that clearly indicate conflicting and negative evidence,

(4) denial of the possibility of being imperiled by external threats or internal erosion, and

(5) arrogant neglect

Chowdhury (2014)

Business and Management

- Measure allows an in-depth analysis of qualitative data
- Applicable to a variety of case studies

- Operationalization entails expected behaviors and favors circular reasoning
- Research focus is already predetermined

Table 10: Direct approaches to determine effects of hubris (author's illustration).

4.1.2. Overcoming Methodological Weaknesses: The Suitability of a Qualitative Approach

As stated before, existing indirect methodologies to determine hubris through proxies are inappropriate for this study (cf. section 4.1.1.1). However, the determination of hubris through direct interactions with startup founders is also problematic, as these subjects are less likely to participate in research projects examining their psychological constitution (cf. section 4.1.1.2). In order to resolve these obstacles, Bollaert and Petit (2010) stated that “[...] direct measures do not necessarily have to be collected from executives themselves. Using direct measures provided by the executive’s entourage could also be a way to get round the difficulty of accessing the top executive directly [...]” (p. 373). Following this argument, it was decided to involve startup coaches, consultants, and investors, who are often in direct interaction with newly founded ventures, as intermediaries in the research process. Their experiences with, and observations of, hubristic founders were assumed to provide rich insights that allow an in-depth exploration of hubris and its effects. Moreover, such an approach allows to capture hubris as a “real-life phenomenon”, since the dynamic and often varying life cycles of newly founded ventures are taken into consideration.

The conduction of interviews with intermediaries that regularly interact with hubristic startup founders is a novel attempt to collect relevant data in the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362). This data collection approach is supported through the application of a qualitative research design. The detailed procedure undertaken to explore the effects of hubris on the level of startup founders is described in the following.

4.2. Iterative Research Design

An appropriate research design has to overcome previously discussed weaknesses of existing methodologies and to support the development of a qualitative approach that suits the purpose of this dissertation (cf. section 4). In addition, it needs to fulfill the following requirements:

- **Exploration** of currently unknown effects of hubris on the execution of core entrepreneurial functions performed by individual startup founders (cf. section 2.3.1.4)
- **Continuous reflection** of empirical findings and evidence in literature in order to determine the transferability of existing insights from diverse research disciplines (cf. section 2.3.1)
- **Flexibility** to continuously adjust data collection methods in order to test a novel methodological approach that has not been applied in literature on hubris before (cf. Maxwell, 2012)
- **Conformity** between the applied research design and the interpretative paradigm of the CbTF (cf. Freiling et al., 2008; Gersch, 2006)

Based on a careful consideration of these requirements, an iterative research design, according to Gersch et al. (2009), was developed. Their iterative process reinforces the interplay between empirical exploration and the continuous comparison of research findings with existing theoretical assumptions held by the researcher. Thus, causalities are determined through a combination of inductive and deductive elements. Therefore, the research cycle allows an empirically informed and incremental deduction of causalities that are nurtured by the confirmation or rejection of theoretical ideas (Gersch et al., 2009; Wessel, 2013). A considerable advantage of such an iterative approach is the flexibility of the design, which can be continuously adjusted in accordance with derived empirical findings or learning outcomes, e.g. in relation to the data collection methods. On this basis, it is possible to develop a novel methodological approach that can be gradually tested and extended.

4.3. Multi-Method Approach of Data Collection

The iterative research design involved the collection of multiple forms of qualitative data, which is referred to as a multi-method⁸⁸ data collection approach (cf. Creswell & Clark, 2007). Specifically, expert interviews and mini-case studies were conducted with the overall aim to explore currently unknown effects of hubris on the execution of core entrepreneurial functions performed by individual startup founders. Various benefits of a multi- instead of single-method approach became evident during the iterative research processes, which were divided into four

⁸⁸ “Multi-method research” should not be confused with “multiple-method research”, as the latter describes the combination of qualitative and quantitative data collection approaches (cf. Creswell & Clark, 2007).

phases as outlined in the following (cf. section 4.3.1) and displayed in Figure 10. Following this, the preparation and organization of the collected data is presented (cf. section 4.3.2).

4.3.1. Data Collection in Four Phases

The initial phase of the data collection process consisted of a literature review (cf. section 4.3.1.1), which built the basis for the first round of expert interviews. These were conducted in order to qualify the actual research area and to determine the practical relevance of the chosen topic (cf. section 4.3.1.2). Thereafter, a second round of interviews and two mini-cases were conducted in order to explore (cf. section 4.3.1.3) and contextualize identified effects of hubris (cf. section 4.3.1.4).

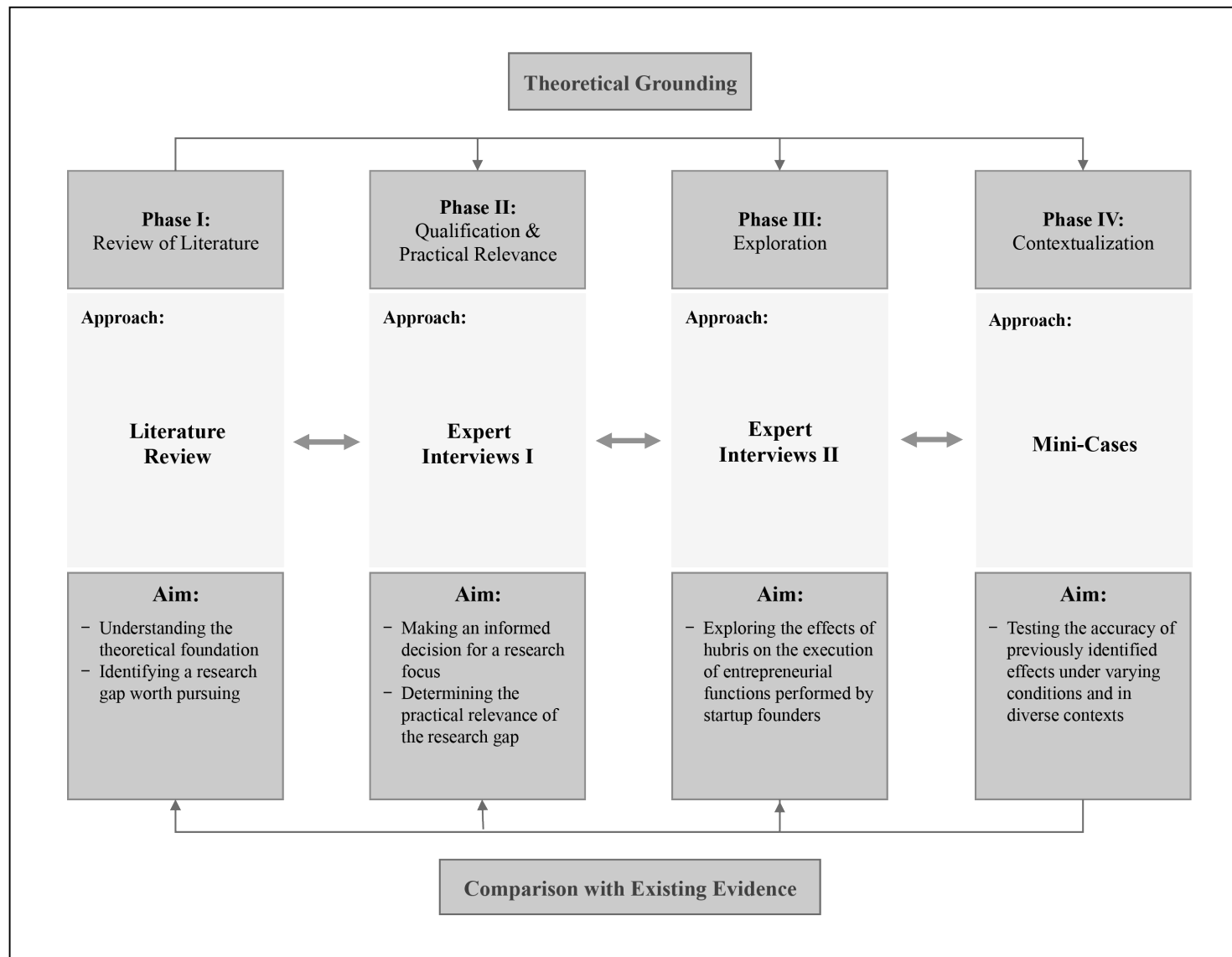


Figure 10: Iterative research process (author's illustration).

4.3.1.1. Phase I: Review of Literature

In the initial phase of the research process, a literature review on hubris was conducted in order to gain an understanding of its theoretical foundation and to identify a relevant research gap worth pursuing. The detailed procedures undertaken for this review are summarized together with its outcomes⁸⁹ in section 2.3.1. On this basis, interesting research opportunities in relation to antecedents, moderators, and effects of hubris in the context of newly founded ventures were identified. These research gaps triggered the scientific curiosity to seek additional insights and to contribute with empirical evidence to the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) in entrepreneurship literature (cf. section 2.3.2.2).

4.3.1.2. Phase II: Qualification of the Research Area and Practical Relevance

The second phase of the research process aimed to narrow the focus of this dissertation on either antecedents, moderators, or effects of hubris. Moreover, the practical relevance of the chosen research topic needed to be determined in order to ensure that the focus encompasses a contemporary phenomenon of scientific and practical relevance. For this purpose, 16 expert interviews were conducted with startup consultants, coaches, and investors who regularly interact with new venture founders. In the following, the selection criteria for the interview partners (cf. section 4.3.1.2.1), the structure and setting of the interviews (cf. section 4.3.1.2.2), and the learning outcomes of this phase of the research process are presented (cf. section 4.3.1.2.3).

4.3.1.2.1. Selection of Experts

A careful selection of the interview partners was considered to be important, as they needed to possess sufficient practical experiences in order to objectively detect, reflect, and evaluate behaviors and decision-making processes driven by hubris. Therefore, suitable experts were required to meet two criteria:

- (1) minimum two years of working experience with newly founded ventures
- (2) more than 30 actively accompanied startup companies (e.g. through consulting, coaching, or investing)

⁸⁹ See also Appendix I.

Firstly, ten experts fulfilled these prerequisites. They were selected from personal and business networks, such as the “Entrepreneurial Network University”⁹⁰ and “Coneeect”⁹¹. From these ten interviews an additional six experts were recommended as potentially knowledgeable and relevant to the study. Fortunately, all six fulfilled the prerequisite criteria and accepted the invitation to contribute to this research project. Thus, 16 expert interviews were conducted in total. Notably, data was collected under the condition that marginal utility, in terms of new information gained from the interviews and the effort to conduct them, was positive (cf. Francis et al., 2010). A detailed overview of the participants’ profile (anonymized), their experiences, and the setting of each interview can be found in Appendix II.

4.3.1.2.2. Structure and Settings of the Interviews

The preparation and execution of the expert interviews involved several steps. Firstly, the participants received a file, which contained the following information in preparation for the interviews, approximately two weeks before the scheduled appointment:

- a short description of the interview purpose,
- an overview of characteristic aspects of hubris (cf. section 2.2.1), and
- a request to reflect their experiences with hubristic founders

Secondly, a questionnaire was developed that provided a general guideline for the interviews (cf. Appendix III). Various questions were formulated that covered the experts’ experiences with antecedents, moderators, and effects of hubris in the context of newly founded ventures. The interviews themselves, however, were only semi-structured and adapted flexibly to the given input in order to allow the exploration of yet unconsidered aspects of hubris (cf. Flick, 2005). The general template of the questionnaire was constantly reflected upon during the data collection process but only minor adaptations, e.g. the reformulation of a few questions, were necessary.

⁹⁰ The “Entrepreneurial Network University” is a project funded by EXIST that aims to establish an entrepreneurship culture at the Freie Universität Berlin and Charité – Universitätsmedizin Berlin (cf. <http://www.fu-berlin.de/sites/enu> for more information).

⁹¹ “Coneeect is an international network of universities that offers training courses for academic entrepreneurship teachers to improve the Entrepreneurship Education across Europe” (Coneeect, 2016) (cf. <http://www.coneeect.eu/index.html> for more information).

Thirdly, the actual interviews were conducted either in person (n= 9) or via telephone (n= 7), depending on the availability and location of the experts. In the beginning, the general purpose and procedure of the interviews were clarified. Moreover, the participants understanding of hubris was discussed in order to ensure a common conceptual basis throughout all interviews. As an icebreaker and stimulator of the conversations, the experts were initially asked about their most memorable or bizarre experiences with hubristic startup founders. Surprisingly, the answers to this question made up a considerable part of many interviews. In this context, the experts described approximately 25 case studies of hubris driven entrepreneurs from diverse industries and in distinct phases of their venture creation process. The narrations of the experts were only interrupted to gain more in-depth information that was considered necessary to understand all aspects of the reported cases. Thereafter, the semi-structured part of the interviews was conducted. Some of the experts (n= 5) provided additional secondary materials, such as company reports, presentations and media articles, in order to illustrate their experiences with specific startup founders that were driven by hubris. In the end, the experts were asked whether they could establish contact with additional interesting partners for the interviews and/or with hubristic startup founders that might become a case study for this dissertation. Whereas contact information to other experts was easily provided, all interview partners expressed concern for their personal relationships with hubristic founders they accompanied. All of the experts stated that they would never directly confront the founders with the assumption that their actions are driven by hubris. Therefore, it was not possible to gain access to interesting case studies through the interviewed experts.

Summarized, each interview took 45 minutes on average, and was recorded as well as transcribed verbatim (cf. Bryman & Bell, 2015). Merely one expert did not agree to the recording of the interview. In this case, detailed notes were taken and complemented right after the interview.

4.3.1.2.3. Learning Outcomes

The execution of the expert interviews yielded several key learnings. These are summarized in Figure 11 as they were of particular relevance for the subsequent phases of the research process.

Learning Outcomes in Phase II	
1.	Confirmation of practical relevance
2.	Focus on effects of hubris
3.	Avoidance to directly use the term hubris
4.	Hesitance of experts to establish contact with hubristic founders
5.	Concretization of a „dependent variable“

Figure 11: Key learning outcomes in research phase II (author's illustration).

Firstly, the experiences of the experts confirmed that hubris is a relevant and regularly occurring phenomenon during new venture creation processes. Therefore, the research focus on startup founders affected by hubris was maintained. Secondly, the continuous comparison between the information elicited through the interview data and already existing evidence in literature, as identified in phase I (cf. section 4.3.1.1), indicated interesting research opportunities in relation to the effects of hubris, as several insights given by the interviewees were not empirically determined in literature. For instance, the interview data suggested that hubristic startup founders are highly persuasive. This is another indicator that hubris could also lead to positive effects that have been widely neglected in literature to date (cf. section 2.1). Therefore, the area of research was narrowed to the effects of hubris in this dissertation. Thirdly, it became evident that the explicit use of the term hubris led to undesirable biases in the beginning of the data collection due to its negative connotation in the German language⁹². For this reason, several interview partners did not adopt an impartial perspective but immediately associated hubris with venture failure. In order to enable an unbiased exploration of hubris and potentially occurring positive effects, the term itself was no longer explicitly used, neither in the communication of the purpose nor the actual interviews. Exemptions were only made when the interviewees themselves brought up the term. Fourthly, the experts were very hesitant to establish contact with the hubristic founders that they depicted during the interviews. As a consequence, the accessibility to interesting case studies through the interviewees was hindered and other sources for the subsequent data collection processes were required (cf. section 4.3.1.3.1). Fifthly, a preliminary analysis of the interview data with a focus on effects of hubris

⁹² As indicated in the introduction (chapter 1), there is hardly any impartial consideration of hubris in media articles and scientific publications (cf. Bollaert & Petit, 2010).

in the context of newly founded ventures was conducted and presented at the AoM 2015⁹³. The general feedback on the chosen topic and research approach was positive but the audience discussed the necessity to define a more concrete “dependent variable”. According to the reviewers, it might otherwise become difficult to distinguish between the conceptual aspects of hubris and the determined effects in the empirical study. Especially the latter learning outcome considerably influenced the following phase of the research process.

4.3.1.3. Phase III: Exploration

The third phase started with critical reflections of the feedback provided at the AoM 2015. In this context, various “dependent variables” were evaluated in order to identify a variable that allows a clear distinction between the conceptualization of hubris and its effects in this dissertation. A comparison of existing evidence (phase I) and the outcomes of the first expert interviews (phase II) indicated that hubris considerably influences tasks and functions that entrepreneurs have to perform in order to ensure the performance and competitiveness of their ventures. On this basis, a coherent conceptual framework was derived that supports the theoretical and empirical examinations of hubris and its effects on the execution of core entrepreneurial functions (cf. section 2.4.2). These are the innovation-, internal coordination-, arbitrage-, and risk management function (Freiling, 2009; Schneider, 1997). Following this, the objective of phase III was to explore effects of hubris on the execution of these functions as performed by individual startup founders. For this purpose, various alternatives to collect relevant data were discussed (cf. section 4.3.1.3.1). Eventually, another round of expert interviews with overall narrative elements was conducted (cf. section 4.3.1.3.2).

4.3.1.3.1. Alternative Data Collection Approaches

Initially, the focus was on the exploration of hubris and its effects through direct interactions with startup founders. However, this approach proved itself difficult for several reasons. Firstly, the interviewed experts in phase II were hesitant to establish contact with hubristic founders that could have become potentially interesting case studies for this dissertation (cf. section 4.3.1.2.3). Secondly, also the attendance of numerous startup events in Berlin yielded minimal access to hubristic founders. The main problem was the identification of hubris as it requires

⁹³ Sundermeier, J. (2015): The effects of hubris on entrepreneurial decision-making processes, 75th Annual Meeting of the Academy of Management, Vancouver, Canada (cf. page III [6]).

sufficient experiences in the handling of startup founders with differing characters and motivations. Moreover, it became evident that it would be necessary to observe these founders over an extended period of time in order to “diagnose” hubris and to observe its effects in the long run. However, such an approach bears risks due to high venture failure rates (Aspelund, Berg-Utby, & Skjeldal, 2005). This would have implied that the required period for the data collection was highly uncertain as it might have become necessary to start all over again. Thirdly, also the identification of hubristic founders through media coverage was hindered as a result of the often-biased reports of the journalists (cf. section 2.1).

In reflection of alternative approaches to collect relevant data, it became apparent that the narrative parts of the expert interviews conducted in phase II yielded valuable and rich insights for the chosen research topic. Therefore, it was decided to also capture the effects of hubris on the entrepreneurial functions performed by individual startup founders with similar approaches. This implied that another round of expert interviews was conducted with different startup coaches, consultants, and investors. These experts were again contacted through existing networks and selected based on the same criteria as applied before (cf. 4.3.1.2.1). Detailed information about the experiences of the experts and settings of the interviews can be found in Appendix II.

4.3.1.3.2. Structure and Settings of the Interviews

In total, another 11 expert interviews were conducted in person ($n=6$) or via telephone ($n=5$). These took 56 minutes on average. In comparison to phase II, no specific questionnaire was developed but instead, the focus of the interviews was led on the narrations of the experts (cf. Hermanns, 1996). Only a few general questions were prepared to ensure that all details in relation to the entrepreneurial functions performed by the depicted founders were captured during the narrations (cf. Appendix IV). All of the experts received an email with the same information like the participants in the first round of interviews (cf. section 4.3.1.2.2), approximately two weeks before the scheduled appointment. Notably, the term hubris was not explicitly used in the entire communication before and during the interviews, unless brought up by the experts themselves (cf. section 4.3.1.3.2). The purpose of this dissertation was stated as a study on varying degrees of self-confidence during the venture creation process. During the interviews, the experts were asked to report case studies of hubristic founders they accompanied and to depict all actions taken by them between their first and the last contact with these founders. The experts were only interrupted to gain more in-depth insights in relation to the

execution of the entrepreneurial functions described. On average, three case studies were depicted in each interview and some experts provided additional secondary materials to illustrate their narrations (n= 4).

These interviews yielded rich data to explore the effects of hubris on the execution of core entrepreneurial functions performed by individual startup founders. However, most of the experts anonymized their case studies, which implied that the collection of additional secondary data was not always possible. As a consequence, an aggregate and thorough examination of hubris and its effects was enabled but without sufficient information in relation to the contexts of the reported case studies. Nevertheless, such contextual factors are of particular importance. The outcomes of prior studies indicate that cognitive biases of individuals vary depending on the contexts in which they operate (e.g. Baron, 1998; Busenitz & Barney, 1997; Forbes, 2005). Therefore, it was decided to test an alternative approach to collect relevant that would allow the integration of contextual factors into the analysis.

4.3.1.4. Phase IV: Contextualization

The objectives of the fourth phase of the research process were to examine the previously identified effects of hubris in diverse contexts (cf. Busse, Kach, & Wagner, 2016). A context is defined as an “[...] amorphous concept capturing theory-relevant, surrounding phenomena or temporal conditions [...]” (Bamberger, 2008, p. 839). For this purpose, two mini-case studies were conducted in order to enable an in-depth examination of contextual factors that might strengthen or weaken the effects of hubris. This approach favors a methodological triangulation, which describes the application of diverse methods and multiple sources to collect converging data (Crossan & Berdrow, 2003; Eisenhardt, 1989; Yin, 2012). In addition, complementarity is achieved as a result of the research phenomenon being observed from different perspectives that collectively provide comprehensive insights (Creswell & Clark, 2007; Onwuegbuzie & Teddlie, 2003). The selection of the cases (cf. section 4.3.1.4.1) and the actual data collection in this phase (cf. section 4.3.1.4.2) are described in the following.

4.3.1.4.1. Selection of Data Source

The mini-cases were collected from an event series called “FuckUp Nights” that was first initiated in Mexico in 2012. Presently it is organized in numerous major cities around the globe. The overall aim of these events is to trigger cultural changes towards embracing mistakes and failure in business life. For this purpose, various entrepreneurs report their smaller or bigger mistakes and catastrophes in their careers, either in established organizations or during venture

creation processes, in an entertaining way. At each event, approximately 2-4 entrepreneurs have 15 minutes to present their stories and the audience is invited to ask questions afterwards. The speakers are often part of the startup community network and they have to apply to become a part of an event. All “FuckUp Nights” are usually held during the evening and the locations are typically provided by trendy startups, incubators, or accelerators.

The “FuckUp Nights” were chosen as an additional source to collect relevant data for various reasons. Firstly, the speakers gained all experiences themselves and hence, more in-depth insights with regard to contextual factors can be taken into account during the data analysis. Secondly, the speakers have an ex-post perspective, which allows them to reflect upon all the actions taken during the venture creation process (cf. Cormier et al., 2016). Thirdly, several sources of data are available, such as videos of the talks, company presentations, and media coverage. These secondary materials do not only allow triangulating the data but also to integrate several scholars into the research process as described in the following.

4.3.1.4.2. Collection of Data

The focus was on “FuckUp Night” events held in Germany between 2014 and 2015 where company founders were presenting. In total, 36 videos were identified on YouTube that recorded talks of startup founders during “FuckUp Nights” in various cities, including Leipzig, Dresden, and Frankfurt. In order to identify cognitive and behavioral patterns as indicators for hubris, all the videos were viewed by a colleague and me independently. Moreover, we personally attended three events in Berlin. Based on these presentations and the previously derived conceptualization of hubris (cf. section 2.2.1), we conformingly assumed that hubris triggered the actions taken by 14 entrepreneurs during their venture creation process.

These 14 startup founders received an email with the request to participate in a research project on entrepreneurial failure. Fortunately, nine founders confirmed and interviews were conducted with all of them via telephone ($n=7$) or in person ($n=2$). The interviews were not guided by a predefined questionnaire but the founders were asked to provide in-depth descriptions of their experiences during the venture creation process. The interviews were recorded and took 67 minutes on average. Moreover, they were transcribed verbatim and all text passages that indicated hubristic beliefs and patterns, which corresponded to the conceptualization of hubris in this dissertation, were coded accordingly. Through this process it became evident that the assumption of hubris was supported in two of the case studies. These were analyzed in more detail according to a rigorous approach developed by Gioia et al. (2013) (cf. section 4.4). In

addition, the interviewees provided secondary materials, such as company presentations, reports, and meeting notes. Notably, only one of the founders experienced a “fuckup” in terms of failure, whereas the venture of the other entrepreneur still existed at the time of reporting. An in-depth description of both cases is provided in section 5.2.

4.3.2. Organizing the Data

As indicated before, all of the conducted interviews (phase II-IV) were either transcribed verbatim or summarized with detailed notes if recoding was not possible. The transcripts are stored in separate folders, which also include secondary data if available. All files belonging to one interview or case study were labeled with the same code that contains the following information:

- “Ex” for expert (phase II and III) or “Cas” for case study (phase IV)
- Numeration in alphabetical order of surnames (1-27)
- “In1” for expert interviews round 1 (phase II) or “In2” for round 2 (phase III)
- Indications for the experience of the interviewed expert in connection to venture creation processes:
 - “Coa” = Coach
 - “Con” = Consultant
 - “Inv” = Investor
 - “Foun” = Founder

For example, the code “Ex_2_In1_CoaInvFoun” refers to all materials that belong to the expert interview number 2, which was conducted during the first round of interviews (phase II) with an expert that works as a coach, an investor and is a founder.

In order to gain an overview of all primary materials, a spreadsheet was created that contains the codes, the detailed occupation and experience of each expert, as well as the date, setting, length, and documentation of each interview (cf. Table 11). A detailed overview can be found in Appendix II.

Code	Occupation					Interview			
	Consultant (Con)	Coach (Coa)	Investor (Inv)	Founder (Foun)	Other	Date	Phone / Personal	Length	Documen- tation
Ex_1_In2_Coa		since 2013 (> 80)*			BPC	05.06.15	phone	56 minutes	audio, transcript
Ex_2_In1_CoaInvFoun		since 2001 (> 1000)	since 2000 (> 15)		BPC, EE	12.08.14	phone	69 minutes	audio, transcript
Ex_3_In2_Con	since 2009 (> 80)			x	EE	25.06.15	personal	86 minutes	audio, transcript
Ex_4_In1_ConCoalnv	since 2004 (> 200)	since 1999 (> 500)	since 2005 (> 10)		BPC, EE	02.07.14	phone	57 minutes	audio, transcript

* Number of ventures accompanied; BPC = business plan competition; EE = entrepreneurship educator.

Table 11: Organization of the data (extract of Appendix II) (author's illustration).

4.4. Gioia Approach of Data Analysis

The conducted interviews and mini-case studies were examined following the “Gioia methodology”⁹⁴ that was introduced by Gioia et al. (2013) as a rigorous approach to analyze (multiple forms of) qualitative data (e.g. Adler, 2015; Costas, 2012; Wessel, 2013). This methodology entails various benefits for the purpose of this dissertation:

- **Exploration and Iteration.** The methodology proved itself suitable for explorative and iterative research designs, as applied in this research project. Scholars are enabled to systematically iterate between empirical findings and theoretical presumptions⁹⁵ hold by the researcher or existing evidence in literature (e.g. Gersch et al., 2009).
- **Structure and Transparency**⁹⁶. The methodology follows four consecutive and iterative steps that are divided into first- and second-order analyses (cf. section 4.4.1). All of these steps are documented in a comprehensible manner and allow the transparent presentation of the analysis and interpretation of the results (e.g. Costas, 2012).
- **Theory Development.** The methodology suits the examination of relatively unexplored concepts that require theory development (e.g. Adler, 2015; Wessel, 2013). Hence, it is suitable to support theory development on effects of hubris in the context of newly founded ventures.

⁹⁴ Wessel (2013) points out that not Dennis Gioia himself but the academic community in the area of Strategic Management and Organizational Studies labeled the approach “Gioia method/methodology”.

⁹⁵ The Gioia methodology builds upon central aspects of the “Grounded Theory” approach according to Glaser et al. (1968). In contrast, however, it acknowledges that the existence of theoretical presumptions are a natural and often essential element of empirical data collection and analysis processes.

⁹⁶ This benefit is of particular importance as a result that qualitative research is often criticized for its lack of transparency of the data analysis (e.g. Gephart, 2004; Glaser et al., 1968).

Gioia et al. (2013) recommend their methodology to explore the “how” and “why” of empirical phenomena through semi-structured interviews that should be triangulated with secondary materials (Gephart, 2004). In the following, the general structure of their first- and second-order analyses is outlined (cf. section 4.4.1). Afterwards, the coding procedure of the empirical data as conducted in this dissertation is presented (cf. section 4.4.2).

4.4.1. First- and Second-Order Analyses

The first-order analysis involves two central steps. Firstly, the collected data is assessed line by line and **categories** that reflect primary ideas and causalities emerging from the data are highlighted. These categories are usually stored as codes in software that support the analysis of qualitative data, e.g. Atlas.ti. Gioia et al. (2013) emphasize the relevance to “[...] adhere faithfully to informant terms [...]” (p. 6) in this initial step as the language used by the interviewees already yields rich and descriptive insights about the phenomenon of interest (cf. Corbin & Strauss, 2014; van Maanen, 1979). This step is comparable to the approach of “open coding” by Corbin and Strauss (2014). Secondly, all derived 1st-order categories are compared in order to identify relative similarities and differences. This process is referred to as “axial coding” (Corbin & Strauss, 2014). Similar categories that belong to comparable ideas or causalities are aggregated to so-called 1st-order **concepts**. In doing so, the amount of categories is gradually decreased. Notably, the labels of the derived concepts should still be close to terms used by the interviewees and not contain theoretical language (Clark, Gioia, Ketchen, & Thomas, 2010; Gioia et al., 2013). On this basis, it is possible to determine whether more in-depth interviews need to be conducted in order to gain a more thorough understanding of certain aspects or circumstances (Adler, 2015; Nag & Gioia, 2012).

Following this, the second-order analysis aims to “[...] make sense of the empirical data on a theoretical level” (Wessel, 2013, p. 118). This ‘sense-making’ is achieved through the identification of causal structures among the 1st-order concepts, which supports the explanation of the observed phenomenon through a theoretical lens. Therefore, similar concepts are summarized into 2nd-order **themes** that are labeled with theoretically informed terms (Corley & Gioia, 2004; Gioia & Chittipeddi, 1991; Gioia, Price, Hamilton, & Thomas, 2010). For this purpose, it is essential to constantly iterate between the empirical findings and existing evidence in literature in order to specify the derived themes. During this process, it might become necessary to collect additional empirical data and to conduct (another) systematic review of literature. This iterative process continues until theoretical saturation is achieved (cf. Glaser et al., 1968). Eventually, the 2nd-order themes are further aggregated to abstract **aggregate dimensions** that represent the

“[...] ‘30,000-ft.’ view often required to draw forth the theoretical insights necessary for journal publication” (Gioia et al., 2013, p. 7).

Taken together, the developed categories, concepts, themes, and aggregate dimensions support the visual presentation of the data structure, which is of particular importance to ensure a comprehensible and transparent demonstration of the analysis (cf. section 4.4). For the purpose of this dissertation, the analyses with regard to the effects of hubris on the performance of all four identified entrepreneurial functions are conducted separately. Therefore, a detailed overview of the respective data structure can be found in each subchapter of the analysis (cf. section 5.1).

4.4.2. Coding and Structuring of the Data

The analysis of the collected data⁹⁷ followed the previously described steps.

1. The transcripts of phase II and III of the expert interviews (cf. section 4.3.1.2 and 4.3.1.3) were imported into Atlas.ti (version 7) together with related secondary materials that were used to support the analysis.
2. The materials were assessed line by line in order to identify illustrative citations that provide insights about the effects of hubris on all four entrepreneurial functions. These citations were coded in order to develop the 1st-order **categories** as a basis for the following steps. Each code received a specific “label” depending on which entrepreneurial function the citation referred (e.g. “*Risk Management Function: Hubristic founders tend to overestimate their chances and underestimate the risks*”). If more than one entrepreneurial function was addressed in a citation, it was assigned several codes. Notably, the materials were constantly analyzed in order to determine whether additional interviews were likely to deliver new relevant information (cf. section 4.3.1.2.1).
3. The list of categories and related citations was exported into Excel in order to derive more in-depth insights about the addressed topics in the data. For reasons of clarity, all codes and citations belonging to one entrepreneurial function were stored separately in four different sheets, which were labeled accordingly. This process was of particular

⁹⁷ The data was analyzed several times from diverse perspectives during the research process. For instance, the analysis that was presented at the AoM 2015 examined effects of hubris on a more general basis (cf. section 4.3.1.2.3). Following the feedback of the conference participants’ in my track, entrepreneurial functions were defined as a more concrete “dependent variable” and all materials were analyzed all over again. Since merely the latter examinations contribute to the focus of this dissertation, only the data structure of this analysis is presented in more detail.

importance to achieve a primary structure of the data and to recognize similarities and differences between the categories.

4. All categories that addressed a similar topic were aggregated to 1st-order **concepts**, which were coded with terms and expressions used by the experts.
5. The derived concepts were iteratively compared with already existing evidence identified in phase I of the research process (cf. section 4.3.1.1). In doing so, it was possible to gain a deeper understanding of the data and to determine contributions to literature on hubris in diverse research disciplines. Eventually, primary theoretical ideas were specified and aggregated to 2nd-order **themes**. This iterative process of data analysis and review of existing literature was continued until theoretical saturation was achieved (cf. Glaser et al., 1968). At that point, it was possible to specify the relationships between the derived themes and to summarize them to theoretically-informed **aggregate dimensions** (one for each entrepreneurial function). The detailed structure of the data and some representative quotes are displayed in chapter 5.

Since the last phase (IV) of the research process aimed to contextualize the findings from the expert interviews, the previously derived categories were used to code the data of the two mini-case studies. On this basis, it was possible to determine whether, and to which extent, previously determined effects occurred in the cases. Moreover, related citations provided indicators for possible contextual factors that strengthened or weakened the impacts of hubris on the execution of core entrepreneurial function performed by the startup founders. Overall, this approach provided the possibility to gain a more in-depth understanding of contextual factors that influenced the hubris driven behaviors of the two founders.

Eventually, the concepts, categories, themes, aggregate dimensions, and all citations were translated into English. In order to avoid unwanted distortions, the data was translated from German to English by a single individual. Afterwards, the data was again translated from English to German by a different bilingual (German, English) individual. Identified distortions in the data through the translation process were discussed and corrected.

4.5. Quality Criteria

Discussions with regard to the quality of the applied methods and constructs are crucial for every empirical research project (Tracy, 2010; Yin, 2009). In this context, it is of particular importance to disclose the validity of an empirical study. For instance, the construct validity assesses the accuracy of theoretical constructs and the influence of subjective perspectives

during the analysis. An adequate construct validity can be achieved through a transparent presentation of the data analysis and interpretation of results, e.g. through the application of the “Gioia methodology” in this dissertation (cf. section 4.4.1). Such a transparent approach is also important to ensure an adequate internal validity of a study, which refers to the comprehensible interpretation of the data. In addition, the external validity is an indicator for the transferability of research findings to different contexts and settings (Corbin & Strauss, 2014). In Table 12, common construct, internal, and external validity criteria of qualitative research are summarized (cf. Corbin & Strauss, 2014; Flint, Woodruff, & Gardial, 2002; Gersch et al., 2009; Hirschman, 1986). Furthermore, the right-hand column displays how the methodological approach applied in this dissertation complies with these criteria.

Criterion	Definition	Compliance in this Dissertation
1. Credibility	Extent to which the results appear to be acceptable representations of the data	<ul style="list-style-type: none"> Comprehensive interviews with knowledgeable and experienced actors (explicit selection criteria, cf. section 4.3.1.2.1) Transparency of data structure and interpretation through the application of the Gioia methodology (cf. section 4.4.1) Continuous discussions of the data collection approaches and the interpretation of findings with informed scholars and practitioners (e.g. at the AoM2015 and other conferences)
2. Transferability	Extent to which findings from one study in one context will apply to other contexts	<ul style="list-style-type: none"> Theoretical sampling (cf. Corbin & Strauss, 2014) Detailed description of contextual factors in the case studies (cf. section 5.2.1.1 and 5.2.2.1) Open discussion about the limitations of the methodology and transferability of findings (cf. section 7.3)
3. Dependability	Extent to which the findings are unique to time and place; the stability or consistency of explanations	<ul style="list-style-type: none"> Adaptation of long-term perspectives: <ul style="list-style-type: none"> Experts accompanied hubristic founders over a certain period of time Ex-post view on case studies Detailed description of contextual factors in the case studies (cf. section 5.2.1.1 and 5.2.2.1)
4. Confirmability	Extent to which interpretations are the result of the participants and the phenomenon as opposed to researcher biases	<ul style="list-style-type: none"> Transparency of data structure and interpretation through the application of the Gioia methodology (cf. section 4.4.1) Continuous discussions of data collection approaches and the interpretation of findings with informed scholars and practitioners (e.g. at the AoM2015 and other conferences)
5. Integrity	Extent to which interpretations are influenced by mis-information or evasions by participants	<ul style="list-style-type: none"> Multiple sources of qualitative data (cf. section 4.3.1.4) Triangulation of narrations and descriptions in the interviews with secondary data whenever possible Conduction of interviews in a professional and non-threatening manner (cf. Flint et al., 2002) Participants were informed that all data is treated anonymously (cf. Flint et al., 2002)

6. Fit	Extent to which findings fit with the substantive area under investigation	<ul style="list-style-type: none"> ▪ Continuous iteration between empirical findings and theoretical ideas/evidence (cf. section 4.1.2) ▪ Development of a conceptual framework as a basis for the empirical examinations (cf. section 4.4.1)
7. Understanding	Extent to which participants buy into results as possible representations of their worlds	<ul style="list-style-type: none"> ▪ Continuous discussions of data collection approaches and the interpretation of findings with informed scholars and practitioners (e.g. at the AoM2015 and other conferences)
8. Generality	Extent to which findings discover multiple aspects of the phenomenon	<ul style="list-style-type: none"> ▪ Multiple forms of qualitative data favor complementarity and methodological triangulation (cf. section 4.3.1.4) ▪ Interviews of sufficient length to explore diverse aspects of the phenomenon of interest (cf. Flint et al., 2002)
9. Control	Extent to which organizations can influence aspects of the theory	<ul style="list-style-type: none"> ▪ Experts and founders were not involved into the analysis of the empirical data

Table 12: Common validity criteria of qualitative research (adapted from Flint et al., 2002, p. 106).

Also the reliability is a crucial quality criterion referring to the reproducibility of an empirical research project through other scholars (Corbin & Strauss, 2014; Yin, 2009). A high level of reliability is ensured in this dissertation through the transparent presentation of the data collection and interpretation process. In addition, all primary and secondary materials together with the Excel sheets that contain the detailed data structure and all relevant citations are attached digitally to this dissertation.

5. Analysis – Expert Interviews and Mini-Case Studies

The subsequent analyses of the 27 expert interviews (cf. section 5.1) and two mini-cases (cf. section 5.2) are framed by the research question of this dissertation:

How does hubris affect the execution of core entrepreneurial functions, such as innovation, internal coordination, arbitrage, and risk management, as performed by individual startup founders?

In order to avoid confusions, it should be noted that the following descriptions only represent the experiences and observations made by the interviewed experts without any subjective judgment from the researcher.

5.1. Interviews with Experts - Exploration

The examinations of the expert interviews aim to explore hubris and its currently unknown effects on the execution of the innovation (cf. section 5.1.1), internal coordination (cf. section 5.1.2), arbitrage (cf. section 5.1.3), and risk management function (cf. section 5.1.4) performed by startup founders.

5.1.1. Innovation Function – Persistence

In their performance of the innovation function, hubristic founders demonstrate a strong persistency towards the implementation and realization of their innovative business ideas. This is reflected in their (1) negligence of essential factors during business idea realization (cf. section 5.1.1.1), and the (2) linear implementation of their envisioned innovations, which often possess novelty value (cf. section 5.1.1.2). The overall structure of the analysis, including all 1st order concepts, 2nd order themes, and the aggregate dimension (cf. section 4.4.1), is outlined in Figure 12 together with representative data in Table 13.

5.1.1.1. Negligence of Essential Factors during Business Idea Realization

Summary: The disregard of essential factors during the business idea generation and realization involves the tendency of hubristic founders to neglect customer needs, the validation of their value proposition (A), advice from industry experts, and the development of strategic partnerships (B). Moreover, strong evidence is found for unrealistic and disproportionate estimations of the necessary efforts for the successful realization of their business ideas (C). These effects

have both positive and negative impacts on the venture performance and competitiveness of their ventures.

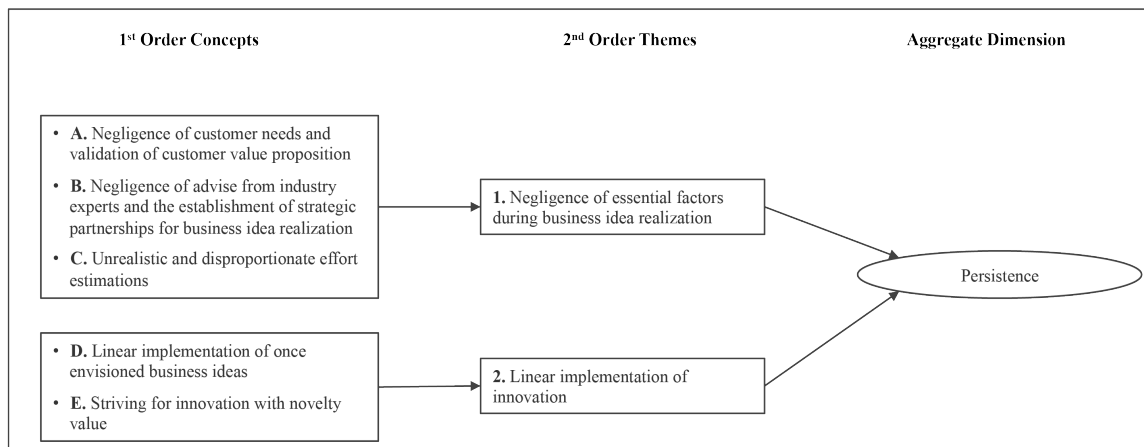


Figure 12: Data structure – innovation function (author’s illustration, general structure adapted from Costas, 2012).

According to the observations of the experts, the **disregard of customer needs in combination with the negligence to validate customer value propositions (A)** can be explained by a strong conviction of hubristic founders to know the needs and wants of their clients best. For instance, one of the consultants observed various hubris driven founders, who did not seek customer feedback as they perceived themselves to “[...] belong to their own target group” (Ex_20_In2_Con). As a consequence, they made all design choices based on their own visions and “eventually, this solution *was* developed behind their closed office doors” (ibid.). The disregard of customer needs also became evident in the case study of a hubristic founder who wanted to revolutionize orientation systems. However, “he didn’t realize the lack of demand. He was very, very firmly convinced that the world only has to recognize how beneficial his system actually is” (Ex_9_In1_Coa).

Similar observations were made about hubristic founders, who were convinced that a moderate demand and negative customer feedback simply resulted from a lack of understanding by their target audience. For instance, one of the startup consultants reported that he accompanied a hubristic entrepreneur, who developed a mobile application to coordinate leisure activities among friends. Despite his great ambition, “he got negative customer feedback: ‘the application is too complicated. You can’t use it, it needs to be easier’” (Ex_20_In2_Con). However, “he more or less disagreed on it and argued that they only would need more time to understand it” (ibid.). Another case study described a founder, who aimed to develop a bracelet with an integrated GPS-tracker to monitor the physical activities of the users. In comparison to other

examples, he actively sought customer feedback but he considered only information that was compatible with his own perceptions and visions. This implied that “he didn’t consider customer demands, which he perceived as ‘too individual’. There were wishes from customers that he should have had taken into consideration in order to be able to sell the product better. However, he didn’t want to put any effort into this. He was more focused on his own perception and convinced that his own design choices will allow him to sell the product” (Ex1_In2_Coa). Summarized, the experiences of the experts in relation to the hubris driven disregard of customer needs and the validation of their value propositions indicate rather negative effects on startup performance and competitiveness.

The strong focus of hubristic founders on the realization of their own visions is also reflected in their **disregard of related advice from industry experts** and **their neglect to establish strategic partnerships** (B) that could support the realization of their innovation. Various startup coaches and consultants reported that their feedback was often refused. One of these coaches accompanied a founder who developed an event management tool. For this purpose, he received guidance by a group of industry experts, who soon realized that “he ignored all of us. Initially, he listened to a certain degree and partly tried to implement the feedback but eventually, he went his own way and didn’t listen anymore” (Ex_25_In1_CoaConFoun). Similarly, another founder refused expert feedback that did not reflect her own perceptions. She justified her actions by making a comparison: “if Mark Zuckerberg would have listened to all advices, Facebook wouldn’t exist today” (Ex_14_In1_Coa). A comparable attitude was also observed by a startup consultant, who supported a hubristic founder whose “[...] overall aim was to convince me that his idea is good. He didn’t aim to engage in a constructive dialog or to actually receive feedback” (Ex_9_In1_Coa).

With regard to these findings, the research results suggest both positive and negative impacts for venture performance and competitiveness. For instance, several interviewees agreed that the founders’ disregard of feedback is an integral part of being an entrepreneur with their own visions. This perception is reflected in one representative quote of a startup consultant who stated that: “I am quite sure that founders, hubristic or not, who only process the feedback of their consultants are less successful” (Ex_25_In1_CoaConFoun). In contrast, another interviewee evaluated hubristic founders to be overall more successful but “the only thing that you can blame these founders for is the ignorance of people that critically reflect their business idea” (Ex_22_In1_ConCoaInvFoun). Negative consequences were observed in the aforementioned case study of the hubristic founder, who did not adapt his innovative event management tool,

despite the critical feedback from knowledgeable experts. Although, they “[...] were able to objectively demonstrate that he is facing a financial debacle and that there will be a point of no return, [...] he burned a lot of his scarce money. This was crazy” (Ex1_In2_Coa). Comparable case studies demonstrated that not only hubristic founders but also their financiers and consultants could be negatively affected from the hubris driven disregard of feedback on innovation activities. In one example, “ten investors were involved and we tried to provide guidance and get him back on the right track but he didn't accept our advice” (Ex_4_In1_ConCoaInv). Eventually, all of them suffered large financial losses. Therefore, the line between positive and negative effects on venture performance and competitiveness seems to be ambivalent. However, the majority of experts evaluate startup projects of hubristic founders, who do not listen to any advice, to be at high risk.

The hubris driven disregard of valuable feedback is also reflected in **unrealistic and disproportionate effort estimations related to the realization of business ideas** (C). This can be exemplified by the case study of a hubristic founder, who was adamant about a complex technical solution for a relatively easy to implement mobile application. Despite the feedback of his consultant that “[...] an adapted approach could be realized a lot easier” (Ex_20_In2_Con), he neglected to acknowledge the necessary efforts and resource requirements for a considerably more complex solution. Similarly, another hubristic founder aimed to develop an innovative and promising health care product. However, “she considerably underestimated the difficulties to enter the market and to transfer a prototype into a product” (Ex_6_In1_Con). According to the experts, the disproportionate effort estimations have especially negative impacts on the performance of newly founded ventures as many do not become operational under these circumstances.

5.1.1.2. Linear Implementation of Innovation

Summary: The data suggests that hubristic founders tend to linearly implement business models faithfully to their original intent, without deviation or adjustment (D). Moreover, they strive for innovation with novelty value (E). These effects have mixed but overall negative impacts on venture performance and competitiveness.

With regard to the **linear implementation of business ideas** (D), several experts observed that hubristic founders “[...] don't identify alternatives to the left or to the right but they are fairly rigid in terms of what they imagined” (Ex_20_In2_Con). This implies that possible adaptations

of their products or services are neglected. The essence of these observations can also be determined in numerous case studies. For instance, the aforementioned founder, who aimed to develop a bracelet with an integrated GPS-tracker (cf. section 5.1.1.1), constantly received critical customer feedback. However, “he never thought: ‘Phew, maybe I should give it a thought and realize the idea in a different way’. [...] He always insisted to realize the product the way he imagined” (Ex1_In2_Coa). Another consultant accompanied a hubristic founder and his team whose “[...] idea was obviously nonsense and this was the feedback they received for half a year. However, they didn't deviate a single centimeter from their idea” (Ex_21_In2_ConFoun).

These two findings are closely related to the previously identified negligence of customer reactions (cf. section 5.1.1.1). Even though hubristic founders often process the feedback, they do not feel obliged to adapt their business ideas because they believed that “[...] customers just have to understand their solution to appreciate it” (Ex_20_In2_Con). A similar attitude was reflected in the case study of a hubristic founder, who intended to develop an online-dating platform with specific offline features. His consultant summarized that “the feedback from his customers was shocking because it demonstrated that nobody needs the product and nobody is willing to pay for it” (Ex_3_In2_Con). Nevertheless, he did not abandon his idea but “[...] it took him more than a year to reflect and realize the feedback. Meanwhile he kept on trying to implement the product the way he imagined it” (ibid.). The majority of experts agreed that the hubris driven linear implementation of once envisioned business models is likely to endanger the startup performance and competitiveness, especially because “[...] scalability options are often ignored in this context” (Ex2_In1_CoaInvFoun).

Interestingly though, various experts characterized the envisioned products and services of hubristic founders to be **truly innovative** (E) and with the potential to considerably change existing market conditions in certain industries. In one case study, the founder wanted to establish “[...] an entirely new economy based on a sustainable currency” (Ex_21_In2_ConFoun). Another one “[...] aimed to develop an e-government solution in order to motivate people who are less educated and who normally don't participate in elections” (ibid.). However, the experts agreed that hubristic entrepreneurs tend to perform their innovation function ahead of their time. For this reason, their target audience often does not appreciate the ideas yet. This results in high failure rates prior to the product becoming operational.

Second-order themes and first-order concepts	Representative data
Aggregate dimension: Persistence	
1. Negligence of essential factors during business idea realization	<p>A1. “Eventually, they do not consider what their customers require or want” (Ex_20_In2_Con).</p> <p>A2. “I am a customer myself because I currently use the product the way it is. Hence, I know how to do it better and everybody will recognize the benefit immediately” (Ex_14_In1_Coa).</p> <p>B1. “You realize that he is not listening and you could talk for ten hours but he is just not interested” (Ex_25_In1_CoaConFoun).</p> <p>B2. “The only thing that you can blame these founders for is the ignorance of people that critically reflect their business idea” (Ex_22_In1_ConCoaInvFoun).</p> <p>C1. “She considerably underestimated the difficulties to enter the market and to transfer a prototype into a product” (Ex_6_In1_Con).</p> <p>C2. “One could probably find a much easier solution to realize the application. However, they imagined a complicated approach for the realization and the development will consume a lot of time. I am sure that an adapted approach could be realized a lot easier” (Ex_20_In2_Con).</p>
2. Linear realization of innovation	<p>D. Linear implementation of once envisioned business ideas</p> <p>D1. “He insisted on his implementation strategy with regard to the technological development of the product. Although, he received a lot of negative feedback from potential customers, he insisted” (Ex_20_In2_Con).</p> <p>D2. “The few customers who already use the application are not satisfied and therefore, there is no evident proof-of-concept. They know all of this but they don't want to adapt the application because they are convinced that the customers just have to understand their solution to appreciate it” (Ex_20_In2_Con).</p> <p>E. Striving for innovation with novelty value</p> <p>E1. “A very innovative service which addresses both B2C and B2B markets. It is a promising market, it is technology driven and it is difficult to replicate” (Ex_20_In2_Con).</p> <p>E2. “There was one founder, who aimed to establish an entirely new goods cycle, actually an entirely new economy based on a sustainable currency” (Ex_21_In2_ConFoun).</p>

Table 13: Selected representative data related to the effects of hubris on the performance of the innovation function (author’s illustration, general structure adapted from Costas, 2012).

5.1.2. Internal Coordination Function – High Internal Locus of Control

According to the experiences of the experts, hubristic founders perform their internal coordination function with a high internal locus of control regarding the management of their entrepreneurial potential. From the perspective of the CbTF (cf. section 3.1.2), this finding implies that they are convinced to control all internally available assets, resources and competences, which are necessary to ensure their venture performance and competitiveness (cf. Hiller & Hambrick, 2005). This is an outcome of their (3) egocentric management style (cf. section 5.1.2.1), their (4) lack of realism in the implementation of internal processes and structures (cf. section 5.1.2.2), and their (5) disproportionate assessment of actually required resources and competences (cf. section 5.1.2.3). Similar to the previous section, the structure of the data (Figure 13) and representative quotes (Table 14) are outlined in order to enhance the transparency of the following analyses.

5.1.2.1. Egocentric Management Style with Ambivalent Outcomes

Summary: The management style of hubristic founders is often described as egocentric and with a strong focus on their own decisions. There are, however, inconsistencies in the data with regard to how their egocentrism impacts internal processes and structures. On the one hand, the expert's observations suggest that the founders' strong focus on themselves enables them to deal with critical situations. In more detail, they are able to take target-oriented decisions quickly without feeling obliged to justify or discuss them (F). Moreover, their previously determined obsession with own ideas and visions (cf. section 5.1.1.2) seems to be often accompanied by an unshakable belief to become successful. Many experts observed that this belief spread among their employees and had positive impacts on the internal motivation within their ventures (G). On the other hand, however, some hubristic founders were observed to merely exploit their employees in order to achieve the implementation of their business ideas. This often led to negative consequences in staff turnover (H).

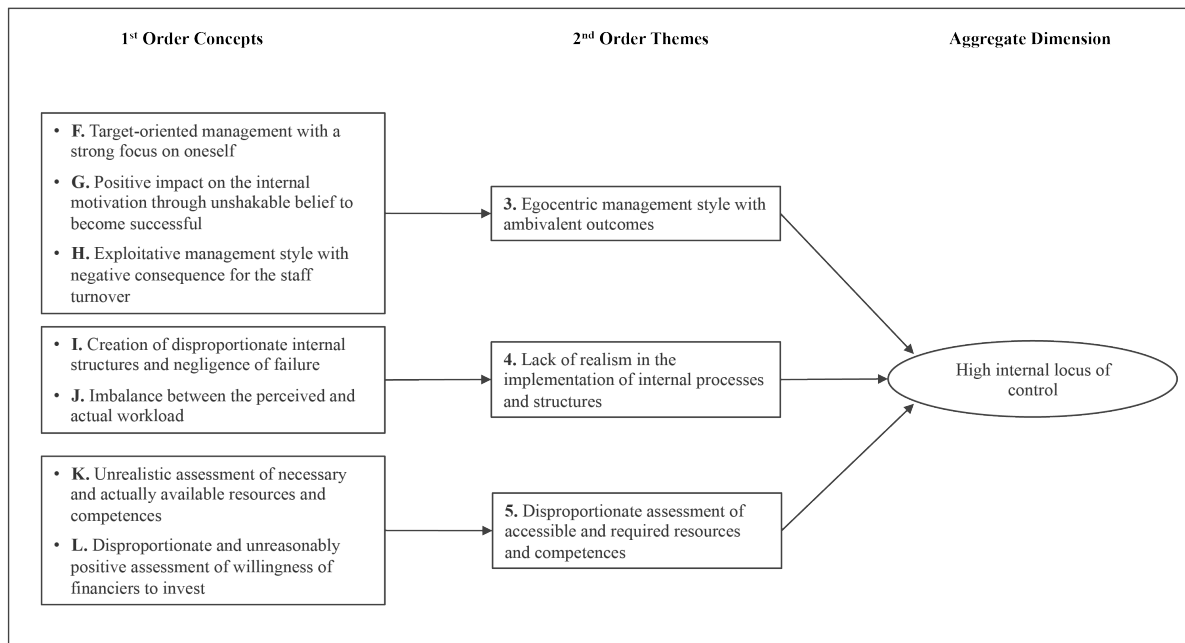


Figure 13: Data structure – internal coordination function (author’s illustration).

Several experts agreed that hubris leads founders to a **target-oriented and self-centered management approach** (F), especially in critical situations. Instead of discussing different options to solve problems, the observed entrepreneurs did not “[...] take democratic actions but they *told* their employees how to deal with the situation” (Ex_25_In1_CoaConFoun). Therefore, they are repeatedly described to be “[...] able to deal even with extremely difficult situations” (Ex_12_In1_CoaFoun). This perception is exemplified by a case study of a hubristic founder, who launched a fast growing and initially successful e-commerce venture. However, the external conditions changed dramatically and it became “[...] obvious that the company wasn't profitable anymore” (Ex_4_In1_ConCoaInv). Nevertheless, “he did everything to generate income in order to make good the deficit. [...] Even in this extremely difficult situation, he succeeded to find a buyer and to sell a great extent of the company in order to avoid the insolvency”⁹⁸ (ibid.).

In addition to such critical situations, the data suggests that hubristic founders are generally more likely to take all decisions in their startups themselves. For instance, the previously described founder “[...] did everything himself and he didn't allow his employees to operate on

⁹⁸ The essence of the citation can also be interpreted from the perspective of the arbitrage function (cf. section 5.1.3).

the same hierarchical level. He did everything himself!” (Ex_4_In1_ConCoalnv). In this context, various experts experienced hubristic founders whose strong focus on themselves even escalated in a morbid obsession. This was the case with an entrepreneur, who started a venture and perceived himself to be the sole software specialist in his company. For this reason, “[...] he got close to a heart attack. He was working in a team of eight people but he did everything himself. He got fatter and fatter on his seat but his employees were only allowed to string bits and bytes together. He did all business events and transactions himself” (Ex2_In1_CoaInvFoun). The coach who accompanied him stated that this behavior was triggered by his obsessed belief that “[...] other people couldn’t achieve what he was doing” (ibid.). In a representative quote, one of the startup consultants summarized that this and similar attitudes result from the perception of hubristic founders “[...] to be the center of the universe” (Ex_17_In1_CoaConFoun). Taken together, the hubris driven target-oriented and self-centered management style is likely to have mixed effects on venture performance and competitiveness.

However, a considerable amount of case studies clearly suggest that the persistent focus of hubristic founders on their own business ideas has positive impacts on the **internal motivation as a result of their unshakable belief to become successful** (G). According to the experts, their strong conviction to pursue a grandiose business idea and to be able to successfully implement the envisioned business model spreads among their employees and furthers their motivation. One startup consultant observed several teams that were managed by hubristic founders and collectively shared the expectation that “we will succeed, we will find a solution for all obstacles, and we will find our way” (Ex_23_In1_CoaInv). Similarly, another startup coach experienced various hubris driven entrepreneurs, who were triggered by the perception that “nothing is impossible” (Ex_7_In2_CoaInvFoun). Instead, “everything that seems impossible is perceived as a challenge” (ibid.). Therefore, hubris is likely to positively influence the decision to launch a venture despite all difficulties and high venture failure rates. Two startup consultants stated that “without hubris, you probably wouldn’t launch a venture in many industries” (Ex_14_In1_Coa), since “you probably need this self-confidence, especially in the beginning to convince yourself that you are able to achieve everything” (Ex_6_In1_Con). Similarly, one of the aforementioned founders thought that he “[...] will succeed, and that this one specific product is going to make the world a better place” (Ex2_In1_CoaInvFoun). Consequently, there are beneficial effects of hubris on the internal motivation of the founders and their teams that positively impact on venture performance and competitiveness.

In contrast, several case studies also observed hubristic founders, who perceived their **employees as resources that were exploited** (H) in order to establish their ventures. For instance,

one research associate aimed to develop a patentable product based on his research findings. During the transfer into the market, he expected considerable input and workload from his employees and external supporters. However, he refused to surrender any ownership shares. Eventually, “[...] he ruined the relationship with his cofounders and it didn't take long until the same happened with all claimants on the patent. [...] At the end, he was on his own” (Ex1_In2_Coa). Various experts, who repeatedly described the struggle of hubristic founders to form and maintain a team, experienced similar effects. For instance, a startup consultant, who accompanied more than 250 startup projects in his career, stated: “another interesting symptom is that these people are more likely to have difficulties to form a team. They have difficulties to find like-minded people with whom they can collaborate long-term and in a sustainable manner” (Ex_9_In1_Coa).

5.1.2.2. Lack of Realism in the Implementation of Internal Processes and Structures

Summary: The experts observed that hubristic founders often lack realism in the implementation of internal processes. This is reflected in the creation of disproportionate company structures, and the negligence of potential failure (I). Another indicator is the imbalance between the perceived and required workload to successfully implement value-adding processes (J). Interestingly, these effects are found to have overall positive impacts on venture performance and competitiveness.

Instead of following a lean approach in the venture creation process (cf. Ries, 2011), the data suggests that hubristic founders “[...] think big without thinking it through” (Ex_14_In1_Coa). Therefore, they tend to create **disproportionate internal structures and to ignore their failure** (I). For instance, one of the depicted founders launched a startup that provided guidance and tools for customers who wanted to rebuild old furniture themselves. For this purpose, he “[...] rented an excessively large gas station, over ordered machinery and assets without any plan or calculations” (Ex_25_In1_CoaConFoun). An experienced investor made similar observations when he was contacted by a hubristic founder, who aimed to open a fitness studio chain. The conversation between them was described as follows (Ex_7_In2_CoaInvFoun):

Investor: "Why do you need 50 million?"

Founder: "Because I got a great idea and I want to roll it out across Germany"

Investor: "Why don't you start a bit smaller? What about a proof-of-concept?"

Founder: "No, not necessary. And it needs to be whole Germany right from the beginning"

In this specific example, the founder did not receive any support or financial investments but nevertheless, he never abandoned his idea. Several experts with similar experiences evaluate such a hubris driven lack of humility as beneficial for venture performance and competitiveness as a result that "the bigger you think, the bigger it might get" (Ex_9_In1_Coa). These perceived positive effects were expressed by a hubristic entrepreneur, who "[...] was a truly special case. He was convinced that he could achieve a certain growth rate. His imaginations of what he could achieve were behind everything that I was able to imagine" (Ex_6_In1_Con). Despite these concerns of his consultant, the founder was able to succeed and to achieve a growth rate that was not expectable.

However, the data also indicates **considerable imbalances in the perception of hubristic entrepreneurs with regard to the actually required workload** (J) to launch and establish a venture. In this context, it is stated that "[...] these founders follow implementation roadmaps with unrealistic objectives. Such as: 'in one week we will be done with the whole programming and reached the first 100 customers. Returns are generated in week two.' It is entirely obvious that it won't work out" (Ex_14_In1_Coa). One startup consultant explained that "they underestimate the problem to enter the market and what it implies to form a product from a prototype" (Ex_6_In1_Con). In addition, several experts experienced hubristic founders who wanted to launch highly complex ventures "[...] without devoting 100% of their time" (Ex2_In1_CoaInvFoun). Instead, they still held permanent positions or worked on various projects in parallel. Some experts argued that "if you are not willing to give everything, it doesn't make sense" (Ex_17_In1_CoaConFoun). Others perceive it as an additional indicator that hubristic founders are willing to give everything in order to successfully implement their business idea (cf. section 5.1.1).

5.1.2.3. Disproportionate Assessment of Accessible and Required Resources and Competences

Summary: The findings indicate that hubris leads to disproportionate assessments of the necessary entrepreneurial potential to ensure venture performance and competitiveness. This involves not only unrealistic estimations of available resources and competences (K) but also an unreasonably positive assessment regarding the willingness of financiers to invest (L). Both effects have overall negative consequences for startup performance and competitiveness.

The **unrealistic assessment of the entrepreneurial potential** (K) seems to be driven by the biased belief of hubristic founders to possess all necessary competences required to successfully implement their business ideas themselves. In a representative quote, one of the startup coaches stated that “these founders often believe that they can achieve everything themselves - and even better than others” (Ex1_In2_Coa). For instance, one of the depicted founders “[...] wanted to do everything himself, even things he wasn't capable to do” (ibid.). Another one “[...] completely overestimated who he was, how much money he got, and which relationships and resources he possessed” (Ex_3_In2_Con). Interestingly, these and similar observations were made in case studies with mobile applications at the core of the business models. In this context, one of the coaches accompanied a hubristic founder and his team, who aimed to develop an innovative mobile game. However, “[...] after half a year I noticed that they didn't have a single technician in their team” (Ex_23_In1_CoaInv). Instead, the founder “[...] tried to learn some relevant skills auto-didactically” (ibid.). External resources are also likely to be underestimated by hubristic entrepreneurs as they “[...] are often convinced that they don't need any contact persons in the targeted industry, that they don't need any experience in the targeted industry, and that they perceive themselves to already know how everything works” (Ex_14_In1_Coa). According to the experts, this perception is triggered by their strong “[...] focus on their core areas of expertise but they don't see other areas that also belong to their projects or that are necessary to launch a venture” (Ex_15_In2_Con). Taken together, these underestimations of available and actually required competences are judged by the experts to have overall negative consequences for startup performance and competitiveness.

Another interesting observation is the **often unreasonably positive assessment of the investment interest of financiers** (L). In several case studies, hubristic founders perceived the “grandiosity” of their ideas to be self-explanatory. Therefore, they were convinced that “it can't be a problem to find an investor [...]” (Ex_20_In2_Con) and they could not “[...] imagine a single reason why the external world wouldn't buy or at least invest immediately”

(Ex2_In1_CoaInvFoun). In these cases, even the preparation of a business plan to approach investors was considered unnecessary. Instead, one of the founders was cited with the words: “we don't have a business plan and don't perceive it to be necessary because we will meet the investor and tell him how great our idea is. Eventually, we will get the money and that's it” (Ex_14_In1_Coa). Another hubris driven entrepreneur stated that investors should feel honored to collaborate with him and hence, “[...] they should approach me” (Ex2_In1_CoaInvFoun). These attitudes imply a lack of understanding when financiers refuse to invest. Several investors reported that they were accused by hubristic founders to have misunderstood their projects. Others were even insulted to “[...] have lost their marbles [...]” (Ex_20_In2_Con). For instance, one coach prepared a hubristic founder and his team for their first investor pitch. However, “the investor told them that their idea is great but they have to get back to him after they reached 20,000 clicks. You can't believe how disappointed they were. They didn't want to talk to me anymore because they were convinced that I introduced the wrong investor to them” (Ex2_In1_CoaInvFoun).

Second-order themes and first-order concepts	Representative data
Aggregate dimension: High internal locus of control	
3. Egocentric management style with ambivalent outcomes	
F. Target-oriented management with a strong focus on oneself	<p>F1. Even in this extremely difficult situation, he succeeded to find a buyer and to sell a great extent of the company in order to avoid the insolvency. He was always very good in finding a gap and convincing people that eventually everything will be alright (Ex_4_In1_ConCoaInv).</p> <p>F2. They are incredibly convinced of their own glory [...]. As a third party, you get the impression that they perceive themselves to be the center of the universe (Ex_10_In1_ConFoun).</p>
G. Positive impact on the internal motivation through unshakable belief to become successful	<p>G1. He aimed to build a power plant out of different components. [...] However, he wasn't an engineer but he was entirely convinced and supportive of his idea (Ex_9_In1_Coa).</p> <p>G2. Hubris triggers the provision of a direction for the employees, the generation of enthusiasm on the level of the investors, and possibly also the detection of business partners (Ex_6_In1_Con).</p>
H. Exploitative management style with negative consequence for the staff turnover	<p>H1. He lost 5-6 important people who were willing to support and collaborate with him within two years (Ex1_In2_Coa).</p> <p>H2. Another interesting symptom is that these people are more likely to have difficulties to form a team. They have difficulties to find like-minded people with whom they can collaborate long-term and in a sustainable manner (Ex_9_In1_Coa).</p>
4. Lack of realism in the implementation of internal processes and structures	
I. Creation of disproportionate internal structures and negligence of failure	<p>I1. He never realized that he reached the point where he should admit 'Okay, it didn't work out' (Ex1_In2_Coa).</p> <p>I2. Enough was enough! Eventually, we sent our own strategy and tax consultants into the company in order to get an idea of the situation. It turned out that he poorly administered the company and built a lot of unsustainable divisions (Ex_4_In1_ConCoaInv).</p>
J. Imbalance between the perceived and actual workload	<p>J1. They perceive the product to be fine and are convinced that the rest arises all by itself. 'We use a bid of Facebook and other networks, they are free and the rest arises all by itself' (Ex_8_In1_ConCoaFoun).</p> <p>J2. They underestimate the component of time. They assume 'okay, we got a concept and this will enter the market within eight weeks' (Ex_8_In1_ConCoaFoun).</p>

<p>5. Disproportionate assessment of accessible and required resources and competences</p>	
<p>K. Unrealistic assessment of necessary and actually available skills and competences</p>	<p>K1. If you would ask them what could be missing in terms of skills, they would probably reply something like "accounting" but they wouldn't recognize the missing core competences (Ex_15_In2_Con).</p> <p>K2. If you would have had asked him, he wouldn't have seen his deficits. He was convinced to be perfectly capable (Ex_6_In1_Con).</p>
<p>L. Disproportionate and unreasonably positive assessment regarding the willingness of financiers to invest</p>	<p>L1. They don't get why the investors are not interested in such a great solution that is technically sophisticated and addresses a growth market (Ex_20_In2_Con).</p> <p>L2. He got an idea and wanted to open a fitness-center with distinguishing characteristics. I asked him: 'What are the distinguishing features?' and he said: 'Well, this is difficult to explain but the machines, the climate, the atmosphere ...'. He wasn't precise at all but he was convinced that he is capable and great and now he only needs 50 million euros from me (Ex_7_In2_CoalnvFoun).</p>

Table 14: Selected representative data related to the effects of hubris on the performance of the internal coordination function (author's illustration).

5.1.3. Arbitrage Function – Persuasiveness despite Inconsiderate Commercialization Strategies

In relation to the performance of the arbitrage function, it is found that hubristic founders tend to (6) pursue unadjusted commercialization and financing strategies (cf. 5.1.3.1). Despite their unconventional approaches, which are critically assessed by the experts, these founders are described as (7) highly persuasive and easily able to convince third parties of their mission (cf. section 5.1.3.2). An overview of the analyses is provided in Figure 14 together with representative data in Table 15.

5.1.3.1. Pursuit of Inconsiderate Commercialization and Financing Strategies

Summary: The data suggests that hubristic founders implement unrealistic financing (M) and commercialization strategies (N). In this context, hubris is described to trigger the disregard of external feedback in relation to strategic decisions (O) together with an unrealistic assessment of addressed markets (P). Taken together, these effects have mixed, but overall negative, implications for the performance and competitiveness of newly founded ventures.

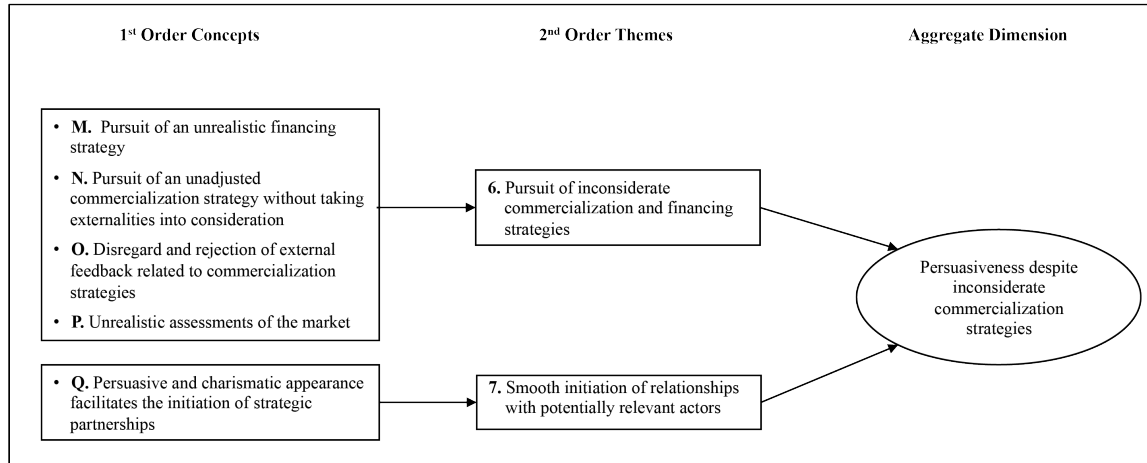


Figure 14: Data structure – arbitrage function (author's illustration).

The majority of the case studies depict hubristic founders who pursue **unrealistic financing** (M) and **commercialization strategies** (N). Both seem to be frequently implemented without taking external circumstances into consideration. For instance (cf. section 5.1.2.2), the aforementioned founder, who aimed to receive 50 million euros in order to launch a fitness studio chain, contacted an investor who stated that “he was beyond every perception of reality or any kind of humbleness. He never asked himself: ‘is my concept really as convincing or will the 50 million end up against the wall?’” (Ex_7_In2_CoaInvFoun). Another consultant, who

accompanied an entrepreneur whose vision was to develop a mobile application to share grocery lists, made comparable experiences. Similar to the previously determined findings in relation to the internal coordination function (cf. section 5.1.2.1), the depicted founder was entirely convinced to pursue a grandiose business idea and to become successful. Therefore, he perceived himself to be in a superior bargaining position without any doubts that it could “[...] be a problem to find an investor with this idea” (Ex_20_In2_Con). Instead, “it was more about influencing the conditions provided by the investors” (ibid.). This perception led him to approach financiers without a business plan or proof-of-concept, although his consultant tried to provide a more realistic perspective on his chances to receive an investment on this basis.

Commercialization strategies are also observed to be often neglected by hubristic founders as they do not question that their envisioned products and services will be embraced by the markets. In a representative quote, one of the coaches summarized that hubristic entrepreneurs tend to believe that their “[...] product is fine and the rest will happen all by itself. We do a bid of Facebook, that is for free, and the rest will happen by itself” (Ex_8_In1_ConCoaFoun). An observed founder and his team, who developed a mobile application to share reviews of books, demonstrated a similar theme. Their coach reported: “it was obvious that the idea could only be realized with a sufficient amount of users [...]. However, they never reflected how they could even generate the first users and how they would finance their acquisition” (Ex_14_In1_Coa). Interestingly, those hubristic founders who did consider the necessity of marketing efforts were described as very creative in the design of rather sensational and unconventional campaigns. For instance, one of them applied to become Mr. Germany with the overall aim to benefit from the media attention related to the competition. He even succeeded to participate and to give several interviews about his business idea, which involved a mobile application. These interviews were broadcasted on TV and published in nationwide newspaper articles. However, he never managed to develop a functioning application. Eventually, he received a lot of negative feedback, ruined his reputation and had to abandon his business idea. Taken together, the experts agree that the hubris driven pursuit of unadjusted financing and commercialization strategies leads to overall negative consequences for venture performance and competitiveness.

The previously described implementation of inconsiderate strategies was frequently accompanied by a **disregard of related feedback provided by industry experts** (O). Similar to the reaction of hubristic founders on criticism in relation to their innovation activities (cf. section 5.1.1.1), the experts stated that “you are hardly allowed to ask critical questions in relation to

their commercialization strategies. This might be sanctioned” (Ex_9_In1_Coa). In an illustrative case study, the founder held a patent on innovative sports equipment and pitched his ideas on how he could commercialize the patent in front of knowledgeable experts. “However, instead of reflecting their feedback, he immediately provided counter arguments and insisted on his own vision” (Ex1_In2_Coa). Comparable observations were described by various interviewees, who experienced that hubristic founders “[...] don't perceive support as support but rather as an attack or exploitation of their business ideas” (Ex_20_In2_Con). One of them specified: “it seems that they take it personally. In most cases, all of my objections were ignored. It was always really difficult” (Ex_10_In1_ConFoun). In one situation, the consultant experienced that his capacities were questioned by a hubristic founder in response to feedback provided on the overall commercialization strategy. Although some experts considered the hubris driven disregard of external feedback beneficial with regard to the performance of the innovation function (cf. section 5.1.1), similar evidence cannot be determined related to the arbitrage function. Instead, the reported case studies depict overall negative impacts on venture performance and competitiveness.

In addition, **unrealistic assessments of the markets** (F) were also observed in connection to the pursuit of inconsiderate commercialization strategies. In this context, “it often happens that the conditions of the market are only analyzed in a superficial manner” (Ex_8_In1_ConCoaFoun). Several case studies show hubristic founders who “[...] considerably overestimate their market opportunities” (Ex_20_In2_Con). This often implies the negligence of competitors and the general developments of the markets. According to the experts, hubristic founders, especially in fast moving industries, tend to ignore that “there is competition and the market develops rapidly. It can't be taken for granted that the market will still the same in few month” (ibid.). Moreover, also the targeted market share defined by hubristic founders is likely to be considerably higher in comparison to the expectation of non-hubristic entrepreneurs in similar industries. However, it was already stated before that these inflated positive plans do not necessarily imply negative consequences for venture performance and competitiveness as “the bigger you think, the bigger it might get” (Ex_9_In1_Coa) (cf. section 5.1.2.2).

5.1.3.2. Smooth Initiation of Relationships with Potentially Relevant Actors

Summary: Despite their unadjusted and often unrealistic commercialization strategies, the data indicates that hubristic founders are highly persuasive and easily able to convince third parties of their business ideas and visions (Q). Their persuasiveness is found to have positive impacts on the venture performance.

In more detail, it is found that the charismatic appearance of hubristic founders **facilitates the initiation of strategic partnerships** (Q) that are of relevance for their venture creation and establishment processes. Overall, they are described by various interviewees as “[...] great sales people, they are greatly extroverted” (Ex_12_In1_CoaFoun). Moreover, they are also characterized as “[...] very friendly people, they often look good, they know how to talk and they convince you in a manner that you feel super comfortable” (ibid.). This implied that several experts supported these founders with (financial) resources and competences, although “[...] you often wonder how these people succeeded to convince you” (ibid.). Another consultant stated that hubristic founders easily “[...] get other people enthusiastic about them. This implies that you cannot explain why you believed them” (Ex_6_In1_Con). Hubristic founders are persuasive in that “you enjoy listening to them. They make funny remarks, they are smart and they are somehow really different from other persons you know” (Ex_3_In2_Con). In one of the case studies, the founder is depicted as “[...] a fantastic sales person, really smart, and he generates sympathies everywhere, he is a sunshine” (Ex_3_In2_Con).

Their persuasiveness and appeal seems to be greatly beneficial for their venture performance and competitiveness as hubristic founders are easily able to convince third parties to support their business ideas. This seems to comprise “the motivation of employees, the inspiration of investors, and the acquisition of new business partners” (Ex_6_In1_Con). For instance, one of the hubris driven entrepreneurs was described as having an outstanding appeal and therefore, he “[...] repeatedly succeeded to get new investors on board” (Ex_4_In1_ConCoaInv). In addition, these successes were “[...] a signal for the already existing investors, who got a confirmation that his business ideas can’t be as bad” (ibid.). Another entrepreneur “[...] repeatedly got money for his venture that wouldn’t have survived otherwise. He took advantage of his charisma and approached several investors, who even gave him money” (Ex_6_In1_Con). Similar evidence was also found in relation to the performance of the internal coordination function (cf. section 5.1.2.1). Specifically, it was determined that hubristic founders are “[...] able to deal even with extremely difficult situations” (Ex_12_In1_CoaFoun) and to have a positive impact on the internal motivation.

Second-order themes and first-order concepts	Representative data
Aggregate dimension: Persuasiveness despite inconsiderate commercialization strategies	
6. Pursuit of inconsiderate commercialization and financing strategies	
M. Pursuit of an unrealistic financing strategy	<p>M1. "He wasn't precise with regard to his business idea but he was convinced to receive 50 million euros without any problems" (Ex_7_In2_CoaInvFoun).</p> <p>M2. "They perceived themselves to be in the better bargaining position as they have such a great solution. However, it turned out that no financier was willing to invest so far" (Ex_20_In2_Con).</p>
N. Pursuit of an unadjusted commercialization strategy without taking externalities into consideration	<p>N1. "If you see their cost structures, they often plan to become market leaders with an investment of 1000 euros per month for marketing activities" (Ex_6_In1_Con).</p> <p>N2. "He got really bizarre ideas on how to generate customers and how to commercialize the product." (Ex_6_In1_Con).</p>
O. Disregard and rejection of external feedback related to commercialization strategies	<p>O1. "We try to provide feedback and encourage them to adapt their current solution and the way how they currently approach their customers. However, they refuse all advices and accuse us to have no idea of what their customers want. They perceive themselves to have this understanding but in fact, they haven't made any revenue since month" (Ex_20_In2_Con).</p> <p>O2. "He is really special. If you tell him something related to his sales strategy, he immediately disagrees and provides counter arguments" (Ex1_In2_Coa).</p>
P. Unrealistic assessments of the market	<p>P1. "The worldwide Big Data market has a market volume of 53 billion and I am aiming to receive 25%" (Ex_17_In1_CoaConFoun).</p> <p>P2. They perceive themselves to be without any completion. However, there are attractive companies with more than 10.000 employees in their market. The solutions of their competitors can't be as bad (Ex_20_In2_Con).</p>

7. Smooth initiation of relationships with potentially relevant actors

Q. Persuasive and charismatic appearance facilitates the initiation of strategic partnerships

Q1. "They act according to the credo "What's the price of the world?" They convince people with their authentic character. They are sales people and they easily convince customers but also other people who are captured by their nature" (Ex_12_In1_CoaFoun).

Q2. "They simply have the ability to move things into the right direction. [...] They are really convincing [...]. This is a great ability and they are great sales persons, they are considerably extroverted and can solve all critical situations" (Ex_12_In1_CoaFoun).

Table 15: Selected representative data related to the effects of hubris on the performance of the arbitrage function (author's illustration).

5.1.4. Risk Management Function – Perception of Invulnerability

The results indicate that hubristic founders are driven by a feeling of invulnerability during the performance of their risk management function. Therefore, the execution of this function is observed to be accompanied by (8) subjective interpretations of actual circumstances together with an (9) inferior risk awareness, which triggers unconventional business practices. Similar to the previous sections in this chapter, the structure of the analyses is summarized in Figure 15 in combination with representative data that is outlined in Table 16.

5.1.4.1. Subjective Interpretation and Negligence of Actual Circumstances

Summary: The hubris driven disregard of actual circumstances during the evaluation of risks is manifested through the following: the negligence of business planning and the determination of unrealistic objectives (R), the subjective interpretation of problems during the implementation of business models (S), the perception of robustness (T), and a subordinate awareness of competitors in the market (U). These effects of hubris endanger firm performance and competitiveness.

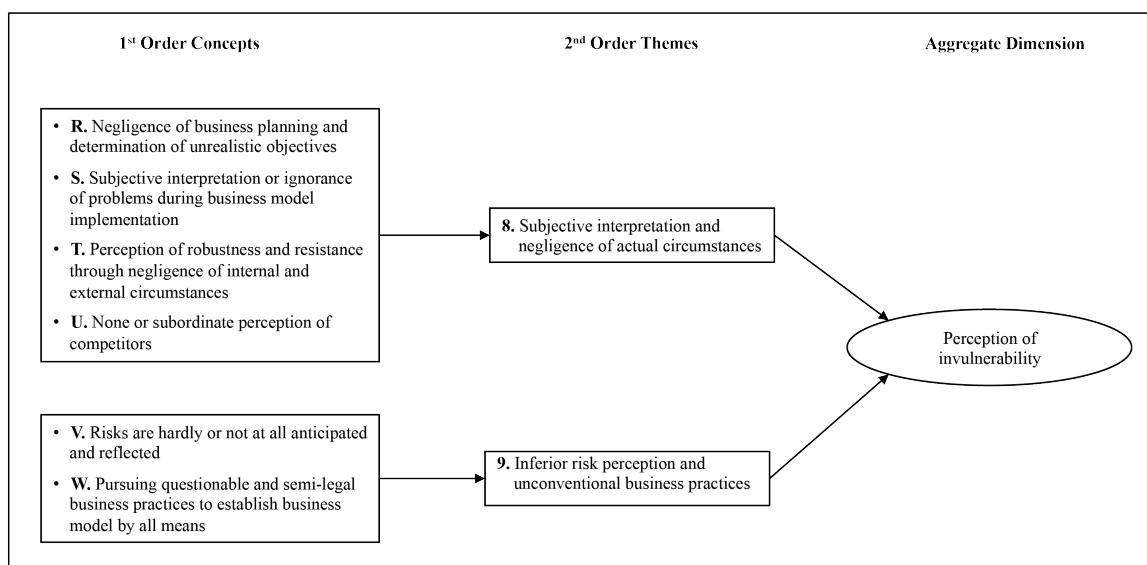


Figure 15: Data structure – risk management function (author’s illustration).

The interviewed experts frequently observed hubristic founders who **neglected the planning of their businesses** and **set unrealistic objectives** (R). In a representative quote, one of the coaches stated that “[...] one sign of this considerable overestimation is that they think big but they don’t think it through” (Ex_14_In1_Coa). This is especially reflected in their business related calculations, which are usually done without a proper plan and “[...] off the top of their

heads [...]. All financial calculations are ignored without thinking about the implications” (ibid.). As a consequence, “they underestimate the time that is needed, they underestimate the knowledge that is needed, and they underestimate the personal contacts that are needed” (ibid.). Moreover, they often pursue “[...] objectives that are unrealistic to achieve” (Ex_27_In1_Con). Another coach stated that he frequently experienced hubristic founders who followed “[...] implementation roadmaps with entirely unrealistic objectives. Something like ‘in one week we will be done with the whole programming and serve the first 100 customers. Returns are generated in week two’. It is entirely obvious that it won't work out” (Ex_14_In1_Coa).

The financial risks also seem to be neglected as indicated in the case study of a hubristic founder who focused on software programming. “He never reflected that he invested a lot of money from his family and fools was about to be lost since he never gave a second thought on his financial calculations” (Ex_3_In2_Con). The experts agree that these effects have positive and negative impacts on venture performance and competitiveness. Both are reflected in the quote of a startup consultant, who summarized his experiences with hubristic founders as follows: “they don't perceive their chances as inferior compared to others who have richer skills and competences. They operate with a considerable overestimation and are entirely convinced in their abilities to succeed. They don't reflect reality” (Ex_27_In1_Con). This supports the finding that hubristic founders possess an unshakable belief that they will be successful (cf. section 5.1.2.1), which seems to be triggered through their inferior risk perception. This motivates them to launch their ventures with a great certainty that they actually could “[...] collect more data than Google” (Ex_22_In1_ConCoaInvFoun) or “[...] become the next Richard Branson” (Ex_3_In2_Con). However, it also endangers the performance of their ventures as they often “[...] wear blinkers and have entirely wrong assumptions” (Ex1_In2_Coa).

This implies that hubristic founders often **subjectively interpret or even ignore problems during the implementation** (S) of their business models. For instance, “a considerable part of them drifts away and interprets objective calculations in accordance with own perceptions” (Ex_25_In1_CoaConFoun). An experienced consultant explained this behavior as follows: “they live in their own world and don't view things from a realistic perspective” (Ex_6_In1_Con). For instance, one of the depicted founders and his team aimed to develop a mobile game but it turned out that they had on average only 20 downloads per day. Their consultant constantly tried “[...] to engage them in discussions but they didn't want to talk about their problems. They didn't want to acknowledge that they don't know the answers to all open questions” (Ex_20_In1_Con). Instead, they perceive themselves to be **resistant against all**

internal and external circumstances (T). This includes the **disregard of competitors** (U) that operate in the same market. One consultant observed hubristic founders who had “[...] no idea what kind of solutions exist in their target markets” (ibid.) and others who knew “[...] about other projects but they didn't perceive them as competition” (ibid.). In one of his cited case studies, the consultant argued with an entrepreneur and his team about relevant competitors in their target industry but “they were always really positive and replied: ‘if the competitors in the US would have wanted to enter the market, they could have done it five years ago’” (ibid.).

5.1.4.2. Inferior Risk Perception and Unconventional Business Practices

Summary: In accordance with the previous descriptions, it was found that hubristic founders frequently do not reflect and anticipate risks (V). This negligence is often closely aligned with their pursuit of semi-legal business practices to establish their business models by all means (W).

Overall, hubristic founders are consistently described to “[...] take on huge risks. ‘No risk no fun is their credo’ ” (Ex_12_In1_CoaFoun). These experiences are reflected in several of the aforementioned case studies in which the observations consistently suggest that “the **risk perception of these people is massively subordinated** (V)” (ibid.). The previously depicted founder, who aimed to launch a startup that enables customers to rebuild their furniture (cf. section 5.1.2.2), provides an example of this. Instead of reflecting the consequences of his investments and risks taken, he was triggered by his unshakable belief to become successful. Therefore, he “[...] rented a far too large gas station, ordered more and more machines and all of it without any plan or calculations” (Ex_25_In1_CoaConFoun). Eventually, he failed because he never accepted a more realistic perspective on his business plan and highly disproportionate calculations.

Interestingly, the data also contains evidence that their inferior risk perception leads some hubristic founders to **engage in semi-legal business practices** (W) with the objective to launch their ventures by all means necessary. In this context, several experts observed entrepreneurs who acted “[...] at the boarder of social rules and laws” (Ex1_In2_Coa). On this basis, the interviewees concluded that some “[...] tend to go one step too far. More conservative people would say that they pursue illegal actions” (ibid.). For instance, one of the consultants accompanied a hubristic founder, who frequently “[...] pretended to have internal returns across own subsidiaries that did not exist” (Ex_4_In1_ConCoaInv). Another founder was not able to find a legal solution to realize his business idea. Instead of abandoning it, he chose a semi-legal

approach and deliberately accepted that his customers could legally be held accountable for using his application. His coach stated that he does not know “[...] whether the customers have been aware that they were breaking laws when they used his application” (Ex1_In2_Coa). Eventually, the coach was no longer willing to support such activities and he canceled the cooperation with the founder.

Summarized, the interviewed experts agree that the inferior risk perception of hubristic founders and their pursuit of semi-legal business practices have mixed impacts on the performance and competitiveness of their ventures. As discussed (cf. section 5.1.1.2), the lack of anxiety and respect enables them to go beyond conventions and to realize business ideas that would probably not have been pursued by average founders. However, they also endanger the performance of their startups as a result that they do not anticipate and manage risks appropriately.

Second-order themes and first-order categories	Representative data
Aggregate dimension: Perception of invulnerability	
8. Subjective interpretation and negligence of actual circumstances	
R. Negligence of business planning and determination of unrealistic objectives	<p>R1. "I associate hubris with objectives that are unrealistic to achieve" (Ex_27_In1_Con).</p> <p>R2. "Right from the beginning, they perceived their business idea to be fantastic and they imagined: 'Once we reached two million customers, we are going to sell their data to Google and we use advertisements to finance ourselves.' However, they had no idea how to reach even the first ten customers" (Ex_14_In1_Coa).</p>
S. Subjective interpretation or ignorance of problems during business model implementation	<p>S1. "They tend to overestimate their chances and underestimate the risks" (Ex_4_In1_ConCoaInv).</p> <p>S2. "In any case of doubt, they push further instead of stopping" (Ex_12_In1_CoaFoun).</p>
T. Perception of robustness and resistance through negligence of internal and external circumstances	<p>T1. "They believe that financial resources are the only bottleneck during the venture creation process" (Ex_7_In2_CoaInvFoun).</p> <p>T2. "I got the impression that they have no idea what kind of solutions exist in their target markets" (Ex_20_In2_Con).</p>
U. None or subordinate perception of competitors	<p>U1. "We don't have to worry about the competition. Their solution is by far not as good as ours" (Ex_20_In2_Con).</p> <p>U2. "I told them about potential competitors but they were always really positive and replied: 'If the competitor from the US would have wanted to enter our market, he could have done this five years ago'" (Ex_20_In2_Con).</p>
9. Inferior risk perception and unconventional business practices	
V. Risks are hardly or not at all anticipated and reflected	<p>V1. "It was not only that he didn't listen to me but he didn't listen to anybody. We were able to objectively demonstrate that he is facing a financial debacle and that there will be a point of no return. He knew all about it but he deliberately accepted the risk. Eventually, he burned a lot of his scarce money. This was crazy" (Ex_25_In1_CoaConFoun).</p> <p>V2. "They believe that financial resources are the only bottleneck during the venture creation process" (Ex_7_In2_CoaInvFoun).</p>

W. Pursuing questionable and semi-legal business practices to establish business model by all means

W1. “They often act at the boarder of social rules and laws” (Ex1_In2_Coa).

W2. “They tend to go one step to far. More conservative people would say that they pursue illegal actions” (Ex1_In2_Coa).

Table 16: Selected representative data related to the effects of hubris on the performance of the risk management function (author’s illustration).

5.2. Mini-Case Studies - Contextualization

In the following, the analyses of two mini-cases are presented in order to contextualize the previously derived findings from the expert interviews (cf. section 5.1). The two cases depict⁹⁹ the venture creation and establishment processes conducted by two founders. The first is John, who launched an innovative radio station (cf. section 5.2.1), and the second is Tom, who developed the mobile application “DrivingFun” (cf. section 5.2.2).

5.2.1. Mini-Case I – The Innovative Radio Station

The core of Johns’ business model was an innovative radio station with a new concept that did not exist on the German market in the beginning of the 1990s. Even though John left the startup in 1996, the radio station still exists at the time of reporting and is widely recognized as it transmits mainstream music to a considerable number of listeners in one of Germany’s largest cities. However, the case captures only the first five years of the startup phase and outlines the efforts undertaken by John and his team to launch and establish the venture (cf. section 5.2.1.1). After these descriptions, the analysis related to the effects of Johns’ hubris on the execution of his core entrepreneurial functions is presented (cf. section 5.2.1.2).

5.2.1.1. Description of the Case

In the beginning of the 1990s, John was about to finish his university studies with a focus on politics and public law. Besides, he used to organize large music events with popular DJs from all over the world on a monthly basis. These events received very positive media coverage and regularly attracted more than 1000 guests. Through this, John already launched his first company and gained experiences in the venture creation process. Moreover, he built an extensive social network with internationally recognized DJs and other important underground players in the music scene. The business conditions for his events were great as there were hardly any officially enforced regulations at that time. As a consequence of these circumstances, it evolved an influential subculture. Many people, especially those in their early twenties, embraced these developments and the DJ music gained increasing popularity. The evolving subculture was totally separated from the regulated broadcasting industry.

⁹⁹ Both cases are anonymized.

On this basis, John decided to expand his existing business and to launch an innovative startup with a radio station at its core. He aimed to offer a mixture of non-mainstream music without a broadcasting schedule, a so-called DJ radio. His idea was inspired through a popular pirate radio station in the UK, which was already successfully established and internationally recognized. John adapted some parts of this existing concept and planned to focus on young listeners in their early 20s. Therewith, he created a unique selling proposition since established radio stations at that time ignored this target group. Instead, they focused on mainstream music programs that were embraced by the greater masses.

For his own radio station, John applied for a cable frequency and maintained to organize his festival events in order to finance his project. In addition, some seed funding and technical equipment was provided by his friends, family, and smaller investors, who believed in the potential of his vision. During the first 2.5 years, John regularly invited more than 30 different DJs and transmitted their music through his radio station. It became quickly evident that his new concept was highly embraced by the target audience and the radio station enjoyed growing popularity. Nevertheless, John felt restricted in his possibilities due to the limited range of cable radio that was only used by a smaller amount of people and could have only be received within his region. He was convinced that the value proposition behind his radio station possessed greater potential and could be embraced by listeners all over Germany. In order to extent his range, John needed a frequency that served radio antennas and also an official broadcasting license. However, these licenses were limited and only issued by the German media authorities, which applied strict criteria in their selection processes.

Despite these obstacles, John decided to expand his range in the third year after the venture creation process. This step involved a move away from the subculture, without professional structures, investors, and networks, towards the competitive and highly regulated broadcasting industry with its own dynamics¹⁰⁰. Although, he neither possessed all necessary resources and competences nor access to a reliable network of (political) contacts, he applied for the broadcasting license in order to realize his own vision of a radio station. However, the media authorities questioned Johns' actual capabilities and reputation within the subculture. As a consequence, his request was refused. In response, John mobilized his supporters and they reacted "[...] how you would expect it from the subculture: with noise" (John). These implied extensive

¹⁰⁰ See Chapple and Garofalo (1978) as well as Burnett (1996) for some interesting insights in relation to the early developments of the international music industry.

demonstrations with more than 800 participants in front of the media authorities and at the “Loveparade” in Berlin. Eventually, they even occupied a building of the media authorities for several hours. Overall, John succeeded in his intention to force a political scandal and the authorities were obliged to publically justify their refusal of his application. Nevertheless, he did not receive the necessary broadcasting license as the authorities evaluated his financial planning to be highly untrustworthy.

However, the scandal also affected other players in the broadcasting industry, which could have been a considerable benefit for John. Specifically, the media authorities were under such pressure that they were unable to issue any licenses for several month. For this reason a highly influential German entrepreneur, who had previously established a large fashion empire, was not able to realize his own planned radio and TV stations. Therefore, he offered to collaborate with John under the condition that he refrains from all activities that cause political pressure on the media authorities. After some superficial negotiations, John perceived the offer as a great opportunity for his own projects and agreed. With only minor difficulties, the influential entrepreneur procured several licenses and John was contractually promised to receive one of them. Unfortunately, John soon realized that he only became a marionette without necessary rights to establish a radio station according to his own visions. Although, he received the promised license, his contract merely allowed him to develop music programs that corresponded to the overall vision of all radio and TV stations his partner established in the meantime. Despite the license, John was not able to realize his dream of a DJ radio with an outstanding national and international reputation. Eventually, he left the radio station in 1996 with the overall aim to realize another business idea.

The data of this case suggests that John was driven by hubris, which triggered his constant belief to become successful. In the following, it is described how his hubris impacted on the execution of the core entrepreneurial functions he performed to establish his own radio station in the subculture (year 0-3) as well as in the competitive and regulated broadcasting industry (year 3-5).

5.2.1.2. Effects of Hubris on the Entrepreneurial Functions

The effects of John's hubris on the execution of his innovation (cf. section 5.2.1.2.1), internal coordination (cf. section 5.2.1.2.2), arbitrage (cf. section 5.2.1.2.3), and risk management (cf. section 5.2.1.2.4) functions are examined in the subsequent sections.

5.2.1.2.1. Innovation – Persistence, no Matter What

Summary: The findings with regard to the innovation function performed by John correspond to a great extent with the outcomes of the expert interviews. Strong evidence is found for his disregard of advice from industry experts (B), his unrealistic and disproportionate effort estimations (C), the linear implementation of his once envisioned business idea (D), and his striving for innovation with novelty value (E). However, it could not have been determined that he also neglected the validation of his customer value proposition (A).

From the beginning, John was driven by his vision to **create an entirely new radio format** (E) “[...] that nobody had even seen before” (John)¹⁰¹. In this context, he perceived himself and his team as “[...] the Mongols of the radio. Our cavalries occupied territories that others didn't even guessed would exist”. He consistently displayed a strong persistence and boundless will to **implement a radio station according to his own visions** (D). Even though John was facing considerable difficulties along the implementation process of his radio station, he never took any adaptations into consideration, his “options were death or honor, fame or failure, victory or defeat”. During the transition phase from the subculture into the regulated broadcasting industry, for instance, John was not willing to accept the refusal of the media authorities to issue the required broadcasting license. In response, he mobilized his friends and reacted “[...] how you would expect it from the subculture: with noise. [...] We did public relations, we invited journalists, and I talked to everybody in town. [...] We even occupied the transmitting station”. As he did not succeed, his last option to implement a radio station in the broadcasting industry was to accept the collaboration with an influential partner. Nevertheless, John refused to agree upon any terms and conditions that contradicted his own visions. Instead, he insisted on DJ music and his overall idea to “[...] play hits before they become hits”. He even ignored critical warnings of his partner that he would terminate the collaboration. Eventually, John had to leave the venture after he worked up to 16 hours per day for over five years in order to realize his

¹⁰¹ All of the quotes in sections 5.2.1.2.1-5.2.1.2.4 belong to John.

vision of an innovative radio station. Summarizing his innovation activities, John stated that he “[...] put a lot of heart into this, but little brain power”.

This was also a reflection of his hubris driven **neglect to seek external advice and feedback from industry experts** (B). Despite their lack of relevant experience in the regulated broadcasting industry, John and his team never questioned the practicability of their envisioned radio station. Instead, “we never thought it wouldn't work and we really didn't need anybody who explained the world to us”. As a consequence of this attitude, they refused to accept advice despite targeting a market “[...] where we lacked expertise, financing, contacts, and networks. We left the subculture with the aim to penetrate a regulated industry. [...] We entered an entirely new territory. We were like the Americans in the Vietnamese jungle”. Their negligence of external advice also implied **unrealistic estimations with regard to necessary efforts** (C) to implement the radio station. In more detail, John was entirely convinced that it would not take more than a couple of weeks to establish his radio station with an antenna frequency. However, he “[...] completely underestimated all questions related to licenses and broadcasting slots”.

All of these findings correspond to the experiences and observations related to the effects of hubris on the execution of the innovation function made by the interviewed experts (cf. section 5.1.1). In comparison, however, there is hardly any evidence that John also neglected customer needs or the validation of his value proposition (A). Even though he was strongly convinced that he knew “[...] what was going on in the international party scene and what the people wanted to hear” (John), he interacted a lot with his target audience.

5.2.1.2.2. Internal Coordination – Everything will be Fine

Summary: In relation to the performance of his internal coordination function, strong evidence suggests positive impacts of John's hubris on his motivation (G), which also spread among his supporters. However, the data also indicates that his hubris triggered the creation of disproportionate internal structures and the negligence of failure (I). In contrast to the outcomes of the expert interviews, hardly any evidence is found that his hubris also influenced other aspects of the internal coordination function, such as disproportionate assessments of the workload (J), actually required resources and competences (K), or expected financial investments (L). Moreover, neither a noticeable target-oriented (F) nor an exploitative management style (H) was found.

John's unshakable **motivation** (G) to launch a radio station and to overcome all obstacles was triggered by his belief that “it would be the greatest radio station that you could imagine”. This

perception was confirmed through positive and encouraging feedback as “[...] no matter where you are, in each club, everybody tells you: ‘Wow, great program! [...]’”. The unshakable belief to pursue a grandiose business idea and to eventually be able to generate “[...] more money than Energy and RTL together [...]” spread among his supporters. John stated that “if one thing worked well, it was the team”. It considerably influenced their objective to establish a radio station that would soon be embraced all over Germany: “we wanted more, we wanted to grow. We wanted a countrywide radio network, we wanted it to be the center in Berlin, [...] for all people outside there”.

However, these hubris driven objectives and beliefs resulted in the **creation of disproportionate internal structures and the negligence of failure** (I). For instance, John recruited ambassadors for his radio station all over Germany, although it seemed highly unlikely that the broadcasting license would be issued. Moreover, he already started negotiations with professional investors as he aimed to rent various office spaces in popular areas of bigger cities and to invest into technical equipment of high quality. After it became obvious that he would not be able to implement the radio station according to his own visions, John had to cancel various contracts with already employed ambassadors and landlords. Taken together, it seems that John still is to be convinced that he could have succeeded. During the interview, he mentioned that “it would just have taken another 2-3 years until I could have had mobilized sufficient political pressure to receive the license”.

In comparison to the expert interviews, there is hardly any evidence that John exploited his supporters to achieve his objectives (H). Nor did he manage critical situations in a target-oriented manner (A) but always focused on his own visions without reflecting the consequences. Thanks to his prior experiences in the music business, he was aware of the workload (J) and necessary (financial) resources (K) to establish a radio station. Nevertheless, John neglected obstacles, such as missing resources, as he always believed that “eventually, everything will be fine”.

5.2.1.2.3. Arbitrage Function – We were the Mongols of the Radio

Summary: Strong evidence is found that John pursued an unadjusted commercialization strategy (N), which considerably differed from other approaches in the broadcasting industry at that time. This involved his disregard of external feedback (O) provided by experts and other players in the market. In contrast to the interviews with the experts (cf. section 5.1.3), the data

does neither contain indicators for unrealistic financing strategies (M), or assessments of the market (P), nor for an outstanding persuasiveness of John (Q).

In the beginning of the implementation of his radio station, John never thought about marketing efforts to commercialize his idea. Instead, he stated: “I was always convinced that news about my radio station would spread like wildfire”. Moreover, “it was always important for me to remain loyal to myself. I wanted to sell my visions and not to adapt to the mainstream”. This approach worked well for the cable radio station in the subculture since John was widely recognized and able to indirectly promote his radio station through the music events he organized. However, fewer people than initially expected were able to receive his frequency. “It took me a while to realize the limited range of cable radio. The people listened to normal radio instead“.

As John felt limited in his possibilities, he applied for a broadcasting license and antennae radio frequency. In order to set his radio station apart from the strong competition in the broadcasting industry, he followed **creative but overall inconsiderate commercialization strategies** (N). For instance, he and his team redesigned the flyers of the international radio and television exhibition. Branded with their own logo, they sent rollerblade teams to the fair and replaced all original flyers. Moreover, “we designed posters for the whole city, we went to the urban motorway and left our posters everywhere. We knew that nobody is going to take them away from there since it is too dangerous”. Their most sensational marketing campaign occupied the media for several days: “I got to know a guy who was working with latex and I thought it could be a great idea to find another person who is willing to get a tattoo of our logo made out of latex. Oh yes! I wanted to invite all Germany to be a part of this event. Luckily, I knew the caretaker of a quite prominent building. That’s where the girl got the tattoo with our logo and all people passing by were following it on this huge screen we installed”. Their reaction in response to the refusal of the media authorities to issue the required broadcasting license was also sensational. Beside the occupation of the media authorities (cf. section 5.2.1.2.1), John also organized huge demonstrations in public places.

Although, he also received a lot of **negative feedback for their commercialization activities** (O), John stated that “our target group loved us and this was the most important thing. Who cares about reputation? We were the Mongols of the radio”. During all these activities, he always focused on his own visions and did not seek support for the commercialization. This attitude became especially problematic during the negotiations with the influential entrepreneur, who was willing to cooperate with John: “we simply believed him. We signed the

contracts from his lawyers but we never read the conditions”. Eventually, John received the broadcasting license but without the necessary rights to realize and commercialize the radio station according to his own visions. In reflection, John concluded that he “[...] would never ever do such a deal without an expert again”.

Taken together, John’ marketing efforts were unconventional, especially for the broadcasting industry, but he succeeded in attracting attention with only limited financial resources. From this perspective, his hubris had positive impacts on the performance and competitiveness of his venture. However, these were outweighed by his negligence of advice from industry experts, who might have prevented that he signed a contract for a broadcasting license without being authorized to dispose over it.

Unlike the outcomes of the expert interviews, there was no evidence for unrealistic financing strategies in the case of John (M). Even though he tended to create disproportionate internal structures (cf. section 5.2.1.2.2), John never spent more financial resources than he possessed. Luckily, he had access to professional investor networks within the broadcasting industry and received smaller investments for his commercialization activities. In addition, neither a disproportionate assessment of the market (P) nor a noticeable persuasiveness (Q) were determined.

5.2.1.2.4. Risk Management – Drawbacks? Only Challenges on my Way to Success

Summary: The influence of hubris on the execution of the risk management function was also evident in John’s case study as he neglected the business planning (R), subjectively interpreted problems during the realization of his radio station (S), perceived himself to be resistant against external circumstances (T) and competitors (U), possessed an inferior risk perception (V), and applied semi-legal business practices to establish his business model (W).

John stated that he **never economically planned** (R) how to establish his radio station but he was aware of his limited resources and always tried “[...] to realize all actions as low budget as possible” (John). However, the media authorities had a different perception and justified their refusal to issue the broadcasting license as follows: “You are incompetent. You are just a bunch of maniacs that earn money with doubtful events but this isn't a serious financial plan. We want to know how the financial resources look like for the next three years”. Despite this harsh criticism on his missing financial calculations, John “[...] didn't really notice a drawback but perceived it as a challenge on my way to success”. This statement reflects his overall tendency

to **subjectively interpret problems** (S) and to consider himself to **be resistant against external circumstances** (T). In this regard, John explained that he “[...] didn't ever perceive problems but only temporal delays in the development of my radio station”.

In addition, he **neglected other players in the market** (U) as “they couldn't compete with us. We were hip, we were cool, we were the ones everybody was waiting for”. This self-awareness triggered John and his team, who aimed to become “[...] the new radio station that makes the established ones, like RTL and Energy, look old. We were better than the others and that's what we knew”. However, John never reflected that he was actually competing against two well-established radio stations that were embraced already nationwide. His **risk perception was overlaid** (V) by the belief that they would be able to make “[...] more money than Energy and RTL together. It felt so real that we could make it”. Moreover, it led him to sign the contract that was offered to him by his partner without reading it. This carelessness had considerable consequences as John never received the required rights to use his license according to his own visions. Instead, he described his partner as “[...] really smart. They thought: 'this guy, this young maniac just rushed forward like a young bull, like a young warrior. It would be to exhausting to fight against him, we are smarter’”. The contract with John was the only option for his ‘business partner’ to receive the required broadcasting license himself.

Nevertheless, the evidence also indicates that John was always willing to do everything necessary to realize the radio station according to his visions. Therefore, he also engaged in **semi-legal business practices** (W), e.g. when they “[...] occupied the transmitting station”. Moreover, he was inspired by a pirate radio station whose concept he partly adapted.

5.2.2. Mini-Case II – The Mobile Application ‘DrivingFun’

The second case describes the founder Tom, who was driven by hubris when he launched his startup “DrivingFun“ in 2004. Similar to the structure of the previous section, crucial background information of the case is outlined (cf. section 5.2.2.1), followed by the analysis in relation to the effects of hubris on the core entrepreneurial functions performed by Tom (cf. section 5.2.2.2).

5.2.2.1. Description of the Case

The value proposition of Tom’s venture was a mobile learning system that aimed to playfully support users in their preparations for driving tests, so that they would receive better results during examinations. In this regard, Tom benefited from previous experiences as he already

had launched a startup with more than 20 employees in the mobile games industry in 1996. Similarly to his planned venture “DrivingFun”, his first company also involved the development and commercialization of a mobile application. In this context, Tom gained not only considerable experiences in the mobile games market but also in relation to a venture creation process. Moreover, he established important cooperation with relevant market players, for instance with Jamba, which was a market leading mobile games company at that time.

In the beginning of the 2000s, he decided to start from scratch and to build a new startup according to his own vision. In contrast to his previous venture, Tom was no longer willing to accept the prescribed conditions of the influential market place providers, such as Vodafone, and Chinese competitors that both dictated prices of averagely 0.99 Cents for a mobile game. According to his experiences, these low prices did not justify the necessary efforts to develop an application and negatively affected the performance of his first startup in the long run. However, the expected potentials in the mobile games market outweighed his concerns. In more detail, the latest auctioning of UMTS licenses in 2000 resulted in higher data transmission rates and therefore, considerable opportunities for the mobile games industry were created. In order to benefit from these developments, Tom generated a dozen ideas and discussed concepts of potential games with his former co-founders and employees. Eventually, he decided on his own that a game for the preparation of driving tests would be most likely to succeed. In order to finance his project, Tom took out a bank loan in addition to the investments of his own savings.

As a first step of his venture creation process, he started to build a team of five developers whose competences were indispensable for the realization of the application. Even though Tom had studied computer science, he only possessed minor knowledge in programming. Instead, he took on the responsibilities in relation to a suitable storyline for the game. This consisted of a driving instructor and his colleague who guided the users playfully through the original driving test questions. Moreover, his team designed diverse quizzes and enabled the users to compete against each other. Coming close to their release, Tom started lengthy negotiations with several market place providers to launch his product. Eventually, he succeeded and one of the companies agreed to offer “DrivingFun” in their market place for 9.99 Euro instead of 0.99 Cents. After this success, Tom and his team invested even more time, energy, and monetary resources into the development of their mobile game.

However, the venture never became profitable as several major obstacles were constantly ignored. Firstly, the team initially neglected the very limited storage capacities of mobile phones and the comparably still moderate data transmission rates of 64 kBits/s at that time. As

a consequence, they had to considerably minimize all features, graphics, and sounds of the initial version of the game. Thus, the whole development process was delayed by several months. Secondly, the expected internationalization and scalability of the mobile game was limited due to the lack of standardized questions and regulations for driving tests. Hence, Tom had to individually negotiate the price for the questions in each country. This was a very time consuming and expensive process.

Despite these difficulties, Tom never doubted the success of his venture and started to invest his money into expensive cars and large office spaces. After three years of neglecting all obstacles and also the unprofitable cost-benefit ratio, Tom received a call from his financial institution. Only then he realized he was bankrupt as he was incapable of paying back the loan from the bank. Eventually, Tom had to liquidate the remaining value of his startup and dismiss all of employees in 2008.

5.2.2.2. Effects of Hubris on the Entrepreneurial Functions

The following sections outline the analyses in relation to the effects of Tom's hubris on his performance of the innovation (cf. section 5.2.2.2.1), internal coordination (cf. section 5.2.2.2.2), arbitrage (cf. section 5.2.2.2.3), and risk management (cf. section 5.2.2.2.4) functions.

5.2.2.2.1. Innovation Function – I want it, I will achieve it

Summary: In accordance with the findings from the expert interviews (cf. section 5.1.1), the innovation function performed by Tom was characterized by unrealistic estimations about necessary efforts (C), and the linear implementation of his once envisioned business idea (D) with novelty value (E). However, there is no evidence that his hubris led him to neglect customer needs (A) or any advice from industry experts (B).

Even though Tom already had established and managed a venture with more than 20 employees before, he still was driven by “[...] **the idea to create something entirely new**” (Tom)¹⁰² and to disrupt the mobile games industry (E). On this basis, he developed the idea behind “DrivingFun” and focused on its **linear implementation** without ever taking even smaller adaptations into consideration (D). In fact, the initial concept did not change during the whole

¹⁰² All of the quotes in section 5.2.2.2.1-5.2.2.2.4 belong to Tom.

venture creation and establishment process. Although major obstacles hindered the launch of the application for several months, Tom never wanted “[...] to understand that it doesn't work the way I imagined”. Instead, he constantly **underestimated all problems and efforts** (C) in relation to the development and commercialization of “DrivingFun”. For instance, he and his team “[...] never expected how much effort actually was necessary. In the beginning, we were convinced to enter the market within three month. Eventually, it took more than a year”. This delay was caused as the limited storage capacities of mobile phones and the still moderate data transmission rates were neglected in the development of the initial versions of “DrivingFun”. Moreover, Tom always imagined that the scalability of the application could easily be achieved through a “simple” translation of the German questions. However, after more than a year, he had to admit that his initial assumptions were wrong. He agreed that “[...] each market is different. [...] Different questions, different regulations, all different”¹⁰³. Nevertheless, he constantly possessed a strong and constant will to implement “DrivingFun” the way he imagined it, without ever questioning his idea.

Although, Tom never conducted a systematic analysis of his customer value proposition (A), he regularly invited potential users as beta-testers. Moreover, he did not actively seek advice but there is no evidence in the data that Tom would have neglected recommendations from industry experts (B).

5.2.2.2.2. Internal Coordination – Unstoppable until Reality Catches Up

Summary: In accordance with the expert interviews, the data contains strong evidence that Toms’ hubris affected his internal coordination function in terms of positive impacts on the overall motivation (G), the creation of disproportionate internal structures together with the negligence of failure (I), and an unrealistic perception of the necessary workload to develop “DrivingFun” (J). However, neither a target-oriented (F) nor an exploitative management style (H) could have been determined. Furthermore, Tom did not have unrealistic perceptions of the required entrepreneurial potential (K) or the accessibility of financial resources (L).

Similar to the case of John (cf. section 5.2.1.2.2), Toms’ hubris driven unshakable belief to become successful **positively impacted on the internal motivation** (G) of his entire team. Tom stated that he never doubted the success of “DrivingFun” because “I believed it’s a great

¹⁰³ This quote can also be interpreted from the perspective of the arbitrage function (cf. section 5.2.2.2.3).

idea and everybody else confirmed that it's a great idea". This conviction was shared by his team and led them to be "[...] very ambitious right from the beginning". Besides, it also triggered the motivation of Tom himself who, despite all difficulties related to the development and internationalization process, "[...] always thought that it must go on and that it would eventually work somehow".

However, his firm conviction to succeed also led Tom to create **disproportionate internal structures, to neglect his upcoming failure (I)**, and to **unrealistically estimate the actual workload (J)**. Instead of developing a lean version of "DrivingFun" in order to test the application and to evaluate necessary efforts, he and his team immediately "[...] pulled out all the stops. We worked on great color coding, and we embedded our own font". Moreover, Toms' "[...] mission was always to do everything particularly well. Logically, this was always the more complex option". As a consequence, it took more than a year, not three months as initially anticipated, to enter the market (cf. section 5.2.2.2.1). These developments were accompanied by the creation of internal structures that grew disproportionately to the success of the mobile game. Tom employed more and more developers, rented a large office space in a central location, and invested in a vehicle fleet for his startup. Since he did not anticipate the failure until his financing institution called, Tom and his team eventually "[...] had to lay off employees, we had to leave our big and nice office, we had to sell a bunch of cars, which were really nice. We had considerable liabilities". Despite these consequences, Tom "[...] didn't perceive it as a FuckUp. Not in this situation".

During the development process of "DrivingFun", Tom required the competences of his employees but he did not exploit them (H). Moreover, he already gained prior experiences in the mobile games industry. Therefore, Tom was aware of necessary resources to develop an application (K) and also knew about the considerable competition for investor money at that time (L). Despite his experiences, he did not apply a target-oriented management approach (F) in critical situations but insisted on the implementation of "DrivingFun" according to his visions.

5.2.2.2.3. Arbitrage Function – I Never Doubted

Summary: In the case of Tom, it is more difficult to determine the effects of hubris on the performance of the arbitrage function as "DrivingFun" never really became operational. During the development phase, evidence was found that Tom pursued, or at least planned, a poorly considered financing (M) and commercialization strategy (N) for the mobile application, which was triggered by an unrealistic assessment of the market (P). Moreover, it became evident that

Tom was very persuasive and able to convince leading crucial market place providers to support his pricing strategy (Q). However, there are no indicators that Tom disregarded external feedback that he received in relation to his pursued commercialization strategies (O).

Tom planned “[...] to make the game accessible through an app store and make use of the usual marketing channels”, which seemed to be a reasonable commercialization approach. Apart from this distribution strategy, however, the whole team “[...] completely **underestimated the commercialization aspect**” (N). This involved the negligence of marketing campaigns as it was taken for granted “[...] that the game will be embraced by the market”. As a consequence, Tom did not consider how to stimulate the demand for “DrivingFun” or how to communicate the value proposition of the mobile game. In addition, the scalability of “DrivingFun” in foreign markets was never questioned. Instead, Tom **unrealistically assessed the markets** (P) and planned to “[...] develop the whole application once and to integrate the foreign questions on this basis. It would have been easy to find out that it can't work that way but I never doubted that it couldn't work the way I imagined”. Similarly, also **financing aspects were neglected** (M) as Tom had no idea that his company was facing insolvency until his banking institution called him to reclaim their loan. Despite all these difficulties, he succeeded to **persuade central market place providers** (Q) and to negotiate a “[...] price point of 9.99 Euro in the games stores. This price didn't exist before”. The negotiations took several months but Tom never gave up and brought on more and more arguments to convince central players.

Similar to the execution of his innovation function (cf. section 5.2.2.2.1), Tom did not seek expert advice to receive feedback for his commercialization and financing strategies (O). Therefore, it cannot be stated that he would have neglected given advices on this subject.

5.2.2.2.4. Risk Management Function – What Kind of Risks Should Affect Me?

Summary: In accordance with the expert interviews, the case of Tom yields evidence for his negligence of business planning (R), his subjective interpretation of problems during the implementation of “DrivingFun” (S), his perception of robustness (T) against competitors (U), and his overall inferior risk perception (V). However, he did not pursue semi-legal business practices to establish his venture (W).

Toms’ **inferior risk awareness** (V) was especially reflected in his **disregard of efficiency calculations** (R). In this context, he stated: “accounting was really not on my priority lists, I mean what would these numbers tell you? No, it was not of particular importance to me”. Instead,

“we were often blinded by our own brilliant ideas and we never thought about any detailed business planning”. He even questioned the usefulness of financial calculations and argued that he had not “[...] even entered the market and the breakthrough was approaching. Afterwards there would have been time to deal with the numbers”. In reflection, Tom explained that he was convinced to achieve everything and therefore, “I just neglected all risks. I mean it doesn't really help if you think too much about them. [...] all projects can fail”. This implied that the only risk that Tom perceived during the implementation of “DrivingFun” “[...] was that foreign low cost competitors would steal my idea and implement it much faster. I assessed the overall risk to be moderate otherwise”.

All of these statements also express his overall **perception to be robust** (T) against external circumstances. This involved **discounting competitors as inferior** (U), although “[...] there was a lot of competition in the market but we did not check them all in detail. The big players were commonly known”. He even asked: “who should have competed with us? There were a lot of games in the market but nobody pursued a similar concept to ours. We needed to be fast but we never worried that somebody would be faster. No, this was never the case”. However, it also implied that Tom tended to **subjectively interpret all problems** (S) during the implementation of his mobile application. Therefore, he was not aware of his financial situation “[...] until the bank called. I had no idea about the situation until the bank called and I was told that we are facing insolvency”. In the first place, “we thought that the bank made wrong calculations” and Tom “[...] tried to adapt the numbers and make them look better”. Despite this call and the claim of the financial institution to pay all money back, Tom “[...] was still convinced that we would make it and find a solution”. Moreover, he stated that “it took me several days to realize that there was no option to solve this situation. We had to dismiss our employees, we had to leave our offices etc. Every now and then, I am still wondering how all of this could have happened. The idea was great and we could have made it”. This statement reflects his unshakable belief in himself and his ideas, especially that it would have become successful (cf. section 5.2.2.2.2), which led him to neglect all risks in relation to the implementation of “DrivingFun”.

In contrast to the case of John and the outcomes of the expert interviews (cf. section 5.1.4), no evidence has been found that Tom pursued semi-legal business practices to develop “DrivingFun” and establish his venture.

6. Discussion and Findings – Effects of Hubris on the Performance of Core Entrepreneurial Functions

In this chapter, the findings of the conducted examinations are summarized and discussed in order to determine the contributions of this dissertation towards theory development on the effects of hubris in the context of newly founded ventures. For this purpose, each section contains a critical appraisal of the similarities and differences between the outcomes of the expert interviews (phase II+III) and two mini-case studies (phase IV). Moreover, the empirical findings are compared with already existing evidence on hubris in diverse research disciplines (phase I).

Similar to the structure of the analysis, all outcomes in relation to the innovation (section 6.1), internal coordination (section 6.2), arbitrage (section 6.3), and risk management (section 6.4) functions are discussed separately.

6.1. Innovation Function

In this subchapter, all empirical findings with regard to execution of the innovation function performed by hubristic startup founders are critically assessed (cf. section 6.1.1) and compared with existing evidence in literature (cf. section 6.1.2). An overview of the discussion is presented in Table 17.

6.1.1. Expert Interviews and Cross-Case Comparison

The outcomes of the expert interviews consistently indicate that hubris leads startup founders to linearly implement their once envisioned innovative products and services (cf. section 5.1.1). In order to achieve their objectives, they tend to ignore crucial factors and determinants during the realization of their visions. For instance, they neglect customer needs in the development of their value propositions (A)¹⁰⁴, they disregard advice from industry experts in relation to their innovation activities (B), and they tend to unrealistically estimate the efforts necessary to implement their ideas (C). In addition, it is found that hubristic founders are less likely to take possible adaptations of their visions into consideration (D). Nevertheless, they are also described as great visionaries, who often pursue innovative business ideas with novelty value (E). The experts agreed, however, that the hubris driven performance of the innovation function entails rather

¹⁰⁴ See alphabetical numeration in figures 12-15.

negative impacts on venture performance and competitiveness overall. These negative consequences are manifested in considerable problems to become operational together with losses in their scarce financial resources.

Comparable findings were determined in the mini-cases that depict two hubristic founders during their venture creation process (cf. section 5.2). Both, John and Tom, launched their ventures in distinct industries and under different circumstances. Nevertheless, they were similarly driven by a strong and boundless will to implement a business ideas according to their own visions, without ever taking possible adaptations into consideration. In contrast to the findings of the expert interviews, however, neither John nor Tom neglected customer needs or the validation of their value propositions (A). Instead, they regularly interacted with their customers and managed to generate business ideas that were embraced by the markets. In comparison of both cases, it seems likely that especially their previous working experiences in the targeted industries and in relation to venture creation processes overall weakened their disregard of customer needs, as one identified effect of hubris in the expert interviews. Since John and Tom had already established ventures in their respective industries, they possessed an idea of unsatisfied customer demands and potentially relevant gaps existing in the market. On this basis, they generated their business ideas in accordance with the needs and wants of their target group.

The only distinction between the two cases is that John, in accordance with the expert interviews, did neglect the advice from industry experts on the performance of his innovation function (B), while there is no comparable evidence for Tom. In search for a plausible explanation, it occurred that Tom never sought expert advice. Instead, he tried to solve all problems in the realization of “DrivingFun” by himself. Nevertheless, Tom reflected that he would have benefited from external feedback. The limited storage capacities of mobile phones and slow data transmission rates were two obstacles in the development process of “DrivingFun” that affected the whole industry and could have been avoided through the input of knowledgeable actors. For these reasons, it is suggested that the findings of the expert interviews can be extended. In more detail, hubristic founders might not only neglect but also never seek expert advice for the realization of their innovative business ideas. This assumption is supported through similar evidence that was found in relation to the performance of the arbitrage function (cf. section 6.3.1).

6.1.2. Empirical Findings and Existing Evidence

The comparison of these empirical findings with already existing evidence in diverse research disciplines is summarized in Table 17. It shows that this dissertation contributes to theory development on the effects of hubris on the performance of the innovation function in various aspects, which are discussed in more detail in the following:

- (1) Extension of existing evidence with new insights (C)
- (2) Empirical evidence for existing conceptual discussions in entrepreneurship literature (D, E)
- (3) Transferability of existing findings determined for hubristic executives in established organizations to startup founders driven by hubris (A, B, D, E)

Extension of existing evidence with new insights (1): There is no comparable evidence in the literature for the finding that hubristic founders tend to unrealistically estimate the necessary efforts in relation to the realization of their innovative products and services (C). Therefore, further examinations are required to determine if hubris driven executives in established organizations exhibit similar behaviors in the execution of their innovation function. However, it is likely that unrealistic effort estimations are reinforced in the context of startup companies as founders often start from scratch and do not possess relevant benchmarks. In the absence of reference projects that provide context and historical information on operational estimations, it is difficult to make and challenge incorrect estimations. This is also observed in the two mini-cases, which indicate that hubristic founders are less likely to seek feedback for their estimations. Hence, it is difficult for external parties to engage hubristic founders in discussions and to point out the required workload. In contrast, executives in established organizations usually face experienced experts in their teams and among their supervisors. As a consequence, there are more people involved in established organizations, who could moderate inconsiderate effort estimations by hubristic executives.

Empirical support for conceptual discussions in entrepreneurship literature (2): Forster and Sarasvathy (2007) discussed on a conceptual basis that hubris leads to decision-making processes that indicate persistency. Moreover, the authors assumed that hubris positively impacts on firm innovation. In this dissertation, both assumptions were interpreted, among others, to affect the execution of the innovation functions performed by startup founders (cf. section 2.4.2). The empirical evidence supports this interpretation and suggests that hubris positively influences the linear implementation of originally envisioned business ideas (D), and the

striving for innovation with novelty value (E). Hence, this dissertation supports the suppositions of Forster and Sarasvathy (2007) as persistency is found to be an inherent factor in the decision-making processes for the realization of products and services. Similar findings were also determined in management literature for hubristic executives in established organizations as outlined in the following.

Transferability of existing findings (3): Various empirical outcomes in connection to the innovation function performed by hubristic founders were similarly determined for executives in established organizations. For instance, the interviewed experts stated that the negligence of customer needs together with the validation of value propositions (A) highly differentiates hubristic founders from others. This outcome substantiates the existing finding in literature that hubris leads to decision-making processes that deviate from conventional standards (e.g. Kroll et al., 2000; Owen, 2006; Roll, 1986). Hence, hubristic founders and executives in established organizations likewise seem to follow unconventional strategies in the realization of their innovative products and services. Moreover, the already determined disregard of (given) internal and external advice (Brady & Davies, 2010; Owen, 2006; Owen & Davidson, 2009) is also reflected in the innovation function of hubristic founders. These tend to neglect feedback from industry experts in relation to their innovation activities (B).

The findings that hubris driven entrepreneurs are likely to be highly innovative (E) and persistent in their decision-making processes (D) also supports the transferability of existing evidence. Management literature previously documented similar effects of hubristic executives in established organizations (Chowdhury, 2014; Hiller & Hambrick, 2005; Lawrence et al., 2011; Tang, Li et al., 2015). Although the transferability of additional evidence was expected (cf. section 2.4.3), there are no indicators that hubris leads to (expectations of) perfectionism, impulsivity, inattention to details, or amorality in relation to the execution of the innovation function performed by startup founders (e.g. Cormier et al., 2016; McManus, 2016; Mishina et al., 2010; Tang et al., 2015).

Effects of Hubris on the Execution of the Innovation Function							
Findings of the Empirical Examinations					Existing Evidence (phase I)		
Expert Interviews (phase II and III)			Mini-Case I (phase IV)	Mini-Case II (phase IV)	Findings in Literature	Author/s	Research Discipline
Persistence	Negligence of essential factors during business idea realization (I)	Negligence of customer needs and validation of customer value proposition (A)	Not found (<i>expl.: previous industry experience</i>)	Not found (<i>expl.: previous industry experience</i>)	Decision-making processes that deviate from conventional standards	Roll (1986)	Corporate Finance
						Brady & Davies (2010); Hiller & Hambrick (2005); McManus et al. (2016)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
		Negligence of advice from industry experts and the establishment of strategic partnerships for business idea realization (B)	Supported	Possible extension (<i>expl.: never sought external advice</i>)	Negligence of (given) internal and external advice	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
		Unrealistic and disproportionate effort estimations (C)	Supported	Supported			

	Linear implemen- tation of inno- vation (2)	Linear imple- mentation of once envisioned business ideas (D)	Supported	Supported	Decision-making processes that indicate persistency ¹⁰⁵	Chowdhury (2014); Hiller & Hambrick (2005)	Business and Management
						Forster & Sarasvathy (2007)	Entrepreneurship
		Striving for innovation with novelty value (E)	Supported	Supported	Facilitation of firm innovation (renewal) and venture creation	Chowdhury (2014); Lawrence et al. (2011); Tang, Li, and Yang (2015)	Business and Management
						Forster & Sarasvathy (2007)	Entrepreneurship
					Expectation of perfectionism, impulsivity, and inattention to details	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen &Davidson (2009)	Psychology and Medicine
						Promotion of amorality and corporate illegal activities	

Table 17: Discussion of empirical findings - innovation function (author's illustration).

¹⁰⁵ This finding was initially interpreted from the perspective of the internal coordination and arbitrage function (cf. section 2.4.3).

6.2. Internal Coordination Function

In this section, the outcomes of the expert interviews and mini-cases are discussed in relation to the effects of hubris on the performance of the internal coordination function (cf. section 6.2.1). Moreover, the empirical findings are compared with existing evidence in literature (cf. section 6.2.2). The discussion is summarized in Table 18.

6.2.1. Expert Interviews and Cross-Case Comparison

The analysis of the interviews suggests that hubristic founders perform their internal coordination function with a high internal locus of control, especially with regard to the management of their entrepreneurial potential¹⁰⁶. Their perception to have control of all internal resources and competences favors their egocentric management style (3), and leads to a lack of realism in the implementation of internal structures (4) together with disproportionate assessments of required resources (5). The data provides coherent evidence that a hubris driven lack of realism is reflected in the negligence of failure (I), unrealistic estimations of actual workloads (J), and the actually required entrepreneurial potential (K), as well as in unreasonably positive assessments to receive financial investments (L).

However, hubristic founders appear ambivalent to the impacts of their egocentric management approaches on internal processes and structures. Some experts agreed that their strong focus on their own visions supports them to take target-oriented actions in critical situations (F). Instead of discussing different alternatives, they are able to enforce their decisions. Moreover, their unshakable belief to pursue a grandiose business idea and to become successful was frequently observed to foster the internal motivation among their teams (G). However, the data also contains evidence for hubristic founders, who merely exploited their employees (H) in order to achieve the realization of their own objectives. This implied negative consequences for the staff turnover in several of the depicted case studies.

The previously outlined ambivalences indicate that the effects of hubris on the management approaches of founders differ (cf. section 3.2.1). Future research is required to determine moderators and boundary conditions that influence hubristic founders in their handling of employees and teams (cf. section 7.3.3). In comparison of the findings, there are several possible explanations for these ambivalences. Firstly, it can be argued that positive impacts on the internal

¹⁰⁶ The entrepreneurial potential is defined as the combination of all available assets, resources, and competences (cf. section 3.1.2).

motivation and the exploitative tendencies of hubris driven entrepreneurs are self-reinforcing. This would imply that an increasing motivation leads hubristic founders to expect even greater work performances from their teams. Eventually, the expected workload might outweigh the internal motivation, which leads their employees to leave the venture. Secondly, it is also conceivable that both effects are mutually exclusive and highly dependent on the respective context. This suggestion is supported by the outcomes of the two mini-cases, in which only positive impacts on the internal motivation were determined. It became evident that John and Tom were both highly dependent on the competences of their teams as they would not have been able to realize their business ideas without them. Therefore, both founders treated their employees accordingly. On this basis, it can be assumed that the (perceived) dependence on competences of third parties is likely to weaken the negative impacts of the egocentric management style of hubristic founders.

The comparison between the outcomes of the expert interviews and mini-cases yields that neither John nor Tom exhibited a target-oriented management style (F), unrealistic estimations of the necessary resources and competences (K), or disproportionate assessments regarding the willingness of financiers to invest (L). Similar to the previous discussions in relation to the innovation function (cf. section 6.1.1), it is argued that their previous experiences with the implementation of similar business models weakened unrealistic estimations. Moreover, both founders were aware of the difficulties to receive financial investments but they succeeded to access networks with potential investors that supported their ventures. With regard to the target-oriented management style, it is more difficult to derive an explanation as to why both were not able to solve critical situations despite their experiences. Tom even failed to identify the approaching bankruptcy of his venture. One plausible explanation seems to be that their hubris driven unshakable belief to become successful led both founders to disregard crucial problems instead of feeling obliged to solve them.

6.2.2. Empirical Findings and Existing Evidence

The empirical evidence in relation to the impact of hubris on the execution of the internal coordination function contributes to existing literature in various regards (cf. Table 18):

- (1) Extension of existing evidence with new insights (F, J, L)
- (2) Empirical evidence for existing conceptual discussions in entrepreneurship literature (I)
- (3) Transferability of existing findings determined for hubristic executives in established organizations to startup founders driven by hubris (G, H, I, K)

Extension of existing evidence with new insights (1): Several of the empirical findings of this dissertation are novel and extend existing literature on hubris (cf. section 2.4.3). For instance, neither a target-oriented management with a strong focus on oneself (F), disproportionate estimations of the necessary workload (J), nor unreasonably positive assessments regarding the willingness of financiers to invest (L) have been determined before. It is of relevance to examine whether comparable effects occur in the context of established organizations. As in the cases of the German CargoLifter AG and the American Enron Corporation (Boje et al., 2004; Hermanns, 2012), it seems likely that also hubristic executives in established organizations tend to apply egocentric management approaches. In contrast to the empirical findings in this dissertation, however, the CEOs of these organizations were not able to handle critical situations in a target-oriented manner as both companies failed dramatically. Therefore, it is necessary to determine boundary conditions under which hubris leads to target-oriented vs. detrimental management approaches (cf. section 7.3.3). In addition, evidence from these two companies contain insights that the hubris driven management boards were highly positive to find investors that were willing to financially support their projects. Hence, it seems likely that similar effects of hubris occur in the context of established organizations.

Following the previous line of reasoning (cf. section 6.1.2), it is argued that the lack of benchmark projects and formalized governance structures hinders third parties to provide startup founders with a reasonable perspective on their estimations. Therefore, these effects of hubris are more likely to occur in startup companies compared to established organizations.

Empirical support for conceptual discussions in entrepreneurship literature (2): The assumption that hubris favors decision-making processes indicating persistency (cf. Forster & Sarasvathy, 2007) is also empirically supported by findings related to the internal coordination

function. In this context, it is determined that hubristic founders tend to neglect the approaching failure of their ventures (I). Instead, they are highly confident that their business ideas will succeed and hence, they neither abandon the realization of their business ideas (innovation function) nor the implementation of their companies according to their own visions.

Transferability of existing findings (3): The empirical evidence on the hubris driven performance of the internal coordination function supports the transferability of existing findings on the effects of hubris for executives in established organizations to startup founders. For instance, Hoorens et al. (2012) and van Damme et al. (2015) found that the expression of hubristic beliefs and behaviors have interpersonal consequences. The empirical evidence from this dissertation indicates that some hubristic founders have positive impacts on the internal motivation (G), whereas others negatively affect staff turnover (H). As previously stated (cf. section 6.2.1), further research is required to examine whether these contradictory consequences are reinforcing or mutually exclusive.

Moreover, the determined tendency of hubristic founders to create disproportionate internal structures and to neglect their failure (I) can be related to the findings that hubristic executives follow decision-making processes that indicate persistency and deviate from conventional standards (e.g. Chowdhury, 2014; Hiller & Hambrick, 2005; Owen, 2006; Roll, 1986). In addition, also the misallocation of necessary resources (Haynes et al., 2015) is interpreted as another indicator of disproportionate internal structures. Hence, some of the already existing findings in literature can be specified with regard to which entrepreneurial function they affect through the empirical outcomes of this dissertation. Similarly, the overestimations of capabilities, as discussed by Roll (1986), are also found to be an outcome of hubris on the level of startup founders. In this context, it is determined that hubristic founders are likely to unrealistically assess their required entrepreneurial potential, including all necessary assets, resources, and competences, to establish a new venture (K).

In contrast to the expectations (cf. section 2.4.3), it could not have been determined that the execution of the internal coordination function performed by startup founders is affected by corporate illegalities (Cormier et al., 2016; McManus, 2016; Mishina et al., 2010; Tang et al., 2015), neglect of (given) advices, or expectations of perfectionism, impulsivity, and inattention to details (Brady & Davies, 2010; Owen, 2006; Owen & Davidson, 2009).

Effects of Hubris on the Execution of the Internal Coordination Function							
Findings of the Empirical Examinations					Existing Evidence (phase I)		
Expert Interviews (phase II and III)			Mini-Case I (phase IV)	Mini-Case II (phase IV)	Findings in Literature	Author/s	Research Discipline
High internal locus of control	Egocentric management style with ambivalent outcomes (3)	Target-oriented management with a strong focus on oneself (F)	Not found (<i>expl.: mutually exclusive with G</i>)	Not found (<i>expl.: mutually exclusive with G</i>)			
		Positive impact on the internal motivation through unshakable belief to become successful (G)	Supported	Supported	Interpersonal consequences	Hoorens et al. (2012); van Damme et al. (2015)	Psychology and Medicine
		Exploitative management style with negative consequence for the staff structure (H)	Not found (<i>expl.: mutually exclusive with G</i>)	Not found (<i>expl.: mutually exclusive with G</i>)			

	Lack of realism in the implementation of internal processes and structures (4)	Creation of disproportionate internal structures and negligence of failure (I)	Supported	Supported	Decision-making processes that indicate persistency	Chowdhury (2014); Hiller & Hambrick (2005)	Business and Management
						Forster and Sarasvathy (2007)	Entrepreneurship
					Misallocation of existing and underestimation of necessary resources	Haynes et al. (2015)	Business and Management
							Entrepreneurship
		Imbalance between the perceived and actual workload (J)	Supported	Supported	Decision-making processes that deviate from conventional standards	Roll (1986)	Corporate Finance
						Brady & Davies (2010); Hiller & Hambrick (2005); McManus (2016)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine

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	Disprop. assessment of accessible and required re-sources and competences (5)	Unrealistic as-sessment of necessary and ac-tually available resources and competences (K)	Not found (<i>expl.: previous industry experience</i>)	Not found (<i>expl.: previous industry experience</i>)	Overestimation of capa-bilities	Roll (1986)	Corporate Finance
		Disproportionate and unreasonably positive assess-ment regarding the willingness of financiers to in-vest (L)	Not found (<i>expl.: previous industry experience</i>)	Not found (<i>expl.: previous industry experience</i>)			
					Promotion of amorality and corporate illegal activities	Cormier et al. (2016); McManus (2016); Mishina, et al. (2010); Tang, Qian, Chen, and Shen (2015)	Business and Management
					Negligence of (given) in-ternal and external advice	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
					Expectation of perfec-tionism, impulsivity, and inattention to details	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine

Table 18: Discussion of empirical findings - internal coordination function (author's illustration).

6.3. Arbitrage Function

Similar to the previous subchapters, this section is structured as follows: firstly, similarities and differences between the outcomes of the expert interviews and mini-cases are discussed (cf. section 6.3.1). Secondly the theoretical contributions of this dissertation are determined based on a comparison of the empirical findings with existing literature (cf. section 6.3.2). An overview of the discussion is displayed in Table 19.

6.3.1. Expert Interviews and Cross-Case Comparison

Evidence from the expert interviews consistently indicate that hubristic founders tend to follow inconsiderate commercialization and financing strategies (M) that considerably deviate from conventional approaches of entrepreneurs in similar industries. Despite potential advantages that could result from leaving established paths in the implementation of new business models (cf. section 2.1), the experts agreed that unadjusted commercialization strategies triggered by hubris have overall negative impacts on venture performance and competitiveness (cf. section 5.1.3.1). Specifically, hubristic founders are often described to pursue commercialization approaches without taking external conditions, such as the actual demand for their products and services or existing market entry barriers, into consideration (N). This behavior is accompanied by their disregard of external feedback in relation to pursued commercialization strategies (O). This implies that their often unrealistic assessments of the targeted market (P) can rarely be challenged or corrected by informed third parties. Nevertheless, the experts stated that they are often still willing to support hubristic founders with (financial) resources, competences, and/or access to networks because of the charismatic and persuasive appearance of these founders (Q). The ability of hubristic founders to convince other people through their appearance seems to be a great advantage for the initiation of crucial strategic partnerships that support the performance and competitiveness of their ventures.

Interestingly, the findings of the mini-case studies are ambivalent and only the pursuit of an unadjusted commercialization strategy (N) could have been determined in both cases. These ambivalences are interpreted as another indicator for the importance of contextual factors that weaken and strengthen previously determined effects of hubris. For instance, the pursuit of an unrealistic financing strategy (M) could have only been determined in the case of Tom, who neglected the financial situation of his venture until the banking institution called him to claim their loan back. In contrast, John was always aware of his limited financial resources and he pursued a low budget approach. It is likely that the limited accessibility of monetary resources through a lack of investor networks in the subculture of the music industry, influenced John to

adapt a more realistic financing perspective. Since he did not have many options to access financial resources, John was aware that money could be the biggest constraint in the commercialization of his radio station.

Another difference between the two cases was found in relation to the disregard of external feedback that both founders received in relation to their pursued commercialization strategies (O). Similar to the execution of the innovation function (cf. section 6.1.1), it is found that both founders never sought external feedback in this regard. Therefore, no evidence was found that they would have neglected feedback from knowledgeable actors. This finding supports the previously discussed assumption that hubristic founders do not only neglect but also less frequently seek external advice in relation to the realization and commercialization of their business ideas. The negligence of advice also led Tom to unrealistically assess his targeted market (P). Interestingly, he was unable to properly evaluate the market despite his prior experiences in the mobile games industry. Instead, Tom was always convinced that his business model would scale and he never doubted this. However, comparable evidence was not determined in the case of John. This can be because the data contains only little information about his market assessments overall. Therefore, it is difficult to determine specific contextual factors that might have supported John to gain a more realistic perspective of his targeted market. Similarly, there is no evidence that John was easily able to convince supporters through his persuasive appearance. It became evident that he had sufficient supporters, who believed in his idea of the radio station but it remains unstated if they were attracted by his charisma or by their intrinsic motivation. For the determination of such effects of hubris, it seems necessary to involve third parties into the research process, who directly interact with the observed founders and who could describe their appearance in more detail (cf. section 7.3.2).

6.3.2. Empirical Findings and Existing Evidence

The previously described findings contribute to theory development and literature on effects of hubris in the following aspects:

- (1) Extension of existing evidence with new insights (Q)
- (2) Transferability of existing findings determined for hubristic executives in established organizations to startup founders driven by hubris (M, N, O, P)

Extension of existing evidence with new insights (1): There is no comparable evidence in the literature stating that the persuasive and charismatic appearance of hubristic founders facilitates

the initiation of strategic partnerships (Q). It is highly likely that similar effects occur in the context of hubristic executives in established organizations, as successful founders that were driven by hubris during the initiation of their ventures, such as Elon Musk and Jeff Bezos, still lead their, now established, companies. Nevertheless, further empirical evidence is required to determine whether hubristic executives, that have not launched the organization they are working for, are also easily able to convince third parties to support their businesses. Overall, this finding emphasizes the necessity to take a more impartial perspective in research on hubris as positive effects indeed occur.

Transferability of existing findings (2): It is possible to transfer various findings that have only been determined for hubristic executives in established organizations before. For instance, decision-making processes that deviate from conventional standards seem to also affect the execution of the arbitrage function performed by hubristic founders (e.g. Brady & Davies, 2010; McManus, 2016; Owen, 2006). Specifically, indicators are found that such decision-making processes are reflected in unrealistic approaches to finance the venture creation process (M) and to assess the conditions of their targeted market (P). Hence, it can be specified that unadapted decision-making processes in the context of newly founded ventures are likely to be manifested in the pursuit of financing strategies and the analysis of markets. The latter was also determined by Kroll et al. (2000) and Roll (1986), who found that hubristic executives tend to neglect external market conditions. Similarly, the findings of this dissertation indicate that hubris leads company founders to pursue inconsiderate commercialization strategies that are misaligned to external conditions (N). Furthermore, internal and external advice in this regard are neglected (O) (cf. Brady & Davies, 2010; Owen, 2006; Owen & Davidson, 2009), which is a finding that has also been determined for the execution of the innovation function performed by hubristic founders (cf. section 6.1.2). As a consequence, it can be specified that the disregard of feedback does not only affect the realization, but also the commercialization of innovation potentials in newly founded ventures.

A couple of the effects that have already been determined in literature were discussed in the beginning of this dissertation to also affect the execution of the arbitrage function performed by company founders (cf. section 2.4.2). However, there is no evidence in the data that hubristic entrepreneurs tend to persistent decision-making processes (e.g. Chowdhury, 2014; Hiller & Hambrick, 2005), perfectionism, impulsivity, inattention to details (e.g. Brady & Davies, 2010; Owen & Davidson, 2009), or amoral behavior (e.g. Cormier et al., 2016; Mishina et al., 2010) in the performance of their arbitrage function.

Effects of Hubris on the Execution of the Arbitrage Function							
Findings of the Empirical Examinations					Existing Evidence (phase I)		
Expert Interviews (phase II and III)			Mini-Case I (phase IV)	Mini-Case II (phase IV)	Findings in Literature	Author/s	Research Discipline
Persuasiveness despite inconsiderate commercialization strategies	Pursuit of inconsiderate commercialization and financing strategies (6)	Pursuit of an unrealistic financing strategy (M)	Not found (<i>expl.: overall limited accessibility</i>)	Supported	Decision-making processes that deviate from conventional standards	Roll (1986)	Corporate Finance
		Pursuit of an unadjusted commercialization strategy without taking externalities into consideration (N)	Supported	Supported	Negligence of external market conditions	Brady & Davies (2010); Hiller & Hambrick (2005); Kroll et al. (2000); McManus (2016)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
						Roll (1986)	Corporate Finance
						Kroll et al. (2000)	Business and Management
						Brady & Davies (2010)	Business and Management
		Disregard and rejection of external feedback related to commercialization strategies (O)	Supported	Possible extension (<i>expl.: never sought external advice</i>)	Negligence of (given) internal and external advice	Owen (2006); Owen & Davidson (2009)	Psychology and Medicine

		Unrealistic assessments of the market (P)	Not found (<i>expl.: no evidence in the data</i>)	Supported	Decision-making processes that deviate from conventional standards	Roll (1986)	Corporate Finance
						Brady & Davies (2010); Hiller & Hambrick (2005); Kroll et al. (2000); McManus (2016)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
	Smooth initiation of relationships with potentially relevant actors (7)	Persuasive and charismatic appearance facilitates the initiation of strategic partnerships (Q)	Not found (<i>expl.: no evidence in the data</i>)	Supported			
					Decision-making processes that indicate persistency	Chowdhury (2014); Hiller & Hambrick (2005)	Business and Management
						Forster & Sarasvathy (2007)	Entrepreneurship
					Expectation of perfectionism, impulsivity, and inattention to details	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
					Promotion of amorality and corporate illegal activities	Cormier et al. (2016); McManus (2016); Mishina et al. (2010); Tang, Qian, Chen, and Shen (2015)	Business and Management

Table 19: Discussion of empirical findings - arbitrage function (author's illustration).

6.4. Risk Management Function

Similar to the previous subchapters, the empirical outcomes in relation to the risk management function are discussed (cf. section 6.4.1) and compared with existing evidence in order to determine the theoretical contributions of this dissertation in this regard (cf. section 6.4.2). An overview of this discussion is presented in Table 20.

6.4.1. Expert Interviews and Cross-Case Comparison

The experiences and observations of the experts consistently indicate that hubristic founders are less likely to emphasize the protection of their ventures as they often perceive their ventures to be invulnerable (cf. section 5.1.4). This implies that they tend to neglect the economic planning of their businesses, determine unrealistic objectives (R), subjectively interpret problems during the implementation of their business models (S), and to perceive themselves resistant against internal and external circumstances (T) including competition (U). In addition, the data indicates that hubristic founders possess an inferior risk perception (V), which leads some of them to engage in semi-legal business practices with the overall aim to establish their ventures by all means (W). The experts agreed that these effects have mixed impacts on the overall performance and competitiveness of newly founded ventures. On the one hand, their inferior risk perception supports hubristic founders against being discouraged by high levels of uncertainty and risk intensity. Instead, they tend to neglect these conditions as they are convinced that their business ideas will succeed. This perception triggers them to realize innovative business ideas that non-hubristic founders would possibly refrain from (cf. section 6.2.1). On the other hand, however, hubristic founders are also observed to ignore crucial problems during the implementation of their products and services. This negligence of occurring problems considerably endangers the survival of their ventures.

Similar findings were identified in the two mini-case studies. In particular, Tom ignored all obstacles that occurred during the development of his mobile game “DrivingFun”. Since his actions were constantly driven by his unshakable belief to succeed, Tom did not even recognize his precarious financial situation. As a consequence of his inferior risk perception, he failed to establish his venture. Similarly, also John neglected economic calculations to plan his radio station (R). In addition, both cases have in common that John and Tom subjectively interpreted occurring problems (S) as well as internal and external circumstances in their targeted markets (T). The only differences in these cases is found in relation to the pursuit of semi-legal business practices to establish the ventures (W). John initiated several semi-legal commercialization

campaigns including occupying the media authorities offices. All of these actions were triggered by his ambition to receive attention from the media and to initiate political pressure in order to establish the radio station by all means. However, all of these activities were not unusual for the subculture of the music industry that did not follow any rules and regulations in the 1990s. Instead, famous clubs operated without permission and music events were also held without informing the authorities. Hence, John was socialized in an environment in which semi-legal business practices were considered “normal”. In comparison, Tom always obeyed legal regulations and would never have considered semi-legal business practices. As a consequence, it can be concluded that contextual factors moderate this effect of hubris. In more detail, it is suggested that previous working and industry experiences influence the propensity of hubristic founders to engage in activities that are not conform to existing rules and laws.

6.4.2. Empirical Findings and Existing Evidence

The comparison of the previously discussed empirical findings with existing evidence in the literature indicates various theoretical contributions of this dissertation in relation to the effects of hubris on the performance of the risk management function (cf. Table 20):

- (1) Extension of existing evidence with new insights (U,V)
- (2) Transferability of existing findings determined for hubristic executives in established organizations to startup founders driven by hubris (R, S, T, W)

Extension of existing evidence with new insights (1): There are no comparable findings in literature that hubristic founders tend to have a subordinate perception of their competitors (U), and rarely anticipate risks (V). It is likely that the overall inferior risk perception of hubristic founders is strengthened by conditions of uncertainty, rapid change, and information overload under which they have to launch and establish their ventures (cf. section 2.3.2.1). It is conceivable that hubristic executives in established organizations also neglect their competitors and upcoming risks. However, their actions taken in this regard are usually moderated by their supervisors, teams, or other formal governance structures within the companies. Therefore, it would be interesting to determine to which extent such organizational structures are able to moderate the handling of risks by hubristic executives and how similar structures would also help hubristic founders to anticipate and properly handle upcoming risks, such as competition (cf. section 7.2).

Transferability of existing findings (2): There are several findings regarding the execution of the risk management function under the influence of hubris in the literature that were also determined for hubristic founders in this dissertation. For instance, decision-making processes that deviate from conventional standards (e.g. McManus, 2016; Owen, 2006; Roll, 1986) are reflected in their approaches to plan businesses and to set goals (R). Whereas non-hubristic entrepreneurs would possibly calculate the costs and expected profits, hubristic founders seem to neglect economic calculations. Moreover, their tendency to subjectively interpret and even ignore problems during the implementation of their business ideas corresponds to the existing evidence of risk taking by hubristic executives in established organizations (Li & Tang, 2010). In this regard, the hubris driven negligence of external market conditions (Kroll et al., 2000; Roll, 1986) was also determined for new venture founders, who tend to perceive themselves to be resistant against external circumstances (T). Eventually, the outcomes of this dissertation support the transferability of the finding that hubris serves as a trigger for rather illegal activities from executives in established organizations (e.g. Cormier et al., 2016; McManus, 2016; Mishina et al., 2010) to company founders driven by hubris (W).

In contrast to the initial expectations at the beginning of this dissertation (cf. section 2.4.3), there is no evidence in the data that hubris leads founders to expect perfectionism, impulsivity, inattention to details, or to neglect external advices in the performance of their risk management function.

Effects of Hubris on the Execution of the Risk Management Function							
Findings of the Empirical Examinations					Existing Evidence (phase I)		
Expert Interviews (phase II and III)			Mini-Case I (phase IV)	Mini-Case II (phase IV)	Findings in Literature	Author/s	Research Discipline
Perception of invulnerability	Subjective interpretation and negligence of actual circumstances (8)	Negligence of business planning and determination of unrealistic objectives (R)	Supported	Supported	Decision-making processes that deviate from conventional standards	Roll (1986)	Corporate Finance
						Brady & Davies (2010); Hiller & Hambrick (2005); Kroll et al. (2000); McManus (2016)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
		Subjective interpretation or ignorance of problems during business model implementation (S)	Supported	Supported	Firm risk-taking	Li & Tang (2010)	Business and Management
		Perception of robustness and resistance through negligence of internal and external circumstances (T)	Supported	Supported	Negligence of external market conditions	Roll (1986)	Corporate Finance
						Kroll et al. (2000)	Business and Management

Conclusion

		None or subordinate perception of competitors (U)	Supported	Supported			
	Inferior risk perception and unconventional business practices (9)	Risks are hardly or not at all anticipated and reflected (V)	Supported	Supported			
		Pursuing questionable and semi-legal business practices to establish business model by all means (W)	Supported	Not found (<i>expl.: previous working experiences in a certain industry</i>)	Promotion of amorality and corporate illegal activities	Cormier et al. (2016); McManus (2016); Mishina et al. (2010); Tang, Qian, Chen, and Shen (2015)	Business and Management
					Expectation of perfectionism, impulsivity, and inattention to details	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine
					Negligence of (given) internal and external advice	Brady & Davies (2010)	Business and Management
						Owen (2006); Owen & Davidson (2009)	Psychology and Medicine

Table 20: Discussion of empirical findings - risk management function (author's illustration).

7. Conclusion

This dissertation focuses on individual startup founders driven by hubris, who perform their core entrepreneurial functions beyond conventional standards. In doing so, it addresses the nascent state of research on this subject in entrepreneurship literature and aims to advance theory development on the positive and negative impacts of hubris on startup performance and competitiveness (cf. Bollaert & Petit, 2010; Edmondson & McManus, 2007; Picone et al., 2014). For this purpose, empirical evidence is generated in order to explore how hubristic founders execute their core entrepreneurial functions. These involve the identification, protection, and exploitation of innovation potentials (e.g. Freiling, 2009; Schneider, 1997; Schumpeter, 1934). More specifically, the examinations are framed by the following research question (cf. section 2.5):

How does hubris affect the execution of core entrepreneurial functions, such as innovation, internal coordination, arbitrage, and risk management, as performed by individual startup founders?

The theoretical perspective is provided through the competence-based theory of the firm (CbTF), which re-conceptualizes traditional resource and competence-based research programs (Freiling et al., 2008; Gersch et al., 2005). The CbTF was chosen as it builds upon a hard core of incontestable theoretical assumptions that allow the commensurable integration of the theory of the entrepreneurial functions (cf. Freiling, 2009; Schneider, 1997). Its underlying model of human decision-making behavior is the “homo agens”. This model is extended by cognitive biases, exemplified by hubris, in order to allow the integration of psychological aspects into the interpretation of unconventional behaviors and decision-making processes driven by hubris (cf. section 3.2.1).

On this basis, an iterative research design was developed that divided the multi-method collection of qualitative data into four phases (cf. Creswell & Clark, 2007). These involved a systematic review of literature on hubris to assess its theoretical foundation (phase I), expert interviews to determine the practical relevance of the chosen research topic (phase II) and to explore the effects of hubris (phase III), as well as two mini-case studies that contextualize the findings (phase IV). The data is analyzed following a rigorous inductive approach according to Gioia et al. (2013). On an aggregate level, the outcomes of the expert interviews suggest that hubris affects the performance of all four entrepreneurial functions as follows (cf. section 5.1 for more detailed information):

- **Innovation Function:** Hubristic founders tend to persistently realize originally envisioned products and services, which often possess a high novelty value. Nevertheless, possible adaptations are rarely taken into consideration during the initiation process. This involves, among others, the disregard of customer needs and feedback as well as the validation of value propositions. Although hubristic founders are suggested to often pursue innovative visions, the effects of hubris on the execution of the innovation function have overall negative impacts on venture performance and competitiveness.
- **Internal Coordination Function:** Hubristic entrepreneurs are found to possess a high internal locus of control, especially with regard to the management of their entrepreneurial potential¹⁰⁷. Their strong focus on and belief in themselves supports hubristic founders to take target-oriented actions in critical situations and to positively influence the internal motivation among their employees. However, it also involves, among others, often unrealistically assessing the required entrepreneurial potential to establish value-adding processes as well as the willingness of financiers to invest. Hence, the effects of hubris on the internal coordination function have mixed impacts on the performance and competitiveness of their ventures.
- **Arbitrage Function:** Although hubristic founders are likely to pursue inconsiderate financing and commercialization strategies, they are also found to be easily able to initiate strategic partnerships with potentially relevant actors. Similar to the internal coordination function, these effects are determined to have mixed impacts on the performance and competitiveness of their ventures.
- **Risk Management Function:** The outcomes indicate that hubristic founders are driven by a feeling of invulnerability in the performance of their risk management function. This involves an inferior risk perception and a subjective interpretation of circumstances in favor of their ventures. Summarized, these effects of hubris on the risk management function are likely to rather endanger firm performance and competitiveness.

¹⁰⁷ The entrepreneurial potential consists of all internally available assets, resources, and competences (cf. section 3.1.2).

In addition, the analysis of the two mini-cases indicates that the occurrences of these effects are moderated through contextual factors. For instance, hubristic founders with prior experiences in their targeted industry are found to be less likely to neglect customer needs (innovation function) or to unrealistically assess the required entrepreneurial potential to remain competitive (internal coordination/arbitrage function). Furthermore, the hubris driven exploitation of employees seems to be weakened when the hubristic entrepreneurs depend on the competences of third parties (internal coordination function), which they do not possess themselves.

These empirical results have a variety of theoretical (cf. section 7.1) and practical implications (cf. section 7.2) as outlined in the following. Moreover, the limitations of the applied methodological approach together with interesting opportunities for future research projects are discussed (cf. section 7.3).

7.1. Theoretical Implications

The previously presented findings contribute in several ways to existing research on the effects of hubris. Firstly, this dissertation provides empirical evidence that fosters the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) in entrepreneurship literature and other research disciplines (cf. section 7.1.1). Secondly, it contributes to the understanding of cognitive biases in the management of resources and competences (cf. section 7.1.2). Thirdly, it supports the practical orientation of the theory of the entrepreneurial functions according to Schneider (1987) (cf. section 7.1.3). Fourthly, this dissertation emphasizes the relevance to reflect existing research approaches with regard to cognitive biases in entrepreneurship literature in order to enable substantial theory development on this subject (cf. section 7.1.4).

7.1.1. Hubris Tradition of Research

First and foremost, this dissertation contributes to the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) in various aspects:

- (1) Empirical evidence and theory development regarding positive and negative effects of hubris in the context of newly founded ventures (cf. section 5.1)
- (2) Proven relevance of contextual factors that strengthen and weaken the impact of hubris (cf. section 5.2)
- (3) Transferability of already existing findings in relation to hubristic executives in established organizations to startup founders (cf. chapter 6)

- (4) Development of a comprehensive conceptual framework including core entrepreneurial functions (cf. section 2.4.2)
- (5) Application of a qualitative methodological approach that allows an in-depth exploration of hubris and its effects (cf. section 4.1)
- (6) Adoption of an impartial perspective on hubris through an informed conceptualization (cf. section 2.2.1)

Firstly (1), the empirical evidence contributes to the nascent state of theory development on hubris and its effects in entrepreneurship literature (cf. Edmondson & McManus, 2007). The current state of research is extended by a variety of insights on how hubris affects the execution of core entrepreneurial functions performed by startup founders (cf. chapter 5). Especially given both positive and negative impacts are determined. This is of particular importance for the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) as the majority of identified publications treated hubris as an undesirable and detrimental pattern throughout diverse research disciplines (Bollaert & Petit, 2010; Forster & Sarasvathy, 2007). In contrast, however, it is found that hubristic founders are constantly triggered by their unshakable belief that they will become successful, which has positive impacts on the internal motivation among their employees. Moreover, these founders are described as great visionaries that strive for business truly innovative ideas that more rational founders are less likely to pursue. These outcomes contribute to the ongoing discussions in media and science that hubris is an integral driver of our economy (cf. section 2.1). In this context, evidence is provided that hubris supports founders to approach societal challenges of the 21st century with solutions that go beyond conventional (industry) standards. Nevertheless, considerable negative impacts, as for example disproportionate assessments of the required entrepreneurial potential to remain competitive, were also determined and should not be neglected. In order to balance the positive and negative effects of hubris, it is recommended to educate knowledgeable actors, such as startup coaches and consultants, about the mixed impact of hubris and entrust them to handle hubristic founders (cf. section 7.2).

Furthermore, the discussions of the empirical findings suggest that some effects of hubris occur particularly in the context of newly founded ventures. For instance, both, the innovation and internal coordination function are affected by unrealistic estimations related to necessary efforts to realize innovative products and services. Furthermore, the data indicates that hubristic founders are less likely to anticipate risks and to properly evaluate the competitive situation in their markets. Further empirical evidence is required to examine the assumption that the lack

of formalized governance structures and supervisory bodies favors the occurrence of these effects in the context of newly founded ventures (cf. section 7.3). In addition, empirical evidence is provided for existing conceptual discussions in entrepreneurship literature. In this context, it was empirically confirmed that hubris triggers the motivation of startup founders to launch a venture but it also leads them to be persistent in their decision-making processes (cf. Forster & Sarasvathy, 2007). The persistency of hubristic founders is especially reflected in the linear implementation of their originally envisioned business ideas and their negligence of failure.

Secondly (2), this dissertation proves the relevance of contextual factors in the examination of hubris and supports the assumption that “hubris might work differently in different contexts but may lead to the same outcome” (Chowdhury, 2014, p. 135). The analyses of the two-mini cases indicate that there are certain factors that moderate the effects of hubris. However, their overall impact on the execution of core entrepreneurial functions remains the same. For instance, the observed founders possessed considerable experiences in their targeted industry. Therefore, they were aware of customer needs and relevant market gaps that were worthy of pursuit. Although both observed founders were broadly persistent in the realization of their business ideas, they took, in contrast of other hubristic founders, the needs and wants of their customers into consideration. These findings highlight the importance to consider contextual factors in the analysis of hubris and its effects.

Thirdly (3), it became evident that various existing findings about the effects of hubris on the level of executives in established organizations are transferable to startup founders. Executives and founders likewise are found to, among others, disregard (given) advice (e.g. Brady & Davies, 2010; Owen, 2006; Owen & Davidson, 2009), to misallocate resources (Haynes et al., 2015), and to pursue decision-making processes that deviate from conventional standards (e.g. Chowdhury, 2014; Hiller & Hambrick, 2005; Kroll et al., 2000; Roll, 1986). The framing of these effects through the perspective of core entrepreneurial functions allows specifying these outcomes. For instance, the disregard of advice can be related to feedback provided by industry experts about the realization and implementation of innovative products and services. Furthermore, decision-making processes deviating from conventional standards are reflected in the hubris driven disregard to validate customer needs and the creation of disproportionate internal structures.

Fourthly (4), the conceptual framework of this dissertation includes a comprehensive set of four mutually exclusive entrepreneurial functions, which cover all tasks startup founders

perform in order to successfully launch and establish their ventures (cf. section 2.4.2). This framework addresses the prevailing criticism that existing publications on hubris depict only fractions of reality as they “[...] look at some trees and miss the whole forest” (Picone et al., 2014, p. 448). With this framework as a basis, it is possible to systematically highlight the diverse manifestations of hubris. This knowledge is of particular importance for various parties that interact with and provide guidance for newly founded ventures on a regular basis (cf. section 7.2). Furthermore, the framework is easily adaptable to other contexts and suitable to examine the behavior and decision-making processes of hubristic executives in established organizations.

Fifthly (5), an iterative research design was developed in order to trigger theory development on the effects of hubris with more in-depth insights. For this purpose, the collection of multiple forms of qualitative data allowed the research phenomenon to be explored from diverse perspectives. Furthermore, it was possible to directly determine hubris without the application of doubtful proxies or indirect measures (cf. section 4.1.1). Taken together, the research design proved suitable and can be adapted for subsequent studies with a qualitative approach on this subject. However, a few limitations have to be taken into consideration (cf. section 7.3).

Sixthly (6), another contribution of this dissertation is the impartial perspective on hubris through an informed conceptualization of the cognitive bias, which was derived from a critical discussion of existing definitions (cf. section 2.2.1). Only on this basis was it possible to determine both, positive and negative, effects of hubris and to delimitate the concept from related but overall independent cognitive biases, such as narcissism, overconfidence, and optimism (cf. section 2.2.2). For future research projects on these biases, it is recommended to critically reflect their underlying conceptualization in order to enable the unambiguous classification of their contributions to explicitly one of them (cf. section 2.2.3).

These theoretical contributions provide future research opportunities for scholars in diverse research disciplines that aim to generate additional insights for the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362).

7.1.2. Cognitive Biases in the Management of Resources and Competences

This dissertation also contributes to the CbTF (cf. chapter 3), which aims to explain current and future firm competitiveness based on the inhomogeneous availability of resources and competences (Freiling et al., 2009; Gersch et al., 2005). Its underlying model of human decision-making behavior, the “homo agens”, adapted, in accordance with the NAE, a strict

economic perspective on the management of resources and competences (Hülsmann & Müller-Martini, 2009). This economic focus implied that unconventional behaviors and decision-making processes driven by hubris could not have been interpreted. For the purpose of this dissertation, psychological perspectives that allow the interpretation of hubris driven phenomena, which are not explicable through a strict economic focus, extend the homo agens. A commensurable integration of cognitive biases, exemplified by hubris, into the CbTF was achieved through applying the method of decreasing abstraction according to Lachmann (1986). On this basis, a “[...] richer characterizations of economic agents via a better understanding of human cognition” (Thaler, 2000, p. 137) was achieved.

Moreover, it is possible to demonstrate the relevance of hubris, as one of several cognitive biases, for the management and aggregation of entrepreneurial potentials within newly founded ventures. In this context, it is determined that hubristic startup founders are more likely to unrealistically assess the necessary potential that is required to maintain the competitiveness of their ventures. Likewise, they also tend to neglect the accumulation of relevant resources and competences due to their perception to be invulnerable against external circumstances. In this regard, the CbTF offers important contributions for future research projects on the effects of hubris or other cognitive biases. Specifically, existing studies often neglect to disclose their underlying theoretical perspective on individual decision-makers and how they interact with their environments. As a consequence, the comparability of findings is hindered and theory development impeded (Bollaert & Petit, 2010; Picone et al., 2014). In order to overcome these obstacles, the CbTF proves to be a suitable theoretical perspective that purposefully supports the examinations of cognitive biases and their effects on the management of resources and competences. Specifically, it provides a hard core of incontestable theoretical assumptions (cf. section 3.1.1) that are adapted from market process theory (e.g. Hayek, 1978; Kirzner, 1978). Therefore, the CbTF is recommended as theoretical perspective to support future research projects on hubris.

7.1.3. Theory of the Entrepreneurial Functions

The theory of the entrepreneurial functions has long remained on an abstract level as a result of the diversity in the observed functions and the limited practical orientation in its application (Gersch et al., 2005). This dissertation contributes to the approaches of Freiling (2006, 2009) to integrate a set of four interrelated entrepreneurial functions into conceptual frameworks that guide empirical examinations in this regard. Therewith, a promising approach to structure the examinations on the effects of hubris is provided. Furthermore, the prevailing criticism that

existing research on hubris addresses only a fraction of reality is addressed through the application of a conceptual framework that allows a comprehensive analysis of its effects (cf. section 2.4.2). In doing so, the practical applications of the entrepreneurial functions are strengthened and their handling for future research projects is facilitated.

7.1.4. Cognitive Biases in Entrepreneurship Research

Cognitive biases, such as hubris, overconfidence, narcissism, and optimism (cf. section 2.2.2), are applied as a theoretical lens in entrepreneurship literature to study decision-making processes of startup founders that deviate from conventional standards (e.g. Baron, 1998; Haselton & Nettle, 2006; Tversky & Kahneman, 1974). These deviations are frequently occurring phenomena in the context of newly founded ventures as company founders have a substantially greater susceptibility to cognitive biases compared to executives in established organizations (cf. section 2.3.2.1). However, Zhang and Cueto (2015) found that the study of cognitive biases in entrepreneurship literature builds upon a weak basis. In accordance with the criticism of the scholars, this dissertation emphasizes the relevance to reflect the consequences of imprecise conceptualizations and operationalization regarding theory development on this subject, exemplary for the case of hubris. Before starting the empirical examinations, it was necessary to critically assess existing definitions in order to overcome weaknesses and to enable the delimitation of hubris from related but overall independent cognitive biases, such as overconfidence, and narcissism. Similarly, a critical reflection on the validity and reliability of existing methodological approaches revealed severe limitations in the comparability of research findings (cf. section 4.1.1). Hence, this dissertation contributes to the hubris tradition of research (cf. section 7.1.1) and provides guidance to reflect and re-conceptualize research on other cognitive biases in entrepreneurship research.

7.2. Practical Implications

The empirical findings have various practical implications that are of relevance for a variety of actors. These are summarized in the following table together with several recommendations on how to handle hubris during the venture creation process.

Area	Actors	(Persistent) handling of hubristic founders
Consultation	Startup consultants	
	Startup coaches	▪ Constant challenging of the business model in a critical manner (devil's advocate)
	Innovation scouts	▪ Open dialogue through constant communication
	Initiators of support programs for newly founded ventures (e.g. governmental inst.)	▪ Raising awareness through education
Education	Individual entrepreneurship educators	▪ Raising awareness through education
	Business/Entrepreneurship Schools	
Financing	Business angels	▪ Implementation of formalized governance structures
	Venture capitalists	▪ Constantly challenging the business model in a critical manner (devil's advocate)
	Banking institutions	▪ Open dialogue through constant communication
Starting a company	Individual Founders	▪ Engage in self-reflection
	Founding teams	▪ Establish a feedback culture ▪ Raising awareness within the team (e.g. through education)

Table 21: Handling of hubristic entrepreneurs (author's illustration).

In the first place, it is important to make all actors aware of how hubris affects the execution of core entrepreneurial functions performed by startup founders. Therefore, it is required that they adapt an impartial perspective on hubris, which is only possible if they are willing to abandon their preconceived opinion. Moreover, they need to understand that hubris triggers both, positive and negative, impacts on venture performance and competitiveness. Only on this basis, they can appropriately handle founders and support them to minimize negative impacts and to benefit from the positive effects of their hubris.

The overall problem that all of the actors are facing is that hubristic founders "[...] are more likely to get ahead and less likely to get along" (Judge et al., 2009, p. 863). This implies considerable obstacles in the handling of these founders, as they tend to neglect external advice

about the realization, commercialization, and protection of their business ideas. In the following, several recommendations on how to deal with hubris driven founders are presented. In this context, related ideas found in the literature on hubristic executives in established organizations are also taken into consideration.

- **Education:** Similar to the suggestion of Forbes (2005), it seems to be crucial to raise awareness and to educate founders about cognitive biases and their effects. Specifically, they need to understand and reflect how cognitive biases, such as hubris, affect decision-making processes in general and the performance of core entrepreneurial functions in particular. This can be achieved through specialized training programs that address the relevance of psychological forces in venture creation processes. In addition, these programs should also contain elements that deal with the topics ‘self-control’, ‘modesty’ (cf. Owen & Davidson, 2009), and ‘authentic leadership’ (cf. Bollaert & Petit, 2010). The latter should aim to promote “[...] both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency [...]” (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008, p. 94). Even though hubristic founders are less likely to participate in such training programs, practitioners, such as startup consultants and coaches, could make it a prerequisite for their cooperation with them. For this purpose, the CSE-scale provides first indicators to which extent entrepreneurs are driven by hubris or other cognitive biases (cf. section 4.1.1.2). The results can also be used by the founders for their self-reflection. Moreover, Finklestein (2003) suggests that studying the failure of hubristic executives allows CEOs, and possibly also company founders, to reflect on their strategic choices and decisions.
- **Advocatus Diaboli (= Devil’s Advocate) and Feedback Culture:** Kets de Vries (1990) emphasized that “[...] help is needed to recognize the distortions of reality. Someone is needed to point out the symptoms of hubris” (p. 7). Therefore, it is recommended that practitioners, who accompany hubristic founders, should regularly demand an updated version of the business plan¹⁰⁸. On this basis, they can

¹⁰⁸ It might not be necessary to demand the whole business plan but detailed calculations or validations of strategic choices.

engage them in critical discussions, as the founders are encouraged to defend their ideas and approaches (Forbes, 2005). Furthermore, it is possible to depict different scenarios on how their venture performance and competitiveness are likely to be affected by certain decisions. In this regard, practitioners should focus on extreme cases, as these are most likely to demonstrate consequences of decision-making processes driven by hubris (Abdelzaher, 2012; Homberg & Osterloh, 2010; Picone et al., 2014). This approach provides an “[...] institutionalized way of reminding the power holder of the transience of his position” (Kets de Vries, 1990, p. 8). In addition, founders and their teams are recommended to establish an open feedback culture that allows the critical reflection of their decisions made. In this context, it is crucial to constantly raise awareness of cognitive biases. For the moderation of the feedback and reflection processes, it might also be helpful to involve an independent person in the process, who emphasizes the realistic assessment of decisions.

- **Governance:** Akerlof and Shiller (2010) emphasize the necessity to identify intermediaries, who moderate the effects resulting from psychological forces, such as hubris, to strengthen its opportunities and limit its threats (cf. section 2.1). In the context of newly founded ventures, this could be achieved through the establishment of formalized governance structures that function as the “devil’s advocate”. For instance, investors themselves could take an active role in the venture creation and establishment process instead of just demanding company reports on a regular basis. Similarly, consultants and coaches could also gather a team of informed actors, who regularly challenge hubristic founders. Following this, the founders should be forced to reflect their decisions and to validate their strategic choices. The outcomes of these reflection processes might serve as an indicator for the practitioners to continue or stop the collaboration. Startup consultants, coaches, and investors need to be aware that collaboration with hubristic founders could have negative impacts on their own reputation (cf. section 5.1.2.3). Therefore, it is highly recommended to establish some kind of governance structures, such as supervisory boards and mentoring services, as these are likely to weaken the impacts of hubris.
- **Communication:** All of the aforementioned recommendations involve a constant dialogue with hubristic founders. An open communication is also what the interviewed experts suggest. It is possible to regularly enforce an open dialogue

through certain governance structures or to actively take part in the venture creation and establishment process.

- **Persistence:** Similar to the persistence of hubristic founders in respect to the realization of their business ideas according to own visions, practitioners who collaborate with these founders also need to be persistent in their handling of them. This implies that practitioners should regularly emphasize that (hubristic) founders actively participate in workshops or seminars that address the above mentioned topics. Similarly, established formalized governance structures should not remain an empty shell but actively trigger the founders to reflect and validate their decisions and ideas. One of the investors stated: “If you want to collaborate with these founders you sometimes need to use pressure and threaten them with potential sanctions. If this doesn’t work and they don’t change their mind, you should abandon the collaboration before it is too late” (Ex_2_In1_CoaInvFoun).

After the theoretical and practical contributions of this dissertation have been discussed, it is also of importance to reflect its limitations.

7.3. Limitations and Future Research

Limitations are defined as “[...] theoretical and methodological imperfections of a study which do not question the validity of the respective findings substantially [...]” (Busse et al., 2016, p. 10). In order to determine the limitations of this dissertation, the internal (cf. section 7.3.1) and external validity (cf. section 7.3.2) of the empirical study are critically assessed and future research opportunities are derived on this basis (cf. section 7.3.3).

7.3.1. Internal Validity

The unambiguous interpretation of research findings is a crucial criterion for the internal validity of a study as it ensures that alternative explanations can be excluded (cf. section 4.5). Different aspects that could influence the internal validity of this research project are discussed in the following.

Firstly, a crucial determinant for the internal validity is the applied approach to analyze and interpret the collected data. For the purpose of this dissertation, the Gioia approach was chosen as it allows a transparent and comprehensive analysis (cf. section 4.4). The application of this approach implies that the interpretation of the data depends on the theoretical perspectives taken

by the scholars who conduct the analysis. Therefore, it needs to be taken into consideration that the derived findings in this dissertation only depict one possible perspective on the data. Hence, the outcomes are likely to differ if other theoretical constructs or perspectives are applied (Adler, 2015; Wessel, 2013).

Secondly, the choice of the interview partners needs to be critically evaluated in order to estimate whether it is likely that distortions in the data occurred through biased perceptions of the interviewees (Gephart, 2004). The interviewed experts in this dissertation were directly involved into the venture creation and establishment process of the hubristic entrepreneurs they depicted, e.g. through consultation, coaching, or investments. Therefore, it cannot be excluded that some of the experts were biased in their narrations during the interviews. For instance, hubristic entrepreneurs potentially offended them by ignoring their advice (cf. section 5.1.1). As a consequence, their perceptions of the actions taken by the depicted founders might be distorted. In order to overcome this limitation, independent interview partners were carefully selected (cf. section 4.3.1.2.1) and it was ensured that experts with different experiences and positions were involved in the data collection process (cf. Appendix II). In addition, secondary materials were included in the analysis to gain a comprehensive picture of hubris and its effects within the case studies. Nevertheless, it is recommended to involve a greater diversity of third parties into future research projects. On this basis, it would be possible to collect valuable insights on the effects of hubris from different perspectives, e.g. from customers, suppliers, network partners, and employees.

Thirdly, the collection of retrospective and anonymized data can lead to biases affecting the internal validity of a study (Tracy, 2010). However, research projects that contribute to the “hubris tradition of research” (Bollaert & Petit, 2010, p. 362) have always relied on retrospective data since the direct interaction with research objects in a “real-life context” is subject to several obstacles in studies on hubris (cf. section 4.1.1). In order to minimize unwanted distortions in this regard, a continuous discussion of the analysis and its outcomes with knowledgeable actors in the field, e.g. at the AoM 2015, was triggered (cf. section 4.5). In addition, the data in this dissertation was triangulated with diverse secondary materials, which are also of importance to address the following limitation.

Fourthly, the applied research design does not allow a determination to be made as to which extent the experts actually observed behavior triggered by hubris and no other cognitive biases, such as narcissism, overconfidence, or optimism (cf. section 2.2.2). This weakness is addressed through the collection of multiple forms of qualitative data that provides a comprehensive

perspective on the cognitive bias observed. Furthermore, the understanding of hubris was discussed with each expert in the beginning of the interviews with the overall aim to ensure a common conceptual basis (cf. section 4.3.1.2.2). These measures seemed to be effective, since similar outcomes were determined in the analysis of the expert interviews and mini-case studies. Nevertheless, it is suggested that future research projects on hubris apply a combination of measures to determine hubris (cf. Homberg & Osterloh, 2010), e.g. indirect approaches in combination with the application of the CSE-scale (cf. section 4.1.1.2).

Fifthly, it should be considered that hubris is not an inflexible bias but subject to changes over time (cf. section 2.2.1). Similar to the discussion of Forster and Sarasvathy (2007), it is acknowledged that changes in the level of hubris are hard to determine with the existing research approaches. However, future research projects with a longitudinal perspective on hubris and its effects are expected to yield interesting insights. On this basis, it would also be possible to explore antecedents and moderators that affect the occurrence of hubris in different life-cycle stages of venture creation and establishment processes. Lawrence et al. (2011) were the first to take a longitudinal perspective on the effects of hubris and it is recommended to build upon their approach in order to gain further insights (cf. section 2.3.1.2).

Sixthly, both founders observed in the mini-case studies led their ventures as CEOs but also worked together with a team of employees and friends. Existing evidence already proves that hubris does not only exist on an individual but also on an organizational level (e.g. Brady & Davies, 2010; Hermanns, 2012). In order to gain a deeper understanding of the relationship between individual and organizational hubris, future research projects should explore the interdependence between individual actors driven by hubris and their whole team.

In summary, the internal validity is a crucial prerequisite for the external validity, which is discussed in the following.

7.3.2. External Validity

The external validity of a study is an indicator of the transferability and generalizability of the research findings (Corbin & Strauss, 2014; Punch, 2013). With regard to the outcomes of this dissertation, the expert interviews provided, on an aggregate level, valuable insights on effects of hubris that are generally transferable as the data collection process was not limited to a certain industry. However, there are indicators in the data that contextual factors limit the generalizability of the research outcomes. For instance, the interviewed experts stated that hubris is likely to particularly occur in newly founded ventures with mobile applications at the

core of the business models (cf. section 5.1.2.3). Therefore, further empirical evidence is required to examine if hubris and its determined effects are more prevalent in startups with a focus on IT. In this context, it is conceivable that the success stories of famous founders in IT-related industries trigger aspiring entrepreneurs to believe that they could achieve the same as Steve Jobs, Mark Zuckerberg, or Elon Musk. Future research projects could follow our quantitative approach in the paper “*Beyond conventional thinking in highly and less digitalized industries: hubris as a driver for exceptional decision-making logics*” (cf. page III) that was presented at the Multikonferenz Wirtschaftsinformatik in 2016. The research design involved the application of the CSE-scale¹⁰⁹ through a questionnaire to determine hubris on the level of startup founders in diverse industries, which were classified as highly or less digitalized. The repeated conduction of the study with a considerably bigger population might contain interesting insights in this regard¹¹⁰.

The outcomes of the two mini-case studies emphasize the importance to consider contextual factors in the analysis of the data. On the one hand, it is suggested that such factors are industry-specific moderators and boundary conditions, which strengthen or weaken the occurrence of the identified effects (cf. section 7.3.1). On the other hand, personal determinants, such as previous industry experiences, are also of relevance. Hence, the generalizability of the research findings highly depends on contextual factors that need to be explored and taken into consideration in future research projects.

7.3.3. Future Research on the Effects of Hubris on Core Entrepreneurial Functions

In addition to the previously presented research opportunities that address the limitations of this dissertation, the discussions of the empirical findings provide several ideas for future research projects (cf. chapter 6). These are directly related to examinations regarding the effects of hubris on the execution of core entrepreneurial functions in diverse research settings (cf. Table 22).

For instance, it should be determined if the finding that the execution of the innovation function under the influence of hubris is affected by unrealistic assessments of necessary efforts is transferable from company founders to hubristic executives in established organizations (cf.

¹⁰⁹ See section 4.1.1.2.

¹¹⁰ It has to be taken into consideration that the determination of hubris without any direct interaction yields limitations that were discussed in section 4.1.1.2. In order to overcome these weaknesses, it is highly recommended to additionally collect qualitative or secondary data in order to increase the construct validity.

section 6.1.2). Similarly, the transferability of the outcomes that hubris triggers a target-oriented management, disproportionate assessments of the necessary workload or the willingness of financiers to invest (internal coordination function), a persuasive appearance (arbitrage function), a subordinate perception of competitors, and the disregard of risks (risk management function) also needs to be assessed.

Furthermore, diverse moderators and boundary conditions were proposed to influence the (risk) management approaches of hubristic founders as the data showed ambivalent outcomes in this regard (cf. section 6.2.1 and 6.4.2). Further empirical evidence is required to determine which factors lead hubris driven founders to refrain from exploiting their employees (internal coordination function). In addition, it needs to be explored to which extent formalized governance structures in established organizations weaken the impact of hubris on the management of risks in comparison to newly founded ventures (cf. section 6.4.2).

In addition, further insights are required to determine whether hubris always affects all four functions equally. It is also conceivable that only some of the functions are influenced by hubris as contextual factors might moderate or even predetermine the performance of certain functions.

Entrepreneurial Function	Future Research Opportunities
Innovation Function	<ul style="list-style-type: none"> ▪ Determination of transferability (to executives in established organizations): unrealistic assessments of necessary efforts to realize innovative products and services (cf. section 6.1.2)
Internal Coordination Function	<ul style="list-style-type: none"> ▪ Determination of moderators and boundary conditions that influence hubristic founders in the handling of their employees and teams (cf. section 6.2.1), e.g. (perceived) dependence on competences of third parties ▪ Determination of transferability (to executives in established organizations): <ul style="list-style-type: none"> • target-oriented management with a strong focus on oneself (cf. section 6.2.2) • disproportionate assessments of the necessary workload (cf. section 6.2.2) • unreasonably positive assessments regarding the willingness of financiers to invest (cf. section 6.2.2)
Arbitrage Function	<ul style="list-style-type: none"> ▪ Determination of transferability (to executives in established organizations): persuasiveness and ability to convince third parties (cf. section 6.3.2)
Risk Management Function	<ul style="list-style-type: none"> ▪ Determination to which extent organizational structures, such as supervisors, teams, or other governance structures, serve as moderators for the handling of risks by hubristic executives and company founders (cf. section 6.4.2) ▪ Determination of transferability (to executives in established organizations): <ul style="list-style-type: none"> • subordinate perception of competitors (cf. section 6.4.2) • hardly any anticipation of risks (cf. section 6.4.2)

Table 22: Future research opportunities on hubris and its effects on the execution of core entrepreneurial functions (author's illustration).

Appendix

Appendix I Literature Review on Hubris

No.	Authors	Year of Publishing	Periodical	Title Primary	Research Area	Contribution (Antecedents, Moderators, Effects)
1.	Abdelzaher (2012)	2012	The Service Industries Journal	The impact of professional service firms' expansion challenges on internationalization processes and performance	Business and Management	Other
2.	Aktas, Bodt, & Roll (2009)	2009	Journal of Corporate Finance	Learning, hubris and corporate serial acquisitions	Corporate Finance	Effects
3.	Anderson & Marshall (2007)	2007	Review of Quantitative Finance and Accounting	Takeover motives in a weak regulatory environment surrounding a market shock: a case study of New Zealand with a comparison of Gondhalekar and Bhagwat's (2003) US findings	Corporate Finance	Effects
4.	Arnold & Parker (2009)	2009	Managerial and Decision Economics	Stock market perceptions of the motives for mergers in cases reviewed by the UK competition authorities: an empirical analysis	Corporate Finance	Effects
5.	Baradwaj, Dubofsky, & Fraser (1992)	1992	Journal of Financial Services Research	Bidder returns in interstate and intrastate bank acquisitions	Corporate Finance	Effects
6.	Barnes (1998)	1998	Journal of Business Finance & Accounting	Why do bidders do badly out of mergers? Some UK evidence	Corporate Finance	Other
7.	Becher (2009)	2009	Journal of Corporate Finance	Bidder returns and merger anticipation: evidence from banking deregulation	Corporate Finance	Other
8.	Berger, Dick, Goldberg, & White (2007)	2007	Journal of Money, Credit and Banking	Competition from large, multimarket firms and the performance of small, single-market firms: evidence from the banking industry	Corporate Finance	Effects
9.	Berkovitch & Narayanan (1993)	1993	Journal of Financial and Quantitative Analysis	Motives for takeovers: an empirical investigation	Corporate Finance	Other

10.	Billett & Qian (2008)	2008	Management Science	Are overconfident CEOs born or made? Evidence of self-attribution bias from frequent acquirers	Corporate Finance	Other
11.	Bollaert & Petit (2010)	2010	European Management Journal	Beyond the dark side of executive psychology: current research and new directions	Business and Management	Other
12.	Brady & Davies (2010)	2010	International Journal of Project Management	From hero to hubris: reconsidering the project management of Heathrow's Terminal 5	Business and Management	Effects
13.	Brennan & Conroy (2013)	2013	Accounting, Auditing & Accountability Journal	Executive hubris: the case of a bank CEO	Business and Management	Other
14.	Brooke & Oliver (2005)	2005	Pacific-Basin Finance Journal	The source of abnormal returns from strategic alliance announcements	Corporate Finance	Other
15.	Brown & Sarma (2007)	2007	Journal of Economics and Business	CEO overconfidence, CEO dominance and corporate acquisitions	Corporate Finance	Other
16.	Bruner (1999)	1999	Journal of Financial Economics	An analysis of value destruction and recovery in the alliance and proposed merger of Volvo and Renault	Corporate Finance	Effects
17.	Cairns (1996)	1996	The Journal of Hellenic Studies	Hybris, dishonour, and thinking big	Business and Management	Other
18.	Chowdhury (2014)	2014	Business Horizon	Strategic roads that diverge or converge: GM and Toyota in the battle for the top	Business and Management	Effects
19.	Cormier, Lapointe-Antunes, & Magnan (2016)	2016	Management Decision	CEO power and CEO hubris: a prelude to financial misreporting?	Business and Management	Effects
20.	Dubofsky & Fraser (1989)	1989	Journal of Banking & Finance	The differential impact of two significant court decisions concerning banking consolidation	Corporate Finance	Other
21.	Ford (2006)	2006	Human Resource Development Quarterly	Why we fail: how hubris, hamartia, and anagnosis shape organizational behavior	Business and Management	Other
22.	Forster& Sarasvathy (2007)	2007	Working Paper	When hubris is good: an error based theory of entrepreneurial overconfidence	Entrepreneurship	Effects
23.	Gabriel (1998)	1998	Administrative Theory & Praxis	The hubris of management	Business and Management	Other
24.	Gondhalekar, Raymond Sant, & Ferris (2004)	2004	Applied Economics Letters	The price of corporate acquisition: determinants of cash takeover premia	Corporate Finance	Other

25.	Gupta, LeCompte, & Misra (1997)	1997	Journal of Banking & Finance	Acquisitions of solvent thrifts: wealth effects and managerial motivations	Corporate Finance	Antecedents / Moderators
26.	Haynes, Hitt, & Campbell (2015)	2015	Journal of Management Studies	The dark side of leadership: towards a mid-range theory of hubris and greed in entrepreneurial contexts	Business and Management/ Entrepreneurship	Effects
27.	Hayward & Hambrick (1997)	1997	Administrative Science Quarterly	Explaining the premiums paid for large acquisitions: evidence of CEO hubris	Corporate Finance	Effects
28.	Hill, Kern, & White (2014)	2014	Journal of Business Research	Are we overconfident in executive overconfidence research? An examination of the convergent and content validity of extant unobtrusive measures	Business and Management	Other
29.	Hiller & Hambrick (2005)	2005	Strategic Management Journal	Conceptualizing executive hubris: the role of (hyper-) core self-evaluations in strategic decision-making	Business and Management	Effects
30.	Hodgkinson & Partington (2008)	2008	Journal of Business Finance & Accounting	The motivation for takeovers in the UK	Corporate Finance	Effects
31.	Homberg & Osterloh (2010)	2010	Journal für Betriebswirtschaft	Fusionen und Übernahmen im Licht der Hybris – Überblick über den Forschungsstand	Corporate Finance	Other
32.	Hoorens, Pandelaere, Oldersma, & Sedikides (2012)	2012	Journal of Personality	The hubris hypothesis: you can self-enhance, but you'd better not show it	Psychology and Medicine	Effects
33.	Humphery-Jenner & Powell (2011)	2011	Journal of Corporate Finance	Firm size, takeover profitability, and the effectiveness of the market for corporate control: does the absence of anti-takeover provisions make a difference?	Corporate Finance	Other
34.	Ismail (2005)	2005	Investment Management and Financial Innovations	M&As motives: evidence from the European financial services industry	Corporate Finance	Effects
35.	Ismail (2008)	2008	Global Finance Journal	Which acquirers gain more, single or multiple? Recent evidence from the USA market	Corporate Finance	Antecedents
36.	Jakovljević (2011)	2011	Psychiatria Danubina	Hubris syndrome and a new perspective on political psychiatry: need to protect prosocial behavior, public benefit and safety of our civilisation	Psychology and Medicine	Other

37.	Jansen, Sanning, & Stuart (2015)	2015	Journal of Economics and Finance	Do hubris and the information environment explain the effect of acquirers' size on their gains from acquisitions?	Business and Management	Moderators
38.	Johnson & Fowler (2011)	2011	Nature	The evolution of overconfidence	Psychology and Medicine	Other
39.	Judge, Piccolo, & Kosalka (2009)	2009	The Leadership Quarterly	The bright and dark sides of leader traits: a review and theoretical extension of the leader trait paradigm	Business and Management	Other
40.	Kerfoot (2010)	2010	Nursing Economics	Leaders, self-confidence, and hubris: what's the difference?	Psychology and Medicine	Antecedents/ Moderators
41.	Kets de Vries (1990)	1990	Human Relations	The organizational fool: balancing a leader's hubris	Business and Management	Other
42.	Kiyamaz & Baker (2008)	2008	Quarterly Journal of Finance and Accounting	Short-term performance, industry effects, and motives: evidence from large M&As	Corporate Finance	Effects
43.	Kroll, Toombs, & Wright (2000)	2000	The Academy of Management Executive (1993-2005)	Napoleon's tragic march home from Moscow: lessons in Hubris	Business and Management	Antecedents/ Effects
44.	Lawrence, Pazzaglia, & Sonpar (2011)	2011	Journal of Business Ethics	The introduction of a non-traditional and aggressive approach to banking: the risks of hubris	Business and Management	Antecedents/ Effects
45.	Li & Tang (2010)	2010	Academy of Management Journal	CEO hubris and firm risk taking in China: the moderating role of managerial discretion	Business and Management	Moderators/ Effects
46.	Li & Tang (2013)	2013	Management International Review	The social influence of executive hubris: cross-cultural comparison and indigenous factors	Business and Management	Antecedents
47.	Lin, Michayluk, Oppenheimer, & Reid (2008)	2008	Pacific-Basin Finance Journal	Hubris amongst Japanese bidders	Corporate Finance	Effects
48.	McManus (2016)	2016	Journal of Business Ethics	Hubris and unethical decision making: the tragedy of the uncommon	Business and Management	Effects
49.	Mitchell (1984)	1984	The American Journal of Psychoanalysis	Individuality and hubris in mythology: the struggle to be human	Psychology and Medicine	Other

50.	Mishina, Dykes, Block, & Pollock (2010)	2010	Academy of Management Journal	Why “good” firms do bad things: the effects of high aspirations, high expectations, and prominence on the incidence of corporate illegality	Business and Management	Effects
51.	Moeller, Schlingemann, & Stulz (2004)	2004	Journal of Financial Economics	Firm size and the gains from acquisitions	Corporate Finance	Moderators
52.	Mueller & Sirower (2003)	2003	Managerial and Decision Economics	The causes of mergers: tests based on the gains to acquiring firms' shareholders and the size of premia	Corporate Finance	Effects
53.	Mueller & Yurtoglu (2007)	2007	Managerial and Decision Economics	Corporate governance and the returns to acquiring firms' shareholders: an international comparison	Corporate Finance	Effects
54.	Nguyen, Yung, & Sun (2012)	2012	Journal of Business Finance & Accounting	Motives for mergers and acquisitions: ex-post market evidence from the US	Corporate Finance	Effects
55.	Owen (2006)	2006	Journal of the Royal Society of Medicine	Hubris and nemesis in heads of government	Psychology and Medicine	Effects
56.	Owen & Davidson (2009)	2009	Brain - A Journal of Neurology	Hubris syndrome: an acquired personality disorder? A study of US Presidents and UK Prime Ministers over the last 100 years	Psychology and Medicine	Effects
57.	Parker (2013)	2013	Journal of Business Venturing	Do serial entrepreneurs run successively better-performing businesses?	Entrepreneurship	Other
58.	Petit & Bollaert (2012)	2012	Journal of Business Ethics	Flying too close to the sun? Hubris among CEOs and how to prevent it	Business and Management	Other
59.	Petrides (2011)	2011	New Ideas in Psychology	A general mechanism for linking personality traits to affect, motivation, and action	Psychology and Medicine	Other
60.	Ranft & O'Neill (2001)	2001	The Academy of Management Executive (1993-2005)	Board composition and high-flying founders: hints of trouble to come?	Entrepreneurship	Effects
61.	Roll (1986)	1986	The Journal of Business	The hubris hypothesis of corporate takeovers	Corporate Finance	Effects
62.	Russell (2011)	2011	The Psychiatrist	Psychiatry and politicians: the ‘hubris syndrome’	Psychology and Medicine	Other

63.	Seth, Song, & Pettit (2000)	2000	Journal of International Business Studies	Synergy, managerialism or hubris? An empirical examination of motives for foreign acquisitions of US firms	Corporate Finance	Other
64.	Seth, Song, & Pettit (2002)	2002	Strategic Management Journal	Value creation and destruction in cross-border acquisitions: an empirical analysis of foreign acquisitions of US firms	Corporate Finance	Other
65.	Spitzer (2006)	2006	Business & Professional Ethics Journal	Getting to the heart of business ethics	Business and Management	Other
66.	Sudarsanam, Holl, & Salami (1996)	1996	Journal of Business Finance & Accounting	Shareholder wealth gains in mergers: effect of synergy and ownership structure	Corporate Finance	Other
67.	Sudarsanam & Sorwar (2010)	2010	Journal of Business Finance & Accounting	Determinants of takeover premium in cash offers: an option pricing approach	Corporate Finance	Other
68.	Tang, Li, & Yang (2015)	2015	Journal of Management	What I see, what I do: how executive hubris affects firm innovation	Business and Management	Effects
69.	Tang, Qian, Chen, & Shen (2015)	2015	Strategic Management Journal	How CEO hubris affects corporate social (ir)responsibility	Business and Management	Effects
70.	Trumbull (2010)	2010	Psychiatry: Interpersonal and Biological Processes	Hubris: a primal danger	Psychology and Medicine	Other
71.	van Damme, Hoorens, & Sedikides (2015)	2015	Self and Identity	Why self-enhancement provokes dislike: the hubris hypothesis and the aversiveness of explicit self-superiority	Psychology and Medicine	Effects

Table 23: Outcomes of the literature review on hubris (author's illustration).

Appendix II Detailed Description of Interviewees

Code	Occupation					Interview			
	Consultant (Con)	Coach (Coa)	Investor (Inv)	Founder (Foun)	Other ¹¹¹	Date	Phone/Personal	Length	Documentation
Ex_1_In2_Coa		since 2013 (> 80) ¹¹²			BPC	05.06.15	phone	56 minutes	audio, transcript
Ex_2_In1_CoaInvFoun		since 2001 (> 1000)	since 2000 (> 15)		BPC, EE	12.08.14	phone	69 minutes	audio, transcript
Ex_3_In2_Con	since 2009 (> 80)			x	EE	25.06.15	personal	86 minutes	audio, transcript
Ex_4_In1_ConCoaInv	since 2004 (> 200)	since 1999 (> 500)	since 2005 (> 10)		BPC, EE	02.07.14	phone	57 minutes	audio, transcript
Ex_5_In1_Con	since 2001 (> 300)				EE	29.09.14	personal	22 minutes	audio, transcript
Ex_6_In1_Con	since 1999 (> 180)				BPC	20.08.14	personal	64 minutes	audio, transcript
Ex_7_In2_CoaInvFoun		since 2001 (> 450)	since 2001 (> 17)		EE	22.07.15	personal	59 minutes	audio, transcript
Ex_8_In1_ConCoaFoun	since 2012 (> 65)	since 2010 (> 150)		x	EE	07.07.14	personal	36 minutes	audio, transcript
Ex_9_In1_Coa		since 2004 (> 250)		x	EE	11.07.14	phone	27 minutes	audio, transcript

¹¹¹ BPC = business plan competition; EE = entrepreneurship educator.

¹¹² Number of ventures accompanied.

Ex_10_In1_ConFoun	since 2010 (> 100)				EE	22.10.14	personal	34 minutes	audio, transcript
Ex_11_In2_CoaFoun		since 2005 (> 130)		x	EE	08.06.15	personal	75 minutes	memo
Ex_12_In1_CoaFoun		since 2001 (> 150)		x		17.08.14	phone	51 minutes	audio, transcript
Ex_13_In2_Con	since 2008 (> 200)			x	EE	21.10.15	personal	42 minutes	memo
Ex_14_In1_Coa		since 2013 (> 40)			EE	07.07.14	phone	40 minutes	audio, transcript
Ex_15_In2_Con	since 2011 (> 150)				EE	28.07.15	phone	15 minutes	audio, transcript
Ex_16_In1_Coa		since 2011 (> 400)			EE	23.07.14	personal	67 minutes	memo
Ex_17_In1_CoaConFoun		since 2002 (> 600)	since 2011 (> 20)		BPC	16.07.14	phone	38 minutes	audio, transcript
Ex_18_In2_Coa		since 2010 (> 180)		x	EE	16.07.15	phone	29 minutes	audio, transcript
Ex_19_In2_Con	since 2008 (> 220)				EE	12.11.15	personal	64 minutes	memo
Ex_20_In2_Con	since 2012 (> 150)				EE	23.06.15	phone	72 minutes	audio, transcript
Ex_21_In2_ConFoun	since 2002 (> 450)			x	EE	27.08.15	personal	68 minutes	audio, transcript
Ex_22_In1_ConCoaInvFoun	since 2002 (> 250)	since 1999 (> 300)	since 2009 (> 15)	x	BPC, EE	31.10.14	phone	31 minutes	audio, transcript
Ex_23_In1_CoaInv		since 2004 (> 70)	since 2005 (> 7)	x	EE	17.07.14	personal	37 minutes	audio, transcript
Ex_24_In1_Con	since 2010 (> 100)				EE	17.10.14	personal	32 minutes	audio, transcript

Ex_25_In1_CoaConFoun	since 2009 (> 300)	since 2004 (> 300)			BPC, EE	04.11.14	personal	64 minutes	audio, transcript
Ex_26_In2_Coa		since 2006 (> 70)		x	EE	07.07.15	phone	46 minutes	audio, transcript
Ex_27_In1_Con	since 2012 (> 75)				EE	24.10.14	personal	44 minutes	audio, transcript

Table 24: Description of experts and interview material (authors' illustration).

Dear Mr. / Mrs.,

Thank you very much for taking your time to participate in an expert interview on the DD.MM.JJJJ at HH.MM p.m./a.m. Your experiences and observations in the area of entrepreneurship are of great interest for my dissertation. Below, you can find a short description of the interview goals and its structure, as well as a short definition of the term hubris (*excluded in later versions*). If you have any questions, I am happy to answer them beforehand.

As a preparation for the interview, please think about your observations on entrepreneurs, who showed the below listed characteristics of hubris.

I am looking forward to talking to you.

Best regards,

Janina Sundermeier

Interview Goals:

The main goal of our interview is to gain knowledge through explorative research in the area of “hubris in the context of newly founded ventures“. The main focus of this research is on the detectability and classification of hubris at different points in time during the process of business model development. Another aspect is the identification of reinforcing and weakening factors that influence hubris. Finally, specific symptoms and appearances of hubris should be determined.

Characteristics and Definition of Hubris (*excluded in later versions*):

Hubris is defined as a cognitive bias that is characterized by excessive pride, exaggerated self-confidence, inflated positive self-evaluations, and arrogance. These cognitive aspects are manifested in a grandiose sense of oneself, the consideration of oneself above the community of humans (equal to the Gods), and no feelings of constraint by existing social rules and laws.

1.	Introduction <ul style="list-style-type: none"> ▪ Personal introduction <ul style="list-style-type: none"> ▪ Information on the procedure and goal of the interview ▪ Start of audio recording ▪ Question for data anonymization (if desired) <ul style="list-style-type: none"> ▪ Personal introduction of the interviewee: ▪ What roles has the interviewee performed in entrepreneurship (e.g. founder, consultant, innovation coach, tutor, or investor)? ▪ What experience does the interviewee have in entrepreneurship (in years and supported start-ups)?
2.	Introductory Question <ul style="list-style-type: none"> ▪ What were truly bizarre cases of hubris in startup projects that you have observed or supported in recent years? <ul style="list-style-type: none"> ▪ Why are these cases abnormal? ▪ In which way was hubris expressed? ▪ What was the outcome of the startup project (success/failure)? ▪ At which point in time did it become clear that hubris is present? ▪ Was there any opportunity to intervene and prevent potential harm? ▪ Was rather a single person or the entire team affected by of hubris?
3.	Identifying Hubris <ul style="list-style-type: none"> ▪ Based on which characteristics (“symptoms“) have you determined that hubris is present? <ul style="list-style-type: none"> ▪ Can you distinguish the characteristics? <ul style="list-style-type: none"> ▪ Based on the start-up phase? ▪ Based on the industry sector? ▪ Can the characteristics already be observed during the founding process or only ex-post? <ul style="list-style-type: none"> ▪ During which phases of the business model development do you get first indications of hubristic behavior? ▪ Does this phenomenon of overconfidence appear in certain sectors more frequently? Are any reasons for that apparent? ▪ Where is the border between “simple“ overconfidence and hubristic behavior? <ul style="list-style-type: none"> ▪ When is a critical point reached? ▪ Which actions exist to intervene in a hubristic startup project?
4.	Manifestations of Hubris <ul style="list-style-type: none"> ▪ How is hubris expressed in business model development? <ul style="list-style-type: none"> ▪ Which strings of behavior are influenced?

	<ul style="list-style-type: none"> ▪ How does the intensity of hubris changes over time? ▪ Are there different manifestations of hubris? <ul style="list-style-type: none"> ▪ Depending on the start-up phase? ▪ Depending on the industry sector? ▪ What do you connect with hubris (positive / negative aspects)?
5.	Reinforcing / Weakening Factors of Hubris <ul style="list-style-type: none"> ▪ Which factors cause the emergence of hubris? <ul style="list-style-type: none"> ▪ Are there differences between them? <ul style="list-style-type: none"> ▪ Depending on the start-up phase? ▪ Depending on the industry sector? ▪ Depending on previous experiences? ▪ Other differences? ▪ What factors reinforce hubris? <ul style="list-style-type: none"> ▪ Self-perceived importance? ▪ Previous success? ▪ Media interest? ▪ Other factors? ▪ What factors weaken hubris? <ul style="list-style-type: none"> ▪ Intelligence? ▪ Age of the entrepreneurs? ▪ Team composition? ▪ Expert talks? ▪ Other factors?
6.	Effects of Hubris <ul style="list-style-type: none"> ▪ What effects does the occurrence of hubris imply during the process of business model development? <ul style="list-style-type: none"> ▪ Positive effects / Negative effects? ▪ Would you consider the occurrence of overconfidence and hubris as beneficial or impedimental for start-up activities? <ul style="list-style-type: none"> ▪ Does hubris more likely lead to failure or success? ▪ Is there any difference between the effects? <ul style="list-style-type: none"> ▪ Depending on the start-up phase? ▪ Depending on the industry sector? ▪ Other differences? ▪ Is hubris in some sectors more helpful than in others? ▪ What are possible reasons for this?

7.	Closure
	<ul style="list-style-type: none"> ▪ Open Questions ▪ Do you have any connections to additional experts and/or entrepreneurs with regards to hubris?

Table 25: Interview guideline expert interview I (phase II) (author's illustration).

Appendix IV Questions for Expert Interviews in Phase III

1.	Innovation Function <ul style="list-style-type: none"> ▪ How novel were the offered product/service? (perception vs. reality) ▪ Did comparable products/services exist on the market? (ignorance?) ▪ How was the demand for the offered product/service? (perceived vs. reality) ▪ Did the product/service solve an actually existing problem/need? ▪ Incremental vs. disruptive innovation? ▪ How were the products/services produced? ▪ Did you challenge or request your innovative ideas/production processes/generated values/once envisioned business model?
2.	Internal Coordination Function <ul style="list-style-type: none"> ▪ How did the production of your products/services look like? ▪ How did you coordinate value-adding processes? ▪ Did you collaborate with external parties? How? ▪ How would you describe the culture in your startup /among employees? ▪ Did you value feedback from your employees? Staff turnover? ▪ How did you motivate your employees? ▪ How did you acquire financial capital?
3.	Arbitrage Function <ul style="list-style-type: none"> ▪ How did you identify business opportunities? How did you develop your business further? ▪ Did you validate the demand for your imagined product/service? How? ▪ How did you deal with things that did not work out the way you imagined? ▪ Which alternative markets did you take into consideration to sell your products/services?
4.	Risk Management Function <ul style="list-style-type: none"> ▪ How did you perceive uncertainties/risks? ▪ How did you evaluate market opportunities? ▪ Did you anticipate upcoming risks/market developments etc.? How? When? ▪ How did you handle risks?

Table 26: Open questions for interviews with startup founders (phase IV) (author's illustration).

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I declare that I have authored this thesis independently, that I have not used other than the declared sources / resources, and that I have explicitly marked all material which has been quoted either literally or by content from the used sources.

This dissertation was not used in the same or in a similar version to achieve an academic grading or is being published elsewhere.

Berlin, 23.03.2017

Janina Sundermeier