



# **DOCTORAL (PhD) DISSERTATION**

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SOCIAL ASPECTS OF ENTREPRENEURIAL FAILURE

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## **Confidentiality clause**

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## **Author's declaration**

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this dissertation are the work of the named candidate and have not been submitted for any other academic award.

Ilka Heinze



## Abstract

Although research on entrepreneurial failure and learning from crucial life events has gained much interest in the last decade, it is still in its infancy. Hence, the purpose of this research is to fill part of this gap by broaden our understanding on how entrepreneurs conceptualize their learning experience in their sense-making in the aftermath of failure. Furthermore, insights gained from the narratives are utilized to define archetypes of failure learning behaviour.

Due to the nascent field of knowledge, a mixed-method approach was conducted, the methods utilised were a combination of qualitative, hybrid and quantitative methods. First, for an interpretative phenomenological analysis (IPA), data was collected via fourteen semi-structured in-depth interviews with entrepreneurs who experienced failure previously. Major findings from the IPA study were: the predominant attribution of failure being a genuine learning experience, the unconsciousness of unlearning and the exploration of interrelations between higher-order learning orientation and narratives of abstract conceptualization. Next, a Q-Methodology study with twenty-eight entrepreneurship students and nascent entrepreneurs was undertaken. A Q-set of 60 statements was rank-ordered in order to distinguish failure learning behaviour. The factor analysis yielded four different groups of failure learning behaviour, labelled reflective creator, intuitive analyst, expressive realist, and growth-oriented pragmatist. Additionally, to improve and to interpret the quantitative factor extraction results, the four archetypes were analysed under consideration of qualitative aspects. For a final quantitative analysis, participants' personal behaviour in social interactions was additionally assessed by application of the Social Style Inventory. Statistical calculations



resulted in a presentation of weak, statistically insignificant associations. The main research limitations are closely connected to the chosen research design and methodology. Moreover, due to the nascent field of research, additional research might be necessary to further validate the research findings in general and the proposed framework in particular. These shortcomings are intended to motivate future research on the topic.

The present research not only addresses an existing gap in the academic discussion but contributes also to practical knowledge with the focus on improvement of entrepreneurship education on the topic of learning from failure. The major contribution of this research and a large part of its originality forms a framework to better understand differences in failure learning behaviour.

Key words: *entrepreneurial failure, failure learning, failure learning archetypes, interpretative phenomenological analysis, Q-methodology, social styles, versatility*







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## List of abbreviations

ABM	Agent-based Modelling
ADHD	Attention deficit hyperactivity disorder
AI	Artificial Intelligence
CEO	Chief Executive Officer
EI	Emotional Intelligence
EQ	Emotional Quotient
EL	Entrepreneurial Learning
FAZ	Frankfurter Allgemeine Zeitung
GEM	Global Entrepreneurship Monitor
ILS	Felder-Soloman Index of Learning Styles <sup>©</sup>
IPA	Interpretative Phenomenological Analysis
IT	Information Technology
KfW	Kreditanstalt für Wiederaufbau
LSI	Learning Style Inventory
MBTI	Myers-Briggs Type Indicator
META	Measure of Entrepreneurial Tendencies and Abilities
PCA	Principal Component Analysis



PFI	Perceived Failure Intolerance
PhD	Doctor of Philosophy
SES	Socio-Economic Status
SME	Small and Medium Sized Enterprise
SREI	Self-Report Emotional Intelligence Questionnaire
SSP-E	Social Style Profile – Enhanced
TEIQue	Trait Emotional Intelligence Questionnaire
USA	United States of America





## 1 Introduction

“Tomorrow’s illiterate will not be the man who can't read; he will be the man who has not learned how to learn.” (Toffler, 1984, p. 414). The short citation sums up Toffler’s understanding of a powershift at the edge of the 21<sup>st</sup> century, based on a “power trinity” of knowledge, wealth and force (Toffler, 1990). Here, knowledge has to be understood as the main source of power, considering the societal development of a knowledge or learning economy with learning, unlearning and relearning activities at its core (Toffler, 1990; Smith, 2002). Starting in the early 2000’s, intensive research was performed to examine entrepreneurial learning as a new and promising field of research at the interface between the concepts of organisational learning and entrepreneurship (Wang & Chugh, 2014). As the authors state, “how learning takes place and when learning takes place is fundamental to our understanding of the entrepreneurial process” (p. 24). Nevertheless, there are still some under-researched areas, for example, how different learning types come into play in different entrepreneurial contexts, how entrepreneurial behaviours can be explained or how opportunities are discovered or created, requiring more qualitative, phenomenon-driven research (Wang & Chugh, 2014).

This PhD research wants to bring new insights in the foundation and development of entrepreneurial learning based on the individual of the entrepreneur. The research explores the phenomenon of entrepreneurial learning in the context of critical events such as business failure through a mixed-method approach.

The introduction chapter starts in section 1.1 with a more extensive rationale for the research, before in section 1.2 a classification of entrepre-



neurship will follow. In section 1.3 the specific aims and objectives of the PhD dissertation as well as the approach to achieve these aims will be explained. The chapter then closes with an overview on the further organisation of the dissertation in section 1.4.

## **1.1 Rationale for research**

In 2017, in Germany about 557,000 people decided to start their own business and therefore are now called “entrepreneurs”. Although the total number of new entrepreneurs is decreasing, the quality of economically important start-ups is increasing as the proportion of opportunity and innovative entrepreneurs is on the rise (Metzger, 2018). As entrepreneurs are a source of competition, mature organizations feel the pressure to improve and strive for excellence. Hence, the effect strengthens the whole economy and makes it fit for the future (Metzger, 2016). Also, it is significant to promote entrepreneurship because of its role as a driver of economic growth (Podoyunitsyna, Van der Bij, & Song, 2011). So, as entrepreneurship is crucial for a healthy development of economies, entrepreneurial research is crucial for understanding the benefiting and challenging factors which affect entrepreneurs and their decisions. Most entrepreneurial research focuses on issues linked to the start-up phase of new ventures. The impact of venture failure is less researched and often based on hearsay (Cope, 2010). A wide variety of research aims to study how success can be achieved. Failure is often seen as the opposite of success; therefore, strategies of failure avoidance are proposed as a by-product of success strategies. Thus, several publications propose that entrepreneurship research is biased towards successful individuals (Bouchikhi, 1993) and highlight the importance of failure research when stating “If no one studies failure, the fiction that no one failed survives”

(Bower, 1990, p. 50). In over 40 years of research about entrepreneurship, a considerable amount of theories has been developed by numerous – often accoladed – researchers. However, as Sarasvathy & Venkataraman (2011) state, in many cases these theories either got in contradiction to theories from other disciplines or have been challenging in regard of prevailing opinions. The authors offer some examples for their observations such as the evidence for (i. e. Collins, Moore, & Unwalla, 1964; McClelland, 1961) and against psychological traits in entrepreneurs (Baron, 1998; Busenitz & Barney, 1997; Nicholls-Nixon, Cooper, & Woo, 2000; Palich & Bagby, 1995; S. A. Shane, 2003; S. Shane & Venkataraman, 2000) and argue that entrepreneurship may be best researched not under the umbrella of other disciplines such as economics or management, but rather to “recast it as a social force” (Sarasvathy & Venkataraman, 2011, p. 114). For that purpose, they pose a series of questions aiming to move toward a new view of entrepreneurship, resulting in an argument that entrepreneurship as a method has to focus on the inter-subjective as a key unit of analysis, as well as on heterogeneity, lability and contextuality of entrepreneurs. Furthermore, more clarification of what exactly constitutes the phenomenon of entrepreneurship is needed (Wiklund, Davidsson, & Audretsch, 2011). Additionally, Shepherd (2015) calls for more research in regard to entrepreneurship “to establish a richer, more comprehensive understanding of entrepreneurial phenomena” (p. 503) undertaken by researchers who ask new questions and therefore either apply new research methods or combine methods in a new way.

Although Mantere, Aula, Schildt, & Vaara (2013) state that “failure and entrepreneurship are natural siblings” (p. 460) and a catharsis for the failure experience (see also i. e. Amankwah-Amoah, Boso, & Antwi-Agyei,



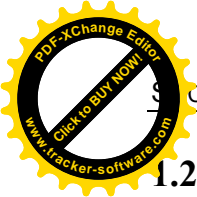
2018; Cope, 2011; Minniti & Bygrave, 2001; Shepherd, Williams, Wolfe, & Patzelt, 2016; Singh, Corner, & Pavlovich, 2015; Walsh & Cunningham, 2016; Wdowiak, Schwarz, Lattacher, & Parastuty, 2017), the majority of entrepreneurial research focuses on issues of the start-up phase of new ventures. The impact of venture failure is still less researched and often based on hearsay (Cope, 2011). A wide variety of research aims to study how success can be achieved; failure is discussed as something that has to be avoided in order to achieve success. More recently, some scholars discussed constructs and perspectives of entrepreneurial fear of failure and did highlight the importance of the interaction with the aspirations of the future entrepreneur (Cacciotti, Hayton, Mitchell, & Giazitzoglu, 2016; Jenkins, Wiklund, & Brundin, 2014; J. Morgan & Sisak, 2016). Research on venture failure yields a manifold of empirical evidence that “learning from failure” is one of the few positive outcomes of failure (see i. e. Cope, 2011; Shephard, Williams, Wolfe, & Patzelt, 2016).

Hence, to broaden our understanding of the entrepreneurial process and the entrepreneur as an individual, many aspects of the phenomenon can be addressed by exploring failure learning as an integral element of entrepreneurial learning. Shane & Venkataraman (2000) started a line of inquiry of an entrepreneur’s cognitive properties and his ability to identify, develop, and exploit opportunities, leading Corbett (2005) to the conclusion that it needs to be strengthened by studying in detail the process of learning. He argues that cognitive mechanisms such as overconfidence or counterfactual thinking and existing knowledge are not the same as learning, as they are rather static, whereas learning is a social process creating knowledge through the transformation of experience (Kolb, 1984). Cope (2005) proposes a dynamic learning perspective as a valuable and distinc-



tive perspective of entrepreneurship covering not only the start-up phase of a new venture. As entrepreneurial learning is characterised by concepts of metamorphosis, discontinuity and change, critical learning events are seen as significant experiences through which the relationship between reflection, learning and action can be discovered. Hence, the concept of “generative learning” (Gibb, 1997; Senge, 1990), being both retrospective and prospective, an interaction between past and future that can be distinguished in adaptive and proactive learning behaviour, should be used to explore how entrepreneurs transform and apply learning from critical events such as business failure to future entrepreneurial activities. In his conceptual paper, Cope (2005) additionally states that the application of learning may take place long after the learning experience itself and furthermore draws attention to the necessity for exploring the social, affective and emotional dimensions of learning in the aftermath of critical events.

To summarize, although an increasing body of research in regard to entrepreneurial learning has been published in the last decade, there is still a paucity of research focussing on why, when and how entrepreneurs learn from critical events such as business failure. One reason for the research gap can be addressed to the complexity of the phenomenon of entrepreneurial failure learning, combining the three distinct and sometimes contradicting constructs of entrepreneurship, critical life events and learning behaviour. In order to develop a nuanced understanding, triangulation based on a multi-study, mixed method research approach seems to be required.



## 1.2 Classification of entrepreneurship

Entrepreneurial learning can be defined as a concept interfacing organisation learning and entrepreneurship, covering individual and collective learning, exploratory and exploitative learning as well as intuitive and sensing learning (Wang & Chugh, 2014). Hence, to study failure learning as an element of the entrepreneurial process, it is necessary to start with a classification of entrepreneurship as the individual entrepreneur is the core element of the research on hand.

The notion of an entrepreneur has been developed over more than 250 years ago. First introduced by Cantillon in 1755, in 1803 Jean-Baptiste Say, a French economist, defined entrepreneurs as people who “shift economic resources from an area of lower productivity into an area of higher productivity and greater yield” (Burns, 2016, p. 9). Hence, they are creating value through their activities. Burns differentiates the “Schumpeterian view” from the “Kirznerian view”; the first as an expansion on Say’s definition that entrepreneurs use their internal disposition to initiate or create innovations, to disrupt the economic equilibrium. On contrast, Kirzner attributes to entrepreneurs the ability to recognize and exploit opportunities on the basis of knowledge and information gaps between different market players (Burns, 2016). Additionally, the entrepreneurial capacity to anticipate market trends and respond to them in a timely manner is one of the most distinctive features of entrepreneurs (Drucker, 1985).

The classification in this section will be based on the barriers and triggers for entrepreneurship (1.2.1), the entrepreneurial character (1.2.2), types of entrepreneurship (1.2.3) and attitudes towards risk and uncertainty (1.2.4).



## 1.2.1 Barriers and triggers for entrepreneurship

Does everybody with an innovative idea, a good set of business skills and basic resources take up starting their own business? Does every nascent entrepreneur does have resources that are promising to be successful? What is seen as benefit, what as critical when deciding about becoming an entrepreneur? Mariotti & Glackin (2010) discuss several pros and cons regarding entrepreneurship, summarized in table 1:

Table 1 Benefits and Costs of Entrepreneurs

Benefits	Costs
<ul style="list-style-type: none"><li>• Independence</li><li>• Satisfaction</li><li>• Financial Reward</li><li>• Self-Esteem</li></ul>	<ul style="list-style-type: none"><li>• Business Failure</li><li>• Obstacles</li><li>• Loneliness</li><li>• Financial Insecurity</li><li>• Long Hours/Hard Work</li></ul>

Source: adapted from Mariotti & Glackin (2010)

The authors recommend the factors summarized in table 1 for a cost-benefit-analysis when deciding about entrepreneurship. However, how does somebody assess the value of independence, how to compare financial reward against long hours of work? The summary clearly shows that when turning an opportunity into a business, whether benefits outweigh costs, result in an even balance or outweighed by costs is rather subject to the entrepreneurs' psychological constitution and personality traits (see section 1.2.2).

The outcome of analysing costs and benefits can be either a barrier or a trigger for the decision of becoming an entrepreneur. Burns (2016) categorizes barriers in either situational or psychological and triggers in push factors (externally motivated) and pull factors (intrinsic motivations). As



shown in figure 1, barriers – no matter of real-life and linked to the recent situation or rather psychologically-based – often hinder the further development of the business idea and lead to stopping track on the pathway to entrepreneurship.

<b>Barriers</b>	<b>Trigger</b>	
<ul style="list-style-type: none"><li>- No regular income</li><li>- Lack of capital</li><li>- Fear of capital loss</li><li>- Risk aversion</li><li>- Doubts of ability</li></ul>	<b>Push factors</b> <ul style="list-style-type: none"><li>- Unemployment</li><li>- Disagreements</li><li>- Organizational „mismatch“</li><li>- No other option</li></ul>	<b>Pull factors</b> <ul style="list-style-type: none"><li>- Independence</li><li>- Recognition</li><li>- Personal Growth</li><li>- Wealth, Fame</li></ul>

Figure 1 Barriers and triggers to entrepreneurship

Source: own illustration, adapted from Burns (2016)

Although in many cases very real barriers do exist and are worth to be taken into account when deciding about entrepreneurship, often barriers are founded on myths about entrepreneurs idolized by the media. Read, Sarasvathy, Dew, Wiltbank, & Ohlsson (2011) put forward seven myths about entrepreneurs as a very special, gifted and rare specimen of the human race. The authors address issues such as:

- Entrepreneurs are visionary
- Entrepreneurs have bright ideas (and you do not);
- Entrepreneurs are risk-takers;
- Entrepreneurs have money (and you do not);
- Entrepreneurs are extraordinary forecasters;
- Entrepreneurs do know how to take the plunge (and you do not);
- Entrepreneurs have innate skills and principles.

These myths support the belief that oneself is not a member of “that group of very special people” and hence not fit to become an entrepreneur.



Trigger, on the other hand, lead to further action and often finally to the start-up of a new venture. Factors influencing the likelihood can be grouped in push and pull factors (Amit & Muller, 1995; Moore & Mueller, 2002; Solymossy, 1997). Push factors arise from the environment and urge the person to act, whereas pull factors are intrinsically based and a person feels a strong motivation to act on them. As empirical research shows push and pull factors can also be simultaneously present (Verheul, Thurik, Hessels, & van der Zwan, 2010), there is a powerful trigger to create a new venture. Burns (2016) draws on some prominent examples from US millionaire entrepreneurs such as Google Co-founder Sergey Brin or Apple-Creator Steve Jobs, who are first- or second-generation immigrants and as such often pushed into entrepreneurship for lack of alternatives.

Barriers and triggers exist for any person who thinks about starting their own business. However, which importance we place on pull factors or how we react to push factors is influenced by our personality, our character traits.

### **1.2.2 The entrepreneurial character**

What makes or breaks an entrepreneur? Are there special traits or genetic preconditions that differentiate entrepreneurs from other humans? Morris, Kuratko, & Schindehutte (2011) take up the analogy between entrepreneurs and mountaineers which demonstrates shared characteristics such as goal setting, resource constraints and risk-taking (Valliere & O'Reilly, 2007). Morris et al. (2011) reinforce this comparison by asserting that both mountain-climbing and entrepreneurship are individualistic experiences. They state “The entrepreneur is an active player in the experience—not simply a passenger on a journey across time. He or she is a participant in the formation of reality. It is through the lens of his or her



experience that the entrepreneur interprets life events and constructs a sense of self’ (Morris et al., 2011, p. 18).

These citations are only the peak of a wide range of research into certain characteristics of entrepreneurs and the impact they have on their environment. To provide an overview of the interdisciplinary and multi-coloured research not only trait theory but also cognitive development theory has to be taken into account. Over the last 40 years manifold research into personality traits of entrepreneurs yielded substantial results. However, the research is criticized for focussing on different kind of entrepreneurs (nascent vs. already started vs. successful entrepreneurs) as well as using a variety of inconsistent methods to measure personality traits and attempts to link either only a single or a number of traits to entrepreneurship (Burns, 2016, p.68). Hence, there is still much discussion about to which amount personality traits actually influence entrepreneurship. Burns (2016) summarizes six traits (see figure 2) he harvested from the many research studies and argues that each of them is necessary but not sufficient and a combination of all of these traits is needed.

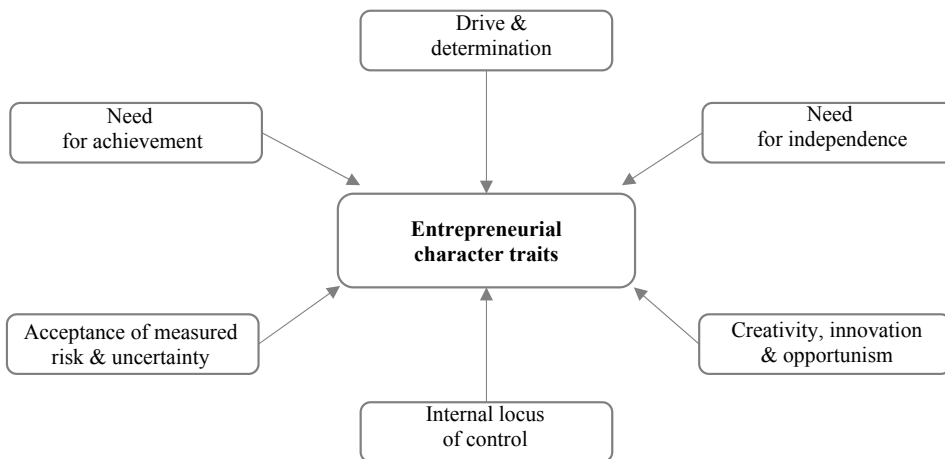


Figure 2: Character traits of entrepreneurs  
Source: Burns (2016, p. 62)

These (and all other) personality traits can be measured and categorized, but only at one point in time. Some of them may be deeply rooted and hard to change, however, character can change over time and due to different situational effects. Here we enter the field of cognitive theory that aims to provide insights into the development of personality traits. Attention shifts from the individual differences to situational circumstances. Chen, Greene, & Crick (1998) put forward that entrepreneurial self-efficacy (belief in own capabilities) leads to high objectivity and analyticity but also to a tendency to attribute any failure to external factors. In the authors' opinion, self-efficacy results from a person's previous experiences and the entrepreneur uses their mental model as basis for decision-making, also if it is based upon only limited experiences. Chen et al. (1998) are among many scholars who argue that people who report on high self-efficacy are more likely to become entrepreneurs (Burns, 2016, p. 66). Entrepreneurial self-efficacy has emerged as a key psychological construct in entrepreneurship research as it has an effect on entrepreneurial motivation, intention, behaviour and performance (Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2018).

Delmar & Davidsson (2000) outline two more research findings that are based on cognitive theory and focussed on entrepreneurship: First, intrinsic motivated entrepreneurs perform better than those triggered by external factors; pull factors here outweigh push factors. Second, entrepreneurs with high intentionality are more likely to take action. This is based on the entrepreneurial trait "internal locus of control" that leads to drive and determination.

Morris et al. (2011) describe entrepreneurship as a temporal experience that is largely unpredictable and uncontrollable. In addition, venture crea-

tion is a pulsating, rhythmical experience. Schindehutte, Morris, & Allen (2006) conclude that the intensity of entrepreneurship is created by the personal experience. They state: “The process of transforming a mental construct into a functioning enterprise represents a unique type of human experience. The entrepreneurial experience includes the multiplicity of events to which the individual is exposed as he/she moves through the stages of the entrepreneurial process” (Schindehutte et al., 2006, p. 351). Cognitive development theory highlights the influences our life experiences have on our character and aims to figure out the impact of personal background, culture and situations and phases of life in regards to entrepreneurship. Figure 3 illustrates the influences of these concepts:

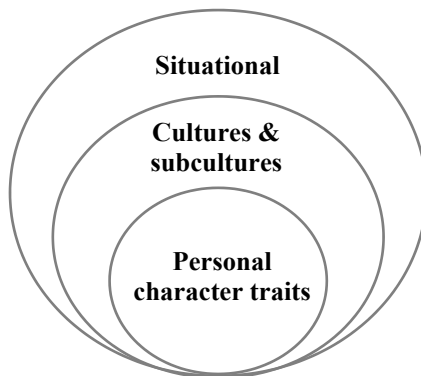


Figure 3: Influences on character traits  
Source: Burns (2016, p. 68)

Why to stress out the psychological aspects of entrepreneurship and not just to focus on organisational aspects of the enterprise that will enable innovation and creative thinking? The soil will be prepared, the earth will be tilled, the seed will be sown at the time of a decision to start a venture. That decision as well as further decisions how to develop the venture, how to grow it and how to manage it will depend on the entrepreneur, their personality traits, their personal situation and life experience.

Whether they can reap the fruits of their labour tomorrow, becoming successful and satisfied, perhaps wealthy and famous, or may fail with their venture, much depends on the combination of these factors. These psychological aspects will also influence the type of entrepreneurship chosen by the founder and their ability and likelihood for growth and entrepreneurial management.

### 1.2.3 Types of entrepreneurship

Reconciling the previous sections, entrepreneurs create value by creating new demand or finding new ways to exploit existing markets. They challenge and change traditional ways of thinking and hence enable innovation. Entrepreneurial activities can be carried out in many ways; depending from the entrepreneurs' personal world view, visions and objectives. This section aims to provide an overview about the most common types of entrepreneurship and their stance regarding innovation.

#### *Intrapreneur, Owner-Manager and Serial Entrepreneurs*

Not every changing idea will lead in starting up a new venture. There is also the possibility that new ideas will be exploited for established, larger enterprises. The idea provider remains in a salaried position, profit and risk of the innovation will be carried by the employer. Such entrepreneurs are called "intrapreneurs". Intrapreneurs have to be distinguished from a so-called "owner-manager", a person owning the business they manage. To be classified as owner-manager the business has to be controlled by the manager which means they have to hold at least 50 % of the business' share capital. In this group, we can draw on three different categories of entrepreneurs:



- Salary-substitute entrepreneurs: are motivated to create a regular income that would be comparable to an employment (e. g. gardener, tax advisor, beauty therapist);
- Lifestyle entrepreneurs: are centred on the personal lifestyle of the founder and the motivation is to earn a suitable income (e. g. yoga teacher, day care parent, social media consultant). Although it is acknowledged that they may be driven by economic goals, but not necessarily to maximize economic gains (Carsrud & Brännback, 2011);
- Entrepreneurs: are motivated to grow their venture from the start and focus on performance and profit.

Entrepreneurs falling in the last category are entrepreneurs in a true sense of our definition (Storey & Sykes, 1996). Furthermore, there are entrepreneurs which start enterprises that fall in the middle of these categories. Their businesses grow until a certain size, bring in some profit but cannot – for various reasons – developed any further. Then often the entrepreneur sells the business and invests the profit in a new venture start. These entrepreneurs are capitalizing their ability to start-up and hence they are called “serial entrepreneurs”.

### ***Necessity vs. Opportunity Entrepreneurs***

Similar to the idea of push versus pull factors for taking up entrepreneurship (Amit & Muller, 1995; Moore & Mueller, 2002; Solymossy, 1997), a research program (GEM, started in 1999 in 10 countries and did survey more than 197,000 individuals by 2013) has yielded two different types of entrepreneurship: necessity and opportunity entrepreneurs. The differentiation rests on the motivations to start a business: Opportunity entrepreneurs start because they did identify a new business opportunity

and are motivated by achievement needs (Carsrud & Brännback, 2011). Necessity entrepreneurs, on the other hand, see setting up their own business as the only chance to earn a living (Reynolds, Bygrave, Autio, Cox, & Hay, 2002) and are more prone to avoid failure (Carsrud & Brännback, 2011).

Research has yielded results that opportunity entrepreneurs differ from necessity entrepreneurs in a number of aspects, such as income from entrepreneurship, duration in self-employment, job satisfaction, regional context, and socioeconomic characteristics; impact on economic growth, attitudes towards risk (Bergmann & Sternberg, 2007; Block & Sandner, 2009; Block & Wagner, 2006; Verheul et al., 2010). As already mentioned in section 1.2.1, push and pull factors can be simultaneously present and hence there exists a continuum along which entrepreneurs can be classified (Giacomin, Guyot, Janssen, & Lohest, 2007; Solymossy, 1997). Therefore, the GEM has introduced a third group of entrepreneurs: so-called mixed-motivated entrepreneurs. For the purpose of the dissertation, all three categories will be applied.

### ***Social entrepreneurs, Sustainable entrepreneurship***

Not all entrepreneurs are being led by the motivation of personal wealth and fame, as we have seen in the previous sections. In some cases, the purpose is rather to create and develop something meaningful. These entrepreneurs often start ventures that operate in a commercial, profit-oriented way to achieve social objectives. Such enterprises are called social enterprises, they operate at the intersection of private, profit-oriented enterprises and public services. Many of the commercial entrepreneurs' characteristics also refer to social entrepreneurs, what makes them special is the purpose of serving their social mission (Burns, 2016,



p. 19) and their primary motivation in social gains (Carsrud & Brännback, 2011).

Sustainable entrepreneurship is distinguished by a commercial, profit-driven strategy but additionally focussed on a social mission, the society and the environment. Although business interests have top priority, the management in their decision making every time take into account the influence on the environment and all of its stakeholders. Sustainable entrepreneurship aims to tackle issues such as sustainability, social responsibility, ethics and good corporate governance by taking the right commercial decisions and actions. The social interests and sustainable behaviour of the entrepreneurs interviewed for the present research study are manifold and some aspects are taken into account in the later analysis of the interviews.

To summarize, there is not “one kind of entrepreneur” who starts and grows enterprises to sizes that are meaningful for entrepreneurial leadership. As Drucker (1985) states, it is the medium-sized business that has the best capability for success and innovation. Hence, to understand when and how entrepreneurs will learn from their failure experience is crucial for the further comprehension of the entrepreneurial process.

#### **1.2.4 Attitudes towards risk and uncertainty**

Starting a new enterprise is always a risky decision and therefore, one of the most challenging questions is to understand their different approaches to deal with risk and uncertainty, influenced by the entrepreneurs’ personality and behavioural characteristics (Henschel & Heinze, 2018). Thus, people’s risk attitude cannot be derived directly from their risk taking in a single situation. Instead, risk taking is based on the characteristics of the



person (e.g., age and gender) and the situation (e.g., the domain of the decision, involvement of affect), both interacting (e.g., via the individual's knowledge of a certain risk domain). Differences in observed risk-taking behaviour can be caused by different reasons and conflicting motivations (e.g., opportunity creation and fear of failure) need to be balanced. Figner & Weber (2011) discuss the importance to develop an understanding of the causal mechanisms that influence risk taking in certain situations and in specific populations as it enables us to design interventions that can successfully modify risk taking in situations where such a change in behaviour seems to be benefiting.

The entrepreneurial firm is a social entity build around personal relationships and around one person, the owner-manager (Burns, 2016, p. 7). A successful entrepreneur is good at developing relationships with customers, staff, suppliers and all the other stakeholders in the business. This ability to generate strong personal relationships helps them to develop the partnerships and networks which are necessary for their business survival. These relationships are at the core of how entrepreneurs deal with risks and uncertainty. While entrepreneurs are prepared to take risks, they often want to keep them to a minimum. Their network of personal relationships can work as an early warning system and alert them to risks and new opportunities as well. It is a major source of knowledge and information (Burns, 2016, p. 7). As literature reveals, small businesses approach their decision-making differently than larger firms. According to Burns (2016) they tend to adopt an incremental approach that is often seen as short-term. However, this limiting commitment is an approach that helps to mitigate risk in an uncertain environment. They also tend to keep capital investment and fixed



costs as low as possible and commit to costs only after the opportunity has been proven to be sound.

Henschel & Durst (2016) did a cross-country investigation of the attitudes of small business managers to risk and uncertainty which confirms some of the theoretical observations by Burns (2016). Entrepreneurs take different strategies for managing risks depending on the risk category they are looking at. In general, they attempt to make a more comprehensive risk assessment than just a single-stage approach. This could be due to the reason they have often to bear the risk (risk taking) rather than to transfer it to a third party. They only take out standard insurance cover for damage resulting from fire, water, loss in output and interruption to operations. Otherwise, the risks are more comprehensively assessed in terms of established/routine variables in the business sector, in which the company is active, i.e., in terms of supplier, customer, technology and the internal business processes. In terms of uncertainty in the external environment that empirical findings revealed that SME face the highest uncertainty in predicting the changes in legal regulations, in determining the buying patterns of customers and assessing the strategies of competitors (Henschel and Durst, 2016, p. 122).

To conclude the section, to build a solid foundation to explore entrepreneurial failure learning, there is the need to first understand barriers and triggers for entrepreneurship. Secondly, personality traits and individual behaviour of entrepreneurs as well as their risk-taking stances have to be taken into account. Finally, different types of entrepreneurship may lead to different results and therefore are addressed here too. Research aims and objectives for the present dissertation are based on the classification provided here.

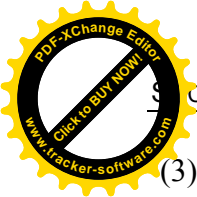


### 1.3 Research aim and objectives

Although the importance of entrepreneurship is broadly agreed and based on sound evidence, the research of entrepreneurial learning after business failure is still under-researched. Many of the recent studies focus on the positive aspects of failure. Failure is often acclaimed as an important learning experience; however, learning may not happen at all as failures are either likely to reinforce core beliefs or are attributed to external causes and unlearning of certain beliefs may be a necessary condition. To further understand the process of sense-making and its influence on learning in the aftermath of failure calls for a closer look at the causes and effects triggered by the entrepreneurs' understanding of themselves and their preferred coping strategies. In response, I propose an alternative approach to examine the manifold aspects of business failure and the effects on learning in the aftermath of failure. The aim of the research project is to investigate the current state of the failure learning process and herewith to contribute to theory development by establishing which learning strategies are applied after venture failure.

The aim of the research project is to answer the question: Which strategies do entrepreneurs apply to learn from their failure experiences and are these strategies related to their personal behavioural style? The research objectives can be summarized as follows:

- (1) To identify narratives told by failed entrepreneurs to make sense of the failure experience;
- (2) To understand the role of learning strategies for the sense-making process;



- (3) To discover unlearning strategies applied to overcome unsuccessful behaviour;
- (4) To develop a typology of failure learning strategies;
- (5) To discover relationships between failure learning strategies and social styles.

What makes this research especially interesting is the mixed method approach that was chosen due to the complex nature of the phenomenon and the need for triangulation of research results. For that purpose, a three-step research process has been developed, starting with a qualitative design utilized by interpretative phenomenological analysis (IPA) to gain a general understanding of the sense-making of entrepreneurs who have experienced venture failure in Germany. The second study is informed by the analysis of the first study and applies Q-methodology, a research technique with the purpose of a systematic study of subjectivity (Stephenson, 1953). Here, the aim is to reveal existent pattern in regard to failure learning behaviours. Finally, the third study is a quantitative one, addressing associations between failure learning behaviour and social behaviour based on the TRACOM Social Styles model.

The findings from the investigation will lead to the formulation of propositions how to support failure learning under consideration of different learning and behavioural preferences. Paying attention to the narratives of those who experienced business failure and provide awareness about the effects and influence of social styles may offer beneficial insights for several stakeholders. So, it can be crucial for new and budding entrepreneurs to understand their personal frame of reference and pattern in their preferred coping strategies to ensure an informed and deliberate decision-



making. For entrepreneurship educators as well as government agencies and business consultants who are engaged in advising start-up enterprises the study can offer insights into the social aspects of entrepreneurial decision-making and hence support the development of individually adaptable crisis or failure strategies. The academic research community can benefit from a further mixed-method approach that aims to close a gap between the management-focused and the personality-based studies by developing a framework that is based on pillars from both areas: on a person-centred interpretation of the entrepreneurs' understanding of business failure and on a practice-proven and established model of social styles.

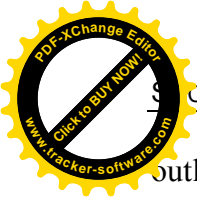
#### **1.4 Structure of the dissertation**

Following the introduction in chapter 1 that sets out the aim and objectives of the dissertation, chapter 2 will present the literature review on entrepreneurship, entrepreneurial learning and venture failure. It starts with an overview of relevant theories from the area of research. The chapter will then focus on the aspects of learning from failure.

Chapter 3 contains the research methodology applied in this thesis. It explains the research methods that have been used to generate own data sets. Since the investigation is based on a mixed-methods approach, the chapter contains a detailed explanation about why the respective methods have been chosen, how they have been applied and how data quality is ensured.

Thereafter, chapter 4 presents the results of the investigations conducted by the qualitative and quantitative studies. It is structured alongside the units of analysis developed for the application of the mixed-method approach.

Chapter 5 provides a discussion of research findings presented in the previous chapter and proposes a framework of failure learning strategies,



Outlining the core elements of learning from failure based on the identified differences between the several types. Furthermore, the chapter contains recommendations how the framework could be applied in entrepreneurship education and for business advice in a start-up context.

Finally, chapter 6 concludes the dissertation by summing up the main findings of the research and the impact of the research results. Furthermore, the chapter also highlights the limitations of the present research and features indications for further research.



## 2 Literature review

The following chapter analyses literature on selected aspects of learning from entrepreneurial failure which will form the basis to a comprehensive approach to the topic. The objectives are as follows: (1) to identify and to discuss research issues that are fundamental to the research topic; (2) to present and critically investigate prior inquiries and to demonstrate how this research relates to the existing body of knowledge; (3) to identify gaps in the current body of knowledge. Although this dissertation focuses on German entrepreneurs, mainly international literature was reviewed. Although historically, prominent German and German-speaking scholars such as Marx (1818–1883), Schmoller (1838–1917), Sombart (1863–1941), Weber (1864–1920), Schumpeter (1883–1950) and von Hayek (1899–1992) contributed vastly to the early entrepreneurship research, during most parts of the twentieth century, entrepreneurship research in Germany was non-existent (Schmude, Welter, & Heumann, 2008). Only at the beginning of the 20<sup>th</sup> century, the topic of new firm formation gradually became new relevance and a formal institutionalization of research did start in Germany (Schmude et al., 2008). Until today, German entrepreneurship research is still adolescent, and academic dissemination often takes place through conference proceedings, edited volumes, and special journal issues. Furthermore, publications in English are increasingly common only for the last decade, an additional reason why German entrepreneurship research long suffered from inadequate exchange with the international community (Schmude et al., 2008). However, another reason for the international perspective of the present literature review is the desire to approach the field of entrepreneurship as a phenomenon rather than in terms of context, which is



is said to be the predominant European perspective (Welter & Lasch, 2008; Wiklund et al., 2011).

The literature review starts in section 2.1 with outlining and critically reviewing the different entrepreneurship theories that are relevant for this research. The following section 2.2 complements that by a discussion of entrepreneurial learning as an important concept at the interface of entrepreneurship and organisational learning. In section 2.3, the event of entrepreneurial failure as a possible result of the entrepreneurial process will be introduced. Based on the inclusion of learning as an integral element of entrepreneurial activities, section 2.4 reviews theories of learning from entrepreneurial failure. The conclusion of this literature review highlights significant research gaps and is presented in section 2.5. Appendix 1 documents the underlying literature search technique to ensure reliability and repeatability of this literature review in case another researcher focuses on the same area

The following figure 4 displays an overview on the structure of this chapter as well as the theoretical approaches discussed.

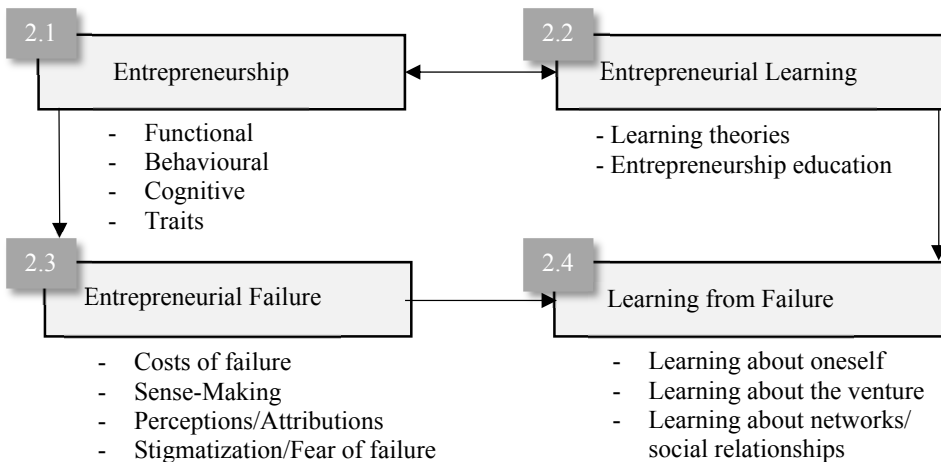


Figure 4: Key concepts of entrepreneurship, entrepreneurial learning and failure learning





## 2.1 Key concepts on entrepreneurship

As already introduced in the introduction chapter, section 1.2, the interest in understanding the entrepreneurial phenomenon goes back until the 18<sup>th</sup> century, the times of the enlightenment. From that time on, as Kuratko & Morris (2018) state, "... entrepreneurship is being defined in different ways ... by different audiences!" (p. 11). Although entrepreneurship has developed substantially over the past 40 years (Kuratko & Morris, 2018b), it remains a field still seeking legitimacy (Claire M. Leitch, Hill, & Harrison, 2010). The expansiveness of the field is reflected in the permissive definition proposed by the Entrepreneurship Division of the Academy of Management (Academy of Management, 2007), specifying entrepreneurship as "the creation and management of new businesses, small businesses and family businesses, and the characteristics and special problems of entrepreneurs." This broad definition is contrary to a long tradition of scholars with a narrower approach, defining entrepreneurship as creation of new business ventures (Boudreaux, Nikolaev, & Klein, 2019). However, the case seems not to be settled, as there is still lack of an agreement of a definition, because as Veciana (2007) states "The funny thing is that most writers after having reviewed, discussed, criticized, and rejected the many definitions that have been proposed in the literature, cannot refrain from proposing a new one" (p. 29). He argues that in any field of scientific research, the construction of theory and the demarcation of the field has to come first, not a definition. In that regard, the scientific study of entrepreneurship has still paucity because of failure to acknowledge the different purpose of these approaches.

Many attempts have been undertaken to classify entrepreneurship research, i. e. the proposal of Stevenson & Sahlman (1989), introducing three main schools of thought in regard of entrepreneurship. The authors first discuss



The functional perspective, consisting of theories based on the economic function of entrepreneurship. The second group are focussed on entrepreneurial behaviour, defined primarily as the entrepreneurial process of new venture creation (Gartner, 1988). The third group associate entrepreneurship with the entrepreneur as an individual, thus that group is defined as personality perspective. Veciana (2007), integrates these schools into a larger picture and presents four main theoretical pillars and levels of analysis in an attempt to demonstrate that there are more than the traits approach and the opportunity approach, as stated by some authors (i. e. Venkataraman, 1997 and Shane & Venkataraman, 2000). The author sees his classification not only as an attempt to define the different approaches' contribution to the methodological debates on this field of study, but additionally to provide guidance about the subject for students and scholars.

Following Veciana's (2007) categorization, figure 5 aims to provide orientation in regard to theoretical approaches to the study of entrepreneurship and their relevance for this literature review.

<b>Level of analysis</b>	<b>Economic approach</b>	<b>Psychological approach</b>	<b>Socio-cultural approach</b>	<b>Managerial approach</b>
Micro (individual)	Entrepreneurial function	Traits theory	Margination theory	Leibenstein's x-efficiency theory
	Theory of entrepreneurial profit	Psychodynamic theory	Role theory	Behavioural theory
	Theory of occupational choice under uncertainty		Network theory	New venture creation Becoming an entrepreneur

Level of analysis	Economic approach	Psychological approach	Socio-cultural approach	Managerial approach
Meso (firm)	Transaction cost theory	X	Network theory  Incubator theory  Evolutionary theory	New venture success and failure  Corporate Entrepreneurship
Macro (country)	Schumpeter (economic development)  Theory of endogenous regional development	Kirzner's theory	Weber (economic development)  Theory of social change  Population ecology theory  Institutional theory	X

Relevant for the study

Figure 5: Overview of theoretical approaches to entrepreneurship research  
Source: own illustration, based on Veciana (2007)

Over the last decade, new research interests did arise, hence Kuratko & Morris (2018) debate entrepreneurship research by differentiating ten major themes that characterize recent research about entrepreneurs and new-venture creation. These areas are: Opportunities and the entrepreneurial process; Venture financing; Entrepreneurial cognition; Economic development and entrepreneurship; Family Business, Corporate entrepreneurship, Social entrepreneurship; Women and minority entrepreneurship; Global entrepreneurship and Entrepreneurship research, education and pedagogy.

The structure of the following sections is based on Stevenson & Sahlman (1989), Veciana (2007) as well as Kuratko & Morris (2018) to take into



account traditional as well as contemporary developments in the field of entrepreneurship research. An array of conceptual frameworks and methods as well as empirical insights are presented for each of the sections. Finally, research gaps and future directions are defined.

### **2.1.1 The functional and the behavioural perspectives**

Following Veciana (2007), the functional perspective falls in the category of economic approaches, whereas the behavioural perspective can be ascribed to managerial approaches. However, evident by the focus of research presented here and in accordance with Cope (2005), manifold similarities do exist between the functional and behavioural perspectives of entrepreneurship. Therefore, the following summary of current research unifies both perspectives and further differentiation is based on the relevant research areas defined by Kuratko & Morris (2018).

As already discussed, entrepreneurship is a rather nascent research area and early theories originate from the field of economics. In the beginning, researchers have been concerned with understanding these activities and behaviours that are characteristic of entrepreneurship. One of the groundbreaking pioneers in that area was Mark Casson (Sharon Alvarez, Godley, & Wright, 2014). He put forward the concept of entrepreneurial judgement and took an interest in modelling both how entrepreneurs respond to and create opportunities, hence conceptualising the entrepreneur's interaction with his/her environment (Casson, 1982), which has been a major thrust of theorising within this functional perspective. Following in that line is the notion of entrepreneurial action, to be understood as "the creation of an opportunity as well as a response to existing circumstances" (Hébert & Link, 1988, p. 159).



The behavioural perspective was proposed by Gartner in 1985 by concentrating on what entrepreneurs do rather than who they are (Gartner, 1988). From a behavioural perspective, the major aims of the research are to recognise the entrepreneurial process as “the functions, activities, and actions associated with the perceiving of opportunities and the creation of organisations to pursue them” (Bygrave & Hofer, 1991, p. 14) and to understand what enables new organisations to come into existence. The “discovery” view of opportunities as constructs that are themselves lacking agency and hence are in need of the human being, the entrepreneur to be brought to life, is in line with Shane (2000), who also takes the stance that the discovery of opportunities is an exclusively individual cognitive process, other than with the execution and exploitation of opportunities, where a collective action may take place .

Short, Ketchen, Shook, & Ireland (2010) also recognise opportunities as one of the major concepts within entrepreneurship research and hence present a detailed review of research on the concept and the processes surrounding it. Contrary to Shane (2000), they take a broader stance and contribute to theory development by acknowledging that within entrepreneurship research, credit has to be given to two existing schools of thought: (1) that opportunities are discovered and (2) that opportunities are created.

In the earlier years of entrepreneurial research, Bygrave (1989) offers ideas on how to overcome existing limitations of researching the entrepreneurship paradigm by recommending the avoidance of reductionism, more empirical models and field studies of the unique events of venture creation as well as more longitudinal research. That call has been greeted by many researchers and in the following decade more and more models



have been put forward by scholars of the field. A decade later, more than 30 models of the entrepreneurial process have been published (Moroz & Hindle, 2012).

Moroz & Hindle (2012) take the stance that the entrepreneurial process has to be conceptualized as being simultaneously generic and distinct in nature. The authors define the generic as “*all* processes that are ‘entrepreneurial’ do this” (p. 781) and the distinct as “*only* entrepreneurial processes do this” (p. 781). In their review of 32 extant models of entrepreneurial processes they came to conclude that only four of them can be considered of a converging nature, aiming to conceptualize the entrepreneurial process by concurrence of both the generic and the distinctive nature. These works are contributed by Gartner (1985), Bruyat & Julien (2001), Sarasvathy (2009) and Shane (2003) and in their evaluation, Moroz & Hindle (2012) state that “although each of these models provides some insight into what may be both generic and distinct about an entrepreneurial process vis-à-vis every other kind of process, none of them unequivocally passes the acid test of the double-barreled question fueling our investigation” (p. 808) and hence it is their conclusion that there is still a need to develop a single harmonized model of the entrepreneurial process.

Drawing attention to a growing disconnect between theorization on process-oriented concepts of entrepreneurship and empirical studies that are rather variance-oriented, McMullen & Dimov (2013) propose a shift in inquiry “by initiating a dialogue about the nature of the entrepreneurial journey, when it has begun and ended, whether it might be productively subdivided into variables or events, and what if anything remains constant throughout the process” (p. 1481). With their emphasis of the “entrepre-

neurial journey”, the authors again acknowledge the role of the entrepreneur as an individual, a living human being. This idea can be seen in line with Chell & Haworth (1988), who recommend to develop contingency approaches taking into account the behaviour of the entrepreneur in relation to distinguishing contextual attributes. Similarly, Gartner (1985) states that “entrepreneurs do not operate in vacuums - they respond to their environments” (p. 700).

Carsrud & Brännback (2011) are taking a different angle in the behavioural theories of entrepreneurship as they discuss several theories on entrepreneurial motivations as being important explanatory mechanisms for entrepreneurial behaviour. They pay special attention on the impact on both intentions and subsequent behaviours and highlight the importance of work carried out by Gollwitzer & Brandstätter (1997), illustrating the relationship of intentions, motivation, and goal pursuit. A summary of the theories, concepts and frameworks discussed above can be found in table 2.

Table 2 Literature summary on the functional and behavioural perspectives of entrepreneurship

Author / Research focus	Key findings
<b>Casson, 1982</b> Conceptional work	Proposal of entrepreneurial concepts in regard to coordination of resources, judgment, market creation, and intermediation.
<b>Gartner, 1985</b> Conceptional work	Proposal of framework for new venture creation consisting of four perspectives on entrepreneurship, that are (1) characteristics of the founder(s), (2) the organization, (3) the environment, and (4) the start-up process.
<b>Gartner, 1988</b> Conceptional work	Defines entrepreneurship as a role undertaken by individuals with the objective to create new ven-



Author / Research focus	Key findings
<b>Chell &amp; Haworth, 1988</b> Conceptional work	tures; hence, research should focus on what the entrepreneur does rather than who the entrepreneur is.
<b>Hébert &amp; Link, 1988</b> Conceptional work	The development of a contingency approach of entrepreneurship requires research on the behaviour of the entrepreneur in relation to contextual factors.
<b>Bygrave, 1989</b> Conceptional work Epistemological level	The definition of entrepreneurship is rooted in the economic domain, more attention has to be spent to the role of the entrepreneur themselves.
<b>Bygrave &amp; Hofer, 1991</b> Conceptional work	Several recommendations for research methods for the entrepreneurship paradigm are presented.
<b>Shane, 2003</b> Conceptional work	Proposal of definition of the entrepreneurial process as activities or functions related to exploration of opportunities and venture creation for exploitation of opportunities.
<b>Short, Ketchen, Shook, &amp; Ireland, 2010</b> Review of the literature	Entrepreneurial opportunities exist independent of actors, but human creativity is requested to bring to life the objective opportunity.
<b>Carsrud &amp; Brännback, 2011</b> Conceptional work	Presentation of detailed review of research on the opportunity concept and the processes surrounding it.
<b>Moroz &amp; Hindle, 2012</b> Conceptional work Review of 32 models of entrepreneurial process	Highlighting the importance of entrepreneurial motivation as a vastly ignored topic, which is, however, crucial to the study of entrepreneurial behaviour.
<b>McMullen &amp; Dimov, 2013</b> Conceptional work	Extant models are insufficient to synthesize an understanding of the entrepreneurial process that is both generic and distinct.

Cognitive theories fall partly in the area of psychological theories and hence are discussed separately from the solely economic and/or manage-





rial approaches presented by the functional and behavioural perspectives. Veciana (2007) classified the cognitive entrepreneurship research as “Kirzner’s Entrepreneur Theory” as Kirzner (1973) based his concept of the entrepreneur empirically and stresses a specific entrepreneurial attribute: the ability to recognize business opportunities. The mapping as macro level is reasoned by the author because “it tries to explain the market process on the basis of this personal attribute of the entrepreneur that hypothetically defines him and distinguishes him from the rest of the population” (p. 44) and recent empirical research in the field of cognitive theory tries to explain the entrepreneurial ability to recognize business opportunities and the way they perceive and process market information.

Interest in cognitive theories of entrepreneurship have been on the rise over the last two decades; scholars striving for better understanding of the entrepreneurial mindset and exploring characteristics of individuals, teams, organizations, and environments facilitating or impeding entrepreneurial activities (Shepherd & Patzelt, 2018). As a central thought in entrepreneurship research, cognition is present in many research questions. Katz & Shepherd (2003) discuss such questions in regard of how entrepreneurs imagine a different future by exploring new products or services, recognizing opportunities, assessing risks and taking their chances through their individual application of perceptual and reasoning skills.

The following review consists of major conceptional contributions to cognitive theories from the last decade, aiming to provide a summary of latest developments in the research area.

A systematic content-analysis based on the review of extant literature with a sample of 154 articles on entrepreneurial cognition by Grégoire, Corbett, & McMullen (2011) resulted in the identification of three main



features that characterize cognition research: (1) Mentalism as representations of self, others, events and contexts; (2) Process orientation as the concern for researching the development, transformation, and application of (1); and (3) research of cognitive dynamics across different levels of analysis. With the third feature, they support Veciana (2007) in his classification of entrepreneurial cognition theories at the macro level of analysis. Taken all features together, the authors propose a research agenda pursuant to the identified core features.

Shepherd, Williams, & Patzelt (2015) carried out a systematic review of the literature of entrepreneurial decision-making which was based on 156 articles and resulted in mapping the research field in seven areas, consisting of four primary decision activities: (1) opportunity assessment, (2) entry, (3) exploiting opportunities, (4) exit; which are complemented by (5) contextual heuristics and biases, (6) characteristics of the entrepreneur, and (7) the environmental context. The contribution of previous research as well as the importance of future research has been explicitly addressed by the authors for decision in regard to opportunity assessment, to heuristics and biases in the context of entrepreneurship activities such as entry, exit, exploitation of opportunities, and characteristics of the entrepreneur in their function as decision maker.

Haynie, Shepherd, Mosakowski, & Earley (2010) propose a metacognitive model of the entrepreneurial mindset, in an attempt to contribute not only on those cognitive processes that impede with adaptive cognitions such as embedded biases (Mitchell, Smith, Seawright, & Morse, 2000), decision heuristics (S. Alvarez & Busenitz, 2001; Busenitz & Barney, 1997), and overconfidence bias (Hayward, Shepherd, & Griffin, 2006). The authors cite Flavell (1987, p. 179) to define metacognition as “think-

ing about thinking”. They distinguish metacognition from the concept of dispositional traits, but instead define it as a dynamic, learned reaction with the possibility of enhancement through training and/or experience (Flavell, 1987; Schmidt & Ford, 2003) and the likeliness of intensification or dulled by context factors.

Haynie, Shepherd, & Patzelt (2012) followed the increasing interest in metacognition with their study of the role of metacognitive abilities and feedback types in entrepreneurial decision-making. Their findings show that individuals with no experience in entrepreneurial decision-making but who possess metacognitive resources are more able to effectively use feedback. The authors’ findings are in line with previous research on the effectiveness of cognitive feedback on learning and better decision-making (Balzer, Hammer, & Sumner, 1994).

Rouse's (2016) research interest is more specific and addresses how founders experience exit what happens with their identities during the exit process. She proposes a theoretical model of founder psychological disengagement that explains the relationship of work orientation and different possible disengagement paths. Her theory is based on cognitive, behavioural, and affective components of psychological disengagement, resulting in the proposal that two differing exit paths (portfolio and serial) are existent, each consisting of a set of disengagement tactics with several cognitive and affective implications.

Also, Miller & Le Breton-Miller (2017) focus with their research on a niche as they apply cognition theories to build their model of challenge-based entrepreneurship, cognition been one of four challenges in the model. The authors draw attention to specific adaptive abilities likely to



be developed by the entrepreneur because of their precondition, in the case of the cognitive challenged entrepreneur this is associated with ADHD (attention deficit hyperactivity disorder) or dyslexia. As a result, positive outcomes such as being persistent and disciplined, risk-tolerant, socially skilled and creative as they “have been forced to use the road less travelled” (p. 13) are likely to arise.

After more than two decades of intense research, Shepherd & Patzelt (2018) take stock by summarizing theories, frameworks and empirical contributions in the field of entrepreneurial cognition. The authors give their motivation as to “bring these individual pieces of the puzzle together to provide a cohesive big picture of entrepreneurial cognition” (p. 2) and culminate research on this topic that has been published in various studies on cognition in regards to individual entrepreneurial knowledge, entrepreneurial motivation, entrepreneurial attention, the identity of the entrepreneur, and emotions in the entrepreneurial process. Additionally, they offer avenues for future research by addressing unanswered questions in all of the areas mentioned before.

A summary of the theories, concepts and frameworks discussed in the context of cognition can be found in table 3.

Table 3 Literature summary on the cognitive theories of entrepreneurship

<b>Author / Research focus</b>	<b>Key findings</b>
<b>Haynie et al., 2010</b> Conceptual work	Development of a model specifying entrepreneurial metacognition as situated in the entrepreneurial environment by integration of disparate streams of literature from social and cognitive psychology.
<b>Grégoire et al., 2011</b> Review of the literature	Analysis of 154 articles on entrepreneurship cognition, development of systematic approach to study entrepreneurship cognition by offering strategies and

Author / Research focus	Key findings
	research questions to enhance contribution of entrepreneurship cognition research.
<b>Haynie et al., 2012</b> Empirical research	Laboratory experiment with 217 participants modelling 10.000 entrepreneurial decisions, demonstration of interplay between metacognitive ability, feedback type and cognitive adaptability in relation to activities and actions within the entrepreneurial process.
<b>Shepherd et al., 2014</b> Review of the literature	Analysis of 156 articles on entrepreneurial decision-making, mapping of entrepreneurial decision-making research, resulting in a categorization the research field by seven primary activities; the contribution of cognition research being addressed in most of these activities.
<b>Rouse, 2016</b> Empirical research	Analysis of 34 narrative interviews, development of theoretical model of psychological disengagement of founders planning to exit their venture. The model addresses the cognitive, behavioural, and affective components of psychological disengagement.
<b>Miller &amp; Le Breton-Miller, 2017</b> Conceptional work	Development of theoretical model of challenge-based entrepreneurship, cognitive challenges being one of four types of challenges.
<b>Shepherd &amp; Patzelt, 2018</b> Summary of theories, framework and empirical knowledge	Compilation of work on entrepreneurial cognition as contributions to current knowledge and identification of opportunities for future research.

The literature discussed in this section is mainly inspired by theories taking an economic or managerial approach, sometimes – especially the literature focused on cognition – enriched by psychological approaches. The next section exclusively follows the psychological approach by discussing trait theories of entrepreneurship.



## 2.1.2 Trait theories

Entrepreneurial research that aims to uncover psychological distinctions among entrepreneurs and non-entrepreneurs has been carried out for almost sixty years. One of the first pioneers was David McClelland (1917-1998) who claimed that entrepreneurs show an elevated need for achievement, dispose of strong self-confidence and problem-solving skills, are moderate risk-takers, value feedback, and accept personal responsibility (McClelland, 1961). McClelland's contribution led to further research on how personal qualities and characteristics of the entrepreneur show differences to those of non-entrepreneurs. Quickly, it became apparent that entrepreneurs are a fairly heterogeneous group and hence new research interest did arise with the aim to classify them not only in relation to other groups such as managers but as well within their own group. Collins et al. (1964) found differences between managers and entrepreneurs in regard to their views on authority and their insight into the need for social skills. Smith (1967) identified two different types of entrepreneurs, the "craftsman entrepreneur" and the "opportunistic entrepreneur"; his typology trailblazing the application of entrepreneurial typologies in a large number of studies over the years. Further traits were identified in research, however, with few exceptions (i.e. need for achievement), it has been difficult to find empirical evidence that any specific traits will lead exclusively to entrepreneurial behaviour (Delmar & Davidsson, 2000) and some contrary evidence, i.e. Brockhaus (1982), Gartner (1988), Ginzberg & Buchholtz (1989). At that time, research into individual traits was criticized for both conceptual and methodological reasons and the interest shifted to the cognitive processes and mechanisms of entrepreneurship (Baron, 1998; Busenitz & Barney, 1997; Nicholls-Nixon et al.,

2000; Palich & Bagby, 1995; S. A. Shane, 2003; S. Shane & Venkataraman, 2000).

Despite the criticism, the attempt to identify entrepreneurial traits in various individuals still persists, but current research is more rigorous in terms of concept development as well as more sophisticated in the use of methods. The models have also become more complex, taking into account the situation and the individual's perception of the situation. In their review of the literature on entrepreneurial traits, Kerr, Kerr, & Xu (2018) state that now, 30 years after Gardner's (1988) influential critique on the study of entrepreneurial personality traits, is the time to revise development made in regard to improvement of concepts and methods. Therefore, the authors review literature published from 2000 onwards and focus on three key themes: (1) the personality traits of entrepreneurs and how they compare to other groups; (2) entrepreneurial risk attitudes; and (3) overall goals and aspirations of entrepreneurs. As a result, the authors state "We do not pretend ... to resolve longstanding debates like whether entrepreneurs are 'born or made'. The heterogeneity across entrepreneurs within just Cambridge, Massachusetts suggests that a unique set of factors does not exist, ...". The review draws attention to the fact that literature is especially weak on the performance dimension, very few studies relate firm performance outcomes to the personality traits of entrepreneurs. The authors see that as a significant limitation to understand the quality margin of entrepreneurial ideas.

As the latest article related to personality traits reviewed by Kerr et al. (2018) was published in 2015, the following discussion will focus on publications in the field of entrepreneurial traits dated thereafter or articles not included but especially important for the dissertation.



Nowadays, entrepreneurial personality is often assessed by application of the Big-Five-Personality inventory (Kerr et al., 2018), as the inventory is the most established and best-validated trait model in psychology (Digman, 1990) and meta-analyses show that business intention, creation, and success can be predicted by the factors (Brandstätter, 2011). Leutner, Ahmetoglu, Akhtar, & Chamorro-Premuzic (2014) extend previous research to observe a broader range of entrepreneurial outcomes (i. e. founding charitable organisations) by application of the Big Five inventory. The authors argue that entrepreneurial success can be predicted with a higher incremental validity by narrow personality traits as applied in META (measure of entrepreneurial tendencies and abilities), a 44-item self-report scale to measure personality traits relevant in entrepreneurial success.

A very recently published study is Franco & Prata (2019), who investigated the influence of individual characteristics (such as gender, age and qualification) and personality traits (Big Five) of the founder on the performance of family firms. Their results show no influence of individual characteristics, however, the traits extraversion, conscientiousness and openness to experience do have a positive influence, while neuroticism has a negative influence on performance. This is only partly in line with Zhao et al. (2010), who reported that all factors except agreeableness were related to entrepreneurial performance, although the effects of introversion/extraversion were small. Leutner et al. (2014), on the other hand, found extraversion and agreeableness were the only Big Five factors that significantly predicted entrepreneurial success.

Also, Obschonka, Lee, Rodríguez-Pose, Eichstaedt, & Ebert (2018) acknowledge the Big-Five suitability for entrepreneurship research, how-





ever, they address the fact that psychological surveys are subject to particular selection biases and additionally expensive. Hence, they propose a new approach to data collection by testing whether artificial intelligence models that are solely based on publicly available Big Data is reliable with the identification of individual differences in entrepreneurial personality. For their study, the authors applied a machine learning model based on 1.5 billion tweets by 5.25 million Twitter users to estimate the Big Five personality traits and an entrepreneurial personality profile for 1,772 U.S. counties. Their results have been promising, as the personality estimates show substantial relationships to county-level entrepreneurship activity, accounting for 20% (entrepreneurial personality profile) and 32% (Big Five traits) of the variance in local entrepreneurship. This leads to the assumption that artificial intelligence methods for the analysis social media data have the potential to deliver comparable information on entrepreneurial personality and hence will lead to a further increase in interest in researching entrepreneurial traits.

One of the more recent strings of research focus on the “dark side” of the entrepreneurial personality. Miller (2015) draws on earlier work by Kets de Vries (1985, p. 160) stating “that the high degree of energy“ can wreak havoc on an organization”. Miller than proposes a set of positive personality characteristics (energy, passion and optimism, self-efficacy and self-assurance, achievement and power needs, independence and autonomy, need for control and dominance) and their counterparts (grandiosity and overconfidence, narcissism and hubris, aggressiveness and ruthlessness, social deviance and indifference to others, obsessive behaviour, mistrust and suspicion), calling for future research. The call was immediately answered, i. e. by Klotz & Neubaum (2016), who put forward their own research agenda, focussing on five vast and current questions derived



from the organizational behaviour literature and urging researchers to observe interactions among different personality traits, as well as between traits and contextual and affective variables. The authors additionally argued that Miller's (2015) proposal of a "janus-faced" entrepreneurial personality should be rather seen as multifaceted. Additionally, (Denisi, 2015) recommends to take into account other traits as for example the Big Five dimensions, and suggests that possibly many of the traits showing positive effect on entrepreneurial performance, may - when taken to extremes - lead to failure.

Different from Miller & Le Breton-Miller (2017), who assessed entrepreneurs with ADHD as being cognitively challenged, Wiklund, Patzelt, & Dimov (2016) take a trait-oriented approach to their research of positive implications of ADHD symptoms. The authors state the fact that genetic variations of dopamine receptors in ADHD are associated with increased novelty-seeking and risk taking. These traits tend to impact impulsivity, activity level and attention style that influence a range of behaviours that are commonly seen as negative, but are rather positive in an entrepreneurial context. Based on 14 cases, the authors proposed an inductive model with impulsivity as important driver of entrepreneurial action and hyper-focus as converter for its consequences.

Research about mental disorders in entrepreneurship has only recently started to pick up speed and questions about whether and to which extent mental disorders may provide certain abilities particularly valuable for entrepreneurs remain unanswered today, however, as there are indications that certain mental disorders are over-represented among highly successful entrepreneurs (Wiklund, Hatak, Patzelt, & Shepherd, 2018), further research is likely to be seen in the near future.



A special feature in the field of entrepreneurial research is the effect of emotional intelligence (EI) on entrepreneurial behaviour, intentions and new venture creation. Although the concept of EI has several definitions and some scholars have developed own models, there is a common ground as they all are based on the work of Goleman (1999) and Salovey & Mayer (1990). In short, EI can be defined as “the ability to recognize and regulate emotions in ourselves and others” (Goleman, 2001). Nowadays, EI models mix different aspects of personality, resulting in a compilation of traits, dispositions, skills, competencies, and abilities (Caruso, Mayer, & Salovey, 2002) and hence there is a perception of EI as a mixed intelligence, consisting of both a cognitive ability and a personality aspect (Bar-On, 1997; Goleman, 2001). Hence, research on how EI effects entrepreneurship fall at the interface between the cognitive and the traits approach and – for the sake of simplicity – will be discussed under the traits approach.

EI in the entrepreneurial context has been the topic of some studies, often with focus on self-efficacy, results showing that individuals with high emotional self-efficacy would be more willing to start and develop a business (see i.e. Shepherd & Patzelt, 2018). Consequently, people with higher EI deal better with stress and are more confident (Zakarevičius & Župerka, 2010). A very recent study by Fakhreldin & Hattab (2019) investigates how EI effects entrepreneurial behaviour and new venture creation. Results show a significant relationship between EI and entrepreneurial behaviour (particularly in the case of necessity entrepreneurs) and that there are three components of EI (interpersonal skills, internal motivation and self-awareness) which show a strong effect on new venture creation.

A summary of the trait theories, concepts and frameworks can be found in table 4.



Table 4 Literature summary on the trait theories of entrepreneurship

<b>Author / Research focus</b>	<b>Key findings</b>
<b>McClelland (1961)</b> Conceptional work	Entrepreneurs are psychologically distinctive from non-entrepreneurs, especially in regard to their elevated need for achievement.
<b>Collins et al (1964)</b> Conceptional, empirical research	Study of geographically restricted sample of manufacturing entrepreneurs, results show that entrepreneurs typically have difficulty in dealing with authorities, and hence do not function well in bureaucratic hierarchies.
<b>Smith (1967)</b> Conceptional, empirical research	Study of geographically restricted sample of manufacturing entrepreneurs, further data analysis shows different types of entrepreneurs (craftsman entrepreneur and opportunistic entrepreneur) who tend to create different types of firms (rigid or adaptive).
<b>Leutner et al (2014)</b> Empirical research	Study of 640 participants recruited through social media forums, results show that both Big Five and META predict entrepreneurial success, though META personality traits have incremental validity in predicting entrepreneurial success.
<b>Miller (2015)</b> Discussion paper	Proposal of set of personality traits (such as energy, self-confidence, need for achievement, and independence) that may have a side effect by developing into aggressiveness, narcissism, ruthlessness, and irresponsibility.
<b>DeNisi (2015)</b> Discussion paper	Answer on Miller (2015), call to extent research to include further traits such as Big Five and to search for the optimum level of these traits.
<b>Klotz &amp; Neumann (2016)</b> Discussion paper	Answer on Miller (2015), call upon a multifaceted rather “dark” view on the discussed traits and further to observe interactions between traits, contextual and affective variables.
<b>Wiklund et al. (2016)</b> Empirical research	Multiple case study of fourteen ADHD-diagnosed entrepreneurs, proposal of inductive model with impulsivity as driver of entrepreneurial action and

Author / Research focus	Key findings
	hyper-focus as catalyst for outcome, both positive and negative.
<b>Kerr et al. (2018)</b> Review of the literature	Analysis of 58 articles published between 2000-2015 on personality traits, risk attitudes and goals of entrepreneurs, results confirm heterogeneity across entrepreneurs and suggest that a unique set of factors does not exist and draw attention to literature gap on the performance dimension.
<b>Obschonka et al (2018)</b> Empirical research	Development and application of machine learning model based on 1.5 billion tweets by 5.25 million users to estimate the Big Five personality traits and personality profile for 1,772 U.S. counties, findings imply that AI has the potential to deliver reliable information on entrepreneurial personality.
<b>Wiklund et al (2018)</b> Discussion paper	Call to further explore the role of mental disorders in entrepreneurship as there are theoretical incentives as well as practical incentives for exploring these relationships.
<b>Franco &amp; Prata (2019)</b> Empirical research	Study of 123 family firm founders on relationship between individual characteristics, personality traits and firm performance, results show positive impact of extraversion, conscientiousness and openness to experience and negative impact of neuroticism.

To conclude, traditional schools of thought within entrepreneurship are still relevant to order and classify the still nascent scientific research of entrepreneurship. The lack of a theory of entrepreneurship or a theoretical framework for entrepreneurship research as well as the fight about definitions is unsettled. Instead, recent developments seem to root themselves in a clear distinction of the research domain (i. e. social entrepreneurship; women and minority entrepreneurship; global entrepreneurship). New research questions, theories, and topics require an expansion of the range



of methods, either taken from other disciplines with some adaptation, or by combining established methods in new ways to break new grounds for theorizing and empirical testing (Shepherd, 2015).

## 2.2 Entrepreneurial Learning

Entrepreneurial learning has emerged as an important area of research at the interface between organisational learning and the entrepreneurial context (Harrison & Leitch, 2005; Wang & Chugh, 2014) yet it is an area which is not well understood (Blackburn & Kovalainen, 2009; Deakins, 2000; Rae, 2005). The following section of the literature review is based on the definition that entrepreneurial learning is focussed on the development of abilities “to recognise and act on opportunities, and interacting socially to initiate, organise and manage ventures” (Rae, 2005, p. 324) The author draws on several ideas (Cope, 2005; Minniti & Bygrave, 2001; Mumford, 1995; Shane & Venkataraman, 2000; Weick, 1995) to state that learning is a emergent, sense-making process and a fundamental and integral part of the entrepreneurial process, in which people can create a new reality and meaning through their contextual experience.

Additionally, as it is important to sustain and develop entrepreneurship as an important factor of economic growth (Podoyntsyna et al., 2011), the field of entrepreneurship education has gained much attention over the last two decades. Previously seen as a sub-set of management education (Harrison & Leitch, 1994) now it has been acknowledged (see for example Filion, 1991; Vesper, McMillan, & Ray, 1998) that entrepreneurship education and education for the development for smaller businesses must be conceptionally different from traditional management education which is mainly focused on large-company concepts and resolutions. Research in the field of entrepreneurship education is rather



focused on how students learn in the classroom about the entrepreneurial process and behaviour, than on learning in the real-life entrepreneurial context. Hence, research from this field with an interest for the purpose of the PhD dissertation will be covered separately in section 2.2.2 of this chapter.

## **2.2.1 Entrepreneurial learning research**

In their systematic review of the literature on entrepreneurial learning, Wang & Chugh (2014) address the vivacity of the field, resulting from a wide range of theoretical insights, such as experiential learning, organisational learning and social cognitive theory, all of them study learning in a different entrepreneurial context and by application of different methods. The two main theoretical perspectives are experiential learning, focussing on who an entrepreneur may become through learning (see for example Cope, 2003; Corbett, 2005; Dimov, 2007; Kolb, 1976, 1984; Lévesque, Minniti, & Shepherd, 2009; Minniti & Bygrave, 2001), and organisational learning (see for example Argyris & Schön, 1978; Huber, 1991; March, 1991; Senge, 1990; Zahra & George, 2002). Within the field of entrepreneurial learning, three pairs of ways, namely individual and collective learning, exploratory and exploitative learning, and intuitive and sensing learning need to get more attention in future research (Wang & Chugh, 2014).

### ***2.2.1.1 Individual and collective learning***

Individual learning can be defined as ways (consciously or unconsciously) chosen by individuals to gain information, skills, knowledge or abilities. Collective learning, on the other hand, can be seen as a social process of knowledge acquisition, in which individuals - based on acknowledged rules and procedures - coordinate their actions in search for solutions



(Capello, 1999). Hence, the main differentiator between individual learning and collective learning is the social nature of the latter. For collective learning an effective combination of knowledge (what) and methods (how) as well as formal and informal contacts and networks that provide access to what and how (Gibb, 1997; Jones, Macpherson, & Thorpe, 2010) is required. The social context not only takes place between individuals, but additionally between an organisation and the individuals in it (March, 1991, p. 73). Further evidence on the importance of social context in which entrepreneurs learn are recent findings by Sardana & Scott-Kemmis (2010) who conclude that a combination of high learning challenge and a high level of learning support will enhance individual learning of an entrepreneur.

Given the individualistic nature of entrepreneurs, integrating individual learning with collective learning is an especially challenging task for entrepreneurial firms, and - despite the insights from entrepreneurship and organisational learning - several questions deserve more attention (Wang & Chugh, 2014). As the authors' systematic literature review covers publications up to 2012, more recent developments in regard to both individualistic and collective learning and their integration will be discussed in the following paragraphs.

Gemmell (2017) proposes a hypothetical entrepreneurial learning style that is deduced from prior studies utilizing the Kolb Learning Style Inventory (LSI) (Kolb and Kolb, 2005b) and finds a preference for the active experimentation (AE) learning mode that can be linked to entrepreneurial success. Furthermore, a preference for the concrete experience-based (CE) learning mode is prevalent among his participants, and a combination of AE and CE is in 90 % of the co-founder dyads sampled for the



study. Hence, Gemmell's study not only offers insights in regard of individual learning style preferences, but additionally to collective learning, leading to his recommendation of the Kolb LSI as a useful tool for the compilation of an effective team based on a blend of learning styles. However, An & Carr (2017) strongly criticize the employment of Kolb's LSI for its unsatisfying test-retest reliability and poor construct validity as well as failure to link teaching to a certain learning style to achievement. Instead, they recommend to focus on work done by cognitive and developmental psychologists and personality theory as explanations for the individual differences in regard to learning and achievement. The authors propose that concrete versus abstract preferences found in learning styles theory is better explained as how novices (concrete learners) and experts (abstract learners) represent knowledge accession. Although the authors do not focus particularly on entrepreneurial learning, their critique of the LSI measurement problem should not be overheard.

The research interest of Cannavacciuolo, Iandoli, Ponsiglione, & Zollo (2017) falls in the area of collective learning, as the authors focus on the learning strategies of entrepreneurial firms in entrepreneurial clusters. In such context, learning is highly embedded in situated practices. Their study is designed as an agent-based modelling (ABM), resulting in a proposal of the decreasing efficaciousness of inertial choice of partners (positive short-term effect to offset risks and transactions costs, but negative impact on the long-term ability to grow and adapt). The results show that adaptive, day-by-day learning has an essential influence on entrepreneurial clusters and their performance.

Hislop, Bosley, Coombs, & Holland (2014) address a particular feature – the concept of individual unlearning which is of some relevance in the



light of the dissertation's research question. The authors advocate that “unlearning should be conceptualized as a distinctive type of learning. It involves a conscious process of choosing to give up, abandon, or stop using knowledge, values, or behaviours” (p. 547). Their conception is in agreement with Antonacopoulou (2009) and Argyris & Schön (1978), but different from the dominant perspective in the unlearning literature that regards the relationship between unlearning and learning as a sequence, unlearning being a prerequisite to, and a precursor of learning (Akgün, Byrne, Lynn, & Keskin, 2007; Becker, Hyland, & Acutt, 2006; Cegarra-Navarro, Wensley, & Sanchez-Polo, 2010; Hedberg, 1981). In their conceptual paper, Hislop et al. (2014) suggest that the process of individual unlearning differentiates between two types (wiping and deep unlearning) with its own distinctive features and dynamics. Although the research is not particularly focussed on entrepreneurial learning, the relevance of the proposed concept for entrepreneurship has to be acknowledged. In their systematic review of the literature, Durst, Heinze, Henschel, & Nawaz (in press) address limitations in the conception of unlearning and draw attention to research gaps such as unlearning as a skill that can be developed by individuals, teams and organizations or the relationship between unlearning and performance. Furthermore, Klammer & Gueldenberg (2019) state an important research gap in regard to barriers and enablers of individual unlearning and invite further research on the examination of when unlearning has occurred and/or was successful as well as on the development of adequate quantitative measures of unlearning.

### ***2.2.1.2 Exploratory and exploitative learning***

As the exploration and exploitation of opportunities are acknowledged as main features of the entrepreneurial process, exploratory and exploitative



learning are key to understand how and what entrepreneurs learn (Wang & Chugh, 2014). Exploratory learning focusses on recognition and awareness through assessment and interpretation, aiming to generate pattern to be transferred to different situations. Exploitative learning, on the other hand, focuses on the acquisition, selection, refinement, and reuse the existing knowledge from past experiences, routines, and norms (McGrath, 2001).

Despite already existing insights, many research questions are still open for investigation, for example in regard to individual and collective differences of learning in the processes of exploration and exploitation, to the content and process of unlearning, as well as to the cognitive processes of entrepreneurs in different learning contexts (Wang & Chugh, 2014).

Teece, Peteraf, & Leih (2016) explore the mechanisms of organizational agility and draw attention to a “build-measure-learn” methodology that follow the idea to build a minimum viable product (MVP), launch it, learn quickly, adjust accordingly, and improve. This method has also come to known as “lean start-up” methodology, as it prioritizes experimentation and learning instead of elaborate planning.

In acknowledging innovativeness as a crucial feature of the entrepreneurial process and new venture creation, West III & Gemmell (2018) examine the emergence of firm-level knowledge under consideration of the relationship between co-founders’ learning behaviours, firm-level explorative and exploitative learning activities and innovation. One important finding in their study is the role of trust in regard to both individual and firm-level learning activities. Similarly, research shows that the processes of entrepreneurial learning are merged in the processes of exploring and exploit-



ing opportunities, either as a continuous learning process made of multiple learning epochs (Voudouris, Dimitratos, & Salavou, 2011), or due to significant or critical events (Cope & Watts, 2000; Rae, 2012) such as venture failure (see section 2.4).

### ***2.2.1.3 Intuitive and sensing learning***

The discussion of the third pair of ways for learning is much driven by different ontological and epistemological positions of entrepreneurship research in regard to the question of how entrepreneurial opportunities come about. There is a divide between European researchers who often take the stance of subjectivity of knowledge and hence adopt a qualitative approach, and North American researchers who often emphasize the objective nature of knowledge, therefore prefer a quantitative approach to examine entrepreneurship in general (Dimov, 2014) and entrepreneurial learning in particular (Wang & Chugh, 2014). So, the research is either focussed on the discovery (North American perspective) or on the creation (European perspective) of entrepreneurial opportunities.

Transferred to learning, it is either intuitive learning (learning through discovering possibilities) or sensing learning (learning through understanding and analysing facts). Both concepts were developed by Jung (1971) and later operationalised by Myers & McCaulley (1985). Sensing learners are described as concrete and practical thinkers, more prone to discover and identify an opportunity, whereas intuitive learners are seen as abstract thinkers and hence more likely to create new opportunities. Sensing and intuitive learning types are comparable to the concrete-abstract learning dimension of Kolb's (1984) experiential learning theory, which has been widely used in the entrepreneurial learning research (Wang & Chugh, 2014). The authors' further state that "the roles of intuitive and sensing

learning have not been fully addressed in the EL literature” (p. 30). Some of the research carried out so far is led by social learning theory and explores learning as a process of social interaction, dependent on social, historical and cultural factors. Hence, characteristics such as self-efficacy, experience, business skills, and education levels are all affected by socialisation (Jones & Tullous, 2002) and by the entrepreneur’s social groups (Cope, 2005). A summary of the major entrepreneurial learning theories, concepts, frameworks, and reviews can be found in table 5.

Table 5 Literature summary on major entrepreneurial learning theories and reviews

<b>Author / Research focus</b>	<b>Key findings</b>
<b>Gibb (1997)</b> Conceptional paper	Introduction of concept of learning circles and learning partnerships to explore the issue of “who” needs to learn, argument that a holistic approach to learning can lower transaction costs.
<b>Capello (1999)</b> Conceptional paper, empirical research	Proposal that collective learning can be differentiated as a “club good”, interpreted as an externality, rather than as a co-operative mechanism. Empirical results from 63 Italian-based high-tech enterprises support the theoretical hypotheses.
<b>McGrath (2001)</b> Empirical research	Empirical study of 56 new venture creation projects, results suggest that organizational learning is more effective when team autonomy in regard to goals and supervision is high.
<b>Minniti &amp; Bygrave (2001)</b> Conceptional paper	Model of entrepreneurial learning as a calibrated algorithm in which entrepreneurs learn by updating a subjective stock of knowledge accumulated on the basis of past experiences.
<b>Jones &amp; Tullous (2002)</b> Empirical research	Study of gender and nationality differences in training needs, results from a sample of 133 participants indicate differences not only in regard to gender but additionally self-assessment.



<b>Author / Research focus</b>	<b>Key findings</b>
<b>Cope (2003)</b> Conceptual paper	Proposal that discontinuous events have the capacity to stimulate distinctive forms of 'higher-level' learning and exploration of critical reflection.
<b>Cope (2005)</b> Conceptual paper	Proposal of a dynamic entrepreneurial learning perspective of entrepreneurship with three interrelated elements: dynamic temporal phases, interrelated processes and overarching characteristics.
<b>Corbett (2005)</b> Conceptual paper	Application of experiential learning theory to develop the concept of learning asymmetries and illustration of importance of differences in individual learning.
<b>Harrison &amp; Leitch (2005)</b> Conceptual paper	Review of the development of learning in the entrepreneurial context.
<b>Rae (2005)</b> Conceptual paper	Development of conceptual understanding of entrepreneurial learning through thematic discourse analysis based on three narrative life stories of entrepreneurs
<b>Dimov (2007)</b> Conceptual, experimental paper	Experimental exploration with 95 MBA students of individual and situational learning contingencies that drive the opportunity process. Results show that domain-specific knowledge enables action only when there is a person–situation match.
<b>Lévesque et al. (2009)</b> Conceptual paper	Model of entrepreneurial learning and entry timing decision in regard to learning from participation and learning from the experiences of others. Findings suggest that the benefit from delay of an entry decision depends on the hostility of the environment.
<b>Jones et al. (2010)</b> Conceptual paper	Proposal of conceptual model that illustrates the creation of strategic space by owner-managers, the process consistent of the elements human and social capital, absorptive capacity and mediating artefacts.
<b>Sardana &amp; Scott-Kemmis (2010)</b> Empirical research	Empirical research with 32 individuals from biotech start-ups in Australia and India finds that prior experience, the division of labour (in regard to decision-making) and the knowledge characteristics of the venture team effect learning.



Author / Research focus	Key findings
<b>Voudouris et al. (2011)</b> Conceptional paper, empirical research	Examination of entrepreneurial learning in international new high-technology ventures, longitudinal case study research approach shows a continuous learning process made of multiple learning loops, starting at the individual level, affected by the industry, technological and international learning orientations and impacting the discovery of opportunities.
<b>Hislop et al. (2014)</b> Conceptional paper	Proposal of particular features of individual unlearning, differentiating between two types of individual unlearning with own distinctive features and development of a typology of individual unlearning, distinguishing between behavioural and cognitive types of unlearning and catalysts such as individual experience and events of change.
<b>Wang &amp; Chugh (2014)</b> Review of the literature	Systematic analysis of EL literature, discussion of 75 articles on individual and collective learning, exploratory and exploitative learning, and intuitive and sensing learning, as learning types corresponding to three key challenges at the centre of debate in the entrepreneurship literature.
<b>Teece et al. (2016)</b> Conceptional paper	Exploration of managers' calibration mechanisms of organizational agility, with relation to strategy and under consideration of cost-effectivity by application of the dynamic capabilities framework.
<b>An &amp; Carr (2017)</b> Conceptional paper	Proposal of alternative approaches to learning styles, namely individual differences in verbal and visual skills, expertise and domain knowledge, self-regulation and inhibition, and perfectionism.
<b>Cannavacciuolo et al. (2017)</b> Conceptional, experimental paper	Presentation of agent-based model and experimentation with a virtual lab to test relationships between firm behaviour and the emergence of structural properties at the system level, findings suggest that network properties are influenced by the firms' learning strategies and decision-making criteria when choosing partners.



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**Author / Research focus**      **Key findings**

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**Gemmell (2017)**  
Empirical research

Empirical study of learning style preferences of 168 knowledge industry entrepreneurs by application of Kolb's LSI. Results show a significant preference for the active experimentation (AE) and concrete experience (CE) learning modes. The study illustrates the negative effects of the RO learning mode which has previously linked to successful entrepreneurial practice.

**West III & Gemmell (2018)**  
Empirical research

Empirical study of 153 founders, starting their venture with trusted partners. Results suggest that individual learning behaviour affects firm-level learning and indirectly impacts innovation. Higher co-founder trust is positively related to individual and collective exploration/exploitation learning.

**Klammer & Guldenberg (2019)**  
Review of the literature

Systematic literature review on the topic of organizational unlearning based on 63 articles and development of a framework based on the intentionality and depth of knowledge loss.

**Durst et al. (in press)**  
Review of the literature

Systematic literature review on the topic of unlearning based on 72 articles. Findings show research gaps in general issues such as operationalisation, research methodology and level of analysis, hence a number of research questions are proposed.

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## 2.2.2 Entrepreneurship education

Although entrepreneurship education has some roots in the 1970's, until the early 1980's few business schools were teaching entrepreneurship (Katz, 2003). In the 1990's the field began to take off, as the "interest shifted from teaching small business management to the conceptualization and launch of scalable, high-potential ventures predicated on new technologies and innovative business ideas" (Kuratko & Morris, 2018, p. 12). Additionally, the need for a stronger entrepreneurial society has



been placed on the agenda of governments and business in the last decade and programs on how to learn for entrepreneurship in the sense of “entrepreneurship education” are now the bread and butter of leading universities and business schools. However, even though entrepreneurial learning is the aim, or the core concept of entrepreneurship education, there is a paucity in research on what makes or breaks the success of certain programs. Therefore, this section will shortly review recent developments within the field of entrepreneurship education that are relevant for the purpose of this study.

An early work has been contributed by Harrison & Leitch (1994), who recognize parallels between leadership studies and the development of entrepreneurship education and call for an increased attention to team-based approaches and changes in the nature and understanding of the business organization itself. However, the authors rather regard entrepreneurship education as being part of management studies instead of a field in its own rights. Kuratko (2005) acknowledges the major developments in the last decade, however, draws attention that there still “remains the challenge of entrepreneurship’s complete academic legitimacy” (p. 579). He proposes that advance will result from (1) an innovative atmosphere supporting society to grow and expand; (2) educators who can assist new ventures to develop and mature enterprises to maintain an entrepreneurial attitude; and (3) a climate to develop high achievers who will create future innovations.

Shepherd (2004) draws attention to the role of emotion in learning from failure and argues that entrepreneurship educators should take the topic in their pedagogies by adding a focus on how students “feel” rather than “think”. In his paper, the author explores possible ways of educating stu-



Students on how to regulate their emotions as well as possible methods to measure the implications of the suggested changes. Additionally, Kuratko & Morris (2018) suggest that content of entrepreneurship education program should not be limited to business and entrepreneurship basics, but also include the development of an entrepreneurial mindset, including subjects such as optimism, learning from failure, and resilience. As it has been acknowledged by previous research, reflection plays an important role in entrepreneurial learning (Cope & Watts, 2000; Politis, 2005), hence Lundmark, Tayar, Qin, & Bilslund (2019) carried out research regarding links between reflection and entrepreneurial learning in a university setting. Their results show that reflection supports the development of entrepreneurial capabilities and that previous start-up experience and reflection are positively related to perceived behavioural control. Reflection is also one of the objectives of serious games applications in entrepreneurship education. Computer simulations that model entrepreneurship are on the rise, however, as the systematic literature review carried out by Fox, Pittaway, & Uzuegbunam (2018) reveals, in most of the games there is a major deficiency, as failure such as absolute and catastrophic company losses were not allowed. Failure is a critical component of the entrepreneurial learning context (Cope, 2011), thus allowing players to experience failure within safe environments, should be established as an important feature in entrepreneurship education.

The influence of entrepreneurial self-efficacy on entrepreneurial motivation, intention, behaviour and performance has been repeatedly stated in this review. In their systematic literature review on the concept, Newman et al. (2018) draw attention to the growing evidence that entrepreneurial education enhances self-efficacy and provides opportunities for mastery

experiences (i. e. through live case studies), vicarious learning (i. e. through observation of role models), social persuasion (i. e. through mentoring), and judgments of one's own psychological state (i. e. through learning about the lifestyles and coping strategies of entrepreneurs). Also, Ahsan, Zheng, DeNoble, & Musteen (2018) state the positive effects of mentoring on transition from student to entrepreneur, as an effective mentoring relationship appears to enable these entrepreneurs to gain a level of self-efficacy. Gielnik, Uy, Funken, & Bischoff (2017) have put forward a theoretical model to explain short- and long-term effects of entrepreneurship training on entrepreneurial self-efficacy, passion, and business creation. Findings from their empirical research suggest that entrepreneurial self-efficacy is important to maintain high passion after training, high passion again eventually leads to business creation after training. A summary of research on entrepreneurship education relevant for the purpose of this dissertation can be found in table 6.

Table 6 Literature summary on dissertation-specific entrepreneurship education research

<b>Author / Research focus</b>	<b>Key findings</b>
<b>Harrison &amp; Leitch (1994)</b> Conceptional paper	Reconceptualization of entrepreneurship education at the basis for a renewed and refocused approach to management education.
<b>Katz (2003)</b> Discussion paper	Proposal of 100+-item chronology of entrepreneurship education, major findings are that the field has reached maturity in the USA
<b>Shepherd (2004)</b> Conceptional paper	Recommendation of changes to pedagogy to include measures to emotion management and failure learning.
<b>Kuratko (2005)</b> Discussion paper	Summary of trends and challenges of entrepreneurship education in the 21 <sup>st</sup> century.

**Author / Research focus****Key findings****Gielnik et al. (2017)**

Conceptual paper,  
empirical research

Development of theoretical model on entrepreneurial self-efficacy, passion, and business creation, field experiment over 32 months resulting in 784 observations from 227 participants. Findings suggest a dynamic nature of post-training processes and self-efficacy being important for high passion, leading eventually to business creation.

**Ahsan et al. (2018)**

Conceptual paper,  
empirical research

Development of process model on the effects of mentor relationship and student founders affective state on entrepreneurial identity and venture progress. Empirical research by application of qualitative, multi-case study approach with 14 venture teams. Findings suggest improved transition to entrepreneurship due to effective mentoring and positive founder's affect.

**Fox et al. (2018)**

Review of the literature

Review of entrepreneurship education literature in regard to the role of simulations and nature of serious games, a review of 75 articles yielded eight games to be reviewed in detail, one of the findings highlights the neglect of failure as a major learning opportunity.

**Kuratko & Morris (2018)**

Discussion paper

Examination of six major trajectories of research in regard to entrepreneurship and entrepreneurship education, namely (1) purpose of teaching; (2) content of teaching; (3) delivery mechanism of teaching; (4) structure of entrepreneurship programs; (5) teaching outcomes; and (6) program leadership.

**Newman et al. (2018)**

Review of the literature

Systematic review of the literature entrepreneurial self-efficacy, 128 papers, research needs on factors which drive short-term fluctuations and long-term changes, developmental precursors in childhood, adolescence and early adulthood, possible negative effects, collective level of the phenomenon.

**Lundmark et al. (2019)**

Empirical research

Empirical research on reflection and entrepreneurial learning on 125 students, results show that reflection supports development of entrepreneurial capabilities and that previous start-up experience and reflection have a positive impact on perceived behavioural control.

To summarize, entrepreneurial learning in both the entrepreneurial process as well as in the context of training and educating the next generation of entrepreneurs has developed as an area of increasing importance for entrepreneurship research. Although major concepts and frameworks have been introduced over the last decade, many questions still remain unanswered and new questions, such as the value of entrepreneurial behaviour as a strategy for established midsized and large organizations to achieve a competitive advantage (Kuratko & Morris, 2018a) do arise constantly. In their research paper, the authors state “a lack of innovative (or entrepreneurial) actions in today’s global economy could be a recipe for failure” (p. 42), which brings us nicely to the next section of the literature review.

### 2.3 Entrepreneurial Failure

An additional stream of literature that is relevant for this dissertation is about business failure. As there are many different definitions applied by scholars in this field, the choice of how to define the phenomenon has important implications for the research. In general, there is a range from very broad definitions such as discontinuity of ownership in general (also including reasons such as retirement or new business interests) to very narrow definitions such as bankruptcy. Additionally, the effects of business failure can either be looked at from strategy and evolutionary perspectives or from the complementing entrepreneur’s perspective. (Ucbasaran, Shepherd, Lockett, & Lyon, 2013). For the purpose of this PhD dissertation, business failure is defined as “the termination of a business that has fallen short of its goals” (Cope, 2011, p. 605), that is compliant with the perspective on primarily psychological and social costs of failure (Ucbasaran et al., 2013). Also, as the research interest emphasizes



From the entrepreneur's perspective on business failure, the term "entrepreneurial failure" will be applied, which is in line with an interest to take a more integrated view of both success achievement and failure avoidance (McGrath, 1999).

In their systematic literature review, Ucbasaran et al. (2013) review research on what happens after business failure and classify their findings in the categories of financial, social, and psychological costs of failure as well as the interrelations of these costs. Additionally, Kücher & Feldbauer-Durstmüller (2019) argue that in recent years, the consequences of failures for entrepreneurs and perceptions took a dominance in the research, with a focus on (1) costs of failure (Ucbasaran et al., 2013); as well as (2) perceptions and attributions of failure; (3) sense-making of and learning from failure. The authors further discuss two additional consequences of failure, (4) stigmatization and fear of failure, and (5) entrepreneur-friendly policies; the two latter issues both characterized as having a reciprocal effect on entrepreneurial failure. Relevant literature will be discussed in the following sub-sections.

### **2.3.1 Costs of failure**

Costs of failure are typically categorized in financial, social and psychological costs and there are evidently many interrelations between these types of costs (Kücher & Feldbauer-Durstmüller, 2019; Ucbasaran et al., 2013). As recent research often addresses more than one of the cost types (and/or its interrelations) the papers discussed in this sub-section are presented based upon shared concepts and not particularly by differentiation of cost type.

In an earlier work, Shepherd (2003) proposes that a dual process of recovery from grief after entrepreneurial failure, consisting of both loss



orientation and restoration orientation, is likely to allow for a quicker recovery from grief as well as a more efficient processing of information about the failure. With this conception, he draws attention to the fact that negative emotions, such as grief, are rather a mixed blessing and suppression, as in an outright restoration orientation, might be ineffective in the longer term. Additionally to psychological costs such as grief, failure is experienced broadly in the entrepreneurial life across economic, social, and physiological aspects (Singh, Corner, Pavlovich, 2007), and research findings suggest that problem-focused coping occurs mostly in the economic aspect, whereas emotion-focused coping seems to be limited to the physiological aspect. Another important finding here is that coping strategies for almost all costs of failure seem to be available except for grief and frustration. Hsu, Burmeister-Lamp, & Hong (2017) also take an interest in the concept of grief recovery and - drawing on theories of regulatory focus and psychological ownership (PO) - examine the grief levels of failed entrepreneurs. The authors found that individuals with stronger promotive PO felt less grief compared to individuals with higher preventative PO who did experience stronger feelings of grief.

Shepherd, Wiklund, & Haynie (2009) state that although delaying business failure can be financially costly but under some circumstances can help to decrease emotional costs and hence enhance overall recovery. Similarly, emotional and psychological functioning of entrepreneurs after venture failure has been researched by Corner, Singh, & Pavlovich (2017). Their study investigates entrepreneurial resilience in the context of failure, and results show that the majority of entrepreneurs show stable levels of resilient functioning, hence the authors challenge the assumption that recovery is required after venture failure, disagreeing with



i. e. Cope (2011), Mantere et al. (2013), Shepherd (2003), (2009); Shepherd, Wiklund, & Haynie (2009), and Ucbasaran et al. (2013).

### **2.3.2 Perceptions and attributions**

In their bibliometric study of the scientific field of organizational failure, Kücher & Feldbauer-Durstmüller (2019) address the increasing research interest in attributions and perceptions of entrepreneurs facing, experiencing or making sense of failure. One of the most cited work in that regard is Zacharakis, Meyer and DeCastro (1999), who studied entrepreneurial misperceptions and attribution bias that exist when evaluating failure. Findings are that even though entrepreneurs attribute own failure to internal factors mainly, others' failures are seen as manageable factors, a perspective which is also taken by Venture Capitalists. The authors state that such misperceptions may lead to a misapplication of entrepreneurial resources. Similarly, entrepreneurial failure attributions such as Catharsis, Hubris, Zeitgeist, Betrayal, Nemesis, Mechanistic and Fate, can be identified by analysis of narratives. Such failure attributions seem not to confirm attribution theory, as entrepreneurs do take personal responsibility for failure (Mantere et al., 2013).

Additionally, Hayward, Shepherd, & Griffin (2006) draw on hubris theory to explain ongoing new venture creation despite their high failure rates. Hubris is explained as the “dark side” of overconfidence, opposite to overconfidence in general, which may be benefiting for entrepreneurial behaviour. Founders with a high propensity to be overconfident may then deprive their business of resources and endanger success, in the worst case increasing the likelihood of venture failure.

To conclude, entrepreneurial perceptions and attributions are often misinterpretations of the reality and hence the idea that success promotes suc-





cess may at any time turn into the opposite, then resulting in failure (Baumard & Starbuck, 2005). Also, success in terms of “small losses” in regard to short-term improvement and reliability are likely to endanger long-term survival and resilience (Sitkin, 1992).

### 2.3.3 Sense-making

As discussed in the previous section, attributions and perceptions about failure experiences affect the sense-making in the aftermath of failure, learning from failure and, subsequently, further entrepreneurial activity (Kücher & Feldbauer-Durstmüller, 2019; Ucbasaran et al., 2013). Entrepreneurial failure affects not only individuals and organizations, but also the whole society and as such it is important to understand how we make sense of it (Cardon, Stevens, & Potter, 2011). As the sensemaking perspective has been found a way for entrepreneurship scholars to gain a broader knowledge of how business failure is processed and how can it be overcome, research in this field has gained attraction over the last decade (for a detailed review see Walsh & Cunningham, 2016). Literature most relevant for the PhD study is summarized in this sub-section.

Sense-making is defined by Gioia & Chittipeddi (1991) as being an interpretive process of the individual to make meaning of the events they did experience. Primary activities in the sense-making process are scanning (collecting information about the event), interpreting (in the context of frames of references and worldviews) and action, for example through learning from the event (Thomas, Clark, & Gioia, 1993). Sense-making is not only happening at the individual level, research shows that collective sensemaking can moderate the social roles and relationships among team members or other groups of individuals after crises (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005).



Shepherd et al. (2016) show the interrelations between negative emotions, grief and sense-making, stating that on the one hand reduced negative emotions such as grief will moderate the individual's facility to make sense of failure but at the same time the ability of making sense of the event will reduce grief (Shepherd, 2009). Additionally, Shepherd et al. (2016) explain how narratives are applied as part of the sense-making process, aiming to develop plausible stories of the experience that can be applied to control future activities.

The importance of narratives as a strategy to make sense of the event of failure and stress experienced by that event has also been highlighted by Sellerberg & Leppänen (2012). The authors used the extended stories of their participants, with their reflection on new roles detached from their former companies, on their relationships with other individuals from their former networks, and on an uncertain future to develop a typology on how failed entrepreneurs position themselves in relation to the market. Also, narrative sense-making of failure often means that entrepreneurs actively search for benefits from failure as these encouraging experiences support coping and coming to terms with the crisis event (Heinze, 2013).

### **2.3.4 Stigmatization and fear of failure**

Sense-making and attributions of what causes failure also have an effect on stigmatization of failure and therefore are likely to affect entrepreneurial activity (Kücher & Feldbauer-Durstmüller, 2019). Stigmatization should be explained as a process developing over time, rather than a label, already starting before the failure event and hence contributing to demise of the business (Singh et al., 2015).

Stigmatization at the individual level has been researched by Cardon, Stevens, & Potter (2011), who found that failure has a large impact on the

stigmatization of the entrepreneur, as well as on their view of themselves following failure. In a process of stigmatization, members of the society, judge entrepreneurial failure in regard to personal blameworthiness which finally leads to professional devaluation (Wiesenfeld, Wurthmann, & Hambrick, 2008). Additionally, negative reactions due to stigmatization at the organizational level can increase the probability of organizational death (Sutton & Callahan, 1987).

Social stigmatization of entrepreneurial failure is said to be more often experienced in Europe, compared to the United States of America, where it is rather seen as a learning opportunity and important element of the entrepreneurial process (Cope, 2011; Kücher & Feldbauer-Durstmüller, 2019; Landier, 2005). This high level of stigmatization is likely to increase fear of failure (Vaillant & Lafuente, 2007), a concept which has also experienced much attracted attention in research on failure in the last decade ((Kücher & Feldbauer-Durstmüller, 2019). The importance of research on fear of failure as a temporary state that is commonly experienced by many people is also promoted by Cacciotti & Hayton (2015) and further discussed by Cacciotti et al. (2016) who state that the majority of empirical studies of fear in entrepreneurship (37 of 44) does address fear of failure, and hence the authors propose a socially situated conceptualization of fear of failure within entrepreneurship.

The interest in research on stigmatization and fear of failure often occurs in an attempt to increase re-entry decisions, as cultural and societal norms can hamper re-entry and failed entrepreneurs in countries with high stigma levels have a lower likelihood of re-entry (Simmons, Wiklund, & Levie, 2014). Walsh (2017) explores how entrepreneurs do avoid or overcome stigma to re-enter entrepreneurship: by detachment (from the firm),



acknowledgement (of the failure) and deflection (of the stigma). Kollmann, Stöckmann, & Kensbock (2017) propose that fear of failure is a responsive avoidance motive and demonstrate that the perception of obstacles activates fear of failure, a disadvantage for opportunity evaluation and exploitation. A very recent study addresses regional and individual differences in perceived failure intolerance (PFI) as likely reason for fear for failure and stigmatization, results indicate that individuals with “entrepreneurial spirit” are unaffected by PFI (Stout & Annulis, 2019).

The short summary of recently published research on fear of failure shows some interesting results, however, in general, Cacciotti & Hayton (2015) are still correct in their conclusion that the concept of entrepreneurial fear of failure is in need of a theoretical model with different variables such as emotions, cognitions, and environmental factors to increase the scientific development. A summary of landmark articles as well as recent research on entrepreneurial failure can be found in table 7.

Table 7 Literature summary on entrepreneurial failure research

Author / Research focus	Key findings
<b>Sutton &amp; Callahan (1987)</b> Conceptual paper	Institutional bankruptcy policies cause negative reactions and discrediting organizations and entrepreneurs that increase the probability of venture failure. The authors propose a hierarchy of stigma-management strategies able to avert or repair stigmatization.
<b>Gioia &amp; Chittipeddi (1991)</b> Conceptual paper	Conception of “sense-making” and “sense-giving” in regard to strategic change initiation.
<b>Sitkin (1992)</b> Conceptual paper	Proposal of advantages of learning from failure compared to learning from success. Small and relatively harmless failures are rather “intelligent failures”. Additionally, it may be difficult to learn from failures that challenge core beliefs and assumptions.

Author / Research focus	Key findings
<b>Thomas et al. (1993)</b> Empirical research	Proposal of a model on sense-making, a process consisting of scanning, interpretation, and action, activities that are linked to organizational performance.
<b>McGrath (1999)</b> Conceptional paper	Proposal of a balanced perspective on the function of entrepreneurial failure, based on real options theory. A careful analysis of failure can better support the understanding of entrepreneurial value creation (compared to a focus on success).
<b>Zacharakis et al. (1999)</b> Empirical research	Based on qualitative interviews, findings suggest that entrepreneurs are more likely to attribute the causes of venture failure to internal factors, compared to venture capitalists who attributed their failure to external causes.
<b>Shepherd (2003)</b> Conceptional paper	Discussion of role of grief in learning from failure and identification of strategies for grief recovery.
<b>Baumard &amp; Starbuck (2005)</b> Empirical research	Based on 14 case analyses, outcomes of strategic failures are researched. Results show that learning in large organizations is hindered by many factors such as managers' misinterpretation of failure causes.
<b>Landier (2005)</b> Conceptional paper	Presentation of a multiple-equilibrium model of failure stigmatization; in the conservative equilibrium failed entrepreneurs face a high cost of capital and thus good entrepreneurs are reluctant to terminate a project, whereas in the experimental equilibrium good entrepreneurs are more willing to start again and the cost of capital for failed entrepreneurs is low.
<b>Weick et al. (2005)</b> Discussion paper	Discussion of concept of sense-making in the light of gaps in organizational theory.
<b>Hayward et al. (2006)</b> Conceptional paper	Proposal of a hubris theory of entrepreneurship: More confident actors start ventures and act at confidence in their decision-making.
<b>Singh et al. (2007)</b> Empirical research	Based on five qualitative interviews, costs of failure and coping strategies are highlighted. More coping

**Author / Research focus****Key findings**

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	and learning take place in the economic failure consequences compared to the social and psychological failure aspects.
<b>Vaillant &amp; Lafuente (2007)</b> Empirical research	Based on GEM data with a sample of 4,877 cases, the authors highlight the existence of social stigma to entrepreneurial failure as an important constraint for entrepreneurial activity in Spain.
<b>Wiesenfeld et al. (2008)</b> Conceptional paper	Development of process model explaining professional devaluation of individual elites through stigmatization of failure.
<b>Shepherd (2009)</b> Conceptional paper	Development of multi- and meso-level grief recovery theory. Proposal of interaction of grief and emotional intelligence (individual level) and emotional capability (group level).
<b>Shepherd et al. (2009)</b> Conceptional paper	Proposal of anticipatory grief as a mechanism for reduction of grief based on business failure, where a delay of the failure event can support a balance of financial and emotional costs and hence improve recovery.
<b>Cardon et al. (2011)</b> Empirical research	A content analysis of media reports demonstrates regional variation in failure attributed to misfortunes or mistakes made by entrepreneurs.
<b>Cope (2011)</b> Empirical research	Conceptualization of learning from failure based on interpretative phenomenological analysis (IPA) of 8 cases of entrepreneurial failure.
<b>Sellerberg &amp; Leppänen (2012)</b> Empirical research	Presentation of typology of self-positioning of bankrupt entrepreneurs in relation to the market, differentiating between equal or unequal participants and equal of unequal marginalized, either as marginalized persons.
<b>Heinze (2013)</b> Empirical research	Conceptualization of sense-making in the aftermath of failure based on IPA of 6 cases of entrepreneurial failure, differentiating encouraging experiences from dreadful experiences, either transient or long-term.



<b>Author / Research focus</b>	<b>Key findings</b>
<b>Mantere et al. (2013)</b> Empirical research	Analysis of narratives of stakeholders in their psychological processing of business failure, based on 18 interviews and 226 media texts, leading to the proposal of entrepreneurial failure as a complex social construction, consisting of several distinctive failure constructs.
<b>Ucbasaran et al. (2013)</b> Review of the literature	Systematic review of the literature yielded 41 articles and book chapters relevant for the subject of business failure and the failed entrepreneur.
<b>Simmons et al. (2014)</b> Empirical research	Proposal of re-entry modes based on GEM sample of 2,607 failed entrepreneurs. Results show that in countries with high levels of stigma and high regulatory conveyance failed entrepreneurs are less likely to re-enter entrepreneurship.
<b>Cacciotti &amp; Hayton (2015)</b> Review of the literature	Systematic review of the literature on entrepreneurial fear, based on 44 empirical articles highlights the importance of fear of failure, as 37 out of the total addressing the phenomenon.
<b>Singh et al. (2015)</b> Empirical research	Analysis of 12 narratives of failed entrepreneurs, resulting in a process theory of failure stigmatization, starting before the failure event and contributing to venture demise. and transformation of learning from failure to the founding of future ventures.
<b>Cacciotti et al. (2016)</b> Empirical research	Conduction of 65 semi-structured interviews to develop a framework of fear of failure in entrepreneurship.
<b>Shepherd et al. (2016)</b> Monograph	Collection and extension of research on emotions, cognitions and actions in regard to entrepreneurial failure.
<b>Walsh &amp; Cunningham (2016)</b> Monographic review of the literature	Review starting with the emergence of business failure research in the finance literature through to its recent development within the contemporary field entrepreneurship, highlighting the multidisciplinary characteristics of business failure.

**Author / Research focus****Key findings**

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**Hsu et al. (2017)**  
Empirical research

Survey of 150 individuals with business failure experience shows that high levels on promotive psychological ownership reduce feelings of grief, whereas higher preventative psychological ownership experience stronger grief feelings.

**Corner et al. (2017)**  
Empirical research

Narrative analysis of 11 cases of entrepreneurial failure to investigate resilience, findings show that the majority of entrepreneurs do exhibit resilience.

**Kollmann et al. (2017)**  
Empirical research

Three experimental studies with nascent entrepreneurs investigate fear of failure as a responsive avoidance motive. Results show that fear of failure explains the effect of early-phase obstacles on individual entrepreneurial activity.

**Walsh (2017)**  
Empirical research

Study based of semi-structured interviews of fifteen nascent technology entrepreneurs to observe how stigma can be avoided or overcome. Results show three key approaches: detachment (from the firm); acknowledgement (of the failure); and deflection (of the stigma).

**Kücher & Feldbauer-Durstmüller (2019)**  
Bibliometric review of the literature

Based on 181 articles, the authors performed a co-citation analysis and visualized existing sub-clusters of organizational failure research. Citation patterns yield seven sub-clusters that define the intellectual foundation of organizational failure and decline research between 1982 and 2014.

**Stout & Annulis (2019)**  
Empirical research

Applying Delphi technique, a panel of 13 experts found that PFI being a filter to hinder individuals lacking an entrepreneurial mindset to enter entrepreneurship. In some circumstances, communities might act against PFI in order to increase overall entrepreneurial momentum.

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## 2.4 Learning from failure

Learning from failure should be explained as the cognitive capability to identify and exploit new opportunities based on new knowledge gained





by drawing on previous failure experiences (Corbett, 2007). Previous research has suggested that reactions to failure and thus learning from failure will vary substantially (Cardon, Zietsma, Saporito, Matherne, & Davis, 2005; Jenkins et al., 2014; Ucbasaran et al., 2013), and studies are either focused on how failure “can encourage learning because the individual is more likely to conduct a postmortem to understand what led to the failure” (Ucbasaran et al., 2013, p. 183) or on how the entrepreneurs’ interpretation of failure through their sense making of the experience triggers learning (Heinze, 2013). Also, prior work shows that learning from failure is one of the ways “to minimize the downside costs of entrepreneurial action” (Shepherd et al., 2016, p. 273). However, there is still lack of understanding when and why learning is likely to happen and when and why not. Papers discussed in this section of the literature review have in common that they aim to shed light on factors either enhancing or impeding learning from entrepreneurial failure.

Shepherd et al. (2016) published a comprehensive work on the effects of emotions, cognition and actions in regarding to learning from failure. The authors draw attention to the importance of narratives of the failure event, as understanding the failure is a process of emergence and sense-making. Obstacles of learning are manifold, negative emotions such as grief are managed differently, depending on several personal and contextual influences. Based on their research, the authors propose high self-esteem as a likely negative impact on learning, whereas self-passion may help to eliminate defensive mechanism impeding learning.

The following review only discusses more recent research and research highlighting aspects of learning from failure not already covered by the extensive collection and interpretation of research results contributed by Shepherd et al. (2016).



The compensating effects of failure as an important source for entrepreneurial learning and the emergence of emotions that may hinder learning are further researched by He Fang, Solomon, & Krogh (2018). The authors propose an inverted U-shaped relationship between failure velocity and learning behaviours, moderated by emotion regulation. Individual differences in abilities to learn from failure are also addressed by Liu, Li, Hao, & Zhang (2019), who propose that a narcissistic personality can create cognitive and motivational obstacles to learning, the impeding effects especially remarkable with higher social costs of failure.

Although Politis & Gabrielsson (2009) acknowledge the importance of the entrepreneur's perception of a failure event (Shepherd, 2003), they look for a deeper understanding of attitudes towards failure by application of experiential learning theory. The authors identify critical career experiences that positively affect entrepreneurs' attitude towards failure: (1) prior start up experience; and (2) business closure due to poor firm performance. Business closure for personal reasons, on the other hand, seems not have any positive effect on their failure learning. Also, Boso, Adeleye, Donbesuur, & Gyensare (2018) find that failure experience alone does not have a direct effect on new venture performance; it is rather channelled through the entrepreneurs' ability to learn from previous failure experiences.

Recovery and re-emergence from failure is also addressed by Cope (2011), demonstrating in his research that entrepreneurs not only learn about themselves and the loss of their business, but additionally about how relationships and networks affect their sense-making in the aftermath of failure. Such social processes are sought by the failed entrepreneur to repair damage as they may lead to social affirmation and supporting rehabilitation.

Yamakawa & Cardon (2015) examine how failure ascriptions affect perceptions of learning, their findings are consistent with prior work, highlighting greater perceived learning in association with internal unstable failure ascriptions. Similarly, Walsh & Cunningham (2017) examine regenerative entrepreneurs' attributions for business failure. The authors propose four types of failure attributions that are internal individual level; external firm level; external market level; and hybrid attributions. With a primarily attribution to internal factors, the entrepreneurs experience a deep, personal learning about themselves. External attributions trigger a primarily behavioural response where learning is focussed on the business, relationships, and networks. Finally, hybrid attributions trigger largely cognitive responses and learning about management. Additionally, Yamakawa & Cardon (2015) also show that re-entering entrepreneurship more quickly after failure will enhance learning for entrepreneurs with internal unstable ascriptions of failure, which is inconsistent with prior work by Cope (2011) and Shepherd (2009).

Similar to Cope (2011), Wdowiak et al. (2017) researched the learning perspective of venture failure by application of a phenomenological procedure based upon qualitative content analysis. Their results in regard to the dynamic nature of the learning experiences agree with prior work (Cope, 2011; Ucbasaran et al., 2013). Additionally, major findings in the fields of management are perceived learning of product development, securing of start-up capital and strategic management, including the importance of an exit strategy. On the other hand, learnings in the social field relate to a new preference for trustworthy partners.

Stambaugh & Mitchell (2018) take a different angle to research learning from failure by exploring the significance of learning before the event of



failure. The authors propose that the creation of entrepreneurial expertise is related to the intensity of the endeavour of failure avoidance, and the clarity and rapidity of feedback received in that process.

As shown in this discussion, learning is a central entrepreneurial capacity, allowing to bounce back from failure, but there is significant heterogeneity in learning among entrepreneurs. Table 8 provides a short overview of the recent research in chronological order.

Table 8 Literature summary on research regarding learning from failure

Author / Research focus	Key findings
<b>Politis &amp; Gabrielsson (2009)</b> Empirical research	Statistical results show a strong relationship between previous start up experience and positive failure attitudes, as well as between business closure and positive failure attitudes. Additionally, business closure due to poor performance is important for learning, different from closure due to personal reasons.
<b>Shepherd (2009)</b> Conceptual paper	Proposal of a model on grief recovery time from the loss of a family business with both multi- and meso-level aspects. On the multi-level, the model suggests how micro theories of grief and sense-making can explain grief recovery time at the family group level. On the meso-level, grief dynamics that interact through emotional intelligence and emotional capability are explained by the model.
<b>Cope (2011)</b> Empirical research	Conceptualization of learning from failure based on interpretative phenomenological analysis (IPA) of 8 cases of entrepreneurial failure. Proposal of recovery from failure as a function of distinctive learning processes promoting higher-level learning. Results show that entrepreneurs learn about themselves, the failure, and social relations.



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Author / Research focus	Key findings
<b>Yamakawa &amp; Cardon (2015)</b> Empirical research	Examination of failure ascriptions and their impact on perceptions of learning, findings show that internal unstable failure ascriptions are associated with higher learning perception, and that quick re-entry after failure increases perceived learning in case of internal unstable ascriptions.
<b>Shepherd et al. (2016)</b> Monograph	Collection and extension of research on emotions, cognitions and actions in regard to entrepreneurial failure.
<b>Walsh &amp; Cunningham (2017)</b> Empirical research	Qualitative study of regenerative entrepreneurs' failure attributions yields four types: internal individual level; external firm level; external market level; and hybrid attributions. Results show that a primarily internal attribution leads to deep, personal learning, whereas external attributions result in learning focussed on the venture and relationships. Hybrid attributions lead to cognitive responses and learning about management.
<b>Wdowiak et al. (2017)</b> Empirical research	Qualitative semi-structured interviews examine the life experience of failed entrepreneurs and their learning from venture failure by application of a phenomenological approach. Results show that learning focusses the fields of management and social relations.
<b>Boso et al. (2018)</b> Empirical research	Statistical examination based on a longitudinal data set shows that failure experience only influences new venture performance when it is channelled through entrepreneurial learning.
<b>He Fang et al. (2018)</b> Empirical research	Development of a model based on failure velocity and learning behaviour, with emotion regulation as a moderator of this relationship. Results show that when failure velocity rises beyond an inflection point, learning behaviours are more positive for entrepreneurs with higher emotion regulation.

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**Author / Research focus**      **Key findings**

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**Stambaugh & Mitchell (2018)**

Conceptual paper

Proposal of a model on entrepreneurial expertise, suggestion that the effort spend to avoid entrepreneurial failure, the duration and content required in that fight, as well as feedback received, will influence the creation of entrepreneurial expertise.

**Liu et al. (2019)**

Empirical research

Statistical examination on the negative impact of narcissism on learning from entrepreneurial failure. Findings indicate cognitive and motivational obstacles to learning in narcissistic personalities of entrepreneurs, especially when the social costs of failure are higher.

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## 2.5 Summary of the literature review

In the various studies reviewed above, different research methodologies were applied and different results and interpretations were drawn. All in all, the literature review has revealed that traditional theories of entrepreneurship are at their limits and the territory has to be newly delineated. So, a need to redefine entrepreneurship as a method of human problem solving is addressed by Wiklund et al. (2011) and Sarasvathy & Venkataraman (2011). A general call for a more interactive, activity-driven, cognitive, compassionate and prosocial research on entrepreneurship was put forward by Shepherd (2015). The question of what is still to be researched about entrepreneurial motivation has been raised by Carsrud & Brännback (2011), who formulate a series of 13 questions, three of them are addressing motivations leading to avoid failure.

Shepherd & Patzelt (2017) state that although it is important to further explore uni-directional causal relationships, research has to be progressed to multiple causal relationships of the causes and consequences of failure. Ucbasaran et al. (2013) take a similar stance by requesting more research



at the intersection of the different categories of business failure costs, and state that such research studies will require multidisciplinary and/or multi-level theory development as well as empirical testing. Additionally, Davidsson (2016) draws attention to the fact that failure of a new venture (the individual or firm level) could have positive effects on the economy at large (the macro level perspective), as involved parties will learn and in future are likely find better solutions that are only possible because of the initial “failure” (p. 12).

Furthermore, it is also clearly visible that only little is known about learning strategies of German entrepreneurs in the aftermath of failure experiences. In particular, it is not clear which methods and procedures are applied to ensure learning, to what extent unlearning is actively applied or whether any connection with behavioural or social styles is existent. Hence, additional research to examine relationships between cultural perceptions of failure, individual failure attributions, and subsequent behaviour seems to be needed (Cardon et al., 2011).

The present literature review was conducted with two purposes: firstly, to gain an insight into entrepreneurship in general, and entrepreneurial failure and learning from failure in particular; and secondly, to provide a valid basis for selecting the pertinent questions of entrepreneurial learning after failure for the present inquiry. The literature review revealed that learning from failure is a dynamic process that comprises learning about oneself, learning about the business, and learning about social relationships. Emotions, cognition, attitudes and attributions are essential factors that can either strengthen or impede learning from failure. However, many open questions still exist. For example, there is an acknowledged importance “to study the other side of the same coin - failure to progress

On an important entrepreneurial task - for instance, by exploring the inter-relationship between negative emotions and attentional scope, creativity, and social resources” (Shepherd, 2015, p. 497).

A research framework (see figure 6) that was developed on the basis of the literature review will form the foundation for the upcoming data collection and analysis. Through focusing on achieving the five research objectives explained in chapter 1.3, it is possible to answer the general research question “Which strategies do entrepreneurs apply to learn from their failure experiences and are these strategies related to their personal behavioural style?”

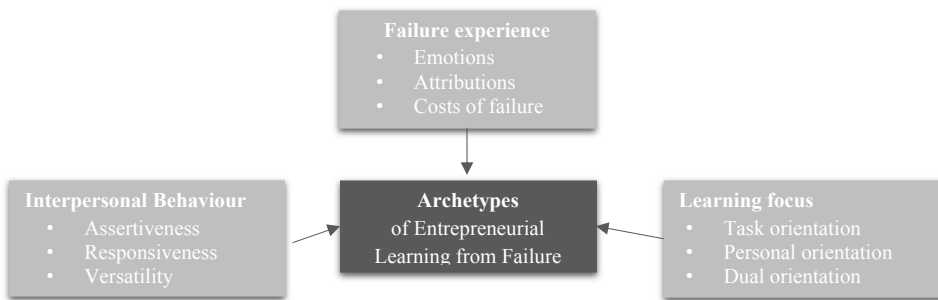


Figure 6 Research framework for entrepreneurial learning after failure

Although over the last decade, research interest in factors that will affect learning in the aftermath of entrepreneurial failure and entrepreneurial learning strategies has gathered momentum, no study is known that focuses on the existence of archetypes of failure learning based on interpersonal or social styles, learning preferences and the individual sense-making of the failure experience – no matter if it is in the German or international entrepreneurship context. The main aim of the present dissertation is to fill this gap. In regard to practical implications, the literature review has additionally shown, that learning from failure is an un-



derrepresented content in entrepreneurial education (Fox et al., 2018, Kuratko & Morris, 2018b). The following chapter 3 presents the underlying research methodology before chapters 4 and 5 analyse, interpret and discuss the research findings.



### 3 Methodology

This chapter explains and reflects upon the research strategy and design of this dissertation to investigate the research objectives. The motives and justification for the research design are considered in a holistic manner which involves the underlying philosophy as well as the description of the methods. Therefore, the chapter starts in section 3.1 with the description of the underlying research paradigm and will be followed in section 3.2 by a short presentation of the research objectives. Section 3.3 introduces the strategy of the research, including the research methods, preparation of the data collection and sampling strategies, as well as the analysis process.

#### 3.1 Research paradigm

According to Saunders, Lewis, & Thornill (2009), research paradigms can be defined “as the basic belief system or world view that guides the investigation” (p. 106) , and are characterized through their ontology (the researcher’s view of the form and nature of reality), epistemology (the researcher’s view in regard of what constitutes acceptable knowledge) and methodology (the researcher’s strategy on how to find it out). Table 9 presents the four common philosophies in management research.

Table 9 Comparison of management research philosophies

	Positivism	Realism	Interpretivism	Pragmatism
Ontology	external, objective and independent of social actors	objective, independent of human belief or knowledge of their existence	socially constructed, subjective, may change, multiple views	external, multiple, determinant of adopted views is the research question



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	Positivism	Realism	Interpretivism	Pragmatism
Epistemology	only observable phenomena can provide credible data, focus on causality and law	observable phenomena provide credible data, focus on explanation within a context	subjective meanings and social phenomena, focus on situation	both observable phenomena and subjective meanings can provide credible data, focus on practical applied research
Methodology	large samples, highly structured, quantitative	quantitative or qualitative, methods must fit the subject matter	small samples, in-depth investigations, qualitative	mixed or multiple method designs, quantitative and qualitative

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Source: adapted from Saunders et al., 2009, p. 119

According to Anderson & Starnawska (2008), the dominant paradigm of entrepreneurship research is positivism, a paradigm that on the one hand has been able to produce robust knowledge, on the other hand it rather creates a one-dimensional view and much of the idiosyncrasy is lost. Hence, the authors call for a complementary, interpretative approach that is capable of “presenting the big picture, the framework into which the pieces of the jigsaw fit” (p. 228). As highlighted before, the dissertation project intends to investigate the process of sense-making in the aftermath of entrepreneurial failure as well as to increase our understanding on how and what individual entrepreneurs will learn from the failure event in regard to possible personal pattern of learning strategies. Hence, the research focusses on qualitative as well as quantitative aspects and addresses both observable phenomena and subjective meanings. To achieve the research aim and objectives, a research paradigm that mitigates the constraints imposed by the forced choice dichotomy between an interpretivism and a realism paradigm and which is open to a problem-oriented approach would suit best. Therefore, an epistemology was chosen that



allows the researcher to look at phenomena from different perspectives and to provide an enriched understanding (Morgan, 2007). Pragmatism as a research paradigm offers to use a method that allows to adequately answer the research questions and to be flexible in investigative techniques as they attempt to address a range of research questions (Saunders et al., 2009; Feilzer, 2010). Knowledge of objectives or institutions within the pragmatism research paradigm arise in the practical relationship that the researcher has to these objects (Bryman & Bell, 2007). As shown in the following sections, this research uses a mixed method approach to conduct the research. It first puts the data derived through different methods alongside each other and discuss findings separately. The final step of analysis, however, aims to coalesce findings into a framework of failure learning archetypes. This would be a major advantage of the study, because - as stated by Feilzer (2010) - “most empirical mixed methods research has not been able to transcend the forced dichotomy of quantitative and qualitative data and methods” (p.9) and studies are still presented as “totally and largely independent of each other“ (Bryman, 2007, p. 8).

### **3.2 Research objectives**

In the following, the underlying research objectives and expectations will be presented. According to Popper (2002), all worthwhile research starts with problems followed by theories (proposed solutions), and criticism. This can be achieved by application of either a deductive or inductive procedure. Taking a deductive approach means to first develop a theoretical or conceptual framework, that is subsequently tested by application of research data. For the inductive approach, data is collected and explored to develop theories from them. In that case, although the research still has a clearly defined purpose with a research question and research objec-



tives, no predetermined theories or conceptual frameworks are applied and hence no hypotheses or propositions are formulated in advance. As the overall aim of this inquiry is to develop an understanding of learning strategies applied by entrepreneurs after crucial failure experiences and whether these strategies are related to their personal behavioural style, an inductive approach has been applied for this study. As already discussed in chapter 1.3, the five research objectives of the study are:

- (1) To identify narratives told by failed entrepreneurs to make sense of the failure experience;
- (2) To understand the role of learning strategies for the sense-making process;
- (3) To discover unlearning strategies applied to overcome unsuccessful behaviour;
- (4) To develop a typology of failure learning strategies and
- (5) To discover relationships between failure learning strategies and social styles.

The scope and generalisability of the research objectives are not only limited to analytic methods but additionally include statistical methods as will be presented in the next chapter in more detail. The research questions are process-orientated and first investigate how something happens before raising the question of what happens. Research questions were subject to constant reflection and adaption, for example through pilot interviews and discussions with expert colleagues from the fields of entrepreneurship, psychology and entrepreneurship education.



### 3.3 Research strategy

As introduced in the previous section, this dissertation uses both qualitative and quantitative methods and aims to bring quantitative and qualitative findings together in the true sense of a mixed methods approach. Such an approach “has the potential to offer insights that could not otherwise be gleaned” (Bryman, 2007, p. 9). In regard to the research question, the findings may suggest interesting contrasts between the narratives and the statistical observations of the cases of failure learning or help to clarify each other. To achieve this and avoid barriers addressed by Bryman (2007) and Feilzer (2010), the study has been designed from the very first beginning in a way to recognize implications of the different rhythms of quantitative and qualitative investigations. This is substantiated by the fact that – according to Ucbasaran et al. (2013) – promising research on entrepreneurial learning from failure will require multidisciplinary or multilevel theorizing as well as empirical testing. Such a complex matter, again, requests a certain research philosophy such as pragmatism (see section 3.1) and a multi or mixed method study outline is recommended by Saunders et al. (2009). Najmaei (2016) argues that entrepreneurship research often is not able to capture the essence of its complexity and that mixed methods designs based on the pragmatic paradigm are better suited than mono-method designs to explain complex phenomena in entrepreneurship. Another rationale for the application of a mixed method approach is the aim of triangulation, a process to use several methods or sources of data to double-check or confirm observations and to enhance the validity of the research findings (Bryman & Bell, 2007; Stokes, 2011). The following sections of this chapter are respectively organized in order to first highlight the methods applied under the umbrella of “mixed methods approach” in their own right and finally show how these methods are

“genuinely integrated” and hence mutually illuminating the research topic (Bryman, 2007).

### 3.3.1 Research methods

The rationale for the application of a mixed methods approach was outlined in the previous section, in the following all three methods are discussed in the order of their application. Figure 7 provides an overview of the research approach and highlights the interplay of the applied methods.

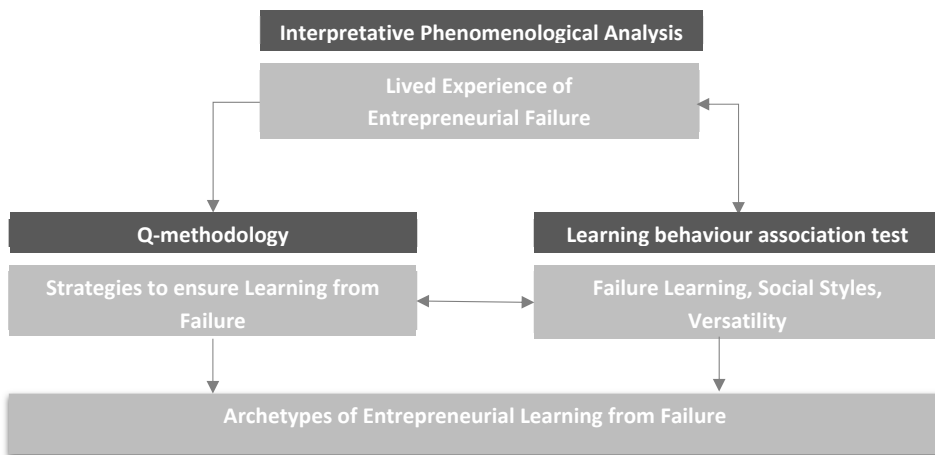


Figure 7 Mixed method research framework

The starting point is the study of the lived experience of entrepreneurial failure. To pay attention to the social embeddedness (expressed in the PhD study by the social style) of the individual failure experiences, a method that allows the researcher to take a more active role in studying the entrepreneurial practice a method seems to suit best for that purpose. In-depth, semi-structured interviews help the researcher to investigate the phenomenon through co-constructed narratives developed by the researcher and their inter-subjects (Drakopoulou Dodd, Pret, & Shaw, 2016). Data yielded in this first study will be analysed by application of



an interpretative phenomenological approach (see sub-section 3.3.1.1) and learning-specific information will be used to develop the course for the second study, where Q-methodology, a hybrid research technique, has been applied to understand strategies to learn from failure (see sub-section 3.3.1.2). Additionally, all participants in the first and second study have been asked to take part in an online assessment aiming to collect data for the third study, a quantitative test to discover associations between personal behaviour styles and learning strategies (see sub-section 3.3.1.3).

### ***3.3.1.1 Interpretative Phenomenological Analysis***

Over the past decade several academic entrepreneurship journals have dedicated special issues to the area of qualitative entrepreneurial research. However, in entrepreneurial and organisational research are still an overwhelming majority of quantitative studies that are being published. Often quantitative research is easily accepted as the standard, agreeing that a finding is a fact, rather than an opinion (Gartner & Birley, 2002). However, entrepreneurship research addresses individual persons with certain interesting attitudes or behaviours that sometimes makes them to “outliers” in the community (Gartner & Birley, 2002). Therefore, just adding up numbers or calculating mean values does not seem to meet the demands of research with regard to the entrepreneurs’ lived experience. Scholars such as Anderson & Starnawska (2008), Berglund (2007), Cope (2005), and Seymour (2007) urge researchers to use interpretative approaches and philosophical phenomenology and phenomenologically inspired methodologies to join “the myriad dots that comprise entrepreneurship” (Anderson & Starnawska, 2008, p. 228). Leitch et al. (2010) show that interpretivist entrepreneurship research can make a contribution to





the development of the field by establishing quality through the ethical and substantive validation of the design and execution of the research. A study design aiming to capture attitudes towards risk in an entrepreneurial environment has been proposed by Heinze (2018).

The aim of the research was to take a phenomenological hermeneutical view of the lived experience of failure. Lindseth & Norberg (2004) illustrate how the comprehensive understanding of the lived experience reveals new possibilities for being in the world. The research seeks to provide an insight into the process of sense-making after the experience of failure, taking into consideration impact from the social environment from the entrepreneur's perspective. The study was carried out based on the principles of Interpretative Phenomenological Analysis (IPA) developed by Jonathan Smith and colleagues (Smith, Flowers, & Larkin, 2009). IPA was chosen as it allows the researcher to move beyond the text and to interpret the experience through insights derived from the researcher's own experience (Harper & In, 2011). An IPA approach allows the researcher to examine how people experience and explain major events in their life (Smith et al, 2009). The authors call these occurrences a person's "lived experience". IPA is rooted in three fields that build the pillars of the method: phenomenological psychology, hermeneutics and idiography.

Phenomenology aims to study human experience and the way in which human beings perceive things as they come into consciousness (Langdrige, 2007). Phenomenology was developed as a branch of philosophy by Edmund Husserl and later influenced by Martin Heidegger who gave a central focus on understanding existence. Further important contributors were Jean-Paul Satre, Simone de Beauvoir and Maurice Mer-



Leau-Ponty (Langdridge, 2007). Three concepts are required to accomplish the aim to identify the “essence of phenomena”, the underlying structures of the thing in its appearance to perception: 1. Intentionality; 2. Noema and Noesis; and 3. Epoché. Intentionality refers to the consideration that whenever a human being is conscious, one is always conscious of something. On that account the focus of our awareness is turned out on the world. Langdridge (2007) states that, as a consequence of intentionality, there is a move away from differencing between subjects and objects and instead focussing on what is experienced and the way it is experienced. This move brings us to the concept of noema (what is experienced) and noesis (the way it is experienced). Langdridge (2007) offers a quite understandable example about an imagination of a future success that builds the base for my own example: When imaging getting my doctorate (what is experienced), then I visually imagine also the settings of the graduation ceremony (my clothing, my family, my feelings, the speeches) as the way how getting the doctorate will be experienced. The third concept Epoché (which is often referred to as bracketing) raises the necessary attempt to avoid presuppositions and “see the things in their appearing” (Langdridge, 2007). The latest concept is most debated; some scholars argue that it is not possible to bracket off assumptions about experiences (Langdridge, 2007). These ideas of phenomenology as a philosophical concept are applied by psychologists to establish the branch of phenomenological psychology that focuses on human experience and involves the psychologist to engaging in people’s “lived experience”.

That leads to the second pillar of IPA: hermeneutics, the theory of interpretation. Heidegger was the scholar who expressed the case for hermeneutic phenomenology. Following his ideas, IPA examines how a phenomenon emerges and brings the analyst in to facilitate and explain this

appearance (Smith et al., 2009). Drawing on Huxley's citation from the beginning, the researcher interprets the game by observing the chess player's behaviour and under consideration of existing rules (knowledge and experiences). The third pillar of IPA is idiography, the concern with the particular. As Smith et al. (2009) state, IPA is committed to the particular in two ways: 1. in the sense of detail and depth of analysis and 2. in analysing how a particular event has been perceived by particular people in a particular context. The idiographic approach leads to an increase in the esteem of single case studies as methods for qualitative research.

IPA has only recently developed and is still a nascent method in entrepreneurial research, however, the rigor of the method (Smith, 2011) and the meaningful and broadly accepted findings of some the entrepreneurial studies published so far (see for example Cope, 2011) give room to conduct a detailed examination of the lived experience of entrepreneurial failure by application of the method.

### ***3.3.1.2 Q-methodology***

The data from the first study has been analysed by application of IPA. As learning from failure is one of the prevalent themes in the entrepreneurs' failure sense-making (see also Cope, 2011; Heinze, 2013; Shepherd et al., 2016; Ucbasaran et al., 2013), the IPA study yielded rich data for the second study introduced in this sub-section. To develop a scientific framework to bear on the elusiveness of the subjectivity of individual experiences of the failed entrepreneurs, a certain diversity in perspective and approach is required and there is a call for a novel hybrid methodology in order to shed light on concealed pattern within the subjective experiences of individuals (Blackburn & Kovalainen, 2009; Shepherd, 2015). Due to the historically developed dichotomy of qualitative and quantitative



methods a “dual-class society” still exists in entrepreneurial research (Chlosta, 2016, p. 111) and there is some acknowledgement in the research community of the need of both qualitative and quantitative methods individually and in combination in the course of a single study (i. e. Berger & Kuckertz, 2016; Kuckertz & Prochotta, 2018). Q methodology, which is both a technique and a methodology was developed by Stephenson (1935, 1953), seems to be promising in that regard. The aim of the technique is to provide a tool to systematically study subjectivity and to analyse diverse attitudes, perspectives and experiences. By application of a qualitative sorting technique, unstructured data can be categorized and statistically analysed. Despite Stephenson’s introduction of the method about 60 years ago, the method has only recently started to raise attention in the research community. Some good examples for the field of psychology are Bolinger & Brown (2015), Goodyear, Lichtenberg, Tracey, Claiborn, & Wampold (2005), and Nilsson (2018), for entrepreneurship research Babcock-Lumish (2005), Gruenhagen & Davidsson (2018) and Valliere (2019), and for education Sinclair (2019).

The typical benefits of Q methodology include insight into the perceptions and sensemaking of individuals at a level where broad social forces are enacted within individual agency. Explicitly, the goal of this Q study is to create opinion groups based on participants’ evaluation of meaningfulness and significance of different failure learning strategies and learning outcomes. For that purpose, Q provides a more systematic approach and higher methodological transparency than purely qualitative methods. However, the focus still is on quality of insight, not quantity and therefore, small diverse samples are used. As Brown (1980) presumes, distinct viewpoints on any topic are limited and therefore, any set of statements clearly reflecting a broad heterogeneous range of opinions, and manifest-



ed by diverse participants, will reveal the existence of groups with similar viewpoints. Q-sort procedures are particularly well suited for inductively deriving categories from individual responses to build theory (Kerlinger, 1964).

### ***3.3.1.3 Failure learning association tests***

Failure learning can be seen as a niche of individual behaviour that is also rooted in human traits, a field of vast interest for research for about a century. In 1921, the publication of Frank Knight's book "Risk, Uncertainty and Profit" has been a starting point into research on the personalities of entrepreneurs to shed light on traits that set them apart from employed managers. That was followed by research on traits that prompt people to start and grow their own business (Kerr et al., 2018). However, the personality approach to entrepreneurship has been much criticized in the entrepreneurship literature, as personality traits cannot be strongly enough related to entrepreneurship (Aldrich & Widenmayer, 1993; Gartner, 1988; Low & MacMillan, 1988). Although there is agreement that certain traits are significant for entrepreneurial performance (see for example Leutner et al., 2014; Rauch & Frese, 2000), a behavioural approach seems to be more promising for the purpose of this study, as it would be interesting to observe likely associations between the failure learning model resulting from the Q-methodology study and existing behavioural models. Common inventories on personal behaviour are the Myers-Briggs Type Indicator (MBTI), the DiSC Personal Profile System and the Social Style Model. The latter has been applied for the research as this inventory does not only offer the benefit of an additional peer evaluation, but also includes an assessment of versatility, a concept that expresses how skilled people are to adequately managing their behavioural preferences. Furthermore,



According to Kraiger & Kirkpatrick (2010), who did an empirical evaluation of all three inventories, the Social Styles model has shown advantages for participants in both measures training and behaviour.

The Social Styles model defines behaviour as an observable result of personality consisting of traits, values, beliefs, motivations and measures. Personality attributes are rooted in genes and early life experiences, the environment and difficult to change in adulthood. As behaviour is directed by personality, individuals tend to develop behavioural patterns based on their effectiveness and comfortability to get the desired responses (Myers & Pfaffhausen, 2016). In that sense, the Social Styles inventory is based on two continuous scales and measures observable behaviour in four dimensions.

The horizontal scale is called assertiveness, which is defined as the way individuals attempt to influence others, moving from “ask assertive” to “tell assertive” behaviour. People with ask assertive behaviour tend to use indirect methods of influencing more often, whereas people that are more tell assertive likely to prefer direct methods of influence. The vertical scale is labelled responsiveness and is defined as the way a person shows feelings and emotions in their social interactions. Task-directed people tend to primarily focus more on the task at hand and control their emotions, whereas a people-directed person primarily focuses on relationships that affect the task and prefers to show emotions (Leimbach & Bailey, 2017; Myers & Pfaffhausen, 2016). Figure 8 shows an overview of the model.

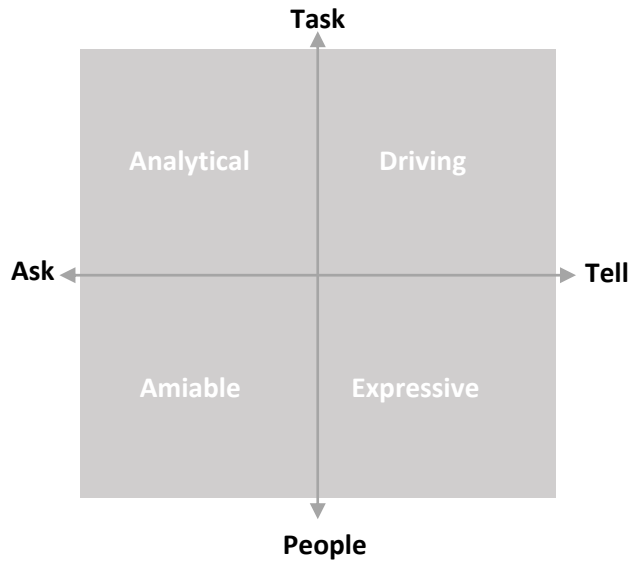


Figure 8 Scales and dimensions of the Social Style model

Source: own illustration, adapted from Myers & Pfaffhausen (2016, p. 28)

The third component of the Social Styles model is versatility, which is defined as a person's ability to manage their behaviour in an attempt to meet concerns and expectations in their social interactions with other people. Versatility is measured separately from Social Styles and it is described as a social skill that is likely to change over time and dependent from environmental circumstances and that can be developed to improve the quality of social interactions in general and leadership success in particular. The concept of versatility is designed as an instrument "putting EQ to work" (Tracom, 2014, p. 6). Like Emotional Quotient (EQ), a synonym for Emotional Intelligence (EI), the model has several sub-components and it focusses especially on aspects of EQ that are relevant for workplace situations (Tracom, 2014). A study by researchers at Colorado State University compared Versatility with two different measures of EQ, Self-Report Emotional Intelligence Questionnaire (SREI) and Trait Emotional Intelligence Questionnaire (TEIQue) and found significant



Correlations: 0.88 with TEIQue and 0.78 with SREI (Tracom, 2014). Therefore, by application of the Social Styles Inventory, the study may yield important findings on whether failure learning behaviour is related to participant's general personal behavioural pattern and / or versatility as an expression of emotional intelligence.

### 3.3.2 Ensuring Data Quality

Data quality is an integral issue in qualitative research. Within the interview method, data quality is especially related to validity and reliability (Yin, 2008). Even though the term *validity* is often replaced in qualitative research by the term *trustworthiness*, given the association with the quantitative conceptualisation of the research process (Baxter & Jack, 2008; Leitch, Hill, & Harrison, 2009; Onwuegbuzie & Johnson, 2006), the term *validity* will still be used in this study. However, qualitative research will not be able to be used to make statistical generalisations about the entire population (in the case of the dissertation project failed entrepreneurs) where this is based on a small and unrepresentative number of cases (Saunders et al., 2009).

#### 3.3.2.1 Validity

An interview-based research complies with this criterion when the methods used are suitable for the aim of the research and allows answering properly the research questions. It has to be ensured that the factual investigation complies with the objectives of the research (Yin, 2008). Several strategies can be used to enhance construct validity of a research project. The researcher should submit interview content protocols as well as calculated ratios and interpretations of those to the interview participants for a formal sign-off (Schmittat, 2007). For IPA research, four principles to ensure quality and validity, originally are suggested: (1) sensitivity to



context, (2) commitment and rigour, (3) transparency and coherence and, lastly, (4) impact and importance of the study itself (Smith et al., 2009; Yardley, 2008). For the PhD study, these principles have been wholly adapted by (1) the way how research participants have been approached, (2) attentiveness to the participants during data collection, the careful analysis of each single narrative recorded, transcribed and translated in the process, (3) the information about participant selection, construction of the interview schedule and steps of analysis provided in the write-up of the study, and (4) the aspiration to enhance our knowledge in regard to failure learning strategies and likely relationships with personal behaviour styles and emotional intelligence.

### **3.3.2.2 Reliability**

Reliability within qualitative research means that other researchers would come to the same results by interpreting the data or that the re-investigation of the cases would lead to the same results (Easterby-Smith, Thorpe, & Jackson, 2015). Yin (2008) introduces three principles to ensure reliability: (1) the usage of multiple sources of evidence, (2) the documentation and organisation of the collected data and (3) to maintain a chain of evidence. The first principle has been followed in this study by the combination of semi-structured interviews, and an extensive document and information analysis. The second and third principles are very similar to Yardley (2008) and are followed in ways described above. Furthermore, Aguinis & Solarino (2019) recommend 12 criteria to enhance transparency and ensure replicability in qualitative research designs. These criteria (see appendix 2) are additionally followed for this PhD study.

For the application of Q-methodology, validity and reliability are demonstrated by asking the study's participants to sort a set of statements all



from the same viewpoint, primed by the researcher (Simon Watts & Stenner, 2012). For the purpose of the PhD study, the primed viewpoint has been formulated as follows: “Learning in the aftermath of failure means, that ...”.

The Social Styles Model has been statistically tested for its reliability and validity and results show reliability coefficients on all scales between 0.77 and 0.95, more details are to be found in the Social Style & Versatility Technical Report (Mulqueen, 2012). Furthermore, as the Social Styles inventory offers third party assessments, several problems of self-reports (Podsakoff & Organ, 1986) are largely avoided in this study.

Lastly, for the complete study, as the rationale of the application of a mixed method design is triangulation (see section 3.3), the elements of investigation or sub-methods further enhance validity (Miles et al., 2013). Whereas outcomes from different elements of investigation converge towards a result, the importance and validity of such result has to be higher valued.

### **3.3.3 Data collection and sampling strategy**

The focus of data collection for the whole study is mainly on primary data. In the case of the IPA study, secondary data such as media reports about the failure events have been additionally analysed, when available.

Concerning the time frame of data collection, in general, longitudinal and cross-sectional inquiries can be distinguished. Longitudinal studies are executed over long time periods in order to collect data on a continuous basis and to inquire changing patterns, whereas cross-sectional studies are characterized by several samples taken in snapshot mode (Saunders et al., 2009). As the present inquiry requires a wider range of samples and a higher depth of research for the explorative mission, this study is better exam-



ined with a cross-sectional approach. In the following, data collection and sampling strategies are explained for each of the methods applied in detail.

### ***3.3.3.1 Interpretative Phenomenological Analysis***

“Understanding experience is the very bread and butter of psychology” state Reid, Flowers and Larkin (2005, p. 20) and explain in which ways IPA provides the opportunity to learn from the perception of true experts: the research participants who were chosen because of their lived experience. For this study, all participants have to fall under the definition of “elite informants”, illustrated by Aguinis & Solarino (2019) as “key decision makers who have extensive and exclusive information and the ability to influence important firm outcomes” (p. 3), in this case in regard to venture failure experience.

One of the critical factors in any IPA study lies in selecting the sample of participants. Smith et al. (2009) recommend small sample sizes, which usually consists of 4 to 10 interviews. They discuss that higher numbers are not a characteristic of better work, as “successful analysis requires time, reflection and dialogue” (p. 52). Furthermore, the authors recommend to find a homogeneous group and acknowledge that this will usually be partly a practical problem. According to Smith (2011b), the credibility and strength of IPA sample selection rests on theoretical generalisability. Cope (2011) states that an IPA researcher has to be pragmatic in choosing the sample, especially in cases with venture failure, as such research utilizes extraordinarily difficult-to-obtain data. However, as the sample has to be consistent with the qualitative paradigm of the research, a purposive sampling strategy has to be applied. For that, Smith et al. (2009) suggest different ways to contact potential participants, via own contacts, referrals from various gatekeepers or snowballing. All of these strategies have been applied for the

purpose of this study, the targeted address took part in August and September 2018. Out of 59 targeted contacts, in total 15 entrepreneurs with the lived experience of business failure have agreed to take part in the study. All of these entrepreneurs have been firstly contacted by phone or e-mail to arrange a first short interview, solving general questions about their business, their failure experience and their interest in the study. Thereafter, individual arrangements for the second, semi-structured in-depth interview have been met. All interviews took part between end of September and mid of December 2018. Figure 9 provides an overview of the data collection and sampling strategies.

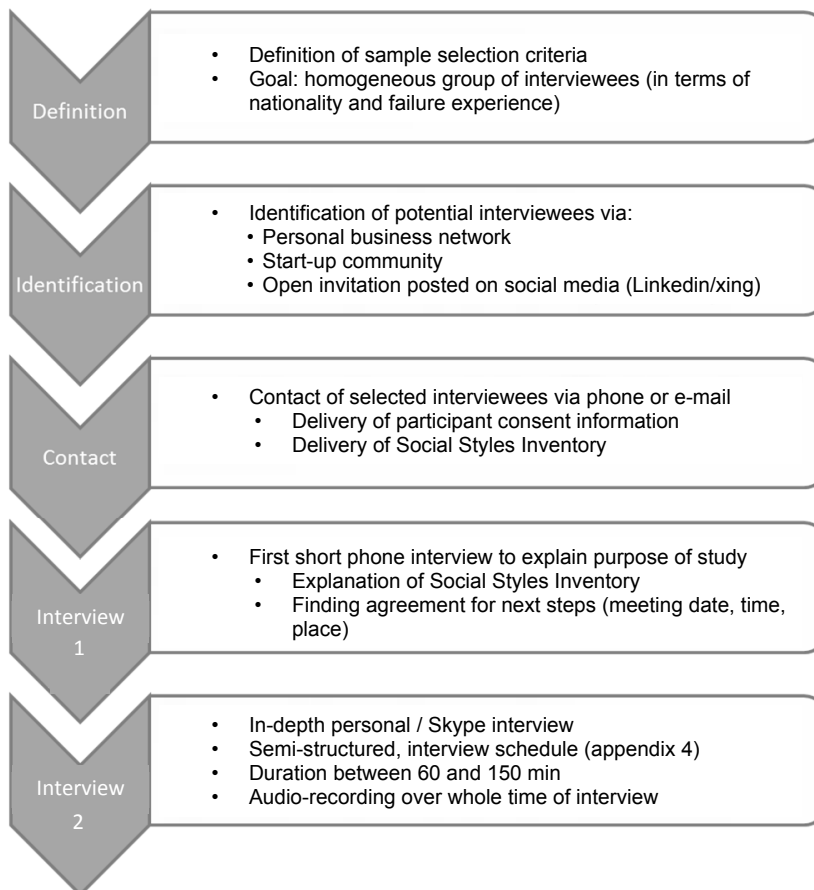


Figure 9 Overview of data collection and sampling strategies

### 3.3.3.2 *Q methodology*

A Q-Methodology study includes five phases (1) development of the concourse, (2) development of the Q sample, (3) selection of the p set, (4) conduct of the Q sort and (5) analysis of data (Brown, 1980; Stone, Maguire, Kang, & Cha, 2016; Simon Watts & Stenner, 2012). The first four phases are illustrated in this section, the final phase – data analysis – will be subject to section 3.4.

For phase (1), development of the concourse, a set of statements that reflect the range of perceptions about the research topic has to be developed, either by application of primary or secondary data. Following the mixed method approach of the overall study, primary data gained during the IPA research was used for the concourse. The IPA interviews (carried out in autumn 2018) yielded a total of 164 free-response statements defining and describing entrepreneurial failure learning.

Next, for phase (2), a subset of statement is developed from the concourse through an iterative screening process. Consistent with recommendations in the literature (Shemmings & Ellingsen, 2012; Watts & Stenner, 2012) a subset of 60 of the statements were selected to define the Q sample. The development of this sample aims to represent discussions about specific topics that are presented in the language of the participants. Hence, the definition of the Q sample is seen as the most critical and demanding part (Shemmings & Ellingsen, 2012), as the researcher has to take care of the concourse's comprehensiveness (coverage of variety of viewpoints and avoidance of redundancies) as well as the manageability for the participants. Dzopia & Ahern (2011) report in their meta-review of Q-based research Q-sets ranging from 25 to 82 statements, whereas Watts & Stenner (2012), referring to Curt (1994) and Stainton Rogers (1995) state that



a range between 40 and 80 items “has become the house standard” (p. 61). Conforming to that, a subset of 60 statements has been selected to define the Q sample. In an iterative procedure, three researchers independently reduced the set and finally agreed upon the Q-sample of 60 statements (see appendix 5).

The selection the so called “P set”, which comprises of the selected participants takes place in phase (3). As the choice of participants is again a very crucial aspect of the study design (Watts & Stenner, 2012), a strategic sampling was required to recruit a purposive sample of participants who can be expected to have firm and distinct viewpoints on the research topic (Brown, 1980). P-sets observed by Dzopia & Ahern (2011) range from 20 to 103 participants, however, relevant results can be obtained with far fewer (Watts & Stenner, 2005). Furthermore, McKeown & Thomas (2013) state that the number of participants should be kept to a minimum. Another requirement is the diversity in observable demographics, e.g. age, gender, social class, education, assuming an equivalent diversity in opinions (Watts & Stenner, 2012). Hence, 28 participants from two different university programs, one focussed on entrepreneurship education, the other on part-time students with working experience, and from the start up community have been selected to engage in the Q-sort. Descriptive characteristics of the sample are provided in the analysis section. Usually, the number of participants is smaller than the number of statements administered in the Q-sort (Brouwer, 1992) and often a ratio of 1:2 is seen as suggestable (Kline, 1994; Watts & Stenner, 2012). As Watts & Stenner (2012, p. 72) state, “...Q methodology has little interest in taking head counts or generalizing to a population of people”.

Phase (4), the Q-sorts, took place in February and March 2019. Before starting the Q-sorting activity, participants were given instructions on the process of engaging in Q-sort techniques. They were presented with the open question: “For me, learning from failure means ...” and were guided to sort their package of 60 statements in three piles: the first pile, placed on the right side of their table consists of statements that they mostly agree with; a second pile, placed on their left-hand side, with statements that they disagree with; and in a third pile in the middle of their desk a pile with statements they feel ambivalent about. Next, participants were asked to sort each of the piles in order to rank statements from most agreement to least agreement. For that purpose, a template that forces a quasi-normal distribution was used (see figure 10) and participants were instructed to start sorting from the right pile (agreement), thereafter turn to the left side (disagreement) and finally fill the middle section. Participants would rearrange cards until their Q-sort best represented their own viewpoints. It took the participants about 50 min to finish the sort, with some quicker sorts of about 35 min and some slower sorts of about 60 min. Results yielded a set of factors that can be claimed to represent shared ways of failure learning.

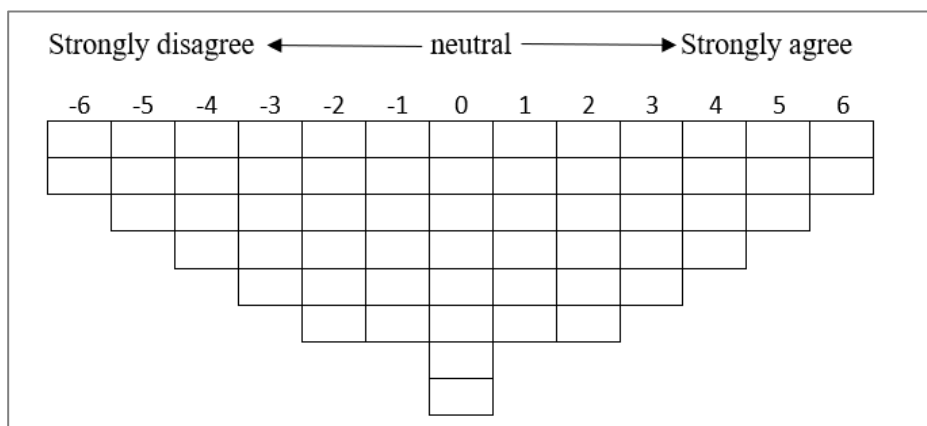


Figure 10 Q-sorting template



All sorting templates have been cross-checked by the researcher at the end of the sorting exercise and additionally personal insights and reflections provided by some of the participants have been collected in order to enhance the qualitative information for analysis of the data (see section 3.3.4.2).

### ***3.3.3.3 Failure learning association tests***

All 42 participants from the two previous studies have been invited to take part in the Social Styles Inventory. The inventory is based on an online assessment, consisting of two elements: the self-evaluation and an additional third-party evaluation. The statistical procedure for style and versatility estimations was provided by Tracom right after the submission of the online assessment (done by each single participant and their third-party feedback providers). Reports released to the researcher provide (1) the self-evaluation of social style, (2) the self-evaluation of versatility, (3) the third-party evaluation of social style and (4) the third-party evaluation of versatility. These reports are deployed by the researcher for further analysis (see section 3.3.4.3) and later (voluntary) discussion with the participants. Although social style inventory itself is a purely quantitative technique, the personal debriefs of participants in regard to their assessment results did provide the researcher with additional insights about the participants' personal values, worldviews and experiences, which again increased the researcher's ability to carry out the interpretative phenomenological analysis relevant for the first study. Additionally, the data gained by the personal debriefs support the formulation of the learning archetypes developed by application of the Q-methodology.



### 3.3.4 Data analysis

As the study applies a mixed method design, data will be analysed using both quantitative and qualitative techniques. The interview data and qualitative data collected via the Q-sorts will be analysed to search for key themes and patterns. Particular attention will be given to respondents' comments on perceived benefits of failure learning and strategies to unlearn unsuccessful behaviour. In addition, the subjective data from the Q-sorts will be quantified by application of the Q factor analysis. Finally, data from the Social Style questionnaire and the failure learning archetypes yielded by the Q methodology will be analysed using cross-tabulation and association tests (Bühl & Zöfel, 2002). Procedures of data analysis are illustrated next.

#### 3.3.4.1 Interpretative Phenomenological Analysis

As a nascent approach to phenomenological research, IPA provides an accessible qualitative research method (Larkin & Thompson, 2012). The authors describe the outcome of a successful IPA study as bridging the elements of “giving voice” (to the participant’s narrative and their reflection on the researcher) and of “making sense” (through the interpretation of the participant’s account by using psychological concepts). Furthermore, the authors outline that finding the right balance between these key components requires substantial time and effort. That said, the method makes no claim to objectivity, rather it is emphatically inductive and idiographic. Therefore, the analysis starts with a thorough, detailed examination of one case, and thereafter moves to the careful analysis of subsequent cases (Cope, 2011; Smith et al., 2009). Table 10 explains the different levels of analysis applied in this study.



Table 10 Levels of interpretative phenomenological analysis

Level of analysis	Process step	Description of analysis
Familiarisation	Reading and re-reading	Reading and re-reading aims to gain familiarity with the transcript. A parallel reading and listening to the recording or imaging the participant's voice has been applied to enhance familiarisation.
Gaining insight	Initial noting	The initial noting aims at deeper immersion further into the account. Highlighting significant excerpts and/or colour-coding before starting to note descriptive explorative comments has been applied to enhance the insights.
Categorisation	Developing intra-case themes	Through the explorative commenting, the data set has significantly grown. These comments will aid the search for emergent themes within the case. At this point the researcher did share and reflect her thoughts with two peers who provided the opportunity for reflection and counterfactual reasoning.
Pattern recognition	Searching for inter-case themes	After completing Steps 1-3 for every case individually, some of the intra-case emergent themes did show up in more cases. Some of these themes then have been re-configured and re-labelled. Due to the dual quality of the method, the participants' unique idiosyncratic facets as well as higher order concepts have been revealed.
Interpretation	Writing-up	The writing-up is presented in the findings section. Because of the researcher's critical role within the hermeneutic dialogue this section is very substantial and more discursive than a typical (quantitative) analysis section. Accounts of the data are combined with an interpretation that mirrors the researcher's sense-making.
Abstraction/discussion	Converging literature	As described in Step 4 the higher order concepts revealed during the data analysis are taken into account here and an abstraction from the individual case takes place to produce theoretical explanations.

Source: adapted from Cope (2011) and Smith et al. (2009)

The extensive, thorough and rigorous procedure of analysis illustrated in table 10 should be convincing enough to show the ability of hermeneutic phenomenological studies to make meaningful theoretical contributions to entrepreneurial research (Berglund, 2007; Conklin, 2010; Cope, 2011). The analysis has been based on transcriptions of the audio-recorded data

from the interviews. In total, 14 interviews have been carried out and all of these interviews have been transcribed, using the services of a professional scientific transcription provider. The recordings in total consist of more than 15 hours interview time, with an average length of 64 min (ranging from 48 to 97 min) and resulted in 308 transcribed A4 pages which were taken into account for further analysis based on the process illustrated in table 10. The results of the analytical process are shown in the following chapter 4.

#### 3.3.4.2 *Q methodology*

The study uses Q methodology to conduct a hybrid qualitative and quantitative exploration of failure learning. The general five-staged process of a Q methodology study has been illustrated already in section 3.3.3.2, this section highlights the procedures carried out in the fifth and final stage of the method.

Data from the 28 Q-sorts were entered in an Excel spreadsheet that was imported into the R platform, a free software environment for statistical computing and graphics. Zabala (2014) developed the package *qmethod* that surpasses other existing, free-of-cost available Q software in many ways, especially by the step-by-step analysis that helps the researcher to fully understand the process.

For the statistical analysis, the Q set becomes the “subjects” and the individual Q-sorts (carried out by the participants, presenting their individual viewpoints) become the “variables” (Sinclair, 2019). That allows for a correlation of individual viewpoints that cluster together to similar opinions or standpoints. Factor extraction in the *qmethod* package applies a Principal Component Analysis (PCA) and the extracted factors are varimax-rotated to produce the maximum differentiation. The selection of



factors is done iteratively, using both the researchers' theoretically informed judgement and loadings that maximise both the number of statements that have significant loading onto the factors and number of participants accounting for the factor (Watts & Stenner, 2012). Findings of the statistical analysis are provided in chapter 4.

### ***3.3.4.3 Failure learning association tests***

Each of the 42 participant profiles consists of both self-assessment and third-party assessment of measures of social style and versatility (see sub-section 3.3.3.3) which are based on the Social Style Profile – Enhanced (SSP-E). All statistical analyses were carried out by Tracom and reports provided by the service organisation have been used for cross-tabulation and descriptive statistical analyses with several association tests by application of the statistical software IBM SPSS Statistics 25. Results of the analyses are to be found in chapter 4. Furthermore, qualitative data collected during the individual participant debriefs are taken into account for the qualitative studies (see sub-section 3.3.3.3). These findings are selectively presented in the respective IPA and Q-Methodology finding section in chapter 4.

### ***3.3.4.4 Compilation of the mixed method study***

The aim of the study is to broaden our understanding about learning in the aftermath of entrepreneurial failure under consideration of behavioural pattern in social interactions. Based on the narratives of entrepreneurs about their lived experience of entrepreneurial failure and their sense-making of the crucial life event, Q methodology, a hybrid research technique has been applied for qualitative and quantitative exploration of learning from failure. Thereafter, statistical analyses were carried out to search for associations between failure learning opinion groups and be-

havioural pattern measured by the SSP-E questionnaire, the Social Style assessment instrument. The triangulation of both quantitative and qualitative data does not only allow for a deeper understanding of the participants' learning strategies, but additionally enhances the validity of the research findings (Bryman & Bell, 2007; Stokes, 2011). All findings will be presented in chapter 4 and further discussed in chapter 5. Figure 11 summarizes the compilation of the data analysis.

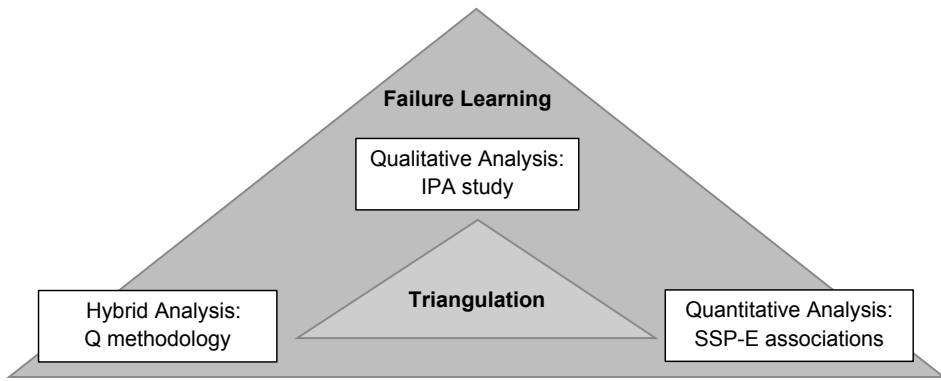


Figure 11 compilation of the data analysis

Source: own illustration, based on Schönbohm & Jülich (2016)



## 4 Research findings

This chapter presents the results identified through the data analysis from the IPA interviews, the supporting document analysis, the Q-sorts and the calculation of the associations between learning strategies and behavioural pattern as described in the previous chapter. Structured alongside the units of analysis defined in chapter 3, the chapter provides answers to the five research questions (see sections 1.3 and 3.2 respectively). Section 4.1 illustrates findings obtained from the interpretative phenomenological analysis, the approach requires working through multiple levels of constructing, de-constructing and clustering emergent themes. Section 4.2 presents the findings on the learning archetypes determined by the qualitative and quantitative analysis of the Q sorts. Section 4.3 introduces the outcomes of the quantitative analysis of learning archetypes in regard to their association with behavioural aspects such as social styles and versatility. The chapter is summarised in section 4.4.

### 4.1 Interpretative phenomenological analysis results

The aim of the interpretative phenomenological approach was focused on the first three research objectives, addressed by the following research questions:

RQ1: What narratives told by failed entrepreneurs to make sense of the failure experience?

RQ2: What is the role of learning strategies for the sense-making process?

RQ3: Which unlearning strategies are applied to overcome unsuccessful behaviour?

Making sense of failure is a multidimensional process that includes moderating effects or framing influences such as attributions, perceptions and emotions as well as outcomes such as learning from failure (Ucbasaran et al., 2013). As summarised in Table 10 (sub-section 3.3.4.1, IPA data analysis), applying an interpretative phenomenological approach requires working through multiple levels of constructing, de-constructing and clustering emergent themes. The research utilizes extraordinarily difficult-to-obtain data on the personal experience of entrepreneurial failure. In total, 14 semi-structured in-depth interviews were carried out between October and December 2018, resulting in more than 15 hours of audio-recorded data. All participants have been introduced to the research study in a pre-interview conversation and confirmed that they did experience entrepreneurial failure as defined in section 2.3: the exit of a venture as it has fallen short of its goals. However, as the analysis requires a homogeneous sample and cases included in one study should be limited for the purpose of attention to detail, a first pre-analysis was carried out to check for homogeneity. The analysis yielded four cases lacking the required homogeneity of the failure experience (details are provided in table 11). Therefore, these cases have been excluded from further interpretative phenomenological analysis and the sample was reduced to ten cases.

However, as all these four participants stated their learnings from failure in detail and by application of good examples, the excluded cases offer valuable insights in regard to learning outcomes and learning strategies after a failure experience. Therefore, these cases have been content-analysed for the purpose of developing the Q-methodology concourse (see section 4.2) and for the evaluation of social style preferences (see section 4.3). The basic demographic data on all cases explored is illustrated in table 11. For the sake of anonymity, cases are labelled by number



Whether the alias name applied in the interpretative phenomenological analysis.

Table 11 Demographics for each interviewee

No	Failure type	Time of event (years)	No of employees*	Sector	Family business	Co-founder	Funding	Venture run (years)	Failure homogeneity
EI1	team exit	< 1	4	Digital Economy	no	yes	new venture fund	< 2	no <sup>1</sup>
EI2	closing	1 - 2	2	Web Design	no	yes	private	2 - 5	yes
EI3	bankruptcy	> 10	210	Construction	yes	no	private	6 - 10	yes
EI4	closing	< 1	3	Digital Systems Engineering	no	yes	new venture fund	< 2	yes
EI5	bankruptcy	< 1	10	Retail	yes	no	private	6 - 10	yes
EI6	bankruptcy	> 10	10	Finance	yes	no	private	2 - 5	yes
EI7	closing	6 - 10	60	Public Transport	yes	no	private	> 10	yes
EI8	n/a	-	2	Online Retail	no	yes	private	2 - 5	no <sup>2</sup>
EI9	n/a	-	50	Fleet Management	n/a	n/a	m/a	< 2	no <sup>3</sup>
EI10	other	-	0	Insurance	no	no	private	2 - 5	no <sup>4</sup>
EI11	closing	1 - 2	8	eLearning	no	yes	venture capital	2 - 5	yes
EI12	bankruptcy	2 - 5	4	Training & Consulting	no	no	private	2 - 5	yes
EI13	bankruptcy	1 - 2	21	Hospitality	no	yes	venture capital	2 - 5	yes
EI14	team exit	1 - 2	7	Biotechnology	no	yes	new venture fund	2 - 5	yes

\* incl. founder

<sup>1</sup> lack of personal ownership

<sup>2</sup> venture is experiment

<sup>3</sup> employment failure

<sup>4</sup> identity crisis



Before illustrating the findings of the analysis in detail, an anonymised profile of all participants which have finally taken into account for the interpretative phenomenological analysis is provided next. The sample consists of ten entrepreneurs that were geographically spread throughout Germany.

*Bjoern*: is in his late 50-ies, and prior to founding his venture capital firm in 1997, he enjoyed a high-profile managerial career in the banking sector. He invested his private capital to set up a fund with the mission to raise venture capital to invest in technology start-ups in the New Market. Due to the burst of the dot.com bubble, he failed with a second round of financing and hence lost his money. After this failure, he started from the scratch, however, on a smaller scale and with no employees. Today, most of his investments are made in the United States of America, as Bjoern feels the German capital market has not the right setting for the technologies supported by his venture capital.

*Cornelia*: holds a degree in IT and took over the family business, a lighting design store in a small town in Eastern Germany. Over the next decade, she branched out and opened stores in two larger cities and additionally started an online store. The decline of the business went over several years, Cornelia only making minor hesitant attempts to change the situation. However, in early 2018 Cornelia decided to take control again and initiated insolvency proceedings. At the time of the interview, she was still recovering from the experience. Now in her late thirties, she feels that the concept of “light” should be approached in a more holistic, and spiritual way. Today, in summer 2019, she not only runs a lighting design online shop but additionally follows a new concept to integrate her spiritual interests (light as the “warmness of the heart”) in her entrepreneurial business.



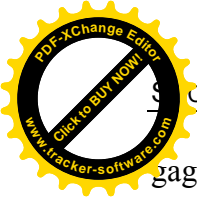
*Jakob*: after a dual apprenticeship and some first professional experience, Jakob went to study Computer and Systems Engineering. As part of the practice-oriented degree program, he started – together with three fellow students – a project to develop smart house solutions. As the project results were very promising, he and one of the project members decided to start a venture to develop their idea to market introduction. They secured a one-year funding from a public start-up support fund and one further previous project member joined the founding team. However, within the first year, the market situation did completely change, as some large, well-known competitors joined the market and offered similar solutions. Jakob and his colleagues felt that they cannot compete in such an environment and decided to close down. Today, Jakob is aged 34 and in employment, however, he is in discussion with some start-up teams and considers a new entrepreneurial activity, as he feels within an employment, enthusiasm and challenges are lacking often.

*Joseph*: decided right from the beginning of his academic education to join an entrepreneurship program and after a short flying visit in key account management of a large international online company followed that track by starting his first business, an app-based learning transfer support service for individual training participants. Similar to Jakob, Joseph started together with two partners and got a first financing from a public start-up support fund. Subsequently, the team was able to secure orders from some of the largest and well-known German firms. However, after about 18 months Jakob realized that although there is a market for his solution, the cost-profit-ratio does not meet his expectations and he did realise that the business idea is not self-sustaining. As a result, he decided to close down the venture. He then worked as a consultant for some months and –

now aged 35 – got an offer to work as an intrapreneur for one of Germany's largest domestic appliance manufacturers.

*Karl:* has been born into a family business, a regional public transport venture started by his father. However, after gaining a degree in Business Administration, Karl decided to join a larger family business for a career in management. About three years later, his father, now at retirement age, decided to close down the business, however, Karl took an interest and convinced his father to sell him the family business. He then run the venture for 13 years and additionally took an engagement as expert for the Federal Association for Economics, Transport and Logistics. Due to this engagement, he learned early of upcoming law and policy changes that will lead to dramatic changes for the whole sector, especially for SMEs. As a result, he decided to wind up the business in an orderly way. Thereafter, he worked some months as a consultant to help other business that have been similarly affected by the new legislation and finally decided to re-join the large organisation, he started his career with. Today, he still feels that the closing down has been the correct decision in a rational sense, but the wrong decision in an emotional way, as – as he puts it by himself – “one time medium-sized enterprise, always medium-sized enterprise”.

*Keno:* similar to Jakob, Keno started his first business still being a student, and together with a co-founder, a fellow student. They invested their own money in a web design studio and have been successfully booked and largely recommended by their costumers, most of them working in the creative sector. However, after about 18 months, his co-founder decided to withdraw, resulting in the close down of the business. Due to his strong need for freedom and autonomy, Keno is highly motivated to en-



engage again in entrepreneurial activities. To recover from the grief resulting of the failure, he took an entrepreneurship class at a US-based university and thereafter participated in an entrepreneurship summer university at a Berlin-based university. He has some ideas for a new venture, which would be disruptive, however, is still looking for co-founders and ways to develop his idea further.

*Luis:* went into business with a co-founder he met during his business administration degree. The co-founder brought in her idea for rotation of plants to allow a horizontal façade greening. The young start-up won the first place in an idea competition sponsored by the Baden-Württemberg Business Development Agency. Similar to Jakob and Joseph, the co-founders got their first financing from a public start-up support fund and later funding from science research funds. Although the idea is innovative and there is clearly a market, each project takes long time and the start-up has to pre-finance large sums. Luis than did realise that there are some disagreements between him and his co-founder in regard to the management of the venture that could not be overcome. As a result, he decided to withdraw from the venture. Today, he is 35 and in employment, but still interested to engage in entrepreneurial activities, searching for an opportunity which „is interesting but at the same time has the potential to be monetarized” as he puts it himself.

*Martin:* holds a degree as civil engineer and founded a civil engineering firm right after the German re-unification in 1990. During that time there was a peak in construction work in Germany, however, after some first successful years where he re-invested all profit, the business went into a trough, and bankruptcy followed in 1998. Martin was hit hard, as he took individual liability and lost not only his business but all of his private as-

sets. However, he started from the scratch and, now in his late 50-ies, again owns and manages a civil engineering business, albeit on a much smaller scale.

*Rita:* has been born into a German-Italian family and been raised in a multi-cultural setting. She went to Universities in Maastricht, Milan, Rotterdam and Vienna for bachelor and master degrees in Business Administration. Thereafter, she did spend about five years developing a professional career in finance and consulting. At that time, together with her best friend, she did realize “my bank account grows, my workload grows – and so does my body mass index”. Dissatisfied with the two last facts, the two women together developed a business model for a healthy food restaurant chain. They resigned from their careers and founded their business with venture capital. Although the first restaurant has been a success, further growth has been a challenge and one of the venture capitalists disengaged from the funding. The co-founders have not been able to secure new funding and hence had to open insolvency proceedings. Today, Rita – now in her mid-thirties – works as a freelance consultant and is pending to re-join entrepreneurship – she has “some irons in the fire”.

*Steffen:* developed his career in the health care profession and after several employments decided to start a training and consulting business offering advice and training for small health care providers. However, due to a too rapid growth of the business and poor payment morale of his customers, he lost control over the finances and went into insolvency. After the failure, he went back into employment to get a chance to pay back his debts. However, he is still convinced about entrepreneurship being the right place to be for him and so he is distance-studying for a bachelor in Business Administrations and on the lookout for new entrepreneurial opportunities.

The following analytical data sections illustrate both the process of making sense of the failure and content dimensions of failure. As the aim is to explore the sense-making and learning outcomes of failure, a detailed consideration of causes and managerial strategies has taken place. The following sections are structured based on the process of sense-making (see figure 12), starting with the analysis of attributions and perceptions of the failure experience, then turning to explore the sense-making in terms of costs of failure and finally discuss what participants ultimately learned from the failure of their ventures.

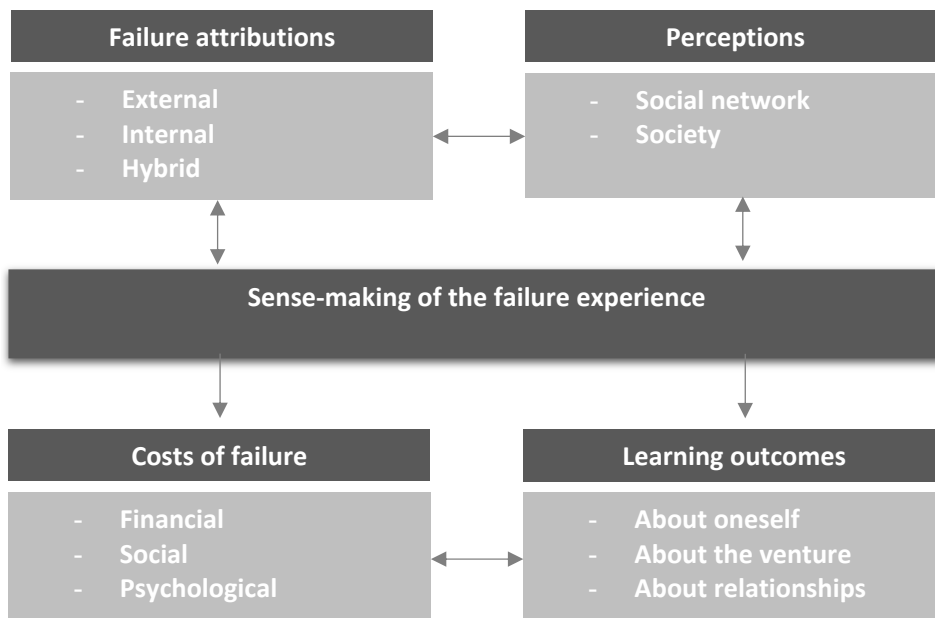


Figure 12 Process of sense-making and failure learning

Source: own illustration, based on Kücher & Feldbauer-Durstmüller (2019), Shepherd et al. (2016), and Ucbasaran et al. (2013)

The process in figure 12 illustrates a framework, based on the works of Kücher & Feldbauer-Durstmüller (2019), Shepherd et al. (2016), and Ucbasaran et al. (2013) applied in this study to organize super-ordinate themes that have been identified throughout the analysis. Elements of the



process and the recurrence of super-ordinate themes are discussed in the following sub-sections. The sense-making process is rather driven by plausibility instead of accuracy, and “lack of accuracy in sensemaking is not necessarily a problem because action generates new data, enabling people to assess causal beliefs that subsequently lead to new actions” (Ucbasaran et al., 2013, p. 184).

#### 4.1.1 Failure attributions

##### 4.1.1.1 Super-ordinate themes

Following the IPA procedure, each case has been analysed individually to discover emergent themes. These emergent themes are thereafter analysed within the case and next across all cases to discover super-ordinate themes. Table 12 provides an overview super-ordinate themes of failure attributions.

Table 12: Super-ordinate themes of failure attributions

Super-ordinate themes	Bjoern	Cornelia	Jakob	Joseph	Karl	Keno	Luis	Martin	Rita	Stefen
Wrong/lack of decisions	X	X	X	X		X			X	X
Over-confidence	X		X					X		
Limited own resources		X				X				
Fear of change		X								
Partner behaviour	X					X	X			
Change in investor attitudes	X							X	X	
Change of market situation	X		X							
Customer behaviour										X
Change in legislation					X					

Most of the participants shared their failure attributions in their narrative and various attributions seem to lead to different narratives and diverse ways to cope with failure. The manifold attributions illustrate that failure is a complex phenomenon that can have “a 1,000 reasons but is no one’s fault”, as one of the participants stated. For the interpretative phenomenological analysis, attention is spent on recurrent themes, that are ei-



Whether often repeated by the participants during the interview or stressed in other ways, for example strong metaphors used by the participant. Table 12 illustrates all super-ordinate themes, the first five can be categorized as internal attributions, where the participant sees his or her own behaviour as the main reason for the failure. Contrary, the last four themes can be defined as external attributions, where the participant mainly addresses the failure to external factors. Perhaps the most interesting attribution is the one in the middle, “partner behaviour”, as this theme is apprehended by most participants as a mixture of own and other factors.

An external attribution mentioned by three participants is the loss of commitment from important investors. Bjoern describes how he lost his investment due to his partners evaluation of the recent market development, as he states:

“I started and invested my own money in a fund, as some partners also committed to invest. However, they broke their commitment and told me in the current market situation they cannot stick to it.”

In Rita’s case, the major investor did withdraw one day before the closing of the second round of financing, resulting in a gap of nearly 300.000 € they haven’t been able to fill until the opening of the next restaurant. Rita tell in the interview:

“And on the day before [the financing round] he summons us to his home and tells us that he withdraws ... A total shock, we re-wrote all contracts during the night, and the next day we nevertheless run the financing round, however, there was this gap of 275.000 €.”

However, the strongest emergency of the theme is illustrated by Martin, who again and again comes back to the changing behaviour of German banks in the 1990-ies:

“After the upheaval here in 90, [...] the banks did chuck out their money, more or less. Securities taken, public funding and so forth. Without an end “. And later, during the crisis: „The bank





tells me to avoid the direct line of fire, and then you have lost your existence and you are cast in a poor light. Failed. Your business is gone, now, who would take you now?"

Turning to the changing market situation, it has been an emergent theme for Bjoern, as the bust of the dot.com bubble has come to him as a total surprise:

"We all aimed to get rich in the New Market. It was, and I still think so today, an extremely intelligent technology and financing platform, but without the necessary infrastructure, resulting in much to less liquidity [...] We just have not been ready."

Finally, in Jakob's case, the founders have been surprised by the quick entry of new players, leading to their own product being too late:

"in only one year, so much did happen in the market and so many big players entered the IoT niche. [...] Ok, we have been just too slow to join the market. [...] The market has been fixed, all big players are in and we saw no opportunity to earn money quickly."

The last example illustrates very well, how closely external and internal attributions are often linked together. Actually, almost all participants with recurrent external attributions later mentioned that at least partly their own wrong (or lack of) decisions in the critical situation have been contributed to the failure. Even Steffen, attributing his failure many times to the poor payment morale of his customers, additionally states several times that despite his poor liquidity, he expanded further and waited too long to take control over the situation. The only exception here is Karl, who exclusively attributes the venture failure to the change in legislation. In his opinion, after 2020, no small- or middle-sized regional public transport venture in Germany will be able to carry out business in a profitable way. That realization led him to close down a profitable family business and to pursue his career as an employed manager in a large group of companies. However, the themes addressed by the majority of participants clearly show complex relationships between internal and external attributions, especially in regard to the internal attribution to own



decision-making. The theme of wrong decision-making is also stated by Bjoern (sticking with his commitments); Cornelia (not taking control although figures went worse); Joseph (lack of implementation and monitoring of KPIs); Keno (too rapid growth), and Rita (opening a second restaurant despite lack of funding).

Another interesting theme yielded by the analysis is attributing the failure to overconfidence. So, Bjoern states that much of the failure can be addressed to his “boldness” in the early phases of entrepreneurship. Martin calls himself a “gambler”, taking too much risk with no thoughts spend on his personal and his family’s security. Jakob, on the other hand, may not attribute the failure itself to his overconfidence, but the lack of preparedness, as he states:

“In hindsight, at the university, we regularly performed very well, got good marks and now we are blinded by our success. Sometimes about oneself, one is much convinced about oneself, thinks one can always do better than others. And that’s a point here.”

The theme of limited personal resources addresses the realization of the participants that they are in some ways “not ready for their business”. For Keno, the theme first materializes as he depicts the worsening communication with his co-founder:

“On top of the degree courses, we both had some side business [...] and we have not been ready to give that up. It all has been a little too much. And we had no time, and all the time we ... we only switched between all the things in some way ... and there was this feeling that we never have enough time to totally focus on one task and also no time for our private lives. And I think that has been an extreme factor for the failure. In in this stressful situation, we got an additional financial pressure and more and more projects ...”

For Cornelia, on the other hand, the failure has been an important milestone in her personal development. She went into the family business and at that time it seems to have been the right decision. However, over a decade, she realised step by step, that her life feels not right anymore. She explains:



“I often think about faith and I think, the business, as it has been, was not working for me, in the current constellation. [...] That’s why, I would say, there is just so much more, what we cannot sense. And I do not know now, where does it lead. I know, that this is now the quickest way for me to arrive at my predestined place, where I want to be and have to be. Or howsoever ... Because, otherwise, I would have been caught in that constellation without any development ...”

Both Cornelia and Keno are still recovering from their failure experience and search for new opportunities which would fit better to their personal lives as the previous business did. In Cornelia’s case, the failure is also attributed to a fear to understand and change her situation, as she states:

“I have always been told: face your situation, face your situation. However, it took a year before one moves forward, before one overcomes the fear. This spring, slowly, step by step, I have been able to face my situation and realised how good it is for me to face the situation and take up with the situation. Before, I didn’t know how. I was always under the opinion, okay, I face the situation, but what now? What shall I do? Set fire on it, or ... What shall I, ... I always wanted to do something and that’s not the point. The point is to face the pain, to overcome the fear, face the pain, and then the pain is nearly gone. But to understand that inwardly ...”

For a better context, it is necessary to explain that Cornelia feels that all rational decisions (“head” and “gut”) are expressions of an inner self she calls “heart” and she first has to change her inner constellation (more heart, less head and gut) for changing the outer constellations (i. e. making better decisions).

Turning to the last sub-ordinate theme, partner behaviour has been addressed by half of the co-founding entrepreneurs and here the attribution is internal in the sense of the business but external in the sense of the individual entrepreneur. For Keno, although he was hurt by his partner’s decision to draw back from the business, there is some realisation that his own communicative behaviour had a major impact on his partners decision, as he tells in the interview:

“And this is, I think, something what we both did learn in an extreme extent, about the density of communication. And also, that maybe a conflict has not to undermine a basis of trust. And that is definitely the most important, as he has not been the wrong co-founder, that’s something I realise today. However, we did not communicate. Yes.”



For Luis, the commercial behaviour of his co-founder has been a huge challenge, finally leading to his decision to draw back from the venture. Again, trust and communication are the core problems, and Luis explains the failure, starting:

“There have been strong personal components by both of the founders.”

He then describes the different competencies and responsibilities of both founders, resuming that although he has been responsible for the business-oriented tasks of the venture, his co-founder overruled his decisions and sometimes behaved in a “kamikaze” style.

“She possibly would not have called it kamikaze, the term is rather my own expression, but she has really – for a more neutral formulation - put all our eggs in one basket. For her was all very clear – that idea has to work out and I will do all for it. And if it will not work out, I’ll go to Australia, breeding sheep. Somehow or other.”

He sensed that part of the problems may be rooted in emotional conditions, however, he has not been able to address such issues as his co-founder denied any underlying factors and never agreed to leave the rational sphere of their discussions. Finally, turning to Bjoern, he also attributes the failure partly to the behaviour of his investment partners, however, on a rational basis he agrees that they cannot be blamed for their decision. Therefore, he mainly attributes the failure to external factors and in his case the investment partners’ behaviour is also an external factor.

#### ***4.1.1.2 Analysis and interpretation***

The findings in regard to failure attributions bear evidence of their importance for making sense of the failure experience and being able to cope with failure. At no point during the interviews, participants have been asked to talk about failure reasons – they answered to the broad question “tell me about your business, about what went wrong and about what did happen afterwards”. However, all of them did at least mention their at-

tributions and for some of them, the failure attribution took a primary place in their sense-making (see for example Luis). These findings are in line with prior work suggesting that when individuals experience a significant negative event such as an entrepreneurial failure, it is likely to stimulate attribution search (Cope, 2011; Jenkins et al., 2014). Much research has already been focused on the role of attributions in regard to entrepreneurial failure in general and learning from failure in particular.

Influential research was carried out by Cardon & McGrath (1999), the authors differentiate attributions to lack of innate ability, resulting in “helpless” reactions, and feelings of inadequacy which finally lead to anxiety, depression and a sense of shame. On the other hand, a more “mastery reaction”, with attributing failure to lack of effort resulting in optimistic feelings and appreciating failure as a genuine learning experience. These findings are only partly confirmed by the current study, as most participants actively highlight the benefits of learning from failure in their sense-making. Confirmation of “helpless” reactions as described by Cardon & McGrath (1999), have been found in Cornelia’s narrative, as she not only does not refer to the failure as a “genuine learning experience”, she additionally does not provide concrete learning experiences and instead talks about a missing balance of her inner confirmation. On the other hand, Joseph totally attributes his venture failure to own inabilities (having not been able to develop his idea into a self-sustaining business model), however, he takes a very optimistic approach and, in his narrative, offers manifold “genuine” learning experiences. An explanation for Joseph’s more positive coping is possibly the environment in which he started his business. From the very beginning, he has been part of a start-up community, where the likelihood to venture failure and the benefits of learning from failure are discussed on a regular basis. Contrary, Cornelia



has been part of a family of successful entrepreneurs and has only very recently joined an independent network of entrepreneurs. She totally recognizes the benefits of now having such a network, however, her attributions are rooted in earlier experiences, with no opportunities to openly discuss failure as being part of the entrepreneurial journey.

Frequently, research on learning from entrepreneurial failure applies attribution theory (see for example Shepherd & Patzelt, 2015; Sitkin, 1992; Walsh & Cunningham, 2017; Zacharakis, Meyer, & Decastro, 1999), the theory suggesting that success is attributed to internal or personal actions, whereas failure is more often attributed to external factors. In this way, individuals are able to protect themselves and to maintain high self-esteem, however, learning may be obstructed as the individuals are distancing themselves from the failure (Shepherd et al., 2016). As already illustrated by Zacharakis et al. (1999), this kind of attribution bias seems not always be true in the context of entrepreneurial failure, where entrepreneurs more often recognise internal factors and thus take responsibility for the failure. The findings of the current study confirm the anti-bias theories, as only one participant (Karl) absolutely refers to external factors and sees nothing what could have been done differently in his own function to avoid the closing of the company. Additionally, the study provides insight of the interrelations between different attributions and shows how these interrelations influence the sense-making. Especially the theme of partnership behaviour shows awareness of the fact how own attributions, behaviour and communication styles trigger reactions from a partner that may be damaging for the business. Similarly, most of the external attributions used by the participants have directly led to the recognition of their own contribution (i. e. Jakob first stating a change in the market situation and in the further narrative recognizing his own responsibility “we have



been too slow, to long trying to get a perfect product ...”). Hence, learning can also happen in cases with a primarily external attribution, as long as the entrepreneur has the ability to reflect deeper and spends effort to uncover the root cause within the business.

Findings of this study also confirm narrative attributions applied by entrepreneurs to process the failure and their role in it (Mantere et al., 2013). All of the genres have come to play in the interviews, especially the personal responsibility expressed by the *Catharsis* genre, the collective responsibility of the *Hubris* genre, the blaming of other actors situated in the *Nemesis* as well as blaming societal factors showcased by the *Fate* theme.

Additionally, Hayward et al. (2006) draw on hubris theory in a slightly different way, as they define it as the “dark side” of overconfidence, resulting in their conclusion that founders with a high propensity to be overconfident may deprive their business of resources and endanger success, in the worst case increasing the likelihood of venture failure. These results may be also confirmed by the current study, as two of the entrepreneurs (Bjoern and Martin) clearly attribute failure at least partly to their “hazardous” or “bold” behaviour in the early phases of the business. Contrary, although Jakob mentioned overconfidence, in his case the overconfidence had first been positive for the decision to start his venture, and the failure experience let him “touch ground” in a positive way, realising about his weak points, hence enabling him to address some areas for further development.

Finally, the recurrent themes of limited own resources and fear of change can – at least in Cornelia’s case – be rooted back to the concept of spirituality. Although some recent research finds evidence that entrepreneurs



view starting and managing a venture as a part of their spiritual journey, there is still a lack of research on the role of spiritual processes in regard to entrepreneurial failure (Smita Singh, Corner, & Pavlovich, 2016). Cornelia's narrative has been a rather surprising finding, as the coping and sense-making research in this study has been mainly based on psychological theories that focus on regulating the negative emotions resulting from failure (Katz & Shepherd, 2003; Shepherd et al., 2016; Singh, Corner, & Pavlovich, 2007; Ucbasaran et al., 2013). However, the findings of the current study agree with Singh et al. (2016), as the spiritual approach seem to encourage an openness to the pain of venture loss, ultimately enabling the entrepreneur to feel positive about the new direction of their after the event of failure.

A more general finding of this study regards to the conceptualisation or categories of attributions. Mostly, research differentiates between internal and external attributions, sometimes collective or hybrid attributions are taken into account. Yamakawa & Cardon (2015) apply a finer grained concept as they define internal ascriptions (the core causal characteristics of the failure defined by the individual) as "unstable", here the entrepreneur assumes that they can change whatever caused the failure and the likelihood of a learning experience increases. That being undisputed, however, the extensive interpretative analysis of the ten cases in this study shows that it is hardly possible to tackle down a single failure attribution. Often, the first attribution (i. e. change in market situation) is just a first reflex to answer quickly and "right to the point", as it is often done in surveys. Only during a longer conversation, where the participant starts to reflect, the core attribution comes to light and interrelations between two or three different major attributions are uncovered.



Furthermore, the research results indicate a dual relationship not only between a variety of attributions, but additionally between sense-making and attributions. Participants with a failure experience not too long ago (< 2 years) often agreed to the interview as they saw it as part of the sense-making process. For example, Joseph told during the interview: “I can take something away for me, from every discussion about the failure, also from our talk right now. Because, there have always been questions I have never asked myself before, also when having prepared myself for the discussion”.

## 4.1.2 Perceptions of failure

### 4.1.2.1 Super-ordinate themes

Following the same procedure as described in sub-section 4.1.1.1, super-ordinate themes as presented in table 13 have been brought to light.

Table 13 Super-ordinate themes of failure perceptions

Super-ordinate themes	Bjoern	Cornelia	Jakob	Joseph	Karl	Keno	Luis	Martin	Rita	Stefen
Genuine learning opportunity	X		X	X			X	X	X	X
Cultural aspects of blame and stigmatization	X			X		X			X	
Making sense of blame									X	
Blaming oneself										X
Lack of preparation (macro-level)								X		

The concept of perceptions applied for the study summarizes all recurrent themes put forward by the participants to address their own perspective as well as social viewpoints to their failure experience. Starting with the positive perception of failure being a genuine learning opportunity, this theme has been present for an impressive majority of the cases. Participants who did not stress that theme, nevertheless mentioned at one point



during the interview, that failure offers several ways to learn from it. Keno, for example, learnt much about relationships and conflict management, Karl learnt of the importance to reflect on crucial events and Cornelia – following the spiritual approach – is convinced that failure is fate and opens new opportunities to find her right place in life. Some citations about genuine learning experiences will be presented and interpreted in detail in sub-section 4.1.4.

Another superordinate theme addressed in almost half of the cases are cultural aspects of blame and stigmatization. Prior studies have presented Europe as a continent and Germany as a country with higher social stigmatization of entrepreneurial failure (see for example Bergmann & Sternberg, 2007; Cotterill, 2012; Landier, 2005; Lee, Peng, & Barney, 2007; Shepherd & Patzelt, 2015). Therefore, it is not surprising that many participants applied the theme in their sense-making. Keno has gone to the United States to enrol in an entrepreneurship education program and now complains about the German attitude:

“And that’s what really gets on my nerves ... as soon as you start talking about an idea or a potential business, you always first get scepticism and 1,000 reasons why it will never work. Even at the start-up summer university ...”

In Rita’s sense-making, stigma and blame have been particularly present. Her first observation is presented as follows:

“We are never, ... regarding policies and generally, from our attitude, there are rules, and these have to be followed. And it is my impression, that an entrepreneur who moves from business management to hospitality, is likely to violate these rules a bit. And it’s like a mass, and we dared to raise our heads and look, what else is there, and are we able to invent ourselves anew and break all these standards, cv’s and standards, rules? And we have failed with that. I think, we have been virtually cut our heads off, by many people, as either they are too concerned also to break the rules, which are very present in Germany. Or, maybe they also play with the idea and now make use of our failure to justify their own inactivity.”



In her second observation she talks about perceptions of her failure expressed by her present customer (after the bankruptcy she decided for returning to her previous career in consultancy):

“The current customer, they googled me and malicious gossip has it – consultants are not the most liked persons – at the beginning, they said, the only thing she will manage is to lead another business into insolvency. [...] After all, this jealousy thinking is, sadly, more often present in Germany as in southern regions or especially in America. In case somebody has higher expectations of one’s life, then that’s celebrated, and if this person fails, then that’s celebrated too, in some kind, as this person can only learn from the failure. However, the response here, the customer is based in [a small city in the Southwest of Germany], they are rather, they do not really know agile methods or Fuck-up<sup>1</sup>, the term alone they do not know, and they have no Fuckup Night here. That let one realise that people are very critical, suspicious and not able to properly esteem me and the failure experienced by me. But nobody asks me personally, of course, I would like to explain it to them. And, in my opinion, that has much to do with culture.”

Bjoern, as an experienced founder and venture capitalist, explains the German approach to develop new ventures as follows

“And then, in Germany we have this, slowly changing, however still present, let’s call it nuisance of the founder. [...] We build a venture around the entrepreneur. That’s not working for me.”

This short citation is insofar very interesting as it indicates a change in perceptions of entrepreneurship and entrepreneurial activities in Germany. That change is explained in more detail by Joseph:

“A funny thing, just as a short feedback – the term “failure” has never been as present for me as in our communication. Obviously, I remember previous questions from my time in the funding program, where people did ask “how is it for you being a founder, do you have no fear to fail? And bla bla bla ... Funny, but during the time of closing down our business ... yes, of course, the term failure has been used here and there, however, the evoked, at least that’s my perception, the evoked fear of failure, by other people, I mean by non-entrepreneurs, has never manifested itself in my case. Quite contrary, I can tell for example, it has been a totally super and informative experience, and not at all sanctioned in my social network. [...] My social network is very, very much entrepreneur-oriented, interspersed with people who only have been successful with their second, third, fourth start-up, in a monetary sense. Insofar, any of my friends tried many things until something worked out or until they decided for something else. And for my social bubble, for my filter, that’s just the normal case.”

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<sup>1</sup> „Fuckup Nights“ is a global movement, offering event series that share stories of professional failure ([www.fuckupnights.com](http://www.fuckupnights.com)).



Further themes are sub-ordinate only in a within-case perspective, but nevertheless show some interesting findings. As already mentioned, for Rita blame and stigma have been very present in her sense-making and she shares a further observation that may not be rooted in the German culture as she recognises differences in regard to personal and public blaming and stigmatization:

“And, of course, there have been many newspaper reports, especially FAZ-reports, many of them negative, really offensive comments about us. But that’s just the anonymous reaction. The bilateral reaction is always positive. After all, most people who think us as being silly, don’t say anything. The people who like us, they come to us and tell us you are genius, to talk as you do. And then they tell us about their failure stories.”

Steffen, on the other hand, is the only participant mentioning negative emotions in his own, personal perception of failure.

“Sometimes, it has to be addressed ... sadness and pain, shame eventually, ... And in the end, one tries to tell oneself: ok, I have failed, however, that’s because of the environment and else ...”

The theme has been presented in a very impersonal way, leading to the assumption that these negative emotions are rather suppressed and not managed in an emotionally intelligent way.

Finally, in Martin’s sense-making, much of the stigmatisation of entrepreneurial failure results from the German insolvency law and lack of preparation of nascent entrepreneurs, as he states for example:

“Penal law, the particularity of the entrepreneur, certain risks, and so forth, from loss of private assets to damaged health and so on and so forth. Hence, profoundly. As every person who would like to swim, first learns to swim. Or the mountaineer who plans to climb in the alpine, first gets his equipment. Starts with small mountains, and so on and so forth. But for entrepreneurs, this shall not be true? This is completely absurd; I have to state. Entrepreneurs are sent on their way, with some broad theories, and ... Just get yourself started. And no information about risks. [...] The government focusses on new venture creation, new venture creation. Always new ventures. That is what is nice to talk about. Oh, a new venture again, yes! That half of them does not survive ...”

At first, this finding seems to address the general aspects of managing a business. However, as bankruptcy laws are one of the regional determi-



nants with an impact on failure stigma, Martin's feelings and thoughts about the German law system and attitudes of institutions, also are analysed under the umbrella of the super-ordinate theme of failure perceptions.

#### ***4.1.2.2 Analysis and interpretation***

In developing a more detailed understanding of failure perceptions and their role in the process of sense-making in the aftermath of entrepreneurial failure, I not only take into account the broadly discussed concept of stigmatization and blame, but also draw attention to the role of perceptions such as learning from failure seems to be a genuine experience.

About a decade ago, Singh, Corner, & Pavlovich (2007) studied how entrepreneurs experience failure, cope with it, and what they learn from it. They found that - at that time -, infrastructure probably supports the economic aspects of entrepreneurial failure much more than other (social, psychological and physiological) aspects of entrepreneurs' lives. The authors called for a change in the policy making perspective, as it seems to be crucial for governments aiming to support entrepreneurship to develop new support mechanism that are better suitable to consider entrepreneurial failure in a holistic sense. In their research, only one out of five participants mentioned that "failure does provide a good learning opportunity" (p. 342). As shown by the current interviews in this study, in 2018 almost all participants recognize the learning function of failure. A very short Google media research yields uncountable articles, published by well-established nation-wide German newspapers such as Handelsblatt, Frankfurter Allgemeine Zeitung (FAZ) and Süddeutsche Zeitung, brandishing stories about entrepreneurial failure with hyping headlines such as "Fail smart" and "Aiming to fail", "How can failure help us", or "Fail more



beautiful”. Also, start-up platforms such as Gründerszene.de report about failure as being an integral part of entrepreneurial activities. TV formats similar to the popular UK series “Dragon’s den” provide publicity for failed entrepreneurs in the form of jury membership. The already mentioned “Fuckup Nights” are not only celebrated in German start-up hubs such as Berlin, Hamburg, Leipzig, Munich and Stuttgart, the concept has also been adapted not only by many other cities but also by training organisations such as the Controller Academy.

All these initiatives not only promote the concept of failure as a unique learning experience. At the same time, the coherent and mostly positive open discussion is likely to lead to a broader public perception of failure as a normal life occurrence and nothing to shame about. Such a different perception of failure would at the same time help to reduce social stigmatization. Stigma from failure is moderated by the characteristics of the person who failed, by the characteristics of persons who evaluate the failure and by regional determinants such as culture and bankruptcy regulations. Consequences of stigma are mostly the psychological well-being and further career opportunities (Shepherd et al., 2016). In the following, at first the regional determinants will be discussed, leading to a discussion of personal failure evaluations by the entrepreneur and their environment.

The relevance of regional determinants and actions taken by government or institutions to reduce the social stigmatization of failed entrepreneurs are shown by Simmons et al. (2014), the authors applied the GEM database, data consisting of the years 2007-2009, and found Germany in a group of 23 countries in a middle position in regard to failure stigmatization. Results show a lower likelihood of autonomous start-up and higher

likelihood to completely exit entrepreneurship and turn to other career options in contexts with high stigma orientation.

The effort taken in Germany to increase the positive public recognition of entrepreneurship and to decrease failure stigmatization is additionally mirrored by the new reporting structure of the KfW Gründungsmonitor, published by KfW, a state-owned German development bank. From 2015 onwards, their annual report about start-up activities in Germany not only consists of quantitative information such as total start-up activities or financial aspects of start-ups, but additionally, qualitative aspects such as political engagement for start-ups, start-up culture and entrepreneurial education (Metzger, 2016; Metzger, 2018). So, due to the increasing governmental attention spent over the last five years, there are signs that the public recognition of entrepreneurial activity, seem to increase. However, further major efforts seem to be necessary to further decrease social stigma. In this regard, a recent study by Shepherd & Patzelt, (2015) provides some insights in German regional differences of blaming entrepreneurs for their entrepreneurial failure. The authors assume that, due to the divided German history between 1945 and 1990, there are different reasons and levels for stigmatizing entrepreneurial failure. For example, in East Germany, entrepreneurship was quasi non-existent and hence people living in East Germany are more critical about entrepreneurial activities.

Furthermore, the latest KfW Gründungsmonitor shows a slightly worsening evaluation of the qualitative aspects of entrepreneurship. The survey applies the German six point-school grade system; start-up culture decreased from 2.5 to 2.7; political engagement for entrepreneurs from 3.6 to 3.9 and entrepreneurship education from 3.8 to 4.2 (Metzger, 2018), especially the last figure makes a really dramatic statement.



A recent study focussed on perceived failure intolerance (PFI) found that – although PFI being a useful filter to discourage individuals who lack of an entrepreneurial mindset to start their own business – communities that would like to increase entrepreneurial intentions, should intervene and take action to decrease PFI (Stout & Annulis, 2019). Especially the case of Rita provides further evidence for the authors’ proposal, as she – due to her entrepreneurial mindset and high self-efficacy – took an attitude of “who cares what the neighbours say” (Stout & Annulis, 2019, p. 472).

The discussion of ways and efforts to reduce social stigmatization of entrepreneurial failure from an institutional perspective shows that it is an important but time-consuming endeavour. Therefore, the characteristics of persons who evaluate the failure have to be taken into account further. Thus, Shepherd et al. (2016) suggest that to avoid stigmatization, entrepreneurs should (1) know how their personal characteristics and the characteristics of their venture affect others’ assessment of failure; (2) carefully consider – based on social norms - when and how to talk about failure; and (3) be aware of different regional determinants in regard to failure perceptions. Especially for the first and second suggestion, soft skill development trainings based on models such as Social Styles are recommendable, as the participants not only learn about their own communicative behaviour, but also how this behaviour is perceived by their social environment and how they can develop strategies for a more versatile communication (Kraiger & Kirkpatrick, 2010).

Further evidence for the importance of Shepherd et al.’s (2016) third suggestion was been provided by Wyrwich, Stuetzer, & Sternberg (2016), who state that observation of entrepreneurial activity will decrease fear of entrepreneurial failure, however, the effect of such role models differs in



regard to the regional level of approval of entrepreneurship. Their findings are supported by the case of Joseph, who has been born and raised in the Eastern part of Germany (low approval of entrepreneurial activities), but then moved to the Western part of Germany (high approval of entrepreneurial activities) and here joined an entrepreneurial environment, as he reports about his lack of fear in regard to venture failure.

### 4.1.3 Costs of failure

#### 4.1.3.1 Super-ordinate themes

Costs of failure are a prominent feature in the sense-making of entrepreneurs after their experience of venture failure. The within-case analysis yielded such manifold data, so, for the purpose of the across-case analysis, a further sub-categorization of financial, social and psychological costs (Ucbasaran et al., 2013) has been applied. Table 14 provides an overview of all super-ordinate themes yielded by the data analysis.

Table 14: Super-ordinate themes of costs of failure

Super-ordinate themes	Bjoern	Cornelia	Jakob	Joseph	Karl	Keno	Luis	Martin	Rita	Stefen
<b>Financial</b>	X							X	X	X
Loss of private assets, debt, lack of liquidity	X							X	X	X
<b>Social</b>	X	X			X	X		X	X	
Diminished socio-economic status	X								X	
Friends and family: Being singled out		X				X			X	
Trust and responsibility					X			X	X	
<b>Psychological</b>		X				X		X	X	
Emotional: Grief, anxiety, mortification, pain		X	X			X	X	X	X	X
Motivational: dissatisfaction, helplessness		X	X			X				
Motivational: Capability to achieve goals				X	X				X	



Financial costs of failure occur either in the form of loss or reduction of financial income, or in the form of loss of private capital and/or debt. Obviously, all participants have experienced financial cost in at least one of these forms. However, as the interpretative phenomenological analysis is interested to uncover themes with an impact on the sense-making and coping processes, in the following presentation attention is spent only to narratives where the financial costs are present as emergent and recurrent themes.

For Martin, the financial costs of the venture failure have been highly dramatic. Being the sole proprietor, he was fully liable for all debts after the insolvency. So, he not only lost his business, but also all his private assets, his personal income and additionally had to pay back the debts of his venture. He states:

“And then there comes the liquidator, and he takes it all. You are left alone. You are lucky if he leaves you a little bit for you to survive upon.”

Similarly, Steffen put all his private money into the venture and after the failure had to pay back debts resulting from corporate tax and social security contributions; however, he mostly talks about financial struggles he experienced during the crisis of the business:

“That is, sometimes I had nothing to eat and wouldn’t know how to pay for necessary office supplies such as ink cartridges, until finally a payment arrived. And there was nobody, a business partner or such, to give me a leg up. Hence, I had to live my life and at the same time pay for all my employees.”

Also, Rita tells about her financial struggles during the time of application for insolvency, the question whether to get a salary for the months ahead being unanswered. She talks about an item she was keen to buy – worth 20 € – and states:



“I couldn’t afford it, because, we had zero euros on our bank account. And we couldn’t even pay our rents”.

Bjoern, on the other hand, also lost - just like Martin and Steffen - his private assets and talks about that period as a time where especially his family had to suffer and very quickly corrects himself in an attempt to find a better explanation of this suffering:

“Ok, suffer in a sense of ..., they have been rich, now it’s not richness anymore. They have to start stop shopping at Edeka, now they have to do their shopping at Lidl. [...] The children lost their own rooms, they now had to share.”

The example shows again, that failure costs that are clearly rooted in monetary aspects, may have a stronger impact in other cost categories, in Bjoerns case social costs. He further states:

“That {shopping at a cheaper super market} has been nothing bad. [...]. And with other words, I believe, that period has been important for my children’s socialisation. And if you would ask them today, whether they would like to waive that time, then they would start to think about. That is something they wouldn’t do otherwise. I don’t believe that they would tell that has been very difficult for us. They have been aware of their parents in a difficult phase. So, in a different phase. Possibly, I would not be together with my wife today, without this difficult time, a time that bind us together closely?”

Both Rita and Bjoern experience the social costs of failure in regard to a decrease in their socio-economic status not only in a negative way. Rita tells about meeting acquaintances during the time after the failure:

“In that time, I did never pay a thing. All people always paid for me. Not, because I told them or asked them to invite me, but because it was just natural, Rita right now suffers financially, therefore I’ll pay our bill. And that has been something very positive for me.”

However, other social costs are experienced as negative aspects of the failure. Again, Rita talks about friends and family and their sympathetic behaviour. Nevertheless, what Rita feels is that her friend and family

“... haven’t been in the same boat with me. They haven’t lost their baby, they did not understand, emotionally, what that really means for me.”



Difficulties in the social interactions with friends and family have also been addressed by Cornelia, leading to her withdrawal from them. Both Rita and Cornelia shared the experience of being singled out due to the crucial experience of failure. Additionally, Keno is rather confused about his friends' feedback, as he tells

“Often, you are not getting an honest feedback from your friends, as they seem to assume if they tell what one would like to hear, that’s exactly the thing to empower someone. But, if ... I don’t know, I have no clue ...”

The last super-ordinate theme related to social costs is the question of trust and responsibility. Most participants felt a strong responsibility for their employees and other important stakeholders. For example, Karl recounts many times the decision to close down the venture:

“So, today I would say, objectively, professionally, the decision has been dead right. However, emotionally, the decision has been wrong.”

Emotionally wrong, as there are social costs in regard to employees, customers, suppliers and the neighbourhood, and therefore he follows a doctrine of

“The most important thing has always been, we absolutely cared for that, no third party should come to harm.”

In Rita’s case, there has been a very close relationship to their investors, as they have been additionally seen as important mentors by the two founders. Rita talks about the meeting one day before the founders applied for an opening of insolvency proceedings:

“And, as I’ve already told at the beginning, we had a really good relationship with our investors. And therefore, I found it ..., I always find it terrible to lose somebody else’s money. But until that day it never did happen. But it has been difficult for me. And then to tell the investors - we had met with eight of our investors on a Sunday night – and then to have to look into their eyes and tell them, for two and a half, three hours, ...”

As illustrated by table 14, psychological costs of failure are looming large in the participants’ sense-making of venture failure. The across-case anal-



ysis yielded three super-ordinate themes, firstly, negative emotions such as grief, anxiety, mortification and pain. Such emotions have been reported by the majority of the study's participants. Two candidates, Martin and Kenzo talked about anxieties leading to physiological reactions. So, Martin told about health problems such as high blood pressure caused by the anxiety to secure enough money to let him and his family survive the insolvency. Even more interesting is Keno's narrative about his increasing doubt in his abilities to start a successful enterprise:

"Now, as I grow older, to earn money gets a higher priority [...] And all of my previous business ideas haven't been sustainable, I start to think whether I in some way ... just have something nice in my mind and somehow see myself as being a creative entrepreneur, somehow just striving for freedom, and I don't know ... Sometimes I'm in doubt, whether it's all far from reality and whether I just betray myself and finally I have to go and look for a job, just as anybody else."

Digging deeper on the topic of self-doubt, Keno then moves to tell about positive aspects of self-doubt as being some kind of a regulating mechanism. He finishes as follows:

"However, in case the self-doubt leads to a feeling of being paralyzed, or in an incapability to move, as it is happening to me at the moment, then it has been a step taken too far."

At that point of the interview, Keno switched in his chair and shows expressions of pain. Asked about his bodily reaction he told about repeatedly having back aches for some days. Although the participant himself did not verbally express any relationship between his feelings of self-doubt, being paralyzed and incapable to move, there is a strong assumption that the bodily reaction has been triggered by his narrative.

Another interesting finding has been offered by Rita, talking about her increasing fear to lose control about a situation after the event of failure. This fear seems to materialize itself in a fear of flying. Rita has already suffered slightly of that fear before the failure experience, however, as it



had been increasing, she now realises there may be a relationship between both anxieties.

Motivational aspects of psychological failure costs can be differentiated in a contrary sense. On the one hand, experiencing failure may lead to a feeling of being helpless and doubting one's own abilities, as illustrated in Keno's narrative. Additionally, Jakob and Cornelia are referring to such aspects, as presented in the following statements of Jakob and Cornelia:

“So, to confront myself with the collapse of the venture, to deal with it, did hurt very much at the beginning and it still really feels like a huge failure. Because, nobody likes to tell that he has just shipwrecked a venture. No matter why that's the case. And therefore, it's strange in a way, and one would like to stand back somehow.”

„More has not been possible. I am not ready. I can only try to confront myself better now and move forward, As best as one can.”

Jakob additionally bears psychological costs in a motivational way, as he feels dissatisfied with his current employed position in a large cooperation. Although his wife reports to witness lower stress levels, he himself feels a lack of enthusiasm about his job, as he states:

“One has a different relationship now. That's not my venture, and not my idea, I just work for a corporation, in a team, which itself works very progressive, no question. However, I realise that there is a different kind of enthusiasm in my team, in the people I work with. And that bothers me, sometimes and paralyzes me. And then I get angry more often, as one should do what one does with all of your heart and not only because it brings money somehow.”

As mentioned above, the motivational aspect of psychological failure costs can be twofold. Contrary to the feelings of helplessness and self-doubt, motivation in some cases can be heightened to compensate for self-identified shortcomings and as a reassurance of a capability to achieve self-defined goals. Such motivation has been found in the narratives of Joseph, Karl and Rita. Again, Rita's statement expresses the concept best:



“I have never been as free and self-esteemed as in that situation, where I had to lose nothing any more. [...] There was nothing, I was with my back to the wall and have fought like a lioness. [...] But at that moment, I knew, ok, I am not a person to give up, I will just work through it. And, so to speak, if I set myself goals, then I am capable to achieve these goals.”

In Karl’s interview, the theme was also present, however, more difficult to grasp. He shows a general achievement orientation and is much pleased with the way he dealt with the crisis, finally hurting nobody, as it has been his goal. A good representation of his ambitions in that regard is presented as follows:

“Talk, and you will be supported. And so, if I have some topics, I will always address them. Because all what stays hidden, burdens relationships, burdens yourself, you have to carry it around, you may start getting paralyzed. And all what has been told, maybe it’s not decided in your favour, however, you at least know where you are standing in that matter. And then one can accept it and acceptance is always easier as a lack of decision. Because that maybe let one doubt.”

For Joseph, the heightened motivation to achieve his self-defined goal, “being able to build something self-sustaining from scratch”, is best explained with the following citation, here he is talking about his new position as an intrapreneur:

“And insofar, I checked the conditions first and after realising what the conditions are, I said Super cool. Because that’s paid learning for me. That’s my opinion and actually I have used the phrase now more than a dozen times to explain my job. And I do that job mainly because I have tasted blood being an entrepreneur or CEO and, in that role, I also see myself in the future. And, hey, if I can create two to three start-ups per annum in an organizational environment, with no huge problems of finances and other sorts of things. [...] Super cool. To get paid for that, perfect.”

In summary, it seems there is a complex sense-making process at work in terms of costs of failure that involves both negative emotions but also realisation that some costs are supportive in other aspects, as seen in the increase in achievement orientation. However, there is always a narrow path to negotiate to achieve a healthy balance between the different costs addressed here. For example, Rita now experiences a higher risk aversion (psychological costs) and realises how her financial decisions are affected by that need.



### 4.1.3.2 *Analysis and interpretation*

Whilst several previous studies have already highlighted the obvious financial costs and loss of income associated with failure and the emotional dimensions of failure resulting from the grief associated with losing one's business (Shepherd, 2003, 2009). The findings presented in this study provide further empirical evidence for interrelations of financial damage and manifold personal losses in the interconnected spheres of the entrepreneur's life caused by the failure.

Research with an interest in the financial costs of venture failure until today has been much focussed on the impact of “entrepreneur-friendliness” of the bankruptcy law (Armour & Cumming, 2008; Fan & White, 2003; Lee et al., 2011; Lee, Peng, & Barney, 2007; Peng, Yamakawa, & Lee, 2010) or the effects of strategies of risk differentiation (Ucbasaran et al., 2013). Other studies focussed on several different likelihoods to delay failure (DeTienne, Shepherd, & DeCastro, 2008; Shepherd, Wiklund, et al., 2009; Ucbasaran et al., 2013) or how to minimize the financial costs of failure by application of the “affordable loss principle” (Sarasvathy, 2009). However, taken an inductive approach, this study shows that financial costs in themselves are not highly relevant for the sense-making. Even Bjoern and Martin, the study's participants who had to suffer dramatically high financial losses, rather stated these costs as a fact and maybe a root cause for other costs, such as social costs like in Bjoern's case, or psychological costs as in Martin's. These findings are in line with Heinze (2013), explaining financial costs of failure as a transient experience that may be more present and hence more often used in the process of sense-making in the earlier times after the failure.





Also, social costs, the impact of failure on personal and professional relationships, have been researched previously in different directions. Break-downs of marriages and other close relationships have been reported by Cope (2011), Heinze (2013), and Singh, Corner, & Pavlovich (2007). The results of the current study are contradicting in that regard. Bjoern and Rita both told during the interview how the failure had resulted in a closer-knitted relationship with their important others.

The loss of important social networks of mutual obligations has been studied by Harris & Sutton (1986) and “parting ceremonies” seem to be a good strategy to reduce the impact (Shepherd et al., 2016; Ucbasaran et al., 2013). Such a strategy has been applied by some of the study’s participants too (Jakob, Joseph, Martin, Rita). Although such events have only been mentioned peripherally and hence do not fall under the category of super-ordinate themes, the participants all have been pleased with this experience and saw the meetings or talks as something that has been important for them during the grief recovery or later sense-making.

Ucbasaran et al. (2013) include stigmatization within the concept of social failure costs. On the other hand, Kücher & Feldbauer-Durstmüller (2019) discuss stigmatization and fear of failure in their own right. Due to the focus the participants put on stigma in regard to their failure perceptions, the concept has already been discussed in the previous section. Arguably, social stigmatisation clearly causes costs and the decision to discuss stigmatization separately has been made in an attempt to follow the predominant sense-making within the group of participants. However, an interesting finding is a deficit of belonging, triggered by negative emotions such as stress, fear of failure, loneliness, and grief (Patzelt & Shepherd, 2011; Shepherd & Haynie, 2009) and hence leading to a diminished quality of



relationships and decrease in subjective well-being. The effect is best illustrated in Rita's case, as she explains her feelings of being emotionally separated from her family as "they haven't lost their baby".

The last citation nicely opens an avenue to turn to the subject of psychological costs of failure, being the group of costs that has been the primary theme in the study's participants' narratives. Based on Ucbasaran et al. (2013), super-ordinate themes in the cluster of psychological costs are discussed as either emotional or motivational costs, although both costs types are interrelated.

The first group, emotional costs of failure include feelings such as pain, shame, anger, anxiety and fear (Cardon & McGrath, 1999; Cope, 2011; Harris & Sutton, 1986; Heinze, 2013; Shepherd, 2003; Singh et al., 2007). Shepherd (2003) applied the concept of grief as an umbrella term characterizing a number of negative emotions generated the failure, as grief is a negative emotional response likely to trigger further behavioural, experiential, and physiological symptoms (Shepherd, 2003, p. 320). The IPA study provides further empirical evidence for such effects. For example, anxieties have been expressed by Martin and Rita, leading to physiological (Martin: high blood pressure) or behavioural (Rita: risk aversion) symptoms. These findings are in line with Singh et al. (2007) and Cope (2011), who reported about their participants' psychological costs such as anxiety, panic attacks, phobias, and anger. In some of their cases, these negative emotions triggered physiological symptoms such as exhaustion, high blood pressure, insomnia, and loss of weight. An especially interesting finding has been yielded by Kenos narrative – showing acute signs of back pain as a reaction to the experienced self-doubts and feelings of being paralyzed in the aftermath of failure. A possible explanation for that

observation may be found in the work of Gross (1998), his tests of physiological responses in the reappraisal of disturbing experiences have shown that although participants have been told to reappraise such an experience in a more objective or technical way.

Turning to motivational effects of failure, the super-ordinate themes of the study confirm Ucbasaran et al. (2013) in their opinion that these costs are of a twofold nature. First, adverse motivational effects such as a sense of “helplessness,” that diminishes task performance (Bandura, 1991; Cardon & McGrath, 1999; Shepherd, 2003) have been reported by Cornelia, Jakob and Keno. The converse effect applies to Joseph, Karl and Rita, as all of them have experienced the failure insofar as motivating, as they did increase their efforts to be successful in their next projects, either in relation to the failure (Rita: making sure to sell her contracts at the highest possible prices to cover financial liabilities; Karl: taking care that no third party will be damaged) or in relation to their next career move (Joseph: creating and developing start-ups from an intrapreneurial position). Insofar the findings are in line with Cardon & McGrath (1999) and Ucbasaran et al. (2013). However, and this is at odds with Cardon & McGrath (1999), none of the participants would have attributed the failure to lack of own effort. Especially Karl is convinced that the failure of his business has been unavoidable, even with all the efforts of his whole family.

Shepherd (2003) proposed different strategies to recover from grief and hence to overcome negative emotions: (1) loss orientation, the individual actively looking for ways to “work through” some aspects of the failure, for example by talking about their grief or reflecting on the times where they did build and develop the business; (2) restoration orientation, the individual taking a proactive, future-oriented approach, either by starting



a new business or career project or by sorting out other sources of stress to ease the loss resulting from the failure. As both loss orientation as well as restoration orientation can have some negative aspects such as the first one slowing the process of recovery and the second one involving suppression, the (3) transition orientation may be work best, as the individual here applies both loss and restoration orientation by integrating both strategies in their sense-making. Findings from this study show that most of the participants seem to apply a transient strategy; only Bjoerns and Steffens narrative seem to suggest either a restoration orientation (Bjoern talks much about his new projects and rarely indulges in the circumstances and events surrounding the failure), or a loss orientation (Steffen took a less proactive approach after the failure and still struggles to get his life back).

Additionally, Shepherd (2009) argues that individuals with higher emotional intelligence may be more likely to successfully apply grief recovery strategies in the process of their sense-making and hence can learn from the failure experience. As the study's participants also took part in an assessment of versatility, a concept similar to emotional intelligence (Tracom, 2014), the findings show some empirical evidence for Shepherd's proposal. Participants with a higher score on the versatility scale also showed better results in regard to a positive grief recovery. Also, two of the participants with high versatility scores and a positive grief recovery talked about their habit to keep a special kind of diary where they reflect on a daily basis of what has been positive about their day, what are the things they are thankful for and what should they have done differently. To develop such a habit might be helpful, as critical reflections are a crucial factor to challenge personal assumptions and behaviours and hence stimulate higher-level learning (Cope, 2011). Additional-



ly, such reflections may trigger a change in the way an event is interpreted and hence can increase an individual's ability to regulate emotions (Gross, 1999; Shepherd, 2003).

#### **4.1.4 Learning from failure**

As already shown by the previous discussions, learning from entrepreneurial failure has to be understood as a complex phenomenon, defined by its multiple interrelations with other aspects of the entrepreneurial journey. One of the destinations of the entrepreneurial journey is entrepreneurial learning and hence the question of “who an entrepreneur may become through learning” has been raised in previous research (Cope, 2005; Rae, 2005; Wang & Chugh, 2014, p. 28). In their systematic literature review on entrepreneurial learning, Wang & Chugh (2014) define learning from failure as a distinctive process to better understand the roles of intuitive and sensing learning. The authors propose a research agenda, including the question of what and how entrepreneurs can learn from success and failure experiences. That question had been an essential impulse to undertake the present PhD research project. Therefore, the analysis of the participants' sense-making of failure learning experiences has been twofold. First, the interpretative phenomenological analysis yielded evidence in regard to failure perceptions, as learning from failure has been actively applied by most of the participants to see some positive aspects of the crucial life event. Second, to move beyond the pure sense-making, one of the prompts applied during the interviews highlighted learning outcomes experienced and learning strategies applied by the participants. These findings are presented, analysed and interpreted in IPA style in the following two subsections. Third, all statements about learning outcomes and learning strategies were additionally content-analysed for the purpose



Of a systematic study of subjectivity by application of the Q-methodology. These findings are presented and discussed in section 4.2.

#### 4.1.4.1 Super-ordinate themes

The superordinate themes in regard to learning from failure are presented in table 15. Again, the within-case analysis yielded a vast amount of data, and so, for the purpose of the across-case analysis, a further sub-categorization of learning about oneself, learning about the venture and learning about social relationships and networks has been applied. The three sub-categories have been developed from the research data and under consideration of studies originating from Cope (2011) and Quan & Hung (2016).

Table 15: Super-ordinate themes of failure learning

Super-ordinate themes	Bjoern	Corne- lia	Jakob	Joseph	Karl	Keno	Luis	Mar- tin	Rita	Stef- fen
<b>About oneself</b>	X	X	X	X	X	X	X	X	X	X
Self-efficacy and self-belief			X		X	X		X	X	
Grief recovery strategies		X	X	X	X		X		X	
Decision-making	X			X				X		X
Spirituality		X								
<b>About the venture</b>	X		X	X	X	X	X	X		X
Business model (strategy & structure)	X					X	X	X		
Business functions	X		X	X				X		X
Leadership & culture	X		X		X		X			
<b>About relationships</b>	X	X	X	X	X	(X)	X	X	X	X
Family & friends	X								X	
Business partner	X	X						X		
Business networks	X	X	X	X					X	
Mentoring					X				X	X
Wider public				X					X	

Starting with the learning about the entrepreneur him- or herself, as a pre-supposition, this sub-category has gained the most attention by the partic-



ipants. Although in some cases participants had some difficulties to exactly name learning outcomes, these outcomes have been nevertheless present in their sense-making. Let us take Cornelia as an example here. The immediate question of “What did you learn from the failure experience” led her start to tell a rather long story about how she discovered spiritualism and how she has first to amend her inner constellation (more heart, less head and gut) to get different results with outer constellations (i. e. in regard to decision-making) and how the spiritualistic approach helped her to discover and apply new grief recovery strategies.

The improved knowledge about how to best recover from the disastrous life event has been present in most of the participants’ narratives. That finding could have been expected, as already discussed in the context of costs of failure, the majority of the participants followed a transient grief recovery strategy. Karl offers a very good example in that regard as he surmises about the limited power of a SME to influence the change in governmental policies:

“I always try to think the other way around, so, positive. Yes, ok, the facts have been there, and we haven’t been able to take influence here. However, why should I cling on this negativity, that only makes me sad. Therefore, there’s always a time where I have to shift the lever to neutral and tell myself: Now, that’s what happened and I can’t change a thing about it. I am in the here and now and look forward. What happened in the past is the past, and I have learned from that. And today and tomorrow I will do things differently or in a better way, or try to make it better.”

Additionally, Rita recounts situations where she had negative thoughts about the future financing of her business, and how she shared her negative emotions with her co-founder:

“And she always told me, we’ll just try it, there has to be a way to make it happen. And she had to act exactly in that way, because I have been too negative. I ought to do something with that negativity, ought to put forward constructive ideas, ask what we shall do. And not just to worry and show my concern but taking no action.”



The supportive functions of diaries have already addressed in sub-section 4.1.3.2, in total four of the participants mentioned that they keep some kind of diary and find it a helpful technique to recover and learn from the past.

In regard to self-efficacy (a person's perception of their own capacity to successfully perform in certain roles and specific tasks, see for example Shepherd et al., 2016), the narratives yield again interesting findings. Half of the participants shared the experience to have learned something about their self-efficacy, as the following citations show. Starting with Martin, he explains how he learned about the important functions of self-efficacy:

“We have survived, dealt with the failure. And that's something good, something important. And that failure had let us learn. Learn how to be stronger, how to fight, how to survive. The failure is the enemy and the true and serious enemy – I just call it the enemy – that's a present. Because we can gauge ourselves against it. Not only talk and blather. True grappling with the other. Not with a weapon, but ... No matter whether that's the competitor or an argument [...] With a true enemy, one has to proof one's abilities. And that's the only way to develop, to grow.”

Turning to Rita, she always has shown high self-efficacy, however, during the crisis of her venture, she realised a decreasing self-efficacy. And she developed a strategy that worked well for her:

“And I got the feeling I have no self-confidence<sup>2</sup> anymore. I have to do something to get my confidence back. Because I need to be confident now, to go and take my position in that discussion now. Then my friend told me: Try and put on your red lipstick. And it worked, I have always put the red lipstick on, for every negotiation. And it may be earrings for one person, or cufflinks for a man. Some little thing to provide hold. And always I have put on my red lipstick, I got the impression of self-confidence. And then I took a look in the mirror and thought: here she is, Rita the fighter, now you have to fight.”

Karl also states that the failure experience helped him to develop higher self-efficacy, however, at the same time he acknowledges an increasing

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<sup>2</sup> In the German language, the semantic is slightly different from the English language. Self-confidence is the term colloquially applied to describe self-efficacy; the latter term is only applied in psychological circles.





awareness of his responsibility, and a respect of the consequences of his decision-making.

“And one gets just a certain self-confidence. However, nevertheless, one gets some respect at the same time. Because of the increasing understanding of the complexity of decisions and their consequences for other people.”

For Jakob, the learning about his self-efficacy had an adverse, however, somewhat “healing” effect, as the corresponding citation in the failure attribution section has already shown:

““In hindsight, at the university, we regularly performed very well, got good marks and now we are blinded by our success. Sometimes about oneself, one is much convinced about oneself, thinks one can always do better than others. And that’s a point here.”

The last superordinate theme in the sub-category of learning about oneself refers to attitudes in decision-making. Martin is now more aware of his personal tendency of risk appetite (citation see page 85). And Bjoern and Joseph both learned about the impossibility to approach decisions in either a purely objective or a sheerly emotional way. Again, both participants come from opposite directions, Bjoern has learned about emotional aspects of decisions, whereas Joseph learned to take a more objective approach in future decision-making.

The second sub-category of failure learning deals with learning about the venture. From the perspective of an interpretative phenomenological analyst, all the themes presented by the participants has been put forward in a more technical or objective way. This is shown by a lower application of metaphors and a somewhat “cooler” linguistic picture. For that reason, the super-ordinate themes will be explained with a limited usage of citations.

The first recurrent theme is the business model, defined as a structured and analytical model “by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to



profit” (Teece, 2010, p. 172). Learnings in that regard cover the feasibility of the business concept (Bjoern and Martin: opportunities to increase value and earnings), structural factors (Keno: retaining transparent portfolio), and time perspectives (Luis: overestimation of short-time orientation, underestimation of long-time orientation).

Learnings in the second position summarize an increased knowledge about certain functions of the business, such as financing (Jakob and Joseph), marketing (Steffen) and risk management (Martin).

The last headline covers learning about leadership and culture. This section is insofar particular, as there is an interface with the next subcategory, social relationships. For the purpose of the analysis, internal relationships with employees and co-founders are discussed within the leadership rubric, whereas external relationships with shareholders and stakeholders are discussed in the next paragraph. Joseph addresses learning about the management of employees, Keno and Luis the high importance of communication and conflict management and Karl the general organisational approach to decision-making (participation and calculation of scenarios).

Finally, two findings are especially interesting as these do not fall in only one of the categories. First, Bjoern draws attention to the fact that all factors are intertwined. He offers a short poem (it only rhymes in the German language):

“If you plan to create a functioning firm, you need to have seven things.”

He then lists five factors, financing, employees, leadership, market knowledge and networks, to explain the complexity of entrepreneurial learning.



Finally, Jakob did realise how his own perfectionism and ambition for high quality (learning about oneself) has been in the way to build fruitful relations, to trust partners and to delegate part of the work (learning about networks). The same interface of learning about oneself and learning about networks has been addressed by Steffen, his learning has been to – against his personal tendency to manage on his own - get more support from experienced experts, such as business coaches or mentors.

The last two findings nicely open up the discussion of the last sub-category of super-ordinate themes, learning about networks and relationships. That sub-category gained nearly as much attention as the “learning about oneself” section, the interview data yielded in total five super-ordinate themes. To start with family and friends, the theme shows a strong interrelation to the social costs of failure, Bjoern for example learned how stable his family situation has been and how much the failure experience did not only affect his personal life but also had some impact on the “socialisation” (as he calls it) of his children. Rita shares her confidence in the stable relationship with her boy-friend, stating

“I am now sure that he’s the person I shall spend my life with. Because he had to endure a lot. Because one is just stressed in such a situation, and every day, or every second day there are bad news again. [...] And yes, often I have been stressed and just not relaxed. And I realised he has been there for me when I needed him, and on the other hand he provided space when space was what I needed.”

Another interesting finding was shared by Rita, addressing the particular change in a relationship when the co-founder is the best friend. Rita sees herself as being very different in private life compared to business situations and she shares her learning as follows:

“But I would recommend every co-founding team [who are either best friends or in a romantic partnership] to sit together at the beginning and talk about things not directly connected to the business, such as how do I react when stressed, am I prepared to work on Sundays, am I willing to earn little for the next five years, how will I manage with little money, such things ....”



Learning about the importance of trustful networks and relationships has also been a recurrent theme for the majority of the participants. Taking a closer look, there are two streams within the narratives – the first one addressing relationships with business partners, Bjoern and Martin for example told about being disappointed with the behaviour of their business partners, Martin for example tells:

“At the one point or other, there has been some disappointment, when you feel somebody is your fiend. And then, all at once, this person tries to do some business behind the scenes with the liquidator. Yes, I have been a bit disappointed then ...”

In both Bjoerns and Martins case, their learning has been to take a closer look now when choosing to establish new partnerships.

The second stream addresses the learning an entrepreneur can get from business networks. Sharing ideas or getting some collegial advice is a good opportunity in many ways. For Joseph, being a member of the EO entrepreneurs’ organization, the monthly chapter meetings offer a good opportunity to reflect and talk about several challenges. For Jakob, the start-up incubator meetings had a similar effect and Cornelia invested in a two-year long entrepreneurial training with a strong focus on “the inner way”, guided by one of Germany’s leading business coaches. Cornelia is convinced that ...

“... it’s absolutely important to create a setting where a person can develop themselves. Because, when your environment always tells you that things will not work out, that’s not possible, that’s really not possible, then you will never risk something. However, in a setting with people who already achieved what you are aiming for, there are the right topics addressed and one asks for feedback, asks how did you do it. And all the people in such a setting like to offer help and support, and provide advice”.

Lastly, Bjoern uses a good metaphor to sum up the reflection points when sharing his ideas and gets no enthusiasm from his network:

“Am I the ghost driver, and if so, why?”



Mentors have also been a recurrent theme in some of the participants' narratives. Most interestingly, Karl reflects on the dual relationship, addressing that a mentee also has some responsibility for the mentor and comparing such a relationship with a godparenthood.

Learning about the relationship with the broad public, either via media communication or public outing has been put forward by Rita. Rita's positive attitude in regard to stigma, not getting hurt by stigmatization, has already been addressed in the analysis. However, she additionally developed a strategy for self-efficacy by talking about the failure at the stage, in front of more than 1,000 people:

„After the failure, over the Christmas season I put on my thinking cap and thought, ok, I would gain something good from the failure and I would like to go and [talk about the failure at the Fuckup Night in Frankfurt/Main]. I wrote to the organizer and told him, my co-founder and I, we would like to talk at the next event. And it went true. We have been the first. We learnt all the text by heart, as we did not know what will happen when talking in front of more than 1,000 people. Until then, 100 or 200 has been the maximum for me. And now, we have been very nervous at the beginning, before we have been introduced. And from the moment, as you stand with your back to the audience, got your microphone and then you turn around – that has been a really cool experience. It made me addicted, kind of. Ok, not addicted, but ... I recognised it's not a problem at all for me to talk about my failure. In case people will gossip afterwards, just let them do so. They have never talked to me. I know what I know. And I think, also the feedback has been amazing, so we thought, ok, that's what people are interested in and we have to go public with our failure more often”.

A public discussion of the failure did also happen in some of the other cases, however, only Rita actively applied her outing in such a growth-oriented manner as recognisable from her narrative.

#### ***4.1.4.2 Analysis and interpretation***

The findings of the interpretative analysis in this study offer some additional empirical evidence for theories in regard to task-oriented learning outcomes as well as higher order learning outcomes.

To start with the content dimensions of entrepreneurial learning, the analysis has yielded a similar cluster of content themes as proposed by



Cope (2005), with the relationship dimension forming an integral part of the other learning elements (learning about oneself, learning about the venture and its management). Especially the cases of Bjoern, Jakob and Steffen (p. 99) show some examples of the integration of relationship learning in the other learning functions.

Also, self-compassion theory put forward by Shepherd et al. (2016), defined as an individual's ability to feel kindness towards oneself in the aftermath of failure, has been proven right by the majority of the participants' narratives. The data analysis has yielded a strong association between the super-ordinate themes in regard to grief recovery and these in the learning section. A new contribution of this study is the information shared by the participants about tools and techniques they apply for active control of their recovery processes. Especially the habit to keep reflective diaries seem to be a successful strategy. Such strategies are also related with self-efficacy. Participants who apply tools and methods often show a stronger belief that they are capable to perform adequately in their entrepreneurial role.

Furthermore, the fact that all participants have been able to share some learnings in regard to their failures and that, additionally, the vast majority of them perceived the failure as being a genuine learning experience, supports the theory that there is more to learn from critical life events than from a more routinised and habitual 'incremental' learning (Cope, 2005; Cope & Watts, 2000; Mezirow, 1991). Such fundamental, or higher-level learning involves a transformation of values and assumptions guiding an individual's actions (Argyris & Schön, 1978; Mezirow, 1991). Cope (2005) suggests that higher-level learning enables entrepreneurs to change the way how they "do things" instead of just increasing the efficacy of



current actions and behaviours. However, an essential prerequisite for higher-level learning within the entrepreneurial process is the individual's capacity to stimulate critical reflection (Cope, 2005). Here, the study's findings show that most participants apply a transient recovery strategy, where reflections play an important role for the regulation of negative emotions and hence learning is possible to happen at the end.

However, crucial events or crisis situations can be seen as a prerequisite for higher-level learning and such disturbances or shocks are necessary for change in the sense of "unlearning, new higher-level learning and re-adaptation" (Fiol & Lyles, 1985, p. 808). Hence, the authors see unlearning as a prerequisite of learning of new routines. Wang & Chugh (2014) propose that higher-level learning involves to question values, assumptions and rules and to search for new solutions in an exploratory sense. To challenge own values and assumptions requires a high level of unlearning, hence to deliberately learn to stop doing something (Hedberg, 1981; Hislop et al., 2014; Zahra, Abdelgawad, & Tsang, 2011).

Unlearning is a still under-researched field and not much is known about the process of individual unlearning and its particular features (Durst et al., in press.; Hislop et al., 2014; Klammer & Gueldenberg, 2019). Therefore, one of the research objectives has been to gain insights about enablers of individual unlearning, such as intervention techniques, as well as how to recognise and decrease barriers to unlearning. Applying IPA as an in-depth qualitative research methodology as recommended by Hislop et al. (2014) and as part of a mixed method research design as suggested by Durst et al. (in press), the general finding is that the concept of unlearning has been not present in the participants' sense-making in the aftermath of failure. None of the study's participants pro-actively approached on the



topic of deliberately stop doing things in a certain way. Only when being prompted by the interviewer with questions such as: “are there certain behaviours or doctrines you have actively ceased to apply as a result of the failure?”, some data has been yielded. These findings are discussed here:

Jakob realised after the failure, that for future success, he has to overcome his - what he calls “typical German value” of perfectionism. In projects he started after the failure experience he is now aware that he has to stop doing things that slow down the development process and directly start the exploration of new solutions. His approach of unlearning can be characterized as cognitive or deep unlearning (Hislop et al., 2014; Klammer & Gueldenberg, 2019), as he reflects and interprets unsuccessful behaviour and – as a result of his sense-making abandons obsolete cognitive structures assumptions and beliefs (we need to develop a perfect product before we approach the market) - is able to discover and apply more appropriate beliefs (speed is key, quality has always be seen from the customer perspective).

Rita, on the other hand, did realise that to achieve higher-order learning a critical reflection is necessary. She reflects on her own values and standpoints, however, has not directly been able to provide an example for a deliberate behaviour change in the sense of unlearning. The prompt to talk about unlearning first evoked improvements of previous behaviours (in the context of negotiation and self-presentation). She then reflected on her unaddressed negativity at the beginning of the venture crisis and did realise during the interview that she has to change her attitudes in regard to risk perception, however, the unlearning itself had not been started to materialize. This is surprising insofar, as Rita clearly disposes of an en-



entrepreneurial mindset and perceives the failure as a genuine learning experience. This finding may lead to the assumption that Rita approaches the unlearning in a more behavioural-oriented way (Hislop et al., 2014). This would be in disagreement with the theory of crucial, disastrous life events leading to cognitive unlearning and continuous growth and development leading to behavioural unlearning (Hislop et al., 2014; Tsang & Zahra, 2008).

For Karl, he did not replace any of his values or beliefs in the aftermath of failure, however, explains how he complements his values and beliefs when necessary. Hence, he talks about core values of his family that always have been the guiding principles for the management of their business: punctuality, tidiness and honesty. All these principles are still in place, however have been supplemented by openness and transparency. In the narrow sense of the definition, in Karl's case unlearning did not happen at all, and question the chance whether a higher-order learning may take place at all. One likely explanation may be drawn from Politis & Gabrielsson (2009), as they found that a business closure for personal reasons seems not have any positive effect on failure learning. However, as Karl himself sees the closing of his family business as a crucial event and important learning experience, the comparison may be misleading and, as a result, more research would be necessary to understand how the apparently miss of an important prerequisite affects higher-order learning.

The last finding discussed in regard to unlearning is drawn from Cornelia's narrative. In her spiritual sense-making, values and beliefs are core concepts and hence she realises that a crucial life event may lead to abandon of core parts of one's personality, resulting in an improved inner balance that finally let the person behave differently. This seems to be a very



good description of the facilitation of behavioural unlearning by cognitive unlearning (Hislop et al., 2014; Klammer & Gueldenberg, 2019). However, research on entrepreneurial failure and spiritualism is scarce; Singh et al. (2016) as one of the few studies in that regard only address in general the suitability of spirituality to spark important learning mechanism by an extensive focus on critical reflection, leading to a higher ability to change their mental models. Therefore, more research may be requested to shed light on the process and elements of unlearning in a spiritual setting.

To summarize, learning outcomes addressed by the participants in their sense-making are much in line with previous conceptual and empirical work (Cope, 2005, 2011; Cope & Watts, 2000; Shepherd, 2003, 2009) and provide some additional empirical evidence. The findings furthermore show that participants are not aware that for learning in a “higher order” sense, a prerequisite is to pro-actively unlearn unsuccessful behaviour and cognitively recognize values, assumptions or beliefs that have been unsuccessful in the past. Hence, further research seems to be recommendable to broaden our understanding about barriers and enablers for individual unlearning.

#### **4.1.5 Sense-making and learning**

Narratives have been proven to broaden our understanding of the sense-making and dealing with entrepreneurial failure (see for example Mantere et al., 2013). This study is based on the narratives of ten entrepreneurs, who previously experienced venture failure, defined as “the termination of a business that has fallen short of its goals” (Cope, 2011, p. 605). As learning from failure has been a central concept in the sense-making of all participants and been identified as one of the super-ordinate themes in regard to the failure perception, a further examination of the narratives

focus on the participants' abstract conceptualisation of their failure learning. In his study about different psychological types, Jung (1971) put forward the concepts of intuitive and sensing learning styles, which have been widely applied in education research. Sensing learners are analytical thinkers and practical oriented individuals who learn by knowing facts or details and are more likely to discover and identify an opportunity. Contrary, intuitive learners are considered as conceptional-oriented, abstract thinkers, and more prone to create new opportunities. Similarities of the sensing and intuitive learning types to the concrete-abstract learning dimension of Kolb's (1984) experiential learning cycle have been addressed by Cook, Thompson, Thomas, & Thomas (2009). Furthermore, it can be assumed that opportunity exploration may involve both intuitive and sensing learning (Wang & Chugh, 2014). Based on the participants' narratives, a qualitative assessment of their learning style preferences has been carried out. For that purpose, all statements made by the participants in regard to their learning style have been evaluated by the researcher and checked against the sensing-intuitive scale items of the Felder-Soloman Index of Learning Styles© (ILS) (Litzinger, Lee, Wise, & Felder, 2007).

The across-case analysis yielded pattern in the participants' abstract conceptualisation (how they learn from failure, based on their reflection) and four distinct ways of abstract conceptualisation can be differentiated. Participants with a higher sensing orientation (Karl, Martin and Steffen) explained their failure learning as a gain in knowledge on how to overcome barriers by application of new methods. Next, four participants (Bjoern, Jakob, Joseph and Rita) have shown both sensing and intuitive learning orientation, as they provide examples where they learned new facts and gained new knowledge and at the same time talked about how the failure experience led them to a more comprehensive and more radical change in



their attitudes and behaviours. The third group of participants (Keno and Luis) applies higher intuitive learning, their narrative shows little concrete learnings in regard to facts and knowledge, however, they are deeply concerned with recognising the larger picture, look for interrelations of several aspects of the failure and the effects their own behaviour had in confounding relationships. The last type of abstract conceptualisation is particular in itself, as Cornelia, with her spiritual orientation, takes a purely intuitive learning approach. Although the sense-making narratives of the participants with a high intuitive learning style differ in some aspects, they all resulting in a rather disruptive change in the participants' personal and professional lives. Depending from the cause of the failure, the environmental situation and the experience of the entrepreneur, such learning might yet allow for future success. Martin has started a new, successful business after his insolvency, however, on a much smaller scale. Karl, now successful as an employed manager, with some entrepreneurial responsibilities and he is hence able to apply "lessons learned" from the venture failure. Steffen, however, seem to wait for an opportunity to move to the next stage of the learning cycle, active experimentation. A more intuitive approach, on the other hand, may lead to higher-order learning, but takes time and effort. Both participants have been able to develop an extensive understanding of their failure and are aware of values, beliefs and assumptions that possibly led to the failure. In their abstract conceptualisation, they have already overhauled these elements, however, they are still busy to create a new opportunity. Table 16 provides an overview of the narrative abstract conceptualisations of failure learning:



Table 16: Narrative abstract conceptualisations of failure learning

Sensing-Intuitive	Participants	Conceptual abstraction	Change mode	Examples
Sensing	Karl, Martin, Steffen	apply better methods	Adaption	implement risk management, improve decision-making process
Balanced	Bjoern, Jakob, Joseph, Rita	test your hypotheses	Evolution	Review core beliefs, doctrines, develop and test new assumptions
Intuitive	Keno, Luis	develop new sense	Reconstruction	Radical overhaul of beliefs, start from the scratch
Spiritual	Cornelia	focus on inner dimensions	Adaption	The heart is central and leads to meaningful constellations.

The pattern in the sensing-intuitive dimension of learning show parallels to the participants' application of unlearning and hence indicate a higher likelihood of learning from failure for the balanced dimension.

#### 4.1.6 Summary

The decision to apply IPA in the first study of the mixed-method research design was based on its capacity for links between the participants' understanding and the theoretical frameworks of mainstream entrepreneurship research (Smith et al., 2009). The results of the interpretative phenomenological analysis presented in the previous sections are manifold and show the close intertwining of failure attributions, perceptions of failure, costs of failure and learning from failure. All these influencing factors and outcomes are linked together via the process of sense-making (see section 4.1, figure 12). The aim of the IPA study was – by application of an inductive research strategy – to find answers to the first three research questions. In the following paragraphs, possible answers to these questions will be provided, before



turning to further unexpected or surprising findings that may need to get attention in further research.

*RQ1: What narratives told by failed entrepreneurs to make sense of the failure experience?*

*RQ2: What is the role of learning strategies for the sense-making process?*

*RQ3: Which unlearning strategies are applied to overcome unsuccessful behaviour?*

The analysis of the interviews has shown that all three research questions are strongly intertwined and answers shall not be provided in the proposed order. It came as a surprise that almost all participants assessed the learning which they got from the failure event as a genuine and much valued, although often emotionally stressful experience. A possible explanation for the strong resemblance of narratives may be found in the German setting of the study. In Germany, public discussions about a necessary re-conceptualisation of failure and the implementation of a more failure-friendly culture have been on the rise over the last three years. Judging from the research results, it seems that these attempts to reduce stigmatization and fear for failure have been successful, at least in entrepreneurial communities and networks. In regard to certain learning strategies, reflection is the common explanation for how learning takes place. Some participants have been aware that the “acid test” for learning is the practical application and hence they then told – in a rather operational way – which take-aways from their failure experience they have been able to successfully apply in practice. Hence, the answer to the second research question, RQ2, has to come first: as participants are rather not



aware of any certain strategies, they apply their learning in an operational way, led by their previous experiences and individual preferences. This finding provides some research opportunities for the second study of the mixed-method research design.

Furthermore, as shown in the previous section, the concept of unlearning is not present in the participants' sense-making (that being a rather expected finding), even the specific addressing of the concept has yielded hardly any results. As previous research has shown, unlearning is at first necessary at the individual level and additionally an important feature for proceedings of organizational change and organizational learning. Against that background, it is really surprising that participants seem not to apply unlearning or only apply it in a rather unconscious way. This would be contradicting to Hislop et al. (2014), who advocate that "unlearning [...] involves a conscious process of choosing to give up, abandon, or stop using knowledge, values, or behaviours" (p. 547). Hence there may be much to gain from paying more attention to better understand the process as well barriers and enablers for individual unlearning in general and in an entrepreneurial failure context in particular. Hence, RQ3 can only be answered in a still unsatisfying way: it seems that unlearning is not applied in a conscious sense but rather unconsciously as a by-product of gaining new knowledge or developing different behaviour. Therefore, future research should address the topic in a more explorative way and by application of methods that allow for a direct study in the daily environment of the entrepreneur, such as action research.

Turning now to the first research question, here the answer contributes to the literature and broadens our understanding on how the experiential learning cycle (Kolb, 1984) occurs after entrepreneurial failure. This topic



requires further research, as it has not been fully addressed by the majority of the experiential learning research (Wang & Chugh, 2014). As presented in the previous sections, the across-case analysis of individual narratives not only provides additional empirical evidence for learning being an integral part of the sense-making process after entrepreneurial failure. Additionally, a relationship between sensing and intuitive learning styles (Jung, 1971) and conceptional abstraction of learning as an element of Kolb's experimental learning cycle (1984) seem to exist. A more sensing-oriented approach leads participants to focus on a method- or technique driven narrative and results in adaptive changes in their personal and professional lives. Depending from the cause of the failure, the environmental situation and the experience of the entrepreneur, such learning might yet allow for future success. A more intuitive approach, on the other hand, may lead to higher-order learning, but takes time and effort. Finally, the combination of sensing and intuitive learning seems to offer the best ways to learn in the aftermath of failure. All of the participants in this group have not only been able to learn from failure by on the one hand apply newly gained knowledge and on the other question and - if necessary - replace misleading beliefs and unsuccessful behaviour. Additionally, they all have been able to move to the next stage in the learning cycle, active experimentation, and they stay mostly in an entrepreneurial context.

Some further unexpected findings have been the sense-making of and learning from failure from a spiritual perspective. Due to the scope of this study and the limited data (only one participant applies that approach) these findings will not be considered further in this study; however, they are worth to be re-considered in a later study.





## 4.2 Q-methodology study results

The results from the IPA study, presenting the first stage of the mixed-method design have not only yielded a wide range of data to draw from for the purpose of the concourse development of the second study, applying the Q-technique. Additionally, the results from the IPA research has shown that there is a strong need for research on failure learning strategies. Wang & Chugh (2014) summarize what is known to date in regard to entrepreneurial learning and identify avenues for further research, for example in regard to individual and collective differences of learning in the processes of exploration and exploitation, to the content and process of unlearning, as well as to the cognitive processes of entrepreneurs in different learning contexts (Wang & Chugh, 2014). Although several learning style theories do exist, critical problems with measurement are addressed, as the application of rank ordering will force a false dichotomy and self-reports may not be a valid measure of behaviour or skill level; and – last but not least – most of the inventories applied so far have poor reliability and validity (An & Carr, 2017). Hence, the current state of learning styles in general and failure learning in particular does not offer a typology to address the several aspects that impact individual learning in an entrepreneurial context. Therefore, the fourth research objective of the study has been formulated as follows:

*RQ4: Do certain differences in failure learning exist to build a typology of failure learning strategies?*

In the following sections the findings of the second study in the mixed-method design, Q-methodology will be presented, analyzed and interpreted. The sub-chapter will be concluded with recommendations for the typology's practical application within the field of entrepreneurship education.



## 4.2.1 Quantitative data analysis

As already discussed in the methodology chapter, section 3.3.3.2, at first the concourse has to be defined in order to develop a subset of statements, the Q sample, representing discussions about specific topics in the participants' language. As the definition of the Q sample is seen as the most critical and demanding part (Shemmings & Ellingsen, 2012), the researcher has to take care to find the right balance between comprehensiveness (coverage of a variety of viewpoints) and manageability for the participants. The concourse and the Q sample can be developed either by application of primary or by secondary data. One of the essential objectives of the IPA study, the first element in the mixed method design, was to gain primary data from elite informants (Aguinis & Solarino, 2019), as they have extensive and exclusive information in regard to venture failure experience. The IPA interviews (carried out in autumn 2018) yielded a total of 164 free-response statements defining and describing entrepreneurial failure learning which have been reduced in an iterative process to 60 statements used for the q-sorts (see appendix 5).

To recognize pattern in the opinions of a shared interest by certain groups of the population, participants are to be recruited for the formation of the so-called "P set". Whereas IPA requires a high homogeneity within the cohort of research participants, it is rather diversity in observable demographics (e.g. age, gender, social class, education) for Q-methodology, assuming an equivalent diversity in opinions (Watts & Stenner, 2012). Hence, 28 participants from two different university programs and from the start-up community have been recruited to engage in the Q-sort. Their characteristics can be described as follows: age ranges between 20–52 with an average age of 30 years; gender is 32 % male and 68 % female;

71 % are graduated with either a dual apprenticeship, bachelor or master degree and 29 % are undergraduates; 93 % have gained previous professional experience and 21 % already have gained start-up experience. A detailed overview of the participants' demographics is provided in table 17.

The table starts with number 15, as the first fourteen participants of the mixed-method design were involved in the IPA research, but have not participated in the Q-methodology research.

Table 17: Demographics of Q-method participants

No	Age	Gender	Education	Professional experience	Start-up experience
15	24	female	student	yes	no
16	31	male	graduate	yes	no
17	35	male	graduate	yes	no
18	29	male	graduate	yes	no
19	22	female	student	yes	no
20	27	male	graduate	yes	no
21	25	male	graduate	yes	no
22	24	female	student	yes	no
23	24	male	graduate	yes	no
24	24	female	graduate	no	no
25	21	female	student	yes	no
26	24	male	student	yes	no
27	24	female	student	yes	no
28	52	female	graduate	yes	yes
29	23	female	graduate	yes	no
30	48	female	graduate	yes	no
31	43	female	graduate	yes	no
32	27	female	graduate	yes	no
33	20	female	student	no	no
34	49	female	graduate	yes	no
35	21	female	student	yes	no
36	26	female	graduate	yes	no
37	33	female	graduate	yes	no
38	33	female	graduate	yes	yes
39	29	female	graduate	yes	yes
40	32	female	graduate	yes	yes
41	38	male	graduate	yes	yes
42	33	male	graduate	yes	yes



Although there has been some criticism of the recruitment of students in behavioural research (Copeland, Francia, & Strawser, 1973), it is relatively common in the investigation of basic cognitive and psychological questions in management research (Haynie et al., 2012). As a major interest of this study is to enhance methods to address the issue of failure learning within entrepreneurship education (a clear need is addressed by i. e. Bolinger & Brown, 2015; Fox et al., 2018; Kuratko & Morris, 2018b), the participation of entrepreneurship students in the research study should be seen as rather a strength of the study.

By application of the statistical software R, package *qmethod*, the process of analysis starts with a multivariate data reduction technique utilized by principle component analysis (PCA) to reduce the correlation matrix between Q-sorts into components. Then the first few components are selected and mathematically optimal rotated in order to obtain a clearer and simpler structure of the data. After some experimentation with different sets of factors, the decision for a four-factor model has been taken. The rotation results are presented in table 18.

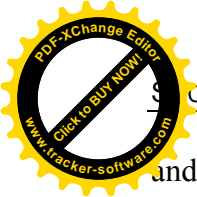
Table 18: Factor matrix and factor characteristics

Participant	Factor			
	1	2	3	4
15	0.24	0.48	0.24	0.11
16	-0.02	0.13	0.72	0.15
17	0.32	0.12	0.53	-0.03
18	0.17	0.73	-0.10	-0.20
19	-0.21	0.07	0.22	0.48
20	0.45	-0.06	0.51	0.15
21	0.62	0.26	0.35	0.15
22	0.23	0.24	0.40	0.38
23	0.52	0.22	0.16	-0.05
24	0.39	0.66	0.18	0.20

Participant	Factor			
	1	2	3	4
25	0.18	0.76	-0.14	-0.03
26	0.19	0.36	0.38	0.55
27	0.01	0.49	0.12	0.49
28	0.31	-0.02	0.43	0.42
29	0.41	0.20	-0.25	0.39
30	-0.16	0.63	0.01	0.12
31	-0.17	-0.07	0.55	0.14
32	0.24	0.13	-0.07	0.62
33	0.18	0.52	0.06	0.35
34	0.53	0.22	0.05	0.39
35	0.15	-0.06	0.19	0.62
36	0.59	0.18	0.01	0.48
37	0.43	0.09	0.64	0.18
38	0.36	-0.37	0.07	0.56
39	0.68	0.24	0.19	0.23
40	0.53	0.38	-0.15	0.24
41	0.64	-0.20	0.19	0.03
42	0.16	-0.14	0.70	-0.06
No of defining variables	7	6	6	4
Eigenvalue	3.93	3.56	3.28	3.20
% of variance explained	14	13	12	11
Composite reliability	0.96	0.96	0.96	0.94
S. E. of factor z-scores	0.18	0.2	0.2	0.24

Note: Values calculated after factor rotation; ■ indicating a defining sort (a significant loading)

Investigation of factor loadings, eigenvalues, explained variance, factor correlations and composite reliability scores suggests the four-factor solution, accounting for 50 % of the variance. Five Q sorts exhibited cross-loadings and therefore are not seen as defining variables for a factor. Each factor extracted represents a shared opinion of participants. All factors extracted meet standard criteria (Bolinger & Brown, 2015; Watts & Stenner, 2012) by showing eigenvalues in excess of 1.00, more than two Q sorts, hence participants significantly loading on each factor ( $p < 0.05$ ),



and satisfactory reliability scores. According to Hair, Black, William, Babin, & Anderson (2014), composite reliability should be  $> 0.7$ . Table 19 contains the four factors or main perspectives, indicating the agreement or disagreement of the given perspective with each statement.

Table 19: Factor scores for each of the four factors extracted

#	Factor scores			
	F1	F2	F3	F4
1	-3	-6	1	-3
2	1	-2	1	1
3	-5	-1	-4	4
4	4	0	-1	2
5	4	2	4	3
6	-6	-5	3	0
7	1	0	-2	-5
8	0	5	0	2
9	3	6	2	-1
10	2	4	3	-2
11	4	-2	2	0
12	5	1	-1	2
13	-3	-1	-6	-4
14	-5	4	-4	-6
15	-4	-3	3	0
16	3	1	1	4
17	-2	0	0	-3
18	-1	0	2	0
19	0	1	5	3
20	-2	2	-1	0
21	4	0	0	-1
22	-4	-3	-4	1
23	5	5	6	5
24	1	-2	5	-4
25	3	2	6	-2
26	-5	-6	-3	-3
27	1	-3	-2	6
28	-4	3	-5	-4
29	0	3	-4	-1
30	1	-2	1	0
31	-2	-4	-5	1
32	2	5	2	1
33	6	2	2	2
34	2	0	3	4
35	-3	-1	-3	-2
36	-1	-3	0	5
37	1	2	-3	1
38	3	-4	-5	-1
39	0	4	-3	-4
40	2	4	4	3
41	2	1	0	-2

#	Factor scores			
	F1	F2	F3	F4
42	-4	-4	-1	-6
43	-2	3	-2	-3
44	-1	1	0	-1
45	3	2	4	5
46	0	0	-1	-3
47	-3	-5	4	-2
48	-6	-4	-2	-5
49	-2	-2	0	-1
50	6	-1	5	6
51	-1	3	-2	2
52	0	0	-3	3
53	0	1	2	0
54	-2	-2	-2	-5
55	5	-1	1	1
56	-1	-5	-1	4
57	-3	-3	1	2
58	-1	3	-6	0
59	0	-1	0	3
60	2	6	3	-2

Factor scores presented in table 19 represent the strength of agreement with all statements. For example, perspective (factor) F3 is in strong disagreement with statement 58 (scoring -6), whereas F2 rather takes the opposite opinion (scoring 3) and perspectives F1 and F4 show an ambivalent opinion (scoring -1 and 0, respectively).

As the quantitative Q factor analysis of the data suggests a four-factor solution, the interpretation of these results is the qualitative part of the method (Watts & Stenner, 2012). Factors are explained based on the factor scores (see table 19). The qualitative analysis and interpretation are based on a narrative procedure aiming to link themes and statements together to develop a joint impression of participants' viewpoints (Watts & Stenner, 2012). Therefore, several documents were developed to figure out which statements are ranked particularly high or low in comparison to other factor arrays (Watts & Stenner, 2012). The results are complemented with descriptive data of participants loading on the factors, including information on age, gender, education, professional as



well as start-up experience. Aggregated statistics by factor are shown in table 20.

Table 20: Descriptive characteristics organized by factor

	Age	Gender		Education		Professional	Start-up
	(mean)	Male	Female	Student	Graduate	experience	experience
Factor 1	32	43%	57%	29%	71%	100%	43%
Factor 2	28	17%	83%	50%	50%	67%	0%
Factor 3	34	67%	33%	0%	100%	100%	17%
Factor 4	26	0%	100%	50%	50%	100%	25%
n/a	30	20%	80%	60%	40%	100%	20%
Total	30	32%	68%	29%	71%	93%	21%

The “n/a” line in table 20 represents participants with high ambivalence in their sorting (see table 18). Subsequent to the statistical analysis, the factors have to be interpreted in the tradition of qualitative methodologies to pay attention to the “whole viewpoint”, as that is what distinguishes Q methodology research from the “atomistic” methods and approaches (Watts & Stenner, 2012, p. 149).

#### 4.2.2 Qualitative data analysis

Following Stephenson’s (1935, 1953) holistic approach, common themes and shared viewpoints within the four factors are analysed and interpreted. This has been done by application of a so-called “crib sheet” (Watts & Stenner, 2012, p. 153), to ensure careful attention is spent to the whole array of factors. Additionally, observations during the q-sorts, information provided by the participants during the debrief, and demographic data has been taken into account for the purpose of final interpretation. Therefore, a narrative for each of the factors has been identified and factors are labelled with terms explaining their most prominent aspects (Watts & Stenner, 2012). All of the factors provide particular insights into the perspectives on failure learning. For the purpose of the narrative, factors are



labelled as follows: (1) reflective creator, (2) intuitive analyst, (3) expressive realist, (4) growth-oriented pragmatist. The viewpoints on failure learning presented by the particular factors are provided next, following the structure of learning outcomes and the role of learning in the process of coping and sense-making developed and applied for the first study of the mixed-method design, the interpretative phenomenological analysis.

### **Factor 1: the reflective creator**

In total, 7 participants load onto factor 1, and the factor explains 14 % of the variance. Participants loading on this factor strongly agree that failure should be preferred to not to try at all (similar to F3 and F4). However, they do differ in their appreciation of critical feedback, their ability to recognise early warning signals, their attention to reflection and the process of learning. On the opposite, the reflective creator strongly disagrees that one can only trust oneself (contrary to F4) and that commitments should be avoided in future (contrary to F3).

Taking a holistic approach to interpret the results, it is first to state that learning about the venture itself is the predominant perspective for the reflective creator, as the majority of distinguishing statements falls into that category (4: 4, 21: 4, 48: -6, 55: 5). Second, learning about social relationships is also present in the reflective creators' statements (33: 6, 6: -6), showing that failure does not generally damages trust in others. Third, the opinion group also recognizes learning as an essential part of the coping process in the aftermath of failure. Distinguishing statements (11: 4, 38: 3) show a higher appreciation of tools such as self-help books, videos, podcasts or talks to reflect upon and actively make sense of the failure event. The learning process is facilitated by time (12: 5).



Table 21: Learning themes presented within F1

Learning theme	distinguishing statements
Learning about oneself	0
Learning about the venture	4
Learning about social relationships	2
Learning as element of coping and sense-making	3

### Factor 2: the intuitive analyst

The second factor explains 12 % of the variance and 6 participants load on it. This type shows especially weak correlations to factors 3 and 4 and hence presents the most differentiated standpoint (8 perspectives statistically distinct from all other factors). Important for the intuitive analyst is to recognize excessive demand as well as to acknowledge that failure is not an unavoidable prerequisite for success. Furthermore, the importance of consistent structures, agreements and contracts is evaluated with high importance as well as the appreciation of things done right (despite the failure). All these viewpoints are contrary to the other types. Turning to disagreement, the intuitive analyst strongly disagrees with the “Fail fast, fail often” mantra, this is in line with the preference for structure and time for reflection and sense-making of the event. Additionally, there is strong disagreement that failure is a catalyst for new energy – in general, the intuitive analyst has a tendency to see failure in a rather negative way and seems to have difficulties to learn from failure. For example, they are ambivalent about statements such as recognizing early warnings and whether learning can be seen as an acceptable outcome of failure. Additionally, they agree more than all other types on statements addressing negative emotions such as anxiety to lose control, paralyzing self-doubt and the feeling that they “just don’t get it anymore”.

Taken together, intuitive analysts are focused on learning about themselves, as the majority of distinguishing statements falls into that category (9: 6, 14: 4, 32: 5, 43: 3, 56: -5, 60: 6). Additionally, the intuitive analyst is the only type agreeing - although moderately - with statements 29 and 58, that also fall in the category of learning about oneself. For all other learning outcomes, one statement in each case is of either distinct or highly relevant nature. In regard to learning about social relationships, the intuitive analyst – similar to F1 – strongly disagrees that one can only trust oneself (6: -5). Learning about the venture for the F2 type is limited to the recognition of the importance of structures, agreements and contracts (8: 5). In regard to the learning component of coping, they tend to experience struggles more often as they agree with metaphors in that sense (28: 3).

Table 22: Learning themes presented within F2

Learning theme	distinguishing statements
Learning about oneself	8
Learning about the venture	1
Learning about social relationships	1
Learning as element of coping and sense-making	2

### Factor 3: the expressive realist

To report on factor 3, the expressive realist, there is an explained variance of 12 % and again 6 participants load on that factor. The expressive realist strongly agrees with the importance not to hide after failure and not to blame somebody (as there is nobody to blame) for failure. That stance differentiates the expressive realist from all other types. Additionally, they are the only type to recognize intuition as an important aspect of learning from failure, they feel more free and ready to take up something new as there is nothing to lose anymore and they agree that the failure



event has to be closed before they can start a new project. On the disagreement side, the most differentiating statements are that expressive realists show no sign of any negative emotions such as paralyzing self-doubt, loss of ease and they also deny the need for higher safety measures.

Similar to the intuitive analyst, also the expressive realist mainly learns about themselves. However, contrary to F2, they rather seem to learn about their strengths, as their agreement (15: 3, 18: 2, 47: 4) as well as disagreement with opinions (13: -6, 29: -4, 58: -6) show. Additionally, they seem to have less barriers to learn also in the coping phase, as high relevance of statements (25: 6, 28: -5) show. Learning about social relationships does not take a seat in the front row for F3, with most of the statements falling into the ambivalent area of the q-sort and only one distinguishing opinion - interestingly they moderately agree they can only trust themselves (6: 3). Learning about the venture also is less present for the expressive realist, here again the expressive realist seems to be ambivalent about most of the statements, except their agreement that failure tend to have many roots (24: 5). Expressive realists do not see intuition as one of the learning facilitators (52: -3), a factor distinguishing their group especially from F4.

Table 23: Learning themes presented within F3

Learning theme	distinguishing statements
Learning about oneself	6
Learning about the venture	1
Learning about social relationships	1
Learning as element of coping and sense-making	3



#### Factor 4: the growth-oriented pragmatist

The last factor extracted has four participants loading on and an explained variance of 11 %. Differentiating agreements are the realization of own strength during a crisis and that crises can have a deeper sense such as providing the opportunity for growth. Also, the growth-oriented pragmatist agrees with statements such as seeing failure as catalyst for new energy and that learning from failure happens first through process routines and later intuitively as well as the requested acceptance of an (failure-induced) ending, all of these statements having been neglected by the other three types. For the disagreement statements, differentiators are the stronger trust in friends' honesty after failure and the deny that "things take their time, a short-time perspective does not help". It is also worth mentioning that growth-oriented pragmatists are the group with most differentiators in the ambivalence area (10 differentiators compared to 4 or 5, respectively). For example, the assumption that one can only trust oneself is strongly denied by reflective creators and intuitive analysts, whereas expressive realists rather tend to agree. Additionally, tools for reflection such as diaries or motivational support such as books or pod-casts, are either denied by the intuitive analysts and expressive realists or seen as helpful (motivational support tools) by the reflective creator. This "middle-of-the-road" tendency could be interpreted as a certain strength of the growth-oriented pragmatist, they on the one hand seem to be open-minded and on the lookout for tools that support their learning from failure, but on the other hand critical enough to understand that different events request different measures.

As for the learning themes, again learning about oneself gains the majority of interest, however with only 3 distinguishing perspectives (27: 6, 36: 5, 56: 4) the growth-oriented pragmatist stays behind. All other themes



only include one distinguishing statement, for learning about social relationships it is 54: -5; for coping 59: 3 and for learning about the venture 7: -5. Contrary to F3, the growth-oriented pragmatist tends to agree with intuition playing some facilitating role in the process of learning (52: 3).

Table 24: Learning themes presented within F4

Learning theme	distinguishing statements
Learning about oneself	3
Learning about the venture	1
Learning about social relationships	1
Learning as element of coping and sense-making	2

In summary, the research has yielded four factors representing four different failure learning orientations among new founders and entrepreneurship students. The classification provides some insight as to how entrepreneurially oriented people learn from failure. In the next section narratives of the failure learning orientations and dominant themes prevalent across the factors will be related to theoretical notions from previous literature.

### 4.2.3 Discussion of the failure learning archetypes

The four factors identified in this study represent four different failure learning orientations among entrepreneurship students and nascent entrepreneurs. The rationale to base the study on the opinions of these groups of the population can be explained by the objective to not only contribute to the scientific theories, but additionally to develop an instrument to be applied in the institutional setting of entrepreneurship education. Addressing entrepreneurial failure in a learning context can help to reduce fear of failure, a dominant aspect in regard to risk attitudes (Figner & Weber, 2011) as well as re-entry (Simmons et al., 2014; Walsh, 2017) or entry (Bolinger & Brown, 2015; Kollmann et al., 2017) into entrepreneurship.

Based on the results of the study, the quality of these failure learning orientations in regard to their suitability to recover from grief, regulate negative emotions and apply learning will be discussed in the context of theoretical concepts. Previous conceptual and empirical literature offers a range of categorizations, classifications and orientations on how entrepreneurs can recover and learn from the crucial experience of venture failure. Partially, the factors yielded by the analysis reflect some of the concepts discussed in the previous literature. However, results suggest that these failure learning archetypes are more nuanced and sensitive to individual differences. More specifically, the personal values and learning experience are captured and embedded in the classification presented here. Research over the past 50 years has yielded a range of competing and contested theories that aim to account for differences in individuals' learning, however, all these models have been criticized lately for their lack of scientific support (Coffield, 2012; Nancekivell, Shah, & Gelman, 2019; Willingham, Hughes, & Dobolyi, 2015). The term “archetype”, meaning in the spirit of Carl Jung the beginning or origin of the pattern, model or type (Knox, 2003) has been chosen to avoid confusion with other established learning style or learning type models such as Kolb's LSI (Kolb, 1984). The discussion will follow the key theoretical themes identified earlier – learning outcomes in the dimensions of learning about oneself, about social relationships and about the venture or project and learning as an element of the sense-making and coping in the aftermath of failure.

### *Learning about oneself*

Learning outcomes triggered by crucial events have the capacity to create fundamental changes in the entrepreneur's personal identity and hence have an impact on the values, perceptions and behaviour of the entrepreneur



(Cope, 2005b). As already discussed, such changes in personal beliefs, attitudes and assumptions are a prerequisite for higher-level learning (Cope, 2011; Cope, 2005b; Wang & Chugh, 2014). Statements addressing issues around the topic of learning about oneself aim to grasp the amount of higher-level learning achievable by the different failure learning archetypes.

The first archetype, the reflective creator, shows a rather ambivalent result in regard to learning about themselves. There are no statements distinguishing their attitude in either a positive (opportunity for higher-level learning) or a negative (barriers for higher-level learning) direction. A likely interpretation here is that participants do apply external failure attribution (Ucbasaran et al., 2013) and hence recognize no need to re-evaluate own values or behaviour. Another explanation could be found in their application of a restoration-oriented approach to recover from grief (Shepherd, 2003). On the other hand, a timely transition from loss orientation to restoration orientation modes as found in the oscillation grief recovery strategy is attributed to emotional intelligent individuals (Shepherd et al., 2016), that also being a possible interpretation of the ambivalent results shown by the reflective creator.

For the intuitive analyst, the factor 2 archetype, learning about oneself is a vast failure experience. Intuitive analysts often experience excessive demand and the feeling of being overwhelmed. Additionally, they realise that asking for support may be a helpful strategy. All taken together, it seems that loss orientation may be the preferred strategy for the factor 2 archetype and these individuals struggle stronger to regulate their negative emotions. For their personal growth, a focus on self-compassion, including an increased attention to emotional mindfulness, would be much recommendable (Shepherd et al., 2016).





Turning to the factor 3 group, the expressive realist embraces the failure in the position of the fighter. Although they experience negative emotions, they take an active approach to overcome the situation and therefore show a preference for a restoration orientation strategy to recover from the grief about the failure. Such a strategy may be helpful at first as the focus is not on the failure itself, hence strong negative emotions are avoided. However, as resources are allocated to deal with the secondary aspects of failure (changing life circumstances, applying for new jobs, ...), there is less capacity to understand the causes of failure and learning may be impacted in a negative way (Shepherd, 2003; Shepherd et al., 2016).

Finally, the growth-oriented pragmatists, represented by factor 4, experience failure as something crucial but at the same time as a chance. Similar to the factor 3 archetype, they take an active and solution-oriented approach to deal with the event of failure. However, different from the other archetypes, the growth-oriented pragmatist feels a really strong need to learn from the failure, to do it better next time. People in this group may have different psychological needs such as the need for competence or the need for belongingness or for autonomy, however, they all seem to be able to manage these needs well to recover from the grief of failure. A possible explanation could be their high amount of self-compassion and emotional intelligence (Shepherd et al., 2016). Furthermore, the growth-oriented pragmatist expresses high self-efficacy and – different from the factor 1 type, the reflective creator, also having a rather high initial self-efficacy – the failure event does not decrease their belief in their own capabilities. Therefore, attention has to be spent on how the factor 4 archetype explains the failure – in case of higher external attribution there may



be some barriers to learn from the failure (Chen et al., 1998; Walsh & Cunningham, 2017).

### *Learning about the venture*

The second learning outcome, learning about the venture and its management focus on what entrepreneurs learned about the strengths and weaknesses of the business and how to manage their businesses more effectively. Learning about strengths and weaknesses allows the entrepreneur to recognize possible reasons for the failure and leads to another form of higher-level learning: double-loop learning. Argyris & Schön (1978) introduce the concept as a “capacity to challenge mental models and frameworks for organizational success, redefining an individual's ‘theories-for-action’” (Cope, 2011, p. 617). On the other hand, learning about how to more efficiently run and control a business is rather seen as generative learning, a more process-driven ability, where entrepreneurs may not change their underlying assumptions and beliefs, however, shown an increasing competency to recognize warning signs and to set up corrective measures more early (Cope, 2011; Cope, 2005b; Gibb, 1997).

For the first archetype, the reflective creator, both the generative as well as the double-loop learning are present. They reflect much on what behaviour led to a certain outcome, then check underlying values and perception and are prepared to do away with unsuccessful pattern. Additionally, they think about processes and routines they have to implement or to amend for a better preparedness in regard to circumstances from the external environment (Cope, 2011).

The intuitive analyst, represented by the second factor, shows only little tendency to double-loop learning. Their strongest learnings are about pro-

cesses and routines and they express a stronger need for consistency. Furthermore, as they seem to struggle to recognize warning signs and/or to act upon such signals, there is also a lower ability to learn in a generative sense. This leads to the assumption that the intuitive analyst mostly learns in a adaptive way (Argyris & Schön, 1978; Wang & Chugh, 2014).

The third archetype, the expressive realist, shows a similar tendency to learn in a generative way, as also present in the factor 1 type, the reflective creator. They recognize warning signals and feel competent to act upon. However, although they show some signs to question failure causes, they show no strong tendency to scrutinize their core assumptions (Cope, 2011). This is much in line with their learning about themselves and might again been caused by their restoration orientation for grief recovery (Shepherd, 2003; Shepherd et al., 2016).

For the growth-oriented pragmatist, their stronger need to get results, to do something with the failure experience, to finally turn it into success, may steer them in the direction of a higher application of generative learning, as they may not be prepared to spend the time and effort necessary to question the reasons for the failure in the sense of a double-loop approach and it is rather likely for them to jump to a conclusion without looking for cumulative effects of smaller problems caused by wrong underlying assumptions (Cope, 2011).

### *Learning about social relationships*

As already discussed earlier, learning about relationships, both internal and external to the venture, is a key feature of learning from failure. Learning about the nature and management of relationships often triggers a “transformative learning” (Mezirow, 1991), defined as the capaci-



ly to transform an individual's perceptions and concepts on what, when and why they learn. Such a transformative learning falls – similar to concepts such as double-loop and generative learning – again under the definition of higher-level learning, as it involves to question values, assumptions and policies leading initially to an action. Cope (2011) sees both transformative learning and double-loop learning as stimulators for the learning in regard to social relationships. As learning about relationships often includes some learning about oneself, many of the failure learning outcomes have already been discussed in that section. However, there are some distinguishing aspects in what and how the four archetypes learn about the nature and management of social relationships and networks.

First, the reflective creator (factor 1) can be distinguished by a positive learning experience. Their networks and social relationships seem to be supportive and assist the reflective creator in their coping and sense-making; i. e. by providing meaningful feedback. Although social costs of failure may exist, due to the reflective creator's good ability to manage emotions and take good care of themselves, no hard feelings are existent in regard to the reflective creator's social network (Shepherd, 2003; Shepherd et al., 2016).

The factor 2 type, intuitive analysts, show parallels to the reflective creator in the dimension of a trusted network. However, they differ from the first factor insofar, as they seem to get less helpful feedback. This may result from the nature of their network, as for example family and friends with no entrepreneurial background might be able to provide emotional (and financial) support, however, cannot help with critical reflections about failure causes.

The expressive realist, on the other hand, has been experienced some kind of deception or a sense of betrayal in trust within their social networks and hence, they feel a stronger tendency to be more careful about cooperation or any kind of collaboration in future projects or ventures. This seems to be in line with results presented by Espinoza-Benavides & Díaz (2019) who found that re-entrepreneurs show higher owner identification than first-time entrepreneurs, and hence they are less willing to share part of their property. Furthermore, expressive realists show a similarly ambivalent feedback experience as the intuitive analyst (as well as the growth-oriented pragmatist, discussed in the next paragraph). Different from the intuitive analysts, a likely explanation here may to be found within their higher sensitivity in regard to trust.

Turning to the last factor archetype, the growth-oriented pragmatist shows a stronger trust in feedback from their social network with a higher ambivalence in regard to trust. A possible interpretation is their potentially high self-efficacy and good ability to regulate their emotional responses, leading them to recognize individual differences on their social environments on which they have to act upon.

#### *Making sense of and coping with the failure*

As illustrated in the IPA study, the process of sense-making and coping in the aftermath of failure is affected by attributions and perceptions of the failure and costs of failure (whereas these elements also show interrelations with each other). Hence, for the purpose of the identification of failure learning archetypes, each group opinion is built from statements addressing these issues. Furthermore, as learning from the failure partly depends for the sense-making, results from the learning outcomes are



Additionally taken into account in order to provide a holistic picture of each of the four archetypes.

For factor 1, the reflective creator, fear of failure and stigmatization (Bolinger & Brown, 2015; Kollmann et al., 2017; Simmons et al., 2014; Wyrwich et al., 2016) are present, but seem to be no threat to their future decisions. Costs of failure are recognized as emotional costs (Shepherd, 2003); however, the reflective creator seem to be able to regulate such emotions and hence there seem to be no particular barriers to grief recovery (Shepherd, 2003; Shepherd, Covin, & Kuratko, 2009) and learning from failure. Furthermore, this factor applies more intuitive learning, leading to the assumption of higher-order learning (Cope, 2011; Cope, 2005).

The second archetype, the intuitive analyst, perceives failure as a crucial event that likely leads to fear of failure and perceived stigmatization. Additionally, they seem to experience stronger negative emotions and struggle with their grief recovery. Hence, the intuitive analyst might lack some capabilities to manage their several psychological needs and engage in self-compassion (Shepherd et al., 2016), and hence that might be a barrier to learn from the failure. Furthermore, their evaluation of statements in regard to both the sensing and the intuitive learning approach show high ambiguity, resulting perhaps in a lower level learning (Wang & Chugh, 2014).

For the expressive realist, represented by factor 3, the analysis shows the least indication for fear of failure and stigmatization. At the same time, members of that group show a similarly ambivalent behaviour in the sensing-intuitive learning orientation as the intuitive analysts (factor 2). How-

ever, on the other hand, expressive realists show a very good ability to manage their emotions and hence seem to be successful in their grief recovery. Taken it all together, expressive realists seem to apply an entrepreneurial mindset, as defined by Stout & Annulis (2019), and hence experience less barriers for learning to take place.

Finally, a factor 4 type, the growth-oriented pragmatist, experiences some stigmatization and fear of failure, similar to the reflective creators (factor 1). However, they take a different approach in their coping and sense-making, as they are able to manage their emotions well and feel a higher degree of self-efficacy, leading them to take action and to move beyond the failure. In regard to their sensing - intuitive learning, participants of the second group also seem to take a hybrid approach in regard to the sensing – intuitive learning model (Jung, 1971; Wang & Chugh, 2014), and therefore may be more likely to be successful in the exploration of opportunities (Wang & Chugh, 2014).

#### **4.2.4 Conclusion and recommendations for entrepreneurship education**

As discussed earlier in this dissertation, there is an urgent call for actors within entrepreneurship education to pay more attention to the emotionally challenging but at the same time often unavoidable phenomenon of venture or project failure. Today, entrepreneurship education is mostly focussed on how to establish a successful business and entrepreneurial failure is neglected or worse stigmatized by educators (Wdowiak et al., 2017). Although some effort has been spent to develop programs suitable to raise the awareness for emotion regulation (see for example Shepherd, 2004), there seem to be a stronger focus on the generative learning aspects, such as how to establish a sound risk management in



order to recognise early warnings and not to lose out on opportunities (see for example Heinze & Henschel, in press). Although the rise in new educational methods such as learning events, learning through play, and serious games (Fox et al., 2018) may enhance learning insofar, as active experimentation as a crucial element of the learning cycle (Kolb, 1984) can be better embedded in the learners' journey, there is still a lack of instruments that may support both educators and learners in that way.

Furthermore, there is always the need to balance individual learning preferences, based on personality and behavioural styles, with the requirement to generalize in a learning setting. So far, categorization seems to be the best solution to find such a balance, however, as often categorization means to apply few, easy to observe features and then to conclude that other features are present. Willingham et al. (2015), give a very figurative example as they state "... by observing some perceptual features of an object - it is round, red, and shiny - we categorize it as an apple and thus can safely infer other non-observable properties: It has seeds inside, it is edible, and so on." (p. 269). Such a categorization may lead one to take a bite into their child's not really crunchy and rather not tasty plaything. For example, research has shown that entrepreneurs with a highly reflective learning style struggle to achieve success (Gemmell, 2017), as otherwise valuable reflective thoughts, may become destructive when dealing with psychological strain (Shepherd, 2003). Hence, focussing on one- or two-dimensional learning styles may not be helpful, as such models are not able to cope with the complexity of learning from entrepreneurial failure.

Therefore, the model of failure learning archetypes proposed in this study, focusses on the relational dynamics of learning from failure and hence



shows implications for nascent entrepreneurs in regard to their failure learning ability, in the spirit of Kolb's (1984) experiential learning cycle. For a practical application, a conceptual comparison of all four failure learning archetypes was compiled. The failure learning behaviours of each archetype were assessed in five categories (optimal, very good, good, fair and poor). Figure 13 first provides a general overview that is followed by some suggestions for the different archetypes to enhance the likelihood of learning from failure by addressing strengths to build upon as well as weaknesses to be aware of.

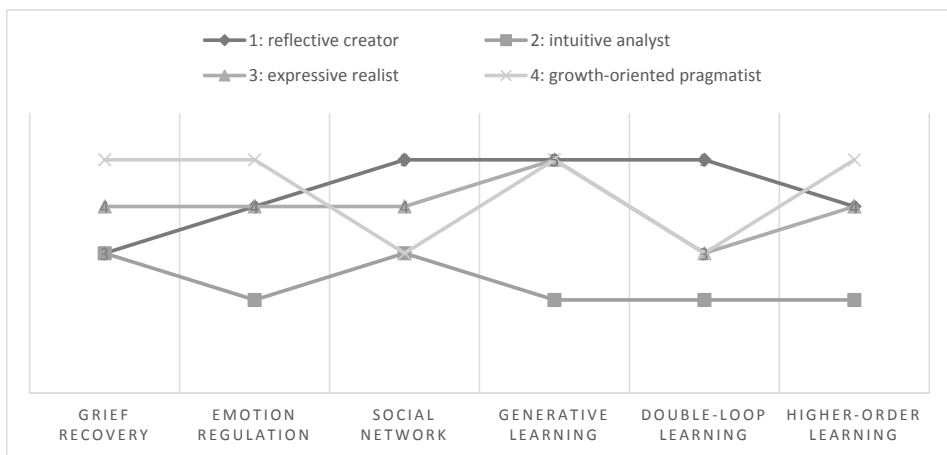


Figure 13: Differences between key theories across archetypes

Theoretical reasoning of the empirical results suggests that two of the failure learning archetypes show good preconditions for failure learning. This demonstrates that individuals who apply failure learning strategies cannot be seen as a homogeneous group – this suggests the need for a more nuanced approach to failure learning within the entrepreneurship education practice.

Starting with archetype 1, the reflective creator, is one of the archetypes with good prerequisites for failure learning. In general, there may be a



stronger need to discuss grief recovery strategies to allow them to realize about the positive results when applying a oscillation orientation (Shepherd, 2003; Shepherd et al., 2016). Although reflective creators are quite able to manage their emotions, further attention, especially in regard to an awareness of emotional mindfulness and the importance of self-passion seem to be recommendable for assuring learning from a crucial life event; as well as to increase the likelihood of entry or re-entry into entrepreneurship.

Turning to archetype 4, the growth-oriented pragmatist, is the second archetype with good preconditions for failure learning. However, in this case, the picture about areas of strengths and need for improvement is not as clear as for the reflective creator. Therefore, a recommendation for the growth-oriented pragmatist is to spend time to pay attention to root cases for the failure and to realise signs of over-confidence that may hinder the occurrence of higher-level learning. Additionally, attention should be spent to the sensing-intuitive learning types to support the growth-oriented pragmatist in their self-awareness.

To proceed with archetype 3, the expressive realist, in general also processes a good learning ability. However, there are some areas for further development that should be addressed within entrepreneurship education. First, as the expressive realist shows a preference for restoration orientation in their grief recovery strategies, they should be made aware of the benefits they can gain from an oscillation between restoration and loss orientation. Furthermore, similar to the factor 1 type, expressive realists are likely to benefit from a stronger application of emotional intelligence and self-passion to get a stronger satisfaction in social interactions as well as to increase chances for double-loop and higher-level learning to take place.

Finally, archetype 2, the intuitive analyst, shows the strongest need for the development of failure learning competencies. This is insofar no surprise as all group members are students with no or only limited professional, not to speak about entrepreneurial experience. Compared to the other three archetypes, the intuitive analyst has to fight many battles at once. However, this is the archetype most likely to enrol in entrepreneurship education and a clear signal for actors within entrepreneurship education to introduce topics such as emotion regulation, grief recovery strategies, emotional intelligence and self-passion into their curriculums.

To conclude, with the help of Q-methodology, it has been possible to find an answer for the research question

*RQ4: Do certain differences in failure learning exist to build a typology of failure learning strategies?*

As shown by the statistical factor analysis and the qualitative interpretation of the factors, different approaches to learn from crucial life events, such as failure experiences, are likely to be applied by different groups of individuals. Learning opportunities and learning outcomes are dependent from the individual sense-making and coping with the failure experience and these are in turn affected by individual attributions and perceptions of failure, as well as the perceived amount of costs to pay in the aftermath of failure. The four-factor model of failure learning archetypes proposed in this study shall provide better guidance for entrepreneurship students, nascent entrepreneurs and actors in entrepreneurship education to overcome barriers to learn from failure and hence increase the likelihood of entering or re-entering the field of entrepreneurial activities.



Whether the model will be applied in the form of tests or more in the way of higher sensibilization through classroom discussions (possibly facilitated by guest speakers), case studies or role-plays (Shepherd, 2004), action learning as a peer-to-peer learning mechanism (Cope, 2011), mentoring (Ahsan et al., 2018), or even perhaps in a learning through play setting (Fox et al., 2018) stays to be decided at a later point in time and furthermore can be affected by the results from the last study in the mixed-methods design, aiming to research possible associations between the failure learning archetype model and Tracom's Social Style Inventory.

### **4.3 Failure learning association tests**

At the start of the PhD study the initial situation has been that there is only little known about learning strategies of German entrepreneurs in the aftermath of failure experiences. Furthermore, there is also limited information on how likely such strategies are to ensure learning to take place, at best in the sense of higher-level learning. What is known is - as already discussed in the literature review as well as with the evidence from the first two studies of the mixed-method design - that individual differences are a determinant for learning strategies chosen and learning outcomes retained. The Q-methodology research has successfully answered a call to examine relationships between perceptions of failure, individual failure attributions, and subsequent learning behaviour (Cardon et al., 2011). However, as already discussed earlier in this study, learning is a social experience (Bandura, 1977) and a context-specific behaviour, which is directed by personality and cognitive pattern (Curry, 1983).

Different from personality traits, human behaviour is more fluid or context-sensitive (Gemmell, 2017) and several models have been developed to help individuals increase their awareness of behavioural pattern and the

likely results they will get from a certain behaviour in a certain environment. Most common models in that regard are the Myers-Briggs Type Indicator, the DiSC model and the Social Style Model (Kraiger & Kirkpatrick, 2010). Developmental programs based on these models are well established in many organizations and institutions around the world and research has provided empirical evidence for the models' success of improvement of interpersonal skills (Kraiger & Kirkpatrick, 2010). However, such models cover general behaviour, the MBTI and Social Styles as well as some special editions of the DiSC with focus on social interactions in a professional environment and learning behaviour is not addressed explicitly. However, it would be interesting to know whether associations do exist between behavioural styles as addressed by the common models and failure learning behaviour as presented by the failure learning archetypes yielded by the Q-Methodology study. Therefore, the last research question in the PhD study has been formulated as follows:

*RQ5: What are the relationships between failure learning strategies and social styles?*

To answer that question, out of the three most common models, the Social Style model was selected. The selection was based on the convincing empirical results presented by Kraiger & Kirkpatrick (2010). The advantages shown by their study may result particularly from two additional elements included in the model that are not present in both MBTI and DiSC models. First, Social Style does not solely rely on self-evaluation, as the model additionally includes a peer evaluation. For the PhD study, this element has been especially interesting in order to avoid problems with self-reports as addressed by Podsakoff & Organ (1986). Second, additionally to the scale-based assessment of assertive behaviour and responsive be-



behaviour, the Social Styles model applies the measure of versatility, which is defined as a person's ability to manage their behaviour appropriate to any style they may have to relate to in a certain social interaction. The concept of versatility shows some similarities to the well-discussed concept of emotional intelligence (Daniel Goleman, 1999; Salovey & Mayer, 1990), with particular focus on aspects of emotional intelligence that are relevant for workplace situations (Tracom, 2014).

### 4.3.1 Data analysis

As already discussed in the methodology chapter, section 3.3.3.3, behavioural pattern of all participants have been assessed by application of the Social Styles Inventory. Table 25 provides a summary of the participants' demographics and their respective learning archetypes, social style and versatility.

Table 25: Participants' demographics, archetypes, styles and versatility

No	Gen-der	Age	Education	Profes-sional experience	Start-up experi-ence	Failure Learning Archetype	Social Style	Ver-satility*
1	female	34	graduate	yes	yes	Growth-oriented pr.	Amiable	y
2	male	26	student	yes	yes	Expressive realist	Expres-sive	x
3	male	58	graduate	yes	yes	Expressive realist	Expres-sive	x
4	male	33	graduate	yes	yes	Reflective creator	Amiable	y
5	female	38	graduate	yes	yes	Growth-oriented pr	Amiable	y
6	male	60	graduate	yes	yes	Reflective creator	Expres-sive	x
7	male	49	graduate	yes	yes	Reflective creator	Expres-sive	Z
8	male	37	graduate	yes	yes	Reflective creator	Expres-sive	x
9	female	42	graduate	yes	yes	Growth-oriented pr	Driving	Z
10	female	25	graduate	yes	yes	Expressive realist	Expres-sive	Z
11	male	34	graduate	yes	yes	Reflective creator	Amiable	Z
12	male	47	graduate	yes	yes	Reflective creator	Expres-sive	y
13	female	34	graduate	yes	yes	Reflective creator	Expres-	Z

No	Gender	Age	Education	Professional experience	Start-up experience	Failure Learning Archetype	Social Style	Ver-satility*
14	male	34	graduate	yes	yes	Reflective creator	sive Expressive	Y
15	female	24	student	yes	no	Intuitive analyst	Amiable	X
16	male	31	graduate	yes	no	Expressive realist	Driving	W
17	male	35	graduate	yes	no	Expressive realist	Expressive	X
18	male	29	graduate	yes	no	Intuitive analyst	Analytical	W
19	female	22	student	yes	no	Growth-oriented pr	Driving	W
20	male	27	graduate	yes	no	Expressive realist	Driving	W
21	male	28	graduate	yes	no	Expressive realist	Expressive	W
22	female	24	student	yes	no	Expressive realist	Analytical	X
23	male	24	graduate	yes	no	Reflective creator	Driving	W
24	female	24	graduate	no	no	Reflective creator	Amiable	X
25	female	21	student	yes	no	Intuitive analyst	Analytical	W
26	male	24	student	yes	no	Growth-oriented pr	Analytical	W
27	female	24	student	yes	no	Growth-oriented pr	Analytical	W
28	female	52	graduate	yes	yes	Expressive realist	Amiable	Y
29	female	23	graduate	yes	no	Reflective creator	Amiable	Y
30	female	48	graduate	yes	no	Intuitive analyst	Analytical	W
31	female	43	graduate	yes	no	Expressive realist	Amiable	Z
32	female	27	graduate	yes	no	Growth-oriented pr	Amiable	Z
33	female	20	student	no	no	Intuitive analyst	Amiable	Y
34	female	49	graduate	yes	no	Reflective creator	Amiable	Z
35	female	21	student	yes	no	Growth-oriented pr	Analytical	W
36	female	26	graduate	yes	no	Reflective creator	Amiable	Z
37	female	33	graduate	yes	no	Expressive realist	Driving	X
38	female	33	graduate	yes	yes	Growth-oriented pr	Amiable	Z
39	female	29	graduate	yes	yes	Reflective creator	Expressive	Z
40	female	33	graduate	yes	yes	Reflective creator	Amiable	Z
41	male	38	graduate	yes	yes	Reflective creator	Analytical	W
42	male	35	graduate	yes	yes	Expressive realist	Analytical	X

\* w=lower than 75%, x=lower than 50%, y=higher than 50 % and z=higher than 75% of the norm group



The inventory was carried out via online assessment and includes both self-evaluation as well as third-party evaluation. The statistical procedure for style and versatility estimations was provided by Tracom right after the submission of the online assessment (done individually by each single participant and their third-party feedback providers in their own time). Reports released to the researcher provide information on each participant's specific behavioural pattern (driving, expressive, amiable or analytical) and their level of versatility (w=lower than 75%, x=lower than 50%, y=higher than 50 % and z=higher than 75% of the norm group). The data is hence represented in a categorial format, same as the failure learning archetype data extracted by the Q-methodology study. For the Social Style assessment, table 25 only includes the third party evaluation, first for the reason to avoid any self-report biases as discussed earlier (Podsakoff & Organ, 1986). Furthermore, a pre-test carried out within the process of the statistical analysis has shown stronger associations within the third-party-evaluation dataset compared to the self-evaluation dataset.

The dataset (see table 25) has been used for cross-tabulation and descriptive statistical analyses with several association tests by application of the statistical software IBM SPSS Statistics 25. For a statistical evaluation of datasets consisting of categorial variables, computing correlations (or for categorial data associations) can be done by application of various statistical metrics such as chi-square test or Goodman Kruskal's lambda, which was initially developed to analyse contingency tables. Contingency tables or cross tabulation display the multivariate frequency distribution of variables and are heavily used in scientific research across disciplines. However, there are some drawbacks with such metrics, as the contingency coefficient C suffers from the disadvantage that it does not reach a maxi-





imum value of 1. The highest value of C for a 4x4 table (as used in this study) is 0.870. Further, other measures such as Cramer's V can be a heavily biased estimator, especially compared to correlations between continuous variables and will tend to overestimate the strength of the association (Bühl & Zöfel, 2002).

For the first calculation, failure learning archetypes and Social Style behaviour pattern, the cross-tabulation is provided in table 26, representing the number of cases and their distribution.

Table 26: Cross-tabulation of failure learning archetypes and social styles

		Reflective Creator	Intui- tive Analyst	Expressive Realist	Growth- Oriented Pragmatist	Total
Amiable	cases	7	2	2	4	15
	% within Social Style	46,7%	13,3%	13,3%	26,7%	100,0%
	% within Learning	43,8%	40,0%	16,7%	44,4%	35,7%
% total		16,7%	4,8%	4,8%	9,5%	35,7%
Analytical	cases	1	3	2	3	9
	% within Social Style	11,1%	33,3%	22,2%	33,3%	100,0%
	% within Learning	6,3%	60,0%	16,7%	33,3%	21,4%
% total		2,4%	7,1%	4,8%	7,1%	21,4%
Driving	cases	1	0	3	2	6
	% within Social Style	16,7%	0,0%	50,0%	33,3%	100,0%
	% within Learning	6,3%	0,0%	25,0%	22,2%	14,3%
% total		2,4%	0,0%	7,1%	4,8%	14,3%
Expressive	cases	7	0	5	0	12
	% within Social Style	58,3%	0,0%	41,7%	0,0%	100,0%
	% within Learning	43,8%	0,0%	41,7%	0,0%	28,6%
% total		16,7%	0,0%	11,9%	0,0%	28,6%
Total	cases	16	5	12	9	42
	% within Social Style	38,1%	11,9%	28,6%	21,4%	100,0%
	% within Learning	100,0%	100,0%	100,0%	100,0%	100,0%
% total		38,1%	11,9%	28,6%	21,4%	100,0%

The distribution of cases across the failure learning archetypes was already discussed in section 4.2.2. For the Social Styles, amiable and expressive styles are the largest groups and driving style the smallest. Such a distribution might be explained either by the small sample or by bias of self-selection during the sample recruiting.



Table 27 presents the association measures between both the failure learning archetypes and Social Styles. Although no dependent variable has been estimated, there should be a higher likelihood for failure learning being determined by social style behaviour.

Table 27: Association tests of failure learning archetypes and social styles

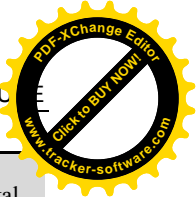
	Chi-square	df	p-value
Pearson	10,374	9	,321
Likelihood Ratio	12,231	9	,201
		value	p-value
Phi		,497	,321
Cramer-V		,287	,321
	symmetrical	,151	,063
Lambda	Social Style dependent	,148	,241
	Learning dependent	,154	,147
Goodman-and-Kruskal-Tau	Social Style dependent	,131	,063
	Learning dependent	,129	,069

Results from the statistical analysis only show a weak association, with Cramer’s V 0.287, Goodman and Kruskal’s Lambda 0.154, and Goodman and Kruskal’s Tau 0.129, all statistically non-significant with p-values > 0.05.

Turning to the second calculation, failure learning archetypes and versatility level, an overview of results from the crosstabulation is provided in table 28.

Table 28: Cross-tabulation of failure learning archetypes and versatility

		Reflective Creator	Intuitive Analyst	Expressive Realist	Growth-oriented Pragmatist	Total
w	cases	2	3	3	4	12
	% within versatility	16,7%	25,0%	25,0%	33,3%	100,0%
	% within learning	12,5%	60,0%	25,0%	44,4%	28,6%
	% total	4,8%	7,1%	7,1%	9,5%	28,6%
x	cases	3	1	6	0	10
	% within versatility	30,0%	10,0%	60,0%	0,0%	100,0%
	% within learning	18,8%	20,0%	50,0%	0,0%	23,8%
	% total	7,1%	2,4%	14,3%	0,0%	23,8%
y	cases	4	1	1	2	8
	% within versatility	50,0%	12,5%	12,5%	25,0%	100,0%



		Reflective Creator	Intuitive Analyst	Expressive Realist	Growth-oriented Pragmatist	Total
	% within learning	25,0%	20,0%	8,3%	22,2%	19,0%
	% total	9,5%	2,4%	2,4%	4,8%	19,0%
	cases	7	0	2	3	12
z	% within versatility	58,3%	0,0%	16,7%	25,0%	100,0%
	% within learning	43,8%	0,0%	16,7%	33,3%	28,6%
	% total	16,7%	0,0%	4,8%	7,1%	28,6%
Total	cases	16	5	12	9	42
	% within versatility	38,1%	11,9%	28,6%	21,4%	100,0%
	% within learning	100,0%	100,0%	100,0%	100,0%	100,0%
	% total	38,1%	11,9%	28,6%	21,4%	100,0%

The labels of versatility categories are to be interpreted as follows: w=lower than 75%, x=lower than 50%, y=higher than 50 % and z=higher than 75% of the norm group, cases with lowest and highest versatility levels show the same size, followed by cases which show a versatility lower than 50% of the norm group.

Table 29 presents the association measures between both the failure learning archetypes and the concept of versatility. Although no dependent variable has been estimated, there should be a higher likelihood for failure learning being determined by the level of versatility.

Table 29: Association tests of failure learning archetypes and versatility

	Chi-square	df	p-value
Pearson	14,281	9	,113
Likelihood Ratio	16,970	9	,049
		value	p-value
Phi		,583	,113
Cramer-V		,337	,113
Lambda	symmetrical	,232	,053
	Versatility dependent	,267	,049
Goodman-and-Kruskal-Tau	Learning dependent	,192	,188
	Versatility dependent	,119	,103
		,121	,093

Similar to the calculation of associations between failure learning archetypes and social style, the calculation of associations between failure learning archetypes and versatility only show slightly better results, with Cramer’s V 0.337, Goodman and Kruskal’s Lambda 0.192, and Goodman



and Kruskal's Tau 0.121, all statistically non-significant with p-values  $> 0.05$ . The only significant association seems to exist between failure learning and versatility with versatility as the dependent variable. However, this result is rather equivocal and will be further discussed in the next section.

### 4.3.2 Discussion of results

Possible associations between the failure learning archetypes extracted by the Q-methodology and one of the most widespread models for social behaviour development have been tested by application of several statistical tests. However, all the associations shown in the calculation have been weak and not statistically significant. There could be several reasons for such an outcome. At first, as already discussed, association tests with datasets consisting of categorical variables may provide uncertain results due to the way of calculation. Often, the application of such tests serves solely explorative purposes. However, for more reliable calculations of correlations such as the Pearson correlation test, datasets have to consist of numerical variables.

A second reason for the unsatisfying significance results may be found in the rather small sample size. Although any correlation test would be mathematically absolutely correct with only 2 cases, although such a calculation would be of little use, as the coefficient would always be plus or minus 1 (exact identity excluded), and Cramer's V would always be -1 or +1, respectively (Bühl & Zöfel, 2002). And it might also be correct to assume that both models are conceptually different. For the purpose of the study, the answer to the final research question



*RQ5: What are the relationships between failure learning strategies and social styles?*

can be formulated insofar, that a first explorative association test has resulted in an equivocal outcome. However, future research based on numerical datasets and on a larger sample size may provide further insights. Turning now to the last section of the chapter, a short summary will be given on the joined results of the particular studies of the mixed-method approach.

#### **4.4 Summary of results from the mixed-method design**

Led by the pragmatistic research philosophy, a paradigm that mitigates the constraints imposed by the forced choice dichotomy between interpretivism and realism the research design allows a look at phenomena from different perspectives and provides deeper understanding (Morgan, 2007). Therefore, the research study has been designed as a mixed method approach. In the final step of analysis, findings are now coalesced in a new framework of failure learning archetypes. This is a major advantage of the study, as the forced dichotomy of quantitative and qualitative methods has been overcome (Feilzer, 2010). The entire study was carried out with an inductive approach in mind and hence five research objectives have been addressed in a broad sense.

In general, research findings can be categorized as follows: first, findings can contribute to existing knowledge of an aspect of the reality studied, or the findings may help to improve ways of thinking (Saunders et al., 2009). The first part of the study has been able to yield unique findings in the first category, by application of interpretative phenomenological analysis. With the second fieldwork, executed by Q-methodology, the find-

ings may fall in the second category, as the failure learning archetypes extracted from the q-sorts, shall enhance the sensitivity for the topic of learning from failure in the field of entrepreneurship education. Furthermore, the exploration of associations between failure learning archetypes and social behaviour represented by the Social Style model has shown only weak, statistically non-significant associations between the two models. Hence, the association test further strengthens the concept of failure learning archetypes discussed in section 4.2.

The compilation of data analysis has been presented figure 11, figure 14 shows an amended version to summarize most important research findings from all single elements of the study.

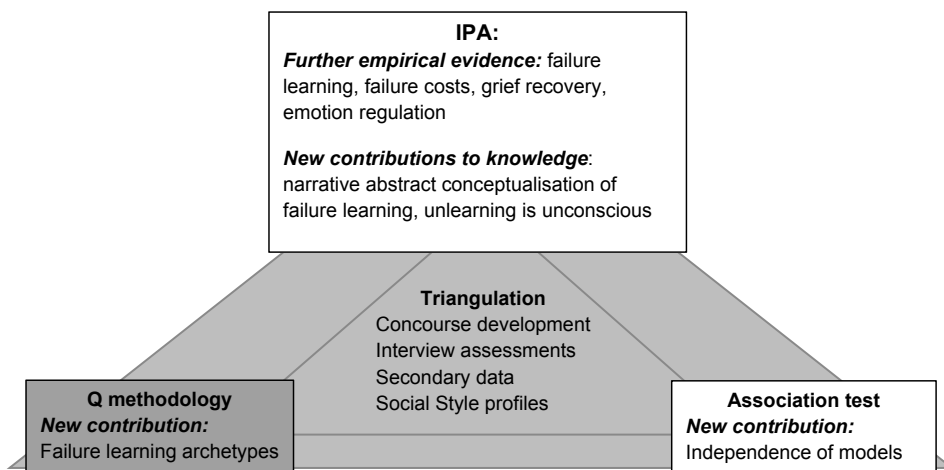


Figure 14: Compilation of research results

Source: own illustration, based on Schönbohm & Jülich (2016)

As presented in figure 14, the framework of failure learning archetypes can be seen as the pinnacle of research results. However, the most comprehensive and time-consuming part of the mixed-method study has been the whole process of IPA data collection, analysis and interpretation. That part of the study not only helped to develop the concourse for the Q-sorts,



but additionally yielded new contributions. First, an analysis of narratives with an abstract conceptualisation of failure learning, that unites concepts of learning styles (Kolb, 1984; Litzinger et al., 2007) and opportunity exploitation (Cook et al., 2009; Wang & Chugh, 2014) has been put forward. Second, the analysis has shown that unlearning, seen as a prerequisite of learning (Fiol & Lyles, 1985) seem to exist in the unconscious mind of the individual. Hence, more research is required to broaden our understanding about the cognitive functions of individual unlearning. Last but not least, findings from the IPA research support previous theories and models or study results proposed by other researchers and hence further contribute to existing theories. Additionally, the association test between failure learning archetypes and Social Style behaviours indicates a purposefulness of the framework for a practical application within the field of entrepreneurial learning. Although such a result may be challenged by future research, applying larger numerical datasets and more sophisticated statistical tests, the framework offers the opportunity to support entrepreneurial students, nascent entrepreneurs as well as actors in the field of entrepreneurship research to get some insights in the complex interrelations of several elements of learning from failure and to increase the chance for learning to happen.

For a stronger validation of the results, triangulation has been utilized in several ways. First, knowledge gained via the IPA analysis has been applied for the Q-methodology research by creating the concourse and by developing a better understanding for the interpretation of the q-sorts. Second, the Social Style assessments and especially the personal debrief of each participant has increased the understanding of personal motivations and entrepreneurial ambitions which again has contributed to the development of the concourse as well as to the qualitative analysis of the



factors represented in the failure learning archetypes. Third, secondary data such as media reports, You-Tube videos and personal blogs collected about the entrepreneurs and their ventures have been utilized for a validation and evaluation of the data provided during the interviews. And lastly, the association test based on the Social Style assessments has strengthened the uniqueness of the framework failure learning archetypes.

To conclude, the research objectives addressed at the begin of the study have been achieved by answering the research questions as follows:

First, narratives by the entrepreneurs who went through venture failure have been rich in their variety of experiences and their colourful expressions of emotions and opinions. It came as a surprise that almost all participants assessed the learning which they got from the failure event as a genuine and much valued, although often emotionally stressful experience. The issues of stigmatization and fear for failure have been present, however, with distinctive differences between the participants. Entrepreneurs with a strong network within the start-up community have been less likely to experience stigmatization and/or fear of failure.

Second, as participants are rather not aware of any certain strategies, they apply their learning in an operational way, led by their previous experiences and individual preferences. This finding shows a clear need for further research to provide frameworks or models that shall support a greater awareness of different strategies and their likelihood of success in different settings.

Third, it seems that unlearning strategies are not existent as the concept is applied rather unconsciously as a by-product of gaining new knowledge or developing different behaviour. Therefore, future research should ad-





dress the topic in a more explorative way and by application of methods that allow for a direct study in the daily environment of the entrepreneur, such as action research.

Fourth, by utilizing Q-Methodology, the study has been able to identify a framework of four learning archetypes, showing different behaviour in regard to grief recovery, emotion regulation, social networks and the application of generative, double loop and higher-order learning. Their different attitudes in all of these six categories leads to a generally more or less readiness to learn in the aftermath of failure.

Fifth (and last), the failure learning archetypes seem to have only weak, statistically non-significant associations with the Social Styles model. This leads to a reasoning to recommend the framework for a practical application in the context of entrepreneurship education, independent from any soft skill development programs that may be existent in some programs.

This short summary of research results concludes an extensive analysis, interpretation and discussion of findings from the mixed-method study, consisting of qualitative, hybrid and quantitative research. The following chapter 5 presents a general conclusion and addresses recommendations and limitations of the study.



## 5 Conclusion, recommendations and limitations

The chapter first synthesizes essential findings of the present investigation and embeds them into existing research on the subject. The contribution to professional and academic knowledge is presented in sections 5.2 and 5.3 before section 5.4 concludes with a discussion of the limitations and areas for further research.

### 5.1 Embedding the research outcome

Due to the holistic research design, research outcomes were quite diverse and profound. Empirical results yielded by the IPA research are widely in agreement and corresponds with the existing literature on the sense-making and learning in the aftermath of entrepreneurial failure. The central research outcomes are summarised and embedded into existing research in the following five theses.

*Learning from failure is a determining element in the entrepreneurs' sense-making process*

Learning from failure is perceived as crucial for future success and often presented as being an integral part of the entrepreneurial journey, offering genuine experiences. However, the consideration of learning being the “bright side” of failure often rests upon public sense-making based on media reports, TV shows and events organised by the start-up community.

The finding that failure is a positive and genuine learning experience, as it invites for reflection and hence future improved outcome is in line with findings by Cope (2011), Heinze (2013), Politis & Gabrielsson (2009), and Stokes & Blackburn (2002). Furthermore, previous research has also



shown that a regulation of negative emotions is likely to enhance learning (Patzelt & Shepherd, 2011; Shepherd, 2003; Shepherd et al., 2016). The influence of media reports on stigmatization and hence perceptions utilized within the sense-making have already been addressed by Cardon et al. (2011) and Singh et al. (2015), however the effect shown in this study relates exclusively to Germany and therefore may be looked at in more detail by future research.

*Learning strategies depend from failure attributions, perceptions and the general process of sense-making*

The vast amount of different statements collected by the research on how and what entrepreneurs learned in the aftermath of failure provides further empirical evidence to concepts such as grief recovery, costs of failure and emotional intelligence (Cope, 2005b, 2011; Shepherd, 2003, 2009; Shepherd, Wiklund, et al., 2009; Shepherd & Haynie, 2009). Additionally, further empirical evidence has been found to support the findings proposed by Singh et al. (2016), suggesting that entrepreneurs can evolve spiritually through experiencing venture failure. Furthermore, following a call by Wang & Chugh (2014), the theoretical knowledge about interrelations between higher-order learning orientation and narrative abstract conceptualisations of the failure learning experience is enhanced by the study's results.

*Unlearning has less or no significance in the process of sense-making after entrepreneurial failure*

Hislop et al. (2014) define individual unlearning as a conscious act of “discarding, abandoning, or giving up particular values, knowledge, or behaviour by consciously choosing not to continue using them” (p. 542).



The research results show that participants are unaware of their unlearning. Questions about changes in their values, behaviour or their management of obsolete knowledge only yielded limited understanding. This is in line with Durst et al., (in press) and Klammer & Gueldenberg (2019), who define unlearning as an under-researched area and invite to develop research designs able to tackle the issue in future studies.

*The sense-making in the aftermath of failure leads to a framework of distinguished archetypes of failure learning*

A Q-methodology factor analysis of 60 statements generated of the entrepreneurial concourse about learning strategies and learning outcomes resulted in a framework of four distinct failure learning archetypes, labelled reflective creator, intuitive analyst, expressive realist, and growth-oriented pragmatist. These groups have different opinions about how to learn and what to learn from failure, with a higher or lower chance that learning will take place at some point.

Until today, no framework exclusively addresses distinguishing types of learning from entrepreneurial failure. Several research studies applied personality trait models (see for an extensive overview Kerr et al., 2018) or learning style frameworks (Dimov, 2007; Gemmell, 2017; West III & Gemmell, 2018) to explain differences in learning behaviours across entrepreneurs. However, the studies either do not explicitly address learning from failure, show equivocal results or have been criticized for other reasons, such as categorization problems (An & Carr, 2017; Coffield, 2012; Nancekivell et al., 2019; Willingham et al., 2015).

*Learning behaviour expressed by the framework of failure learning archetypes differs from social behaviour styles and versatility presented by the Social Style model*

The idea of associations between behavioural frameworks such as the Social Styles was derived from the model of human traits as “layers of an onion” (Curry, 1983). As learning is a social interaction (Bandura, 1977) and learning behaviours are determined by personal values and previous life experiences (Cope, 2011), associations between models aiming to assess different styles, could be assumed. However, a first explorative statistical association test series yielded no statistically significant results. Hence, the failure learning archetypes present a classification of individual failure learning orientations and demonstrates that learners in that regard are not a homogeneous group and may have different needs to support their abilities to learn in the aftermath of failure.

## **5.2 Contribution to professional practice**

The broad objective of this study was to identify narratives of entrepreneurs in regard to their sense-making of and learning from failure. The analysis of the narratives has yielded several ways to cope with and recover from entrepreneurial failure. Actors in the field of entrepreneurship education can draw from the findings to enhance their understanding and are provided with examples of methods and instruments to increase the understanding of the role of emotions in learning from failure. Methods such as mentoring, coaching and peer feedback are already recognized in some entrepreneurship programs, however, the introduction of reflection diaries or mindfulness programs to enhance self-passion may further improve individual levels of emotional intelligence.



Furthermore, often new ventures are founded by an entrepreneurial team, and integrating individual entrepreneurial behaviours in collective actions may be an additional challenge. Programs such as the Social Styles model may help to mitigate team conflicts as attention is drawn not only to individual behaviour but especially to the social interaction, how others may experience a certain behaviour and how to develop strategies to adjust to the behavioural preferences in a certain relationship. Such programs additionally help to increase individual emotional intelligence.

Finally, the largely exploratory and theory-generating Q-methodology (Stenner et al., 2012) allowed to reveal a typology of four conceptually different failure learning archetypes. While the methodology does not permit to make definitive claims about the relative distribution of these archetypes across a population (Stenner et al., 2012), the number of individuals loading on a respective factor provides a preliminary indication of the prevalence of more or less likely learning challenges. Hence, the insights from the framework may be of value to actors in entrepreneurship education and in the start-up community. The knowledge about different determinants and outcomes of learning from failure appears to be of particular relevance for drafts and compilations of new curriculums as well as in regard to the allocation of resources. Not only experience, education or background of entrepreneurial students and nascent entrepreneurs may be an indication for the entry decision and hence the creation of a venture with economic and societal value, but also the entrepreneurs' approach to handle crucial events and to learn from these events.



## 5.3 Limitations and further research

As presented earlier, the undertaken research has achieved all of the five research objectives. Nevertheless, there are several limitations to be brought to attention.

### 5.3.1 Limitations of the study

In terms of the chosen philosophy of pragmatism, both the data analysis with the findings as well as the discussion with interpretations and generalisations depend on subjective views. The data for the IPA research came from a purposive sample of 10 entrepreneurs with the experience of venture failure in Germany. While it is a strength that the study utilised elite informants, it cannot be ruled out with absolute certainty that the sampling of failure-experienced entrepreneurs led to a sampling bias. The sampling strategy has mainly been snow-balling and through gate-keepers which may have led to pre-selection of specific entrepreneurs. Furthermore, it may be the case that entrepreneurs with certain traits and behaviours (i. e. extravertive, outspoken or amiable, sympathetic) might be more likely to agree to such an extensive and time-consuming interview procedure.

Also, further research would be needed to determine whether the results apply to entrepreneurs in other countries. Nevertheless, rather than trying to be representative, the goal of this qualitative study was to examine sense-making and to provide information to aid the design of entrepreneurial education programs. By focusing on how entrepreneurial failure is experienced, this study complements previous qualitative and quantitative research which has shown barriers to learn from failure. Furthermore, rather than taking the interviewees at face value, concerns about self-presentation and social desirability have to be acknowledged. However,



The focus on experience in IPA helps to reduce distinctions between discourse, cognition and experience (Smith, 2009). Self-presentation biases are not only a concern for qualitative research – such concerns must also be addressed in quantitative research (Saunders et al., 2009). However, because self-presentation biases may be heightened in face-to-face interviews, it was important that the interviewer was non-judgemental and established rapport with interviewees before discussing the crucial experience of failure.

Furthermore, the results of the Q-Methodology research possess only limited generalisability. Data were only collected from participants in Germany. Although the sample was chosen to provide heterogeneity, the recruitment of students in behavioural research has been criticized (Copeland, Francia, & Strawser, 1973) previously. However, as the particular interest of the study is to enhance failure learning in the entrepreneurship education setting, the high number of students within the sample might be justifiable.

In general, there is reason to believe that the failure learning orientations that emerged from this study may well represent those of German entrepreneurship students, although statements about their relative prevalence are impossible. However, the aim of Q-Methodology studies is not to suggest quantitative generalisability to a specific population, but rather to explore and reveal clusters of shared viewpoints (Shemmings & Ellingsen, 2012). Another limitation of this study is that the links between failure learning orientations and ability to higher-order learning are conceptual, based on theoretical reasoning rather than direct empirical testing. Yet, the proposed relations are of value for triggering further attention to research on the impact of failure learning on venture creation.





Finally, the association tests have been based on categorical data, maybe limiting the reliability of the calculations. Furthermore, the rather small sample size may have further contributed to the insignificant findings within the quantitative part of the study.

### **5.3.2 Trajectories for future research**

The research has also shown trajectories for future research, most prominently to mention would be attempts to take an inventory of the relative distribution of more or less failure-learning affine entrepreneurs within a given country. While the current study reveals different archetypes of failure learning, it can at best give a rough indication of whether “the vast majority”, “a selected minority”, or something in-between can be classified as “learning-affine”. A survey developed based on the failure learning archetypes administered to a large, representative sample of entrepreneurs and/or entrepreneurship students could potentially give insights into this.

Similarly, the findings in regard to the assumingly unconsciousness of individual unlearning invites for further research in an under-researched area to increase our knowledge about processes, barriers and enablers of individual unlearning.

Furthermore, the first theoretical considerations in regard to the narratives of conceptual abstractions of failure learning are again solely based on theoretical reasoning and may be benefit from direct empirical testing.

Additionally, the finding of positive influence of media reports on the benefits of failure in regard to learning opportunities may be looked at in more detail by future research. It would be interesting to see whether this has been a German “Zeitgeist” phenomenon and would the long-term possibly effect in a cultural change in regard to entrepreneurial intention and fear of failure.



## 6 New scientific results

The study contributes in a twofold manner, first by expanding existing knowledge of an aspect of the reality studied, and second, by improving ways of thinking (Saunders et al., 2009). The particular contributions in both categories are summarized in table 30:

Table 30: Summary of new scientific contributions

Theory development	Theory building
1. Failure can generate positive and genuine learning experiences (Cope, 2011; Heinze, 2013; Politis & Gabrielsson, 2009; Stokes & Blackburn, 2002).	6. Exploration of interrelations between higher-order learning orientation and narrative abstract conceptualisations of the failure learning experience (Wang & Chugh, 2014).
2. Ability for emotion regulation enhances learning from failure (Patzelt & Shepherd, 2011; Shepherd, 2003; Shepherd et al., 2016).	7. Entrepreneurs are not consciously aware of unlearning to take place (Hislop et al., 2014).
3. Influence of media reports on stigmatization & failure perceptions (Cardon et al., 2011; Singh et al., 2015).	8. Development of an independent framework of four distinct failure learning archetypes, representing different learning behaviours.
4. Grief recovery, costs of failure and emotional intelligence are important determinants of failure learning (Cope, 2005b, 2011; Shepherd, 2003, 2009; Shepherd, Wiklund, et al., 2009; Shepherd & Haynie, 2009).	
5. Entrepreneurs can evolve spiritually through experiencing venture failure (Singh et al., 2016)	

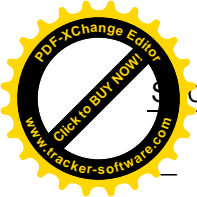
New scientific contributions no 1 to 5 have all been yielded by the IPA research. The exploratory part of the mixed-method research design con-



tributes to scientific knowledge insofar, that theories proposed elsewhere (see table 30) have been empirically tested in a new environment, Germany, and with the additional benefit of assessing behaviour styles and versatility by application of the Social Styles Model. Especially the influence of media reports on stigmatization and failure perceptions (finding no 3) as well as the spiritual approach to failure recovery (finding no 5) addressing aspects in entrepreneurship and entrepreneurial failure that are to date clearly under-researched. These findings allow us to understand the experience of entrepreneurial failure and the likelihood of learning from the failure experience by presentation of narratives of failed entrepreneurs applied for their individual sense-making.

Turning to the new scientific contributions in regard to theory building, finding no 6 presents interrelations between higher-order learning orientation and narrative abstract conceptualisations of the failure learning experience. The across-case analysis of the IPA study yielded pattern in the participants' abstract conceptualisation (how they learn from failure, based on their reflection) and four distinct ways of abstract conceptualisation can be differentiated:

- Sensing orientation, where failure learning is explained as a gain in knowledge on how to overcome barriers by application of new methods;
- Intuitive orientation, with less focus on learning of facts and knowledge and higher attention on interrelations of several aspects of the failure and the effects of own behaviours;
- Balanced orientation, as a combination of both sensing and intuitive orientation, where attention is spent to learning of new knowledge as well as to personal attitudes and behaviours;



– Spiritual orientation, where all sense-making is rooted in spiritual experiences and learning is seen as something created by the balance of heart, mind and body.

The balanced (sensing-intuitive) dimension mirrors the participants' (rather unconscious) application of unlearning and these participants indicate a higher likelihood of learning from failure.

Next, finding no 7 offers new insights in the conceptualisation of unlearning. The concept of unlearning itself is not present in the participants' sense-making but seems to happen rather unconsciously as a by-product of gaining new knowledge or developing different behaviour. This finding contradicts previous research, stating that unlearning as a conscious process at the individual as well as on the organizational level is a precondition for organizational learning. Against that background, it is really surprising that participants seem not to apply unlearning or only apply it in a rather unconscious way. Hence, this finding shows that there may be much to gain from further research aiming to better understand the process of individual unlearning in general and in the context of entrepreneurial failure in particular.

Lastly, finding no 8 summarizes the results from the three studies by the proposal of a framework of four distinct failure learning archetypes. Based on the exploratory interviews, 60 statements of failure learning have been sorted by 28 participants and their opinions were analysed by application of Q-methodology. The results show that four distinct archetypes of failure learning do exist, labelled reflective creator, intuitive analyst, expressive realist, and growth-oriented pragmatist. These groups have different opinions about how to learn and what to learn from fail-

ure, with a higher or lower chance that learning will take place at some point.

To test the unique position of the framework, statistical association tests have been applied to investigate potential relationships between both the four distinct social styles types as well as the levels of versatility. Both associations tests yielded only weak, statistically non-significant associations between the different models. Hence, the framework of failure learning archetypes has a singular position in the literature of entrepreneurial failure and learning from entrepreneurial failure.

To summarize, although each of the research outcomes presented in this chapter contributes to or expands existing knowledge, the framework of failure learning archetypes can be seen as the primary outcome of the dissertation study, as it is the first of its kind especially for enhancing entrepreneurial learning in regard to venture failure and may therefore also pave the way for further research taking this framework as a basis for advanced inquiries in the field. It may also be discussed in other countries or in a narrower segment, for example entrepreneurship education.



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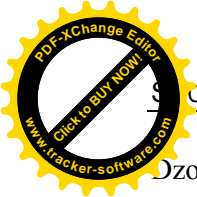
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## 9 Publications authored/co-authored by the PhD candidate

### 9.1 Publications related to the dissertation

Durst, S., Heinze, I., Henschel, T., Nawaz, N. (in press): Unlearning: a systematic literature review. *International Journal of Business and Globalisation*.

Heinze, I., Henschel, T. (in press): Risk(ing) sophistication: towards a structural equation model for risk management in small and medium-sized enterprises. *International Journal of Entrepreneurship and Small Business*.

Heinze, I. (2018): Research in decision making under risk and attitudes towards risk in an entrepreneurial environment. In: Berneburg, A., Pick, D. (Hrsg.): *Marktorientierte Unternehmensführung – Innovative Methoden und ökonomische Perspektiven*. Shaker Verlag.

Heinze, I. (2013): Entrepreneur sense-making of business failure, *Small Enterprise Research*, 20 (1), p. 21-39. ISSN: 1321-5906.

Henschel T., Heinze I. (2018): Small and Medium-sized Enterprises (SMEs). In: Durst, S., Temel, S., Ferenhof H.A. (ed.): *Open Innovation and Knowledge Management in Small and Medium Enterprises: Open Innovation: Bridging Theory and Practice: Volume 3*. ISBN: 978-981-3233-58-4, pp. 7-34. World Scientific Publishing, Singapore.



## 2.2 Publications not related to the dissertation

Heinze, I. (2017): Duck turns into Rabbit: Paradigm Shifts in Economics – Challenges for the 21st Century Manager. *Regional and Business Studies*, Vol 9, No 1, pp. 1-10.

Heinze, I., Henschel, T. (2018): Das Personalmanagement – ein „digital failure“? In: Hartmann, M. (Hrsg.): *Digitale Lösungen für Berliner Unternehmen*. Berliner Wissenschaftsverlag.

Henschel T., Heinze I. (2018): Governance, Risk & Compliance. In: Schmeisser, W., Becker, W., Beckmann, M., Brem, A., Eckstein, P. P., Hartmann, M. (Hrsg.): *Neue Betriebswirtschaft*. ISBN: 978-3-86864-828-8, pp. 339-370. UVK Verlag, München.

Henschel, T. & Heinze, I. (2016): *Governance, Risk und Compliance im Mittelstand. Praxisleitfaden für gute Unternehmensführung*. Erich Schmidt Verlag, Berlin. ISBN: 978-3-503-16310-6.

Krämer, C. F. & Heinze, I. (2016): Equal Opportunities as an Economic Factor in European Small- and Medium-Sized Enterprises, *Personalführung* 49 (11), p. 38-43. ISSN: 0723-3868.

Heinze, I. (2007): Personal-Controlling in Steinle, C. & Daum, A. (eds): *Controlling Kompendium für Ausbildung und Praxis*. Verlag Schäffer-Poeschel Stuttgart. ISBN: 978-3791026794.



## 10 Professional CV of the PhD candidate Ilka Heinze

### Higher Education

Master of Science (MSc)                      The University of Edinburgh  
Psychological Research Methods      School of Philosophy, Psychology  
and Language Sciences  
2010 – 2011

Bachelor (Hons) Business  
Administration                                      AKAD Fachhochschule Leipzig  
University of Applied Sciences  
2002 – 2006

### Current academic teaching experience

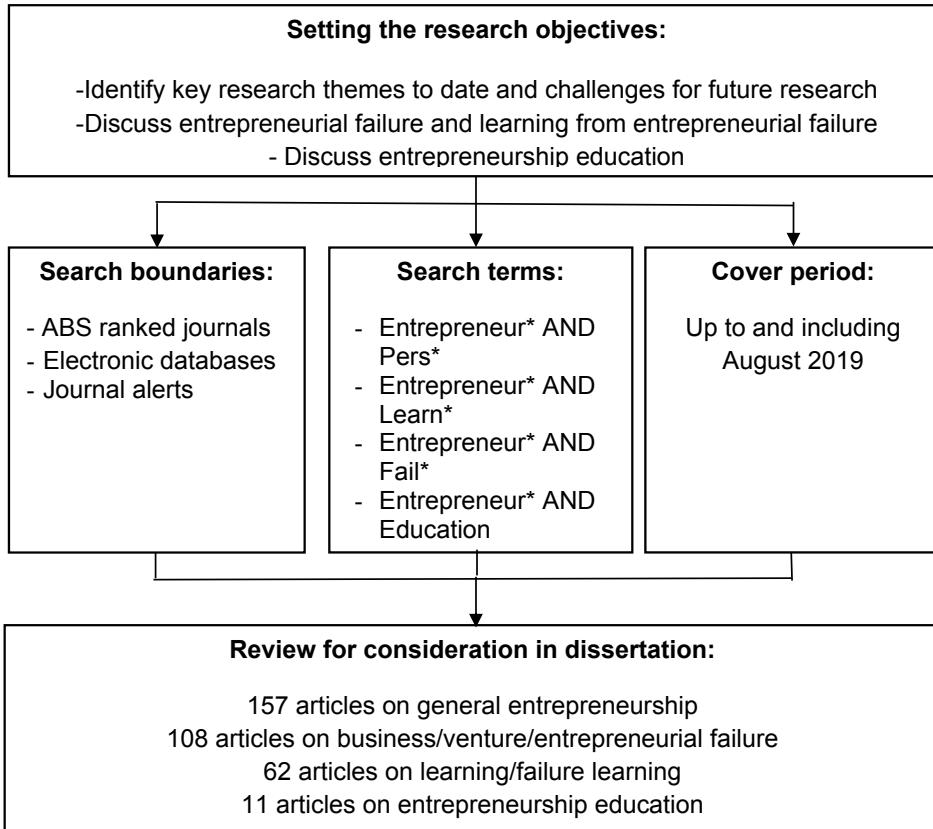
Beuth Hochschule Berlin, Hamburger Fernhochschule (HFH), Hochschule für Technik & Wirtschaft Berlin, Hochschule für Wirtschaft & Recht Berlin, Hochschule Neubrandenburg

### Professional experience

January 2012 -                      *Partner & CEO*, wee consult Personal- und  
Risikomanagement, current      Berlin  
August 2013 -                      *Interim Assistant Director Talent*, EY GmbH GSA,  
March 2016                              Frankfurt/M. & Berlin  
Jan 2003 – Jul 2009                      *Assistant Director HR Operations*, Ernst & Young  
AG,      Berlin, Leipzig



## Appendix 1: Systematic Literature Review





## Appendix 2: Quality criteria for qualitative research

to enhance transparency and ensure replicability in qualitative research designs (Aguinis & Solarino, 2019, p.5-6)

Transparency ID	Transparency criterion	Definition	Criterion is necessary for replicability because...	Exact replication	Empirical replication	Conceptual replication
1	<i>Kind of qualitative method</i>	The particular qualitative methodology used in the study (e.g., action research, case study, grounded theory) (Creswell, 2007; Flick, 2014; Patton, 2002)	... a method's assumptions, beliefs, and values affect theory, design, measurement, analysis, and reporting choices, as well as the interpretation of results	✓	✓	
2	<i>Research setting</i>	The physical, social, and cultural milieu of the study (e.g., firm conditions, industry, participants' social status) (Bhattacharya, 2008; Patton, 2002)	...it clarifies the structure, the sources and the strength of the pre-existing conditions in the research setting	✓		✓
3	<i>Position of researcher along the insider-outsider continuum</i>	The researcher's relationship with the organization and study participants; the closer the relationship, the more the researcher is an insider rather than an outsider (Evered & Louis, 1981; Griffith, 1998)	... it allows for an understanding of the researcher's relationship with the organization and participants, which can alter accessibility of data, what participants disclose, and how the collected information is interpreted	✓		✓
4	<i>Sampling procedures</i>	The procedures used to select participants or cases for the study (e.g., convenience, purposive, theoretical) (Patton, 2002; Teddlie & Yu, 2007)	... given that samples are not probabilistic, it clarifies what kind of variability the researcher is seeking (and along which specific dimensions), and the presence of possible biases in the sampling procedure	✓		✓
5	<i>Relative importance of the participants/cases</i>	The study's sample and the relative importance of each participant or case (Aguinis, Gottfredson, & Joo, 2013; Dexter, 1970)	... it allows for the identification of participants and cases with similar characteristics as in the original study	✓		✓
6	<i>Documenting interactions with participants</i>	The documentation and transcription of the interviews and all other forms of observations (e.g., audio, video, notations) (Kowal & O'Connell, 2014)	...different means of documenting interactions may alter the willingness of participants to share information and therefore affect the type of information gathered	✓	✓	
7	<i>Saturation point</i>	It occurs when there are no new insights or themes in the process of collecting data and drawing conclusions (Bowen, 2008; Strauss & Corbin, 1998)	...identifying the saturation point can include judgment calls on the part of the researcher (e.g., when a researcher believes that additional information will not result in new discoveries or that new information will not add new categories to the coding scheme)	✓	✓	
8	<i>Unexpected opportunities, challenges, and other events</i>	Unexpected opportunities (e.g., access to additional sources of data), challenges (e.g., a firm's unit declines to participate in the last data collection stage and is replaced by a different one), and events (e.g., internal and	... the way in which researchers react and actions they take in response to these unexpected events affect data collection and subsequent conclusions	✓	✓	



Transparency ID criterion	Definition	Criterion is necessary for replicability because...	Exact replication	Empirical replication	Conceptual replication
	external changes such as a new CEO or changes in market conditions during the study) that occur during all stages of the research process (Dexter, 1970; Harvey, 2010; Ostrander, 1993)				
9 <i>Management of power imbalance</i>	The differential exercise of control, authority, or influence during the research process (Ostrander, 1993; Thomas, 1993)	... it allows other researchers to adopt similar strategies (e.g., endorsement from a prestigious institution, self-acquaintance, asking sensitive questions) that affect the type of information gathered as well as a study's conclusions	✓	✓	
10 <i>Data coding and first-order codes</i>	The process through which data are categorized to facilitate subsequent analysis (e.g., structural coding, descriptive coding, narrative coding) (Maxwell & Chmielek, 2014; Saldana, 2009; Strauss & Corbin, 1998; Taylor, Bogdan, & DeVault, 2016)	... it allows other researchers to follow similar procedures and obtain similar conclusions	✓	✓	
11 <i>Data analysis and second- and higher-order codes</i>	The classification and interpretation of linguistic or visual material to make statements about implicit and explicit dimensions and structures (Flick, 2014) and it is generally done by identifying key relationships that tie the first order codes together into a narrative or sequence (e.g., pattern coding, focused coding, axial coding) (Saldana, 2009; Taylor et al., 2016)	... it allows other researchers to use a similar analytical approach and obtain similar conclusions	✓	✓	
12 <i>Data disclosure</i>	Raw material includes any information collected by the researcher before any manipulation (i.e., analysis) (e.g., transcripts, video recordings) (Ryan & Bernard, 2000; Schreiber, 2008)	... others can reuse the original material and attempt to obtain the same results and reach the same conclusions	✓		



## Appendix 3: Participant consent form



### Information für Teilnehmer an der Studie *“Social aspects of business failure“*

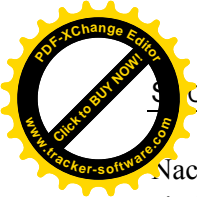
Mein Name ist Ilka Heinze und ich bin Promovendin im Promotionsstudiengang Betriebswirtschaft und Management (Ph.D.), den die HFH · Hamburger Fernhochschule in Kooperation mit der Universität Kaposvár in Ungarn durchführt. In meiner Dissertation beschäftige ich mich mit sozialen Aspekten des unternehmerischen Scheiterns.

Im Rahmen meiner Studie geht es darum, wie (ehemalige) Unternehmer das Scheitern von Projekten oder gar des gesamten Unternehmens erlebt haben und wie sie auf Basis dieser Erfahrung lernen bzw. umdenken.

Für diese Studie suche ich freiwillige Teilnehmer, die für ein Interview zur Verfügung stehen. Dabei gelten keine speziellen Auswahlkriterien (z. B. in Bezug auf Alter, Geschlecht, Bildung etc.), jede Person mit der persönlichen Erfahrung des unternehmerischen Scheiterns ist zur Teilnahme eingeladen.

Jeder Teilnehmer bzw. jede Teilnehmerin werden gebeten, Erfahrungen zum Scheitern und zu damit zusammenhängenden veränderten Überzeugungen, Annahmen und Vermutungen zu teilen. Aus Sicht der Forscherin beinhalten die Interviewfragen keinerlei psychische oder andere Risiken für die Studienteilnehmer. Das Interview sollte nicht länger als 120 min beanspruchen. Jeder Teilnehmer bzw. jede Teilnehmerin können die Teilnahme an der Studie zu jeder Zeit, und ohne Angabe von Gründen, beenden.

Alle Daten werden anonym ausgewertet, die – möglicherweise anhand der Stimme identifizierbaren – Tonaufnahmen werden unter Verschluss aufbewahrt und sind nur der Forscherin selbst zugänglich. Alle Teilnehmernamen werden durch Pseudonyme oder Teilnehmernummern ersetzt, damit eine Identifikation im Rahmen von Berichterstattungen oder Veröffentlichungen sicher ausgeschlossen werden kann. Alle Daten werden an einem sicheren Ort (abgeschlossener Schrank in einem abgeschlossenen Raum und auf einem mit Passwort gesicherten Laptop), zu dem nur die Forscherin selbst Zugang hat, aufbewahrt.



Nach der Examination werden alle Daten, mittels derer die Teilnehmer identifizierbar wären, gelöscht bzw. vernichtet.

Die Ergebnisse der Studie sollen in einem Fachbeitrag veröffentlicht und auf Konferenzen präsentiert werden.

Bei Fragen steht Herr Professor Gunnar Siemer, HFH Hamburg, als unabhängige, mit dem Projekt vertraute Person jedem Teilnehmer bzw. jeder Teilnehmerin als Ansprechpartner zur Verfügung.

Jeder Teilnehmer bzw. jede Teilnehmerin werden gebeten, nach der Kenntnisnahme der vorliegenden Information die beiliegende Einverständniserklärung zu unterzeichnen.





## Einwilligung

### Teilnahme an der Studie *“Social aspects of business failure“*

Ich habe das Informationsblatt sowie die Einwilligung gelesen und verstanden. Mir wurde ausreichend Gelegenheit gegeben, Fragen zu meiner Teilnahme zu stellen.

Mir ist bewusst, dass ich nicht verpflichtet bin, an der Studie teilzunehmen.

Mir ist außerdem bewusst, dass ich mein Einverständnis jederzeit ohne Angabe widerrufen kann.

Hiermit bestätige ich mein Einverständnis zur Teilnahme an der Studie.

Name des Teilnehmers/der Teilnehmerin:

\_\_\_\_\_

Unterschrift des Teilnehmers/der Teilnehmerin:

\_\_\_\_\_

Unterschrift der Forscherin:

\_\_\_\_\_

Datum: \_\_\_\_\_

Kontaktdaten: Ilka Heinze  
Arnimstraße 7, 13053 Berlin



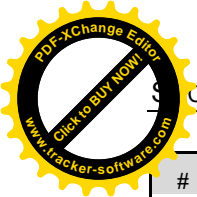
## Appendix 4: Interview schedule

Interview Schedule	
1	Tell me about yourself (age, profession, family, education, recent position)
2	Tell me about your venture ...  <i>Prompts:</i> <i>How/why did you start?</i> <i>Has it been your own idea or have you been influenced (family, friends, colleagues, teachers)?</i> <i>How did the failure happen? Why? When?</i>
3	What did the failure mean for your social relationships?  <i>Prompts:</i> <i>Who has been affected?</i> <i>What did it mean for you?</i> <i>What emotions have been involved?</i> <i>What did happen to you?</i>
4	“Failure is the best way to learn” – what do you think about that?  <i>Prompts:</i> <i>Did you learn from failure?</i>  <i>What? How?</i>  <i>If not – why not?</i>  <i>Are there any values, doctrines, routines that you have changed now?</i>
5	Are you a different person now?  <i>Prompts:</i> <i>Are there positive aspects?</i> <i>What kind of advice do you have for budding entrepreneurs?</i>



## Appendix 5: Table of Q-sort statements

#	Statements
1	Fail fast, fail often.
2	Be open about results, learning may be an achievement of failure.
3	Learning works best with people you get along with well
4	For learning to take place, I need to reflect upon the failure.
5	Unpleasant events (such as failure) are important learning experiences.
6	At the end, I can only trust myself.
7	Things need their time; short-term perspectives do not help.
8	Consistent structures / agreements / contracts are important.
9	I learnt to recognize excessive demand.
10	I know about my strengths and weaknesses and in future, I choose partners according to it.
11	Every conversation about the failure leads to new questions and this is how I learn.
12	Learning is a process that takes time.
13	I lost my sense of ease; I now look for more safety.
14	I am more afraid to lose control.
15	I have never felt more freedom and readiness to take up the fight as I have nothing to lose anymore.
16	I do not ignore my negative thoughts; I will rather do something with my negativity.
17	The failure helped me to learn about the venture, such as finances, leadership, marketing.
18	Before you start something new, you have to finish with the failure.
19	Enthusiastic about the business / profession let me start again.
20	I need some time to make sense of the failure.
21	Learning is to recognize conditions that are prerequisites for future success.
22	Learning takes place without actively dealing with the failure, i. e. by reading.
23	Motivation is a major prerequisite for all projects.
24	Never blame somebody for the failure, there are 1000 factors, but no one to blame for.
25	The worst thing to do after failure is to hide oneself.
26	If all goes well with first try, then it's luck alone.
27	In the event of crisis, I am stronger than I thought.
28	After failure, I just don't get it anymore.
29	I am just grateful I did overcome the failure event.
30	I can learn more from failure as from success.
31	Keeping a diary is a good method to learn from failure.
32	To recognize I did something right (despite the failure).
33	Feedback extremely supports learning from failure.
34	You have to face your anxieties, to look where it hurts.
35	Failure needs a closing, such as a speech, presentation, meeting with persons concerned.
36	A crisis is an opportunity and shows areas for growth and development.



#	Statements
37	Look for people who are already there where you would like to be.
38	Motivational books, podcasts or videos support my sense-making.
39	When climbing a rock, I need to have safety devices.
40	New projects have to be approached in a systematic manner.
41	You have to figure out the bad ingredients, why the dough didn't rise.
42	Perfectionism leads to failure (mostly).
43	Not try to do it all on my own, rather I should work together with professionals.
44	It hurts to deal with the failure.
45	Learning is supported by a positive stance on the future.
46	At graduate school / university there is not enough opportunity to deal with failure.
47	A lot of learning happens intuitively, I do not really think about it.
48	I do not make commitments anymore.
49	The failure is my enemy which I will defeat and hence growth from the battle.
50	It is better to fail than not to try at all.
51	The most important thing is that no third party will get damaged.
52	Learning from failure happens first through process routines and later intuitively.
53	Factual accurate decision can at the same time be emotional wrong.
54	Friends often do not tell the truth after failure.
55	I have learnt to recognize early warnings and I am prepared to act in a more pro-active manner
56	Failure is a catalyst for new energy.
57	My social environment has changed; true friends are still with me.
58	Sometimes I have experienced paralyzing self-doubts.
59	You have to accept that it's over now.
60	Failure is not a prerequisite for success.